

Nagar Yuwak Shikshan Sanstha's

# Yeshwantrao Chavan College of Engineering

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

Hingna Road, Wanadongri, Nagpur - 441 110

NAAC Accredited with 'A++' Grade

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## Summary

### 1.1.2 Percentage of Programmes where syllabus revision was carried out during the years

- Minutes of Academic Council / BOS meetings
- Details of program syllabus revision



Principal  
Yeshwantrao Chavan  
College of Engineering  
Wanadongri Hingna Road,  
NAGPUR - 441110

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# **Civil Engineering**



## DEPARTMENT OF CIVIL ENGINEERING

### NOTICE BOS

Date:- 26<sup>th</sup> July 2021

**Meeting No 28** of Board of Studies of Civil Engineering department is scheduled on **Saturday 31<sup>st</sup> July 2021** from 11:00 a.m. through online mode.

All staff members are requested to attend the meeting. The agenda of the meeting is mentioned below. All staff members are requested to read the agenda carefully so that they can give fruitful suggestions in the meeting.

#### Agenda Points

**Item No. 28.01**

Welcome of new members

**Item No. 28.02**

Installation of member Secretary

**Item No. 28.03**

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

**Item No. 28.04**

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 28.05**

To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

**Item No. 28.06**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

**Item No. 28.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.

**Item No. 28.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 28.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

**Item No. 28.10**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2021-22.



**DEPARTMENT OF CIVIL ENGINEERING**

**Item No. 28.11**

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd Term 2021-22.

**Item No. 28.12**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd Term 2021-22

**Item No. 28.13**

Preparation of Electronic question Bank UG courses according to SoE 2018 To review solutions to all questions of Electronic Question Banks for all courses)

**Item No. 28.14**

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses..

**Item No. 28.15**

To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.

**Item No. 28.16**

To discuss the feedback received from students/teachers/employers/alumni/parents regarding teaching learning process in order to review and design the syllabus

**Item No. 28.17**

Any other matter with the permission of the Chair.

  
Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

  
Dr. S.P. Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering

S.N.	Name	S.N.	Name
1	Dr. Udaykumar P. Waghe	18	Prof. Pawan Kesharao Hinge
2	Dr. Santanu Ramkrishna Khandeshwar	19	Prof. Ms. Amruta Arun Yadav (Adekar)
3	Dr. Sudhir Vasantrao Ambekar	20	Prof. Ms. Sangita Shivcharan Meshram (Sukhadeve)
4	Dr. Abhay Vinayakrao Patil	21	Dr. Prashant Baban Pande
5	Dr. Vilas Ganuji Meshram	22	Prof. Atul Sambhuji Kurzekar
6	Dr. Ajay Ramdas Gajbhiye	23	Prof. Vivek Dnyandeo Jayale
7	Dr. Rajendra Rupraoji Dighade	24	Dr. Harshal Madhukar Warade
8	Prof. Sanjay Manohar Waghmare	25	Prof. Ms. Pallavi Shaligram Chakole (Bankar)
9	Dr. Bhupesh Purshottam Nandurkar	26	Prof. Ms. Snehal Karunkumar Kamble (Patankar)
10	Dr. Ms. Madhuri Shankarrao Bhagat	27	Prof. Sourabh Mahesh Amrodiya
11	Dr. Sanjay Padmakar Raut	28	Prof. Sanket Gajanan Kalamkar
12	Prof. Mrs. Vaishali Nilesh Mendhe (Bhadke)	29	Prof. Sagar Wasudeo Dhengare
13	Prof. Ms. Charuta Subhash Waghmare	30	Prof. Ms. Monali Rewashankar Wagh (Nikhade)
14	Prof. Khalid Shamim Ansari	31	Prof. Yogesh Prabhakar Kherde
15	Prof. Harshal Ramesh Rao Nikhade	32	Prof. Ms. Sneha Gowardhan Hirekhan (Wankhede)
16	Dr. Jayant Manohar Raut	33	Prof. Rajesh Madhukar Bhagat
17	Prof. Dhiraj Giridharilal Agrawal	34	Dr. Mrs. Boskey Vishal Bahoria

S.N.	Name	Signature	S.N.	Name	Signature
1	Dr. A.D. Ghare	Present Online	4	Prof. S.N. Harinkhede	Present Online
2	Er. Jagdish Lanjewar	Present Online	5	Dr. M.D. Goel	AB
3	Dr. M. Madurwar	Present Online			



**DEPARTMENT OF CIVIL ENGINEERING**

**Minutes of 28<sup>TH</sup> BoS Meeting dated on Saturday 31<sup>ST</sup> July 2021**

- 28<sup>th</sup> Meeting of BoS of Civil Engineering was held on Saturday 31<sup>ST</sup> July 2021.. It was chaired by Dr.S.P.Raut, Chairman BoS. Following members were present.

S. N.	Name	S.N.	Name
1	Dr.A.D.Ghare	20	Dr. Jayant Manohar Raut
2	Dr. M.Madurwar	21	Prof. Dhiraj Giridharilal Agrawal
3	Er.Jagdish Lanjewar	22	Prof. Pawan Keshaorao Hinge
4	Prof.S.N.Harinkhede	23	Prof. Ms. Amruta Arun Yadav (Adekar)
5	Dr. Udaykumar P. Waghe	24	Prof. Ms. Sangita Shivcharan Meshram (Sukhadeve)
6	Dr. Santanu Ramkrishna Khandeshwar	25	Dr. Prashant Baban Pande
7	Dr. Sudhir Vasantrao Ambekar	26	Prof. Atul Sambhuji Kurzekar
8	Dr. Abhay Vinayakrao Patil	27	Prof. Vivek Dnyandeo Jayale
9	Dr. Vilas Ganuji Meshram	28	Dr. Harshal Madhukar Warade
10	Dr. Ajay Ramdas Gajbhiye	29	Prof. Ms. Pallavi Shalikram Chakole (Bankar)
11	Dr. Rajendra Rupraoji Dighade	30	Prof. Ms. Snehal Karunkumar Kamble (Patankar)
12	Prof. Sanjay Manohar Waghmare	31	Prof. Sourabh Mahesh Amrodiya
13	Dr. Bhupesh Purshottam Nandurkar	32	Prof. Sanket Gajanan Kalamkar
14	Dr. Ms. Madhuri Shankarrao Bhagat	33	Prof. Sagar Wasudeo Dhengare
15	Dr. Sanjay Padmakar Raut	34	Prof. Ms. Monali Rewashankar Wagh (Nikhade)
16	Prof. Mrs. Vaishali Nilesh Mendhe (Bhadke)	35	Prof. Yogesh Prabhakar Kherde
17	Prof. Ms. Charuta Subhash Waghmare	36	Prof. Ms. Sneha Gowardhan Hirekhan (Wankhede)
18	Prof. Khalid Shamim Ansari	37	Prof. Rajesh Madhukar Bhagat
19	Prof. Harshal Rameshrao Nikhade	38	Dr. Mrs. Boskey Vishal Bahoria

➤ **Following members has been permitted leave of absence**

1. Dr. M.D. Goel
2. Dr. Anant Manohar Pande



## DEPARTMENT OF CIVIL ENGINEERING

### Minutes of Meetings 28<sup>th</sup> BoS Meeting

#### Agenda No. 28.01

##### Welcome of new members

Dr. S.P. Raut accepted the charge as BoS Chairman from the session 2021-22. Department welcomed new Chairman.

Dr. S.P. Raut welcomed all BoS experts, viz., Dr.A.D.Ghare Professor, Department of Civil Engineering, VNIT, Nagpur, Dr. M.Madurwar Assistant Professor, Department of Civil Engineering, VNIT, Nagpur, Er.Jagdish Lanjewar, Director, Sun Enviro Technologies Pvt.Ltd., Nagpur, Prof.S.N.Harinkhede, Alumni and Assistant Professor, SBJITMR, Nagpur and departmental BoS members.

#### Agenda No. 28.03

##### Confirmation of minutes of previous Meeting and action taken report on decisions / suggestions of the previous meeting.

The minutes of previous meeting no. 27<sup>th</sup> held on Thursday, 4<sup>th</sup> February 2021 were already circulated to all members. The ATR of previous meeting have been discussed with BoS members. **(Annexure 1)**.

After confirmation, Prof.B.P.Nandurkar proposed the minutes to be accepted. Prof. Mrs. V.N. Mendhe seconded it. The minutes were then accepted.

#### Agenda No. 28.04

##### To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.

All members were asked if any further correction or amendment was required to be done in the scheme of examination of the Undergraduate and Post graduate programs.

No corrections and amendments were proposed by any members for SoE Autonomous 2014 of the Undergraduate and SoE 2019 of Post graduate programs.

#### Agenda No. 28.05

##### To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

All members were asked if any further correction or amendment was required to be done in the syllabus of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs.

The last batch of SoE 2014-15 has been graduated in the year 2020-21. Therefore no corrections were proposed by the faculty in syllabi of courses in Autonomous 2014. For the syllabi of courses in Autonomous 2018 Scheme, few corrections has been suggested.

UG	Course Code	Course Name	Corrections suggested by Faculty / BoS Expert
VII Semester	CV 2429	PE-IV Watershed Management	Dr.A.D.Ghare suggested to add Revised Universal Soil Loss Equation in Unit-III
	New ( Suggested by Dr.R.R.Dhigade)	PE- IV: Advanced Fluid Mechanics and Hydraulic Machines	Approved.
All Semester (III-VII)	Approved Modified Course Outcome with modifications in the sentence framing.		
PG (Env.Engg.) II Semester	CV3979 (Suggested by Dr. S.R. Khandeshwar)	PE-I : Hazardous Waste Management	Solidification / stabilization and innovation techniques from Unit-III will be removed and should be added in Unit-IV.

The corrections to be sent to Academic office for further submission.



**DEPARTMENT OF CIVIL ENGINEERING**

**Agenda No. 28.07**

**To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.**

All members were asked if any correction or amendment was required to be done in the list of experiments Autonomous 2018 Schemes of Undergraduate and Post graduate programs of Undergraduate and Post graduate programs.

No corrections and amendments were proposed by any members in the laboratory courses of Under-Graduate and Post Graduate programs.

**Agenda No. 28.08**

**To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.**

The chairman asked to suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs for further submission to Academic Council.

No suggestions were proposed by any members. Finally it was unanimously resolved that the existing Academic Regulations governing the Undergraduate and Post graduate programs be continued without any corrections.

**Agenda No. 28.09**

**To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.**

As per the directives from DAM Office, it is decided to offer one NPTEL course in each semester.

Accordingly NPTEL courses and its syllabus available on the website are mapped with the syllabus of courses running in the department. The list is as follows :

S.N.	Semester	Course Code	Course Name
1	III	CV2207	Water Supply Engineering

**Agenda No. 28.10**

**To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2021-22.**

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs in End Semester Examination of Odd Term 2021-22 in the last week of August

**Agenda No. 28.11**

**To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd Term 2021-22.**

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Postgraduate programs in End Semester Examination of Odd Term 2021-22 in the last week of August

**Agenda No. 28.12**

**To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd Term 2021-22.**

It was decided to finalized panel of of internal and external examiners for the various laboratory and other non- theory courses at UG and PG levels of Odd Term 2021-22 in the last week of August





## DEPARTMENT OF CIVIL ENGINEERING

### Agenda No. 28.13

**Preparation of Electronic question Bank UG courses according to SoE 2018. To review solutions to all questions of Electronic Question Banks for all courses.**

The process will start after the notification from DAM office for the preparation of EQB of 2018-19 scheme.

### Agenda No. 28.14

**To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses..**

From the session Odd Term 2021-22, new guidelines regarding changes in the format of Mid Semester and End Semester Examination will be issued from Dean Academic Matters and accordingly department will work on it. BoS Experts approved it.

### Agenda No. 28.15

**To discuss and propose scheme for Minor and Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.**

1. Department of Civil Engineering has been offering 3 Honor Course and 1 Minor course (of 18 credits each) from the session 2021-22 from III year. Honor Courses, viz., Construction Technology (through NPTEL/SWAYAM, SoE and syllabus has been prepared from the subjects offered in SWAYAM), Remote Sensing & GIS (Industry aligned) and Environmental Engineering (Department oriented) and Minor in Civil Engineering has been proposed and approved by the experts on 9th Curriculum Development Program dated Saturday 1st May 2021.

As per the guidelines received from DAM if the courses through NPTEL/SWAYAM are not offered/run by portal, the BoS can proposed another course in line with the offered courses of 8,12 or 14 weeks. The courses currently offered by NPTEL/SWAYAM for Construction Technology are viz, Hydration, Porosity & Strength of Cementitious Materials and Project Planning & Control are of 8 weeks of 2 Credits each. It is proposed by the BoS that students have to opt for other additional courses so that the students can complete their required 18 credits in stipulated time.

The suggestions/proposal will be sent to DAM for approval.

2. Value added Course: 1 six day Value added Course /pre-placement certification course on Building Information Modeling (BIM) was conducted for final year students from 28th July -2nd August 2021. Total 102 students registered for the courses. It was conducted in consultation with IWORKSTATION Consultant ,Nagpur.
3. One certification course on Introduction to STADDPRO will be commenced from first week of August 2021.

### Agenda No 28.16

**To discuss the feedback received from students/teachers/employers/alumni/parents regarding teaching learning process in order to review and design the syllabus**

The SoE & curriculum of 2018-19 has been discussed with stakeholders of the department including students/teachers/employers/alumni/parents, and necessary inputs in the form of feedback has been collected from them.

### Agenda No 28.17

**Any other matter with the permission of the Chair.**

Dr. M.V. Madurwar, BoS Subject Expert, suggested Introduction to Software Project Management / PRIMEVERA / MS-PROJECT as certificate course.

Er. Jagdish Lanjewar, BoS Industry Expert, suggested to introduce topics such as water recycle systems, its processes, designs, equipment's and instruments study, waste to energy systems, resource recovery from industrial processes.



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## DEPARTMENT OF CIVIL ENGINEERING

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Detailing of the said topics will be carried out and accordingly it will be implemented in the syllabus in consultation with industry personnel.

All suggestions have been welcomed and forwarded for further submission to Academic council.

The meeting ended with thank to chair.

Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

Dr. S.P. Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering



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**DEPARTMENT OF CIVIL ENGINEERING**

NOTICE  
(BoS)

Date:- 5<sup>th</sup> January 2022

**Meeting No 29** of Board of Studies of Civil Engineering department is scheduled on **Saturday 8<sup>th</sup> January 2022**, from 11:00 a.m. through online mode.

All staff members are requested to attend the meeting. The agenda of the meeting is mentioned below. All staff members are requested to read the agenda carefully so that they can give fruitful suggestions in the meeting.

**Agenda Points**

**Item No. 29.01**

Welcome of new members

**Item No. 29.02**

Installation of member Secretary

**Item No. 29.03**

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

**Item No. 29.04**

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 29.05**

To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

**Item No. 29.06**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

**Item No. 29.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Undergraduate and Post Graduate programs.

**Item No. 29.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 29.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

**Item No. 29.10**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2021-22.

**Item No. 29.11**

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Even Term 2021-22.

**Item No. 29.12**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Even Term 2021-22

**Item No. 29.13**

Preparation of Electronic question Bank UG courses according to SoE 2018  
(To review solutions to all questions of Electronic Question Banks for all courses)



**DEPARTMENT OF CIVILENGINEERING**

**Item No. 29.14**


To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses..

**Item No. 29.15**


To discuss and propose scheme for Minor an Honor course and its syllabus. To Discuss and propose Certificate courses and value added courses in 2021-22.

**Item No. 29.16**

Any other matter with the permission of the Chair.

  
Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

  
Dr. S.P.Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering

S.N.	Name	Signature	S.N.	Name	Signature
1	Dr. Udaykumar P. Waghe	----	20	Ms. Sangita Shivcharan Meshram	
2	Dr. Santanu Ramkrishna Khandeshwar		21	Dr. Prashant Baban Pande	
3	Dr. Sudhir Vasantrao Ambekar		22	Mr. Atul Sambhuji Kurzekar	
4	Dr. Abhay Vinayakrao Patil		23	Mr. Vivek Dnyandeo Jayale	
5	Dr. Vilas Ganuji Meshram		24	Mr. Harshal Madhukar Warade	
6	Dr. Ajay Ramdas Gajbhiye		25	Ms. Pallavi Shalikram Chakole	
7	Dr. Rajendra Rupraoji Dighade		26	Ms. Snehal Karunkumar Kamble	
8	Mr. Sanjay Manohar Waghmare		27	Mr. Sourabh Mahesh Amrodiya	
9	Mr. Bhupesh Purshottam Nandurkar		29	Mr. Sanket Gajanan Kalamkar	
10	Dr. Ms. Madhuri S. Bhagat		29	Mr. Sagar Wasudeo Dhengare	
11	Dr. Sanjay Padmakar Raut		30	Ms. Monali Rewashankar Wagh	
12	Mrs. Vaishali Nilesh Mendhe		31	Mr. Yogesh Prabhakar Kherde	
13	Ms. Charuta Subhash Waghmare		32	Ms. Sneha Gowardhan Hirekhan	
14	Mr. Khalid Shamim Ansari		33	Mr. Rajesh Madhukar Bhagat	
15	Mr. Harshal Ramesh Rao Nikhade		34	Dr. Mrs. Boskey V. Bahoria	
16	Mr. Jayant Manohar Raut		35	Mr. Anuksh Naresh Asati	
17	Mr. Dhiraj Giridharilal Agrawal		36	Prof. Uday Singh Patil	
18	Mr. Pawan Kesharao Hinge		37	Ms. Payal Dipakrao Lunge	
19	Ms. Amruta Arun Yadav		38	Mr. Swaraj Deepak Ajane	

Name	Signature	Name	Signature	Name	Signature
Dr.A.D.Ghare	Present Online	Dr. M.Madurwar	Present Online	Dr.M.D.Goel	Present Online
Er.Jagdish Lanjewar	AB	Prof.S.N.Harinkhede	Present Online		



**DEPARTMENT OF CIVIL ENGINEERING**

**Minutes of 29<sup>th</sup> BoS Meeting dated on Saturday 8<sup>th</sup> January 2022**

- 29<sup>th</sup> Meeting of BoS of Civil Engineering was held on **Saturday 8<sup>th</sup> January 2022**. It was chaired by Dr.S.P.Raut, Chairman BoS. Following members were present.

Name	Name	Name
Dr.A.D.Ghare	Ms. Charuta Subhash Waghmare	Ms. Monali Rewashankar Wagh
Dr. M.Madurwar	Mr. Khalid Shamim Ansari	Mr. Yogesh Prabhakar Kherde
Dr.M.D.Goel	Mr. Harshal Ramesh Rao Nikhade	Ms. Sneha Gowardhan Hirekhan
Prof.S.N.Harinkhede	Mr. Jayant Manohar Raut	Mr. Rajesh Madhukar Bhagat
Dr. Udaykumar P. Waghe	Mr. Dhiraj Giridharilal Agrawal	Dr. Mrs. Boskey V. Bahoria
Dr. Sudhir Vasant Rao Ambekar	Mr. Pawan Keshao Rao Hinge	Mr. Anuksh Naresh Asati
Dr. Abhay Vinayakrao Patil	Ms. Sangita Shivcharan Meshram	Prof. Uday Singh Patil
Dr. Vilas Ganuji Meshram	Mr. Atul Sambhuji Kurzekar	Ms. Payal Dipakrao Lunge
Mr. Sanjay Manohar Waghmare	Mr. Vivek Dnyandeo Jayale	Mr.Swaraj Deepak Ajane
Mr. Bhupesh Purshottam Nandurkar	Ms. Pallavi Shaligram Chakole	
Dr. Ms. Madhuri S. Bhagat	Ms. Snehal Karunkumar Kamble	
Dr. Sanjay Padmakar Raut	Mr. Sanket Gajanan Kalamkar	
Mrs. Vaishali Nilesh Mendhe	Mr. Sagar Wasudeo Dhengare	

- **Following members has been permitted leave of absence**
  - Er.Jagdish Lanjewar



**DEPARTMENT OF CIVIL ENGINEERING**

**Minutes of Meetings 29<sup>th</sup> BoS Meeting**

**Agenda No. 29.01**

**Welcome of new members**

Dr.S.P.Raut welcomed all BoS experts , viz., Dr.A.D.Ghare Professor, Department of Civil Engineering, VNIT, Nagpur, Dr. M.Madurwar Assistant Professor, Department of Civil Engineering, VNIT, Nagpur, Dr.M.D.Goel, Assistant Professor, Department of Applied Mechanics, VNIT, Nagpur , Prof.S.N.Harinkhede ,Alumni and Assistant Professor , SBJITMR, Nagpur. Newly joined Assistant Professor Mr.S.D.Ajane in the Department of Civil Engineering, YCCE, along with other faculty members of the department has also been welcomed by the Chairman .

**Agenda No. 29.03**

**Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.**

The minutes of previous meeting no. 28 held on Saturday 31<sup>st</sup> July, 2021 were already circulated to all members. The ATR of previous meeting have been discussed with BoS members. (Annexure 1).

After confirmation, Prof.B.P.Nandurkar proposed the minutes to be accepted . Prof.S.M.Amrodiya seconded it. The minutes were then accepted.

**Agenda No. 29.04**

**To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.**

All members were asked if any further correction or amendment was required to be done in the scheme of examination of the Undergraduate and Post graduate programs.

No corrections and amendments were proposed by any members for SoE Autonomous 2014 of the Undergraduate and SoE 2018 of Post graduate programs.

**Agenda No. 29.05**

**To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.**

All members were asked if any further correction or amendment was required to be done in the syllabus of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs.

The last batch of SoE 2014-15 has been graduated in the year 2020-21.

Therefore, no corrections were proposed by the faculty in syllabi of courses in Autonomous 2014 .

For the syllabi of courses in Autonomous 2018 Scheme, few corrections has been suggested.

Program	Course Code	Course Name	Corrections suggested by Faculty/BoS Expert
VII Semester	CV2435	PE-V : Design Of Bridge Structures	1.Stability analysis of Abutments & Piers added in Unit IV 2. Design of bridge bearings added in Unit V.
VII Semester	CV2432	PE-V: Project Planning Management	Reframing of the contents of the syllabus.
V semester	CV2333	OE-I Introduction to Environmental Management	Introduction to Life Cycle Assessment to be added in Unit V.

The corrections to be sent to Academic office for further submission.



**DEPARTMENT OF CIVILENGINEERING**

**Agenda No. 29.06**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

All members were asked to suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs. No changes in the books were proposed by any members.

**Agenda No. 29.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.

All members were asked if any correction or amendment was required to be done in the list of experiments Autonomous 2018 Schemes of Undergraduate and Post graduate programs of Undergraduate and Post graduate programs.

Dr.R.R.Dighade, suggested few modifications in CV2354 - LAB : Hydraulic Engineering of VI Semester.

Program	Course Code	Course Name	Corrections suggested by Faculty/BoS Expert
UG VI Semester	CV2354	LAB : Hydraulic Engineering	1. Experiment No.13 Study of performance of centrifugal pump and Experiment No.14 Study of performance of Pelton wheel to be removed.  2. Experiment No.10 Sketch the various standard profiles in open channels flow and Experiment No.11 Sketch the various profiles in open channels flow by considering break in grade to be added in the syllabus.

**Agenda No. 29.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

The chairman asked to suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs for further submission to Academic Council. No suggestions were proposed by any members. Finally, it was unanimously resolved that the existing Academic Regulations governing the Undergraduate and Post graduate programs be continued without any corrections.

**Agenda No. 29.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

As per the directives from DAM Office, it is decided to offer one NPTEL course in each semester. Accordingly, NPTEL courses and its syllabus available on the website are mapped with the syllabus of courses running in the department. The list is as follows:

S.N.	Semester	Course Code	Course Name	Course Name from NPTEL
1	VI	CV2366	PE-II Introduction to Remote Sensing	Introduction to Remote Sensing, IIT Roorkee

From the year 2021-22, it has been decided to allot professional elective offered through Coursera for VI semester students. For this, Construction Management conducted by Columbia University, US, will be offered as Professional Elective -II for first 20 bright students considering their consent for the course. The course consists of 4 modules. After successful completion of each module, student will receive certificate which have to submit for the grade allotment.



Nagar Yuwak Shikshan Sanstha's  
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**DEPARTMENT OF CIVIL ENGINEERING**

**Agenda No. 29.10**

**To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2021-22.**

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs in End Semester Examination of **Even Term 2021-22** after notification received from CoE office.

**Agenda No. 29.11**

**To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Even Term 2021-22.**

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Postgraduate programs in End Semester Examination of **Even Term 2021-22** after notification received from CoE office.

**Agenda No. 29.12**

**To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Even Term 2021-22.**

It was decided to finalized panel of of internal and external examiners for the various laboratory and other non- theory courses at UG and PG levels of **Even Term 2021-22** after notification received from CoE office.

**Agenda No. 29.13**

**Preparation of Electronic question Bank UG courses according to SoE 2018.**

**To review solutions to all questions of Electronic Question Banks for all courses.**

Electronic question Bank upto VI semester has been prepared. EQB for VII semester will be prepared after the notification received from Dean Academic Matters.

**Agenda No. 29.14**

**To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.**

No suggestions were proposed by any members. Finally, it was unanimously resolved that the existing Evaluation Process for theory and other courses be continued without any corrections.

**Agenda No. 29.15**

**To discuss and propose scheme for Minor and Honor course and its syllabus. Discussed and proposed Certificate courses and value-added courses in 2021-22.**

1. For Even term 2021-22 following courses of Swayam will be offered.

Sr. no	Title of course	Organized by	Engaged by	Total credits
1.	Modern construction Materials	IIT Madras	Prof. Ravindra Gettu	3
2.	Maintenance and repairs of concrete structures	IIT Madras	Radhakrishna G. Pillai	3
3.	Retrofitting and rehabilitation of civil infrastructures	IIT Kharagpur	Prof. Swati Maitra Prof. Sriman Kumar Bhattacharyya	3





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DEPARTMENT OF CIVILENGINEERING

2. Value added Course proposed to IV and VI semester students are

1. Introduction to computation & design using REVIT
2. Planning of Structure by Primavera
3. ETAB based Analysis and design of concrete structures
4. Making your career in BIM

**Agenda No. 29.16**

**Any other matter with the permission of the Chair.**

All suggestions have been welcomed and forwarded for further submission to Academic Council.  
The meeting ended with thank to chair.

Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

Dr. S.P. Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering



## DEPARTMENT OF CIVIL ENGINEERING

### NOTICE BOS

Date:- 26<sup>th</sup> July 2021

**Meeting No 28** of Board of Studies of Civil Engineering department is scheduled on **Saturday 31<sup>st</sup> July 2021** from 11:00 a.m. through online mode.

All staff members are requested to attend the meeting. The agenda of the meeting is mentioned below. All staff members are requested to read the agenda carefully so that they can give fruitful suggestions in the meeting.

#### Agenda Points

**Item No. 28.01**

Welcome of new members

**Item No. 28.02**

Installation of member Secretary

**Item No. 28.03**

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

**Item No. 28.04**

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 28.05**

To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

**Item No. 28.06**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

**Item No. 28.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.

**Item No. 28.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 28.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

**Item No. 28.10**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2021-22.



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**DEPARTMENT OF CIVIL ENGINEERING**

**Item No. 28.11**

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd Term 2021-22.

**Item No. 28.12**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd Term 2021-22

**Item No. 28.13**

Preparation of Electronic question Bank UG courses according to SoE 2018 To review solutions to all questions of Electronic Question Banks for all courses)

**Item No. 28.14**

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses..

**Item No. 28.15**

To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.

**Item No. 28.16**

To discuss the feedback received from students/teachers/employers/alumni/parents regarding teaching learning process in order to review and design the syllabus

**Item No. 28.17**

Any other matter with the permission of the Chair.

  
Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

  
Dr. S.P. Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering

S.N.	Name	S.N.	Name
1	Dr. Udaykumar P. Waghe	18	Prof. Pawan Kesharao Hinge
2	Dr. Santanu Ramkrishna Khandeshwar	19	Prof. Ms. Amruta Arun Yadav (Adekar)
3	Dr. Sudhir Vasantrao Ambekar	20	Prof. Ms. Sangita Shivcharan Meshram (Sukhadeve)
4	Dr. Abhay Vinayakrao Patil	21	Dr. Prashant Baban Pande
5	Dr. Vilas Ganuji Meshram	22	Prof. Atul Sambhuji Kurzekar
6	Dr. Ajay Ramdas Gajbhiye	23	Prof. Vivek Dnyandeo Jayale
7	Dr. Rajendra Rupraoji Dighade	24	Dr. Harshal Madhukar Warade
8	Prof. Sanjay Manohar Waghmare	25	Prof. Ms. Pallavi Shaligram Chakole (Bankar)
9	Dr. Bhupesh Purshottam Nandurkar	26	Prof. Ms. Snehal Karunkumar Kamble (Patankar)
10	Dr. Ms. Madhuri Shankarrao Bhagat	27	Prof. Sourabh Mahesh Amrodiya
11	Dr. Sanjay Padmakar Raut	28	Prof. Sanket Gajanan Kalamkar
12	Prof. Mrs. Vaishali Nilesh Mendhe (Bhadke)	29	Prof. Sagar Wasudeo Dhengare
13	Prof. Ms. Charuta Subhash Waghmare	30	Prof. Ms. Monali Rewashankar Wagh (Nikhade)
14	Prof. Khalid Shamim Ansari	31	Prof. Yogesh Prabhakar Kherde
15	Prof. Harshal Ramesh Rao Nikhade	32	Prof. Ms. Sneha Gowardhan Hirekhan (Wankhede)
16	Dr. Jayant Manohar Raut	33	Prof. Rajesh Madhukar Bhagat
17	Prof. Dhiraj Giridharilal Agrawal	34	Dr. Mrs. Boskey Vishal Bahoria

S.N.	Name	Signature	S.N.	Name	Signature
1	Dr. A.D. Ghare	Present Online	4	Prof. S.N. Harinkhede	Present Online
2	Er. Jagdish Lanjewar	Present Online	5	Dr. M.D. Goel	AB
3	Dr. M. Madurwar	Present Online			



**DEPARTMENT OF CIVIL ENGINEERING**

**Minutes of 28<sup>TH</sup> BoS Meeting dated on Saturday 31<sup>ST</sup> July 2021**

- 28<sup>th</sup> Meeting of BoS of Civil Engineering was held on Saturday 31<sup>ST</sup> July 2021.. It was chaired by Dr.S.P.Raut, Chairman BoS. Following members were present.

S. N.	Name	S.N.	Name
1	Dr.A.D.Ghare	20	Dr. Jayant Manohar Raut
2	Dr. M.Madurwar	21	Prof. Dhiraj Giridharilal Agrawal
3	Er.Jagdish Lanjewar	22	Prof. Pawan Keshaorao Hinge
4	Prof.S.N.Harinkhede	23	Prof. Ms. Amruta Arun Yadav (Adekar)
5	Dr. Udaykumar P. Waghe	24	Prof. Ms. Sangita Shivcharan Meshram (Sukhadeve)
6	Dr. Santanu Ramkrishna Khandeshwar	25	Dr. Prashant Baban Pande
7	Dr. Sudhir Vasantrao Ambekar	26	Prof. Atul Sambhuji Kurzekar
8	Dr. Abhay Vinayakrao Patil	27	Prof. Vivek Dnyandeo Jayale
9	Dr. Vilas Ganuji Meshram	28	Dr. Harshal Madhukar Warade
10	Dr. Ajay Ramdas Gajbhiye	29	Prof. Ms. Pallavi Shalikram Chakole (Bankar)
11	Dr. Rajendra Rupraoji Dighade	30	Prof. Ms. Snehal Karunkumar Kamble (Patankar)
12	Prof. Sanjay Manohar Waghmare	31	Prof. Sourabh Mahesh Amrodiya
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14	Dr. Ms. Madhuri Shankarrao Bhagat	33	Prof. Sagar Wasudeo Dhengare
15	Dr. Sanjay Padmakar Raut	34	Prof. Ms. Monali Rewashankar Wagh (Nikhade)
16	Prof. Mrs. Vaishali Nilesh Mendhe (Bhadke)	35	Prof. Yogesh Prabhakar Kherde
17	Prof. Ms. Charuta Subhash Waghmare	36	Prof. Ms. Sneha Gowardhan Hirekhan (Wankhede)
18	Prof. Khalid Shamim Ansari	37	Prof. Rajesh Madhukar Bhagat
19	Prof. Harshal Rameshrao Nikhade	38	Dr. Mrs. Boskey Vishal Bahoria

- **Following members has been permitted leave of absence**

1. Dr. M.D. Goel
2. Dr. Anant Manohar Pande



## DEPARTMENT OF CIVIL ENGINEERING

### Minutes of Meetings 28<sup>th</sup> BoS Meeting

#### Agenda No. 28.01

##### Welcome of new members

Dr. S.P. Raut accepted the charge as BoS Chairman from the session 2021-22. Department welcomed new Chairman.

Dr. S.P. Raut welcomed all BoS experts, viz., Dr.A.D.Ghare Professor, Department of Civil Engineering, VNIT, Nagpur, Dr. M.Madurwar Assistant Professor, Department of Civil Engineering, VNIT, Nagpur, Er.Jagdish Lanjewar, Director, Sun Enviro Technologies Pvt.Ltd., Nagpur, Prof.S.N.Harinkhede, Alumni and Assistant Professor, SBJITMR, Nagpur and departmental BoS members.

#### Agenda No. 28.03

##### Confirmation of minutes of previous Meeting and action taken report on decisions / suggestions of the previous meeting.

The minutes of previous meeting no. 27<sup>th</sup> held on Thursday, 4<sup>th</sup> February 2021 were already circulated to all members. The ATR of previous meeting have been discussed with BoS members. **(Annexure 1)**.

After confirmation, Prof.B.P.Nandurkar proposed the minutes to be accepted. Prof. Mrs. V.N. Mendhe seconded it. The minutes were then accepted.

#### Agenda No. 28.04

##### To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.

All members were asked if any further correction or amendment was required to be done in the scheme of examination of the Undergraduate and Post graduate programs.

No corrections and amendments were proposed by any members for SoE Autonomous 2014 of the Undergraduate and SoE 2019 of Post graduate programs.

#### Agenda No. 28.05

##### To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

All members were asked if any further correction or amendment was required to be done in the syllabus of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs.

The last batch of SoE 2014-15 has been graduated in the year 2020-21. Therefore no corrections were proposed by the faculty in syllabi of courses in Autonomous 2014. For the syllabi of courses in Autonomous 2018 Scheme, few corrections has been suggested.

UG	Course Code	Course Name	Corrections suggested by Faculty / BoS Expert
VII Semester	CV 2429	PE-IV Watershed Management	Dr.A.D.Ghare suggested to add Revised Universal Soil Loss Equation in Unit-III
	New ( Suggested by Dr.R.R.Dhigade)	PE- IV: Advanced Fluid Mechanics and Hydraulic Machines	Approved.
All Semester (III-VII)	Approved Modified Course Outcome with modifications in the sentence framing.		
PG (Env.Engg.) II Semester	CV3979 (Suggested by Dr. S.R. Khandeshwar)	PE-I : Hazardous Waste Management	Solidification / stabilization and innovation techniques from Unit-III will be removed and should be added in Unit-IV.

The corrections to be sent to Academic office for further submission.



**DEPARTMENT OF CIVIL ENGINEERING**

**Agenda No. 28.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.

All members were asked if any correction or amendment was required to be done in the list of experiments Autonomous 2018 Schemes of Undergraduate and Post graduate programs of Undergraduate and Post graduate programs.

No corrections and amendments were proposed by any members in the laboratory courses of Under-Graduate and Post Graduate programs.

**Agenda No. 28.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

The chairman asked to suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs for further submission to Academic Council.

No suggestions were proposed by any members. Finally it was unanimously resolved that the existing Academic Regulations governing the Undergraduate and Post graduate programs be continued without any corrections.

**Agenda No. 28.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

As per the directives from DAM Office, it is decided to offer one NPTEL course in each semester.

Accordingly NPTEL courses and its syllabus available on the website are mapped with the syllabus of courses running in the department. The list is as follows :

S.N.	Semester	Course Code	Course Name
1	III	CV2207	Water Supply Engineering

**Agenda No. 28.10**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2021-22.

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs in End Semester Examination of Odd Term 2021-22 in the last week of August

**Agenda No. 28.11**

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd Term 2021-22.

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Postgraduate programs in End Semester Examination of Odd Term 2021-22 in the last week of August

**Agenda No. 28.12**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd Term 2021-22.

It was decided to finalized panel of of internal and external examiners for the various laboratory and other non- theory courses at UG and PG levels of Odd Term 2021-22 in the last week of August



## DEPARTMENT OF CIVIL ENGINEERING

### Agenda No. 28.13

**Preparation of Electronic question Bank UG courses according to SoE 2018. To review solutions to all questions of Electronic Question Banks for all courses.**

The process will start after the notification from DAM office for the preparation of EQB of 2018-19 scheme.

### Agenda No. 28.14

**To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses..**

From the session Odd Term 2021-22, new guidelines regarding changes in the format of Mid Semester and End Semester Examination will be issued from Dean Academic Matters and accordingly department will work on it. BoS Experts approved it.

### Agenda No. 28.15

**To discuss and propose scheme for Minor and Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.**

1. Department of Civil Engineering has been offering 3 Honor Course and 1 Minor course (of 18 credits each) from the session 2021-22 from III year. Honor Courses, viz., Construction Technology (through NPTEL/SWAYAM, SoE and syllabus has been prepared from the subjects offered in SWAYAM), Remote Sensing & GIS (Industry aligned) and Environmental Engineering (Department oriented) and Minor in Civil Engineering has been proposed and approved by the experts on 9th Curriculum Development Program dated Saturday 1st May 2021.

As per the guidelines received from DAM if the courses through NPTEL/SWAYAM are not offered/run by portal, the BoS can proposed another course in line with the offered courses of 8,12 or 14 weeks. The courses currently offered by NPTEL/SWAYAM for Construction Technology are viz, Hydration, Porosity & Strength of Cementitious Materials and Project Planning & Control are of 8 weeks of 2 Credits each. It is proposed by the BoS that students have to opt for other additional courses so that the students can complete their required 18 credits in stipulated time.

The suggestions/proposal will be sent to DAM for approval.

2. Value added Course: 1 six day Value added Course /pre-placement certification course on Building Information Modeling (BIM) was conducted for final year students from 28th July -2nd August 2021. Total 102 students registered for the courses. It was conducted in consultation with IWORKSTATION Consultant, Nagpur.
3. One certification course on Introduction to STADDPRO will be commenced from first week of August 2021.

### Agenda No 28.16

**To discuss the feedback received from students/teachers/employers/alumni/parents regarding teaching learning process in order to review and design the syllabus**

The SoE & curriculum of 2018-19 has been discussed with stakeholders of the department including students/teachers/employers/alumni/parents, and necessary inputs in the form of feedback has been collected from them.

### Agenda No 28.17

**Any other matter with the permission of the Chair.**

Dr. M.V. Madurwar, BoS Subject Expert, suggested Introduction to Software Project Management / PRIMEVERA / MS-PROJECT as certificate course.

Er. Jagdish Lanjewar, BoS Industry Expert, suggested to introduce topics such as water recycle systems, its processes, designs, equipment's and instruments study, waste to energy systems, resource recovery from industrial processes.



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## DEPARTMENT OF CIVIL ENGINEERING

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Detailing of the said topics will be carried out and accordingly it will be implemented in the syllabus in consultation with industry personnel.

All suggestions have been welcomed and forwarded for further submission to Academic council.

The meeting ended with thank to chair.

Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

Dr. S.P. Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering





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**DEPARTMENT OF CIVIL ENGINEERING**

NOTICE  
(BoS)

Date:- 5<sup>th</sup> January 2022

**Meeting No 29** of Board of Studies of Civil Engineering department is scheduled on **Saturday 8<sup>th</sup> January 2022**, from 11:00 a.m. through online mode.

All staff members are requested to attend the meeting. The agenda of the meeting is mentioned below. All staff members are requested to read the agenda carefully so that they can give fruitful suggestions in the meeting.

**Agenda Points**

**Item No. 29.01**

Welcome of new members

**Item No. 29.02**

Installation of member Secretary

**Item No. 29.03**

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

**Item No. 29.04**

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 29.05**

To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

**Item No. 29.06**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

**Item No. 29.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Undergraduate and Post Graduate programs.

**Item No. 29.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 29.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

**Item No. 29.10**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2021-22.

**Item No. 29.11**

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Even Term 2021-22.

**Item No. 29.12**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Even Term 2021-22

**Item No. 29.13**

Preparation of Electronic question Bank UG courses according to SoE 2018  
(To review solutions to all questions of Electronic Question Banks for all courses)



**DEPARTMENT OF CIVILENGINEERING**

**Item No. 29.14**


To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses..

**Item No. 29.15**

To discuss and propose scheme for Minor an Honor course and its syllabus. To Discuss and propose Certificate courses and value added courses in 2021-22.

**Item No. 29.16**

Any other matter with the permission of the Chair.

  
Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

  
Dr. S.P.Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering

S.N.	Name	Signature	S.N.	Name	Signature
1	Dr. Udaykumar P. Waghe	----	20	Ms. Sangita Shivcharan Meshram	
2	Dr. Santanu Ramkrishna Khandeshwar		21	Dr. Prashant Baban Pande	
3	Dr. Sudhir Vasantrao Ambekar		22	Mr. Atul Sambhuji Kurzekar	
4	Dr. Abhay Vinayakrao Patil		23	Mr. Vivek Dnyandeo Jayale	
5	Dr. Vilas Ganuji Meshram		24	Mr. Harshal Madhukar Warade	
6	Dr. Ajay Ramdas Gajbhiye		25	Ms. Pallavi Shalikram Chakole	
7	Dr. Rajendra Rupraoji Dighade		26	Ms. Snehal Karunkumar Kamble	
8	Mr. Sanjay Manohar Waghmare		27	Mr. Sourabh Mahesh Amrodiya	
9	Mr. Bhupesh Purshottam Nandurkar		29	Mr. Sanket Gajanan Kalamkar	
10	Dr. Ms. Madhuri S. Bhagat		29	Mr. Sagar Wasudeo Dhengare	
11	Dr. Sanjay Padmakar Raut		30	Ms. Monali Rewashankar Wagh	
12	Mrs. Vaishali Nilesh Mendhe		31	Mr. Yogesh Prabhakar Kherde	
13	Ms. Charuta Subhash Waghmare		32	Ms. Sneha Gowardhan Hirekhan	
14	Mr. Khalid Shamim Ansari		33	Mr. Rajesh Madhukar Bhagat	
15	Mr. Harshal Ramesh Rao Nikhade		34	Dr. Mrs. Boskey V. Bahoria	
16	Mr. Jayant Manohar Raut		35	Mr. Anuksh Naresh Asati	
17	Mr. Dhiraj Giridharilal Agrawal		36	Prof. Uday Singh Patil	
18	Mr. Pawan Kesharao Hinge		37	Ms. Payal Dipakrao Lunge	
19	Ms. Amruta Arun Yadav		38	Mr. Swaraj Deepak Ajane	

Name	Signature	Name	Signature	Name	Signature
Dr.A.D.Ghare	Present Online	Dr. M.Madurwar	Present Online	Dr.M.D.Goel	Present Online
Er.Jagdish Lanjewar	AB	Prof.S.N.Harinkhede	Present Online		



**DEPARTMENT OF CIVILENGINEERING**

**Minutes of 29<sup>th</sup> BoS Meeting dated on Saturday 8<sup>th</sup> January 2022**

- 29<sup>th</sup> Meeting of BoS of Civil Engineering was held on **Saturday 8<sup>th</sup> January 2022**. It was chaired by Dr.S.P.Raut, Chairman BoS. Following members were present.

Name	Name	Name
Dr.A.D.Ghare	Ms. Charuta Subhash Waghmare	Ms. Monali Rewashankar Wagh
Dr. M.Madurwar	Mr. Khalid Shamim Ansari	Mr. Yogesh Prabhakar Kherde
Dr.M.D.Goel	Mr. Harshal Ramesh Rao Nikhade	Ms. Sneha Gowardhan Hirekhan
Prof.S.N.Harinkhede	Mr. Jayant Manohar Raut	Mr. Rajesh Madhukar Bhagat
Dr. Udaykumar P. Waghe	Mr. Dhiraj Giridharilal Agrawal	Dr. Mrs. Boskey V. Bahoria
Dr. Sudhir Vasant Rao Ambekar	Mr. Pawan Keshao Rao Hinge	Mr. Anuksh Naresh Asati
Dr. Abhay Vinayakrao Patil	Ms. Sangita Shivcharan Meshram	Prof. Uday Singh Patil
Dr. Vilas Ganuji Meshram	Mr. Atul Sambhuji Kurzekar	Ms. Payal Dipakrao Lunge
Mr. Sanjay Manohar Waghmare	Mr. Vivek Dnyandeo Jayale	Mr.Swaraj Deepak Ajane
Mr. Bhupesh Purshottam Nandurkar	Ms. Pallavi Shaligram Chakole	
Dr. Ms. Madhuri S. Bhagat	Ms. Snehal Karunkumar Kamble	
Dr. Sanjay Padmakar Raut	Mr. Sanket Gajanan Kalamkar	
Mrs. Vaishali Nilesh Mendhe	Mr. Sagar Wasudeo Dhengare	

- **Following members has been permitted leave of absence**
  - Er.Jagdish Lanjewar



**DEPARTMENT OF CIVIL ENGINEERING**

**Minutes of Meetings 29<sup>th</sup> BoS Meeting**

**Agenda No. 29.01**

**Welcome of new members**

Dr.S.P.Raut welcomed all BoS experts , viz., Dr.A.D.Ghare Professor, Department of Civil Engineering, VNIT, Nagpur, Dr. M.Madurwar Assistant Professor, Department of Civil Engineering, VNIT, Nagpur, Dr.M.D.Goel, Assistant Professor, Department of Applied Mechanics, VNIT, Nagpur , Prof.S.N.Harinkhede ,Alumni and Assistant Professor , SBJITMR, Nagpur. Newly joined Assistant Professor Mr.S.D.Ajane in the Department of Civil Engineering, YCCE, along with other faculty members of the department has also been welcomed by the Chairman .

**Agenda No. 29.03**

**Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.**

The minutes of previous meeting no. 28 held on Saturday 31<sup>st</sup> July, 2021 were already circulated to all members. The ATR of previous meeting have been discussed with BoS members. (Annexure 1).

After confirmation, Prof.B.P.Nandurkar proposed the minutes to be accepted . Prof.S.M.Amrodiya seconded it. The minutes were then accepted.

**Agenda No. 29.04**

**To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.**

All members were asked if any further correction or amendment was required to be done in the scheme of examination of the Undergraduate and Post graduate programs.

No corrections and amendments were proposed by any members for SoE Autonomous 2014 of the Undergraduate and SoE 2018 of Post graduate programs.

**Agenda No. 29.05**

**To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.**

All members were asked if any further correction or amendment was required to be done in the syllabus of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs.

The last batch of SoE 2014-15 has been graduated in the year 2020-21.

Therefore, no corrections were proposed by the faculty in syllabi of courses in Autonomous 2014 .

For the syllabi of courses in Autonomous 2018 Scheme, few corrections has been suggested.

Program	Course Code	Course Name	Corrections suggested by Faculty/BoS Expert
VII Semester	CV2435	PE-V : Design Of Bridge Structures	1.Stability analysis of Abutments & Piers added in Unit IV 2. Design of bridge bearings added in Unit V.
VII Semester	CV2432	PE-V: Project Planning Management	Reframing of the contents of the syllabus.
V semester	CV2333	OE-I Introduction to Environmental Management	Introduction to Life Cycle Assessment to be added in Unit V.

The corrections to be sent to Academic office for further submission.



**DEPARTMENT OF CIVILENGINEERING**

**Agenda No. 29.06**

**To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.**

All members were asked to suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs. No changes in the books were proposed by any members.

**Agenda No. 29.07**

**To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.**

All members were asked if any correction or amendment was required to be done in the list of experiments Autonomous 2018 Schemes of Undergraduate and Post graduate programs of Undergraduate and Post graduate programs.

Dr.R.R.Dighade, suggested few modifications in CV2354 - LAB : Hydraulic Engineering of VI Semester.

Program	Course Code	Course Name	Corrections suggested by Faculty/BoS Expert
UG VI Semester	CV2354	LAB : Hydraulic Engineering	1. Experiment No.13 Study of performance of centrifugal pump and Experiment No.14 Study of performance of Pelton wheel to be removed.  2. Experiment No.10 Sketch the various standard profiles in open channels flow and Experiment No.11 Sketch the various profiles in open channels flow by considering break in grade to be added in the syllabus.

**Agenda No. 29.08**

**To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.**

The chairman asked to suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs for further submission to Academic Council. No suggestions were proposed by any members. Finally, it was unanimously resolved that the existing Academic Regulations governing the Undergraduate and Post graduate programs be continued without any corrections.

**Agenda No. 29.09**

**To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.**

As per the directives from DAM Office, it is decided to offer one NPTEL course in each semester. Accordingly, NPTEL courses and its syllabus available on the website are mapped with the syllabus of courses running in the department. The list is as follows:

S.N.	Semester	Course Code	Course Name	Course Name from NPTEL
1	VI	CV2366	PE-II Introduction to Remote Sensing	Introduction to Remote Sensing, IIT Roorkee

From the year 2021-22, it has been decided to allot professional elective offered through Coursera for VI semester students. For this, Construction Management conducted by Columbia University, US, will be offered as Professional Elective -II for first 20 bright students considering their consent for the course. The course consists of 4 modules. After successful completion of each module, student will receive certificate which have to submit for the grade allotment.



Nagar Yuwak Shikshan Sanstha's  
**Yeshwantrao Chavan College of Engineering**

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)  
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**DEPARTMENT OF CIVIL ENGINEERING**

**Agenda No. 29.10**

**To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2021-22.**

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs in End Semester Examination of **Even Term 2021-22** after notification received from CoE office.

**Agenda No. 29.11**

**To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Even Term 2021-22.**

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Postgraduate programs in End Semester Examination of **Even Term 2021-22** after notification received from CoE office.

**Agenda No. 29.12**

**To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Even Term 2021-22.**

It was decided to finalized panel of of internal and external examiners for the various laboratory and other non- theory courses at UG and PG levels of **Even Term 2021-22** after notification received from CoE office.

**Agenda No. 29.13**

**Preparation of Electronic question Bank UG courses according to SoE 2018.**

**To review solutions to all questions of Electronic Question Banks for all courses.**

Electronic question Bank upto VI semester has been prepared. EQB for VII semester will be prepared after the notification received from Dean Academic Matters.

**Agenda No. 29.14**

**To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.**

No suggestions were proposed by any members. Finally, it was unanimously resolved that the existing Evaluation Process for theory and other courses be continued without any corrections.

**Agenda No. 29.15**

**To discuss and propose scheme for Minor and Honor course and its syllabus. Discussed and proposed Certificate courses and value-added courses in 2021-22.**

1. For Even term 2021-22 following courses of Swayam will be offered.

Sr. no	Title of course	Organized by	Engaged by	Total credits
1.	Modern construction Materials	IIT Madras	Prof. Ravindra Gettu	3
2.	Maintenance and repairs of concrete structures	IIT Madras	Radhakrishna G. Pillai	3
3.	Retrofitting and rehabilitation of civil infrastructures	IIT Kharagpur	Prof. Swati Maitra Prof. Sriman Kumar Bhattacharyya	3



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**DEPARTMENT OF CIVILENGINEERING**

2. Value added Course proposed to IV and VI semester students are

1. Introduction to computation & design using REVIT
2. Planning of Structure by Primavera
3. ETAB based Analysis and design of concrete structures
4. Making your career in BIM

**Agenda No. 29.16**

**Any other matter with the permission of the Chair.**

All suggestions have been welcomed and forwarded for further submission to Academic Council.  
The meeting ended with thank to chair.

Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

Dr. S.P. Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering



## DEPARTMENT OF CIVIL ENGINEERING

### NOTICE BOS

Date:- 26<sup>th</sup> July 2021

**Meeting No 28** of Board of Studies of Civil Engineering department is scheduled on **Saturday 31<sup>st</sup> July 2021** from 11:00 a.m. through online mode.

All staff members are requested to attend the meeting. The agenda of the meeting is mentioned below. All staff members are requested to read the agenda carefully so that they can give fruitful suggestions in the meeting.

#### Agenda Points

**Item No. 28.01**

Welcome of new members

**Item No. 28.02**

Installation of member Secretary

**Item No. 28.03**

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

**Item No. 28.04**

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 28.05**

To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

**Item No. 28.06**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

**Item No. 28.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.

**Item No. 28.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 28.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

**Item No. 28.10**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2021-22.





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**DEPARTMENT OF CIVIL ENGINEERING**

**Item No. 28.11**

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd Term 2021-22.

**Item No. 28.12**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd Term 2021-22

**Item No. 28.13**

Preparation of Electronic question Bank UG courses according to SoE 2018 To review solutions to all questions of Electronic Question Banks for all courses)

**Item No. 28.14**

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses..

**Item No. 28.15**

To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.

**Item No. 28.16**

To discuss the feedback received from students/teachers/employers/alumni/parents regarding teaching learning process in order to review and design the syllabus

**Item No. 28.17**

Any other matter with the permission of the Chair.

  
Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

  
Dr. S.P. Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering

S.N.	Name	S.N.	Name
1	Dr. Udaykumar P. Waghe	18	Prof. Pawan Kesharao Hinge
2	Dr. Santanu Ramkrishna Khandeshwar	19	Prof. Ms. Amruta Arun Yadav (Adekar)
3	Dr. Sudhir Vasantrao Ambekar	20	Prof. Ms. Sangita Shivcharan Meshram (Sukhadeve)
4	Dr. Abhay Vinayakrao Patil	21	Dr. Prashant Baban Pande
5	Dr. Vilas Ganuji Meshram	22	Prof. Atul Sambhuji Kurzekar
6	Dr. Ajay Ramdas Gajbhiye	23	Prof. Vivek Dnyandeo Jayale
7	Dr. Rajendra Rupraoji Dighade	24	Dr. Harshal Madhukar Warade
8	Prof. Sanjay Manohar Waghmare	25	Prof. Ms. Pallavi Shaligram Chakole (Bankar)
9	Dr. Bhupesh Purshottam Nandurkar	26	Prof. Ms. Snehal Karunkumar Kamble (Patankar)
10	Dr. Ms. Madhuri Shankarrao Bhagat	27	Prof. Sourabh Mahesh Amrodiya
11	Dr. Sanjay Padmakar Raut	28	Prof. Sanket Gajanan Kalamkar
12	Prof. Mrs. Vaishali Nilesh Mendhe (Bhadke)	29	Prof. Sagar Wasudeo Dhengare
13	Prof. Ms. Charuta Subhash Waghmare	30	Prof. Ms. Monali Rewashankar Wagh (Nikhade)
14	Prof. Khalid Shamim Ansari	31	Prof. Yogesh Prabhakar Kherde
15	Prof. Harshal Ramesh Rao Nikhade	32	Prof. Ms. Sneha Gowardhan Hirekhan (Wankhede)
16	Dr. Jayant Manohar Raut	33	Prof. Rajesh Madhukar Bhagat
17	Prof. Dhiraj Giridharilal Agrawal	34	Dr. Mrs. Boskey Vishal Bahoria

S.N.	Name	Signature	S.N.	Name	Signature
1	Dr. A.D. Ghare	Present Online	4	Prof. S.N. Harinkhede	Present Online
2	Er. Jagdish Lanjewar	Present Online	5	Dr. M.D. Goel	AB
3	Dr. M. Madurwar	Present Online			



**DEPARTMENT OF CIVIL ENGINEERING**

**Minutes of 28<sup>TH</sup> BoS Meeting dated on Saturday 31<sup>ST</sup> July 2021**

- 28<sup>th</sup> Meeting of BoS of Civil Engineering was held on Saturday 31<sup>ST</sup> July 2021.. It was chaired by Dr.S.P.Raut, Chairman BoS. Following members were present.

S. N.	Name	S.N.	Name
1	Dr.A.D.Ghare	20	Dr. Jayant Manohar Raut
2	Dr. M.Madurwar	21	Prof. Dhiraj Giridharilal Agrawal
3	Er.Jagdish Lanjewar	22	Prof. Pawan Keshaorao Hinge
4	Prof.S.N.Harinkhede	23	Prof. Ms. Amruta Arun Yadav (Adekar)
5	Dr. Udaykumar P. Waghe	24	Prof. Ms. Sangita Shivcharan Meshram (Sukhadeve)
6	Dr. Santanu Ramkrishna Khandeshwar	25	Dr. Prashant Baban Pande
7	Dr. Sudhir Vasantao Ambekar	26	Prof. Atul Sambhuji Kurzekar
8	Dr. Abhay Vinayakrao Patil	27	Prof. Vivek Dnyandeo Jayale
9	Dr. Vilas Ganuji Meshram	28	Dr. Harshal Madhukar Warade
10	Dr. Ajay Ramdas Gajbhiye	29	Prof. Ms. Pallavi Shalikram Chakole (Bankar)
11	Dr. Rajendra Rupraoji Dighade	30	Prof. Ms. Snehal Karunkumar Kamble (Patankar)
12	Prof. Sanjay Manohar Waghmare	31	Prof. Sourabh Mahesh Amrodiya
13	Dr. Bhupesh Purshottam Nandurkar	32	Prof. Sanket Gajanan Kalamkar
14	Dr. Ms. Madhuri Shankarrao Bhagat	33	Prof. Sagar Wasudeo Dhengare
15	Dr. Sanjay Padmakar Raut	34	Prof. Ms. Monali Rewashankar Wagh (Nikhade)
16	Prof. Mrs. Vaishali Nilesh Mendhe (Bhadke)	35	Prof. Yogesh Prabhakar Kherde
17	Prof. Ms. Charuta Subhash Waghmare	36	Prof. Ms. Sneha Gowardhan Hirekhan (Wankhede)
18	Prof. Khalid Shamim Ansari	37	Prof. Rajesh Madhukar Bhagat
19	Prof. Harshal Rameshroo Nikhade	38	Dr. Mrs. Boskey Vishal Bahoria

➤ **Following members has been permitted leave of absence**

1. Dr. M.D. Goel
2. Dr. Anant Manohar Pande



## DEPARTMENT OF CIVIL ENGINEERING

### Minutes of Meetings 28<sup>th</sup> BoS Meeting

#### Agenda No. 28.01

##### Welcome of new members

Dr. S.P. Raut accepted the charge as BoS Chairman from the session 2021-22. Department welcomed new Chairman.

Dr. S.P. Raut welcomed all BoS experts, viz., Dr.A.D.Ghare Professor, Department of Civil Engineering, VNIT, Nagpur, Dr. M.Madurwar Assistant Professor, Department of Civil Engineering, VNIT, Nagpur, Er.Jagdish Lanjewar, Director, Sun Enviro Technologies Pvt.Ltd., Nagpur, Prof.S.N.Harinkhede, Alumni and Assistant Professor, SBJITMR, Nagpur and departmental BoS members.

#### Agenda No. 28.03

##### Confirmation of minutes of previous Meeting and action taken report on decisions / suggestions of the previous meeting.

The minutes of previous meeting no. 27<sup>th</sup> held on Thursday, 4<sup>th</sup> February 2021 were already circulated to all members. The ATR of previous meeting have been discussed with BoS members. **(Annexure 1)**.

After confirmation, Prof.B.P.Nandurkar proposed the minutes to be accepted. Prof. Mrs. V.N. Mendhe seconded it. The minutes were then accepted.

#### Agenda No. 28.04

##### To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.

All members were asked if any further correction or amendment was required to be done in the scheme of examination of the Undergraduate and Post graduate programs.

No corrections and amendments were proposed by any members for SoE Autonomous 2014 of the Undergraduate and SoE 2019 of Post graduate programs.

#### Agenda No. 28.05

##### To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

All members were asked if any further correction or amendment was required to be done in the syllabus of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs.

The last batch of SoE 2014-15 has been graduated in the year 2020-21. Therefore no corrections were proposed by the faculty in syllabi of courses in Autonomous 2014. For the syllabi of courses in Autonomous 2018 Scheme, few corrections has been suggested.

UG	Course Code	Course Name	Corrections suggested by Faculty / BoS Expert
VII Semester	CV 2429	PE-IV Watershed Management	Dr.A.D.Ghare suggested to add Revised Universal Soil Loss Equation in Unit-III
	New ( Suggested by Dr.R.R.Dhigade)	PE- IV: Advanced Fluid Mechanics and Hydraulic Machines	Approved.
All Semester (III-VII)	Approved Modified Course Outcome with modifications in the sentence framing.		
PG (Env.Engg.) II Semester	CV3979 (Suggested by Dr. S.R. Khandeshwar)	PE-I : Hazardous Waste Management	Solidification / stabilization and innovation techniques from Unit-III will be removed and should be added in Unit-IV.

The corrections to be sent to Academic office for further submission.



**DEPARTMENT OF CIVIL ENGINEERING**

**Agenda No. 28.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.

All members were asked if any correction or amendment was required to be done in the list of experiments Autonomous 2018 Schemes of Undergraduate and Post graduate programs of Undergraduate and Post graduate programs.

No corrections and amendments were proposed by any members in the laboratory courses of Under-Graduate and Post Graduate programs.

**Agenda No. 28.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

The chairman asked to suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs for further submission to Academic Council.

No suggestions were proposed by any members. Finally it was unanimously resolved that the existing Academic Regulations governing the Undergraduate and Post graduate programs be continued without any corrections.

**Agenda No. 28.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

As per the directives from DAM Office, it is decided to offer one NPTEL course in each semester.

Accordingly NPTEL courses and its syllabus available on the website are mapped with the syllabus of courses running in the department. The list is as follows :

S.N.	Semester	Course Code	Course Name
1	III	CV2207	Water Supply Engineering

**Agenda No. 28.10**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2021-22.

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs in End Semester Examination of Odd Term 2021-22 in the last week of August

**Agenda No. 28.11**

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd Term 2021-22.

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Postgraduate programs in End Semester Examination of Odd Term 2021-22 in the last week of August

**Agenda No. 28.12**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd Term 2021-22.

It was decided to finalized panel of of internal and external examiners for the various laboratory and other non- theory courses at UG and PG levels of Odd Term 2021-22 in the last week of August



## DEPARTMENT OF CIVIL ENGINEERING

### Agenda No. 28.13

**Preparation of Electronic question Bank UG courses according to SoE 2018. To review solutions to all questions of Electronic Question Banks for all courses.**

The process will start after the notification from DAM office for the preparation of EQB of 2018-19 scheme.

### Agenda No. 28.14

**To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses..**

From the session Odd Term 2021-22, new guidelines regarding changes in the format of Mid Semester and End Semester Examination will be issued from Dean Academic Matters and accordingly department will work on it. BoS Experts approved it.

### Agenda No. 28.15

**To discuss and propose scheme for Minor and Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.**

1. Department of Civil Engineering has been offering 3 Honor Course and 1 Minor course (of 18 credits each) from the session 2021-22 from III year. Honor Courses, viz., Construction Technology (through NPTEL/SWAYAM, SoE and syllabus has been prepared from the subjects offered in SWAYAM), Remote Sensing & GIS (Industry aligned) and Environmental Engineering (Department oriented) and Minor in Civil Engineering has been proposed and approved by the experts on 9th Curriculum Development Program dated Saturday 1st May 2021.

As per the guidelines received from DAM if the courses through NPTEL/SWAYAM are not offered/run by portal, the BoS can proposed another course in line with the offered courses of 8,12 or 14 weeks. The courses currently offered by NPTEL/SWAYAM for Construction Technology are viz, Hydration, Porosity & Strength of Cementitious Materials and Project Planning & Control are of 8 weeks of 2 Credits each. It is proposed by the BoS that students have to opt for other additional courses so that the students can complete their required 18 credits in stipulated time.

The suggestions/proposal will be sent to DAM for approval.

2. Value added Course: 1 six day Value added Course /pre-placement certification course on Building Information Modeling (BIM) was conducted for final year students from 28th July -2nd August 2021. Total 102 students registered for the courses. It was conducted in consultation with IWORKSTATION Consultant ,Nagpur.
3. One certification course on Introduction to STADDPRO will be commenced from first week of August 2021.

### Agenda No 28.16

**To discuss the feedback received from students/teachers/employers/alumni/parents regarding teaching learning process in order to review and design the syllabus**

The SoE & curriculum of 2018-19 has been discussed with stakeholders of the department including students/teachers/employers/alumni/parents, and necessary inputs in the form of feedback has been collected from them.

### Agenda No 28.17

**Any other matter with the permission of the Chair.**

Dr. M.V. Madurwar, BoS Subject Expert, suggested Introduction to Software Project Management / PRIMEVERA / MS-PROJECT as certificate course.

Er. Jagdish Lanjewar, BoS Industry Expert, suggested to introduce topics such as water recycle systems, its processes, designs, equipment's and instruments study, waste to energy systems, resource recovery from industrial processes.



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**DEPARTMENT OF CIVIL ENGINEERING**

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Detailing of the said topics will be carried out and accordingly it will be implemented in the syllabus in consultation with industry personnel.

All suggestions have been welcomed and forwarded for further submission to Academic council.

The meeting ended with thank to chair.

Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

Dr. S.P. Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering



**DEPARTMENT OF CIVIL ENGINEERING**

**NOTICE  
(BoS)**

**Date:- 5<sup>th</sup> January 2022**

**Meeting No 29** of Board of Studies of Civil Engineering department is scheduled on **Saturday 8<sup>th</sup> January 2022**, from 11:00 a.m. through online mode.

All staff members are requested to attend the meeting. The agenda of the meeting is mentioned below. All staff members are requested to read the agenda carefully so that they can give fruitful suggestions in the meeting.

**Agenda Points**

**Item No. 29.01**

Welcome of new members

**Item No. 29.02**

Installation of member Secretary

**Item No. 29.03**

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

**Item No. 29.04**

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 29.05**

To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

**Item No. 29.06**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

**Item No. 29.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Undergraduate and Post Graduate programs.

**Item No. 29.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 29.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

**Item No. 29.10**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2021-22.

**Item No. 29.11**

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Even Term 2021-22.

**Item No. 29.12**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Even Term 2021-22

**Item No. 29.13**

Preparation of Electronic question Bank UG courses according to SoE 2018  
(To review solutions to all questions of Electronic Question Banks for all courses)



**DEPARTMENT OF CIVILENGINEERING**

**Item No. 29.14**


To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses..

**Item No. 29.15**

To discuss and propose scheme for Minor an Honor course and its syllabus. To Discuss and propose Certificate courses and value added courses in 2021-22.

**Item No. 29.16**

Any other matter with the permission of the Chair.

  
Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

  
Dr. S.P.Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering

S.N.	Name	Signature	S.N.	Name	Signature
1	Dr. Udaykumar P. Waghe	----	20	Ms. Sangita Shivcharan Meshram	
2	Dr. Santanu Ramkrishna Khandeshwar		21	Dr. Prashant Baban Pande	
3	Dr. Sudhir Vasantrao Ambekar		22	Mr. Atul Sambhuji Kurzekar	
4	Dr. Abhay Vinayakrao Patil		23	Mr. Vivek Dnyandeo Jayale	
5	Dr. Vilas Ganuji Meshram		24	Mr. Harshal Madhukar Warade	
6	Dr. Ajay Ramdas Gajbhiye		25	Ms. Pallavi Shalikram Chakole	
7	Dr. Rajendra Rupraoji Dighade		26	Ms. Snehal Karunkumar Kamble	
8	Mr. Sanjay Manohar Waghmare		27	Mr. Sourabh Mahesh Amrodiya	
9	Mr. Bhupesh Purshottam Nandurkar		29	Mr. Sanket Gajanan Kalamkar	
10	Dr. Ms. Madhuri S. Bhagat		29	Mr. Sagar Wasudeo Dhengare	
11	Dr. Sanjay Padmakar Raut		30	Ms. Monali Rewashankar Wagh	
12	Mrs. Vaishali Nilesh Mendhe		31	Mr. Yogesh Prabhakar Kherde	
13	Ms. Charuta Subhash Waghmare		32	Ms. Sneha Gowardhan Hirekhan	
14	Mr. Khalid Shamim Ansari		33	Mr. Rajesh Madhukar Bhagat	
15	Mr. Harshal Ramesh Rao Nikhade		34	Dr. Mrs. Boskey V. Bahoria	
16	Mr. Jayant Manohar Raut		35	Mr. Anuksh Naresh Asati	
17	Mr. Dhiraj Giridharilal Agrawal		36	Prof. Uday Singh Patil	
18	Mr. Pawan Kesharao Hinge		37	Ms. Payal Dipakrao Lunge	
19	Ms. Amruta Arun Yadav		38	Mr. Swaraj Deepak Ajane	

Name	Signature	Name	Signature	Name	Signature
Dr.A.D.Ghare	Present Online	Dr. M.Madurwar	Present Online	Dr.M.D.Goel	Present Online
Er.Jagdish Lanjewar	AB	Prof.S.N.Harinkhede	Present Online		





**DEPARTMENT OF CIVILENGINEERING**

**Minutes of 29<sup>th</sup> BoS Meeting dated on Saturday 8<sup>th</sup> January 2022**

- 29<sup>th</sup> Meeting of BoS of Civil Engineering was held on **Saturday 8<sup>th</sup> January 2022**. It was chaired by Dr.S.P.Raut, Chairman BoS. Following members were present.

Name	Name	Name
Dr.A.D.Ghare	Ms. Charuta Subhash Waghmare	Ms. Monali Rewashankar Wagh
Dr. M.Madurwar	Mr. Khalid Shamim Ansari	Mr. Yogesh Prabhakar Kherde
Dr.M.D.Goel	Mr. Harshal Ramesh Rao Nikhade	Ms. Sneha Gowardhan Hirekhan
Prof.S.N.Harinkhede	Mr. Jayant Manohar Raut	Mr. Rajesh Madhukar Bhagat
Dr. Udaykumar P. Waghe	Mr. Dhiraj Giridharilal Agrawal	Dr. Mrs. Boskey V. Bahoria
Dr. Sudhir Vasantrao Ambekar	Mr. Pawan Keshao Rao Hinge	Mr. Anuksh Naresh Asati
Dr. Abhay Vinayakrao Patil	Ms. Sangita Shivcharan Meshram	Prof. Uday Singh Patil
Dr. Vilas Ganuji Meshram	Mr. Atul Sambhuji Kurzekar	Ms. Payal Dipakrao Lunge
Mr. Sanjay Manohar Waghmare	Mr. Vivek Dnyandeo Jayale	Mr.Swaraj Deepak Ajane
Mr. Bhupesh Purshottam Nandurkar	Ms. Pallavi Shalikram Chakole	
Dr. Ms. Madhuri S. Bhagat	Ms. Snehal Karunkumar Kamble	
Dr. Sanjay Padmakar Raut	Mr. Sanket Gajanan Kalamkar	
Mrs. Vaishali Nilesh Mendhe	Mr. Sagar Wasudeo Dhengare	

- **Following members has been permitted leave of absence**
  - Er.Jagdish Lanjewar



**DEPARTMENT OF CIVIL ENGINEERING**

**Minutes of Meetings 29<sup>th</sup> BoS Meeting**

**Agenda No. 29.01**

**Welcome of new members**

Dr.S.P.Raut welcomed all BoS experts , viz., Dr.A.D.Ghare Professor, Department of Civil Engineering, VNIT, Nagpur, Dr. M.Madurwar Assistant Professor, Department of Civil Engineering, VNIT, Nagpur, Dr.M.D.Goel, Assistant Professor, Department of Applied Mechanics, VNIT, Nagpur , Prof.S.N.Harinkhede ,Alumni and Assistant Professor , SBJITMR, Nagpur. Newly joined Assistant Professor Mr.S.D.Ajane in the Department of Civil Engineering, YCCE, along with other faculty members of the department has also been welcomed by the Chairman .

**Agenda No. 29.03**

**Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.**

The minutes of previous meeting no. 28 held on Saturday 31<sup>st</sup> July, 2021 were already circulated to all members. The ATR of previous meeting have been discussed with BoS members. (Annexure 1).

After confirmation, Prof.B.P.Nandurkar proposed the minutes to be accepted . Prof.S.M.Amrodiya seconded it. The minutes were then accepted.

**Agenda No. 29.04**

**To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.**

All members were asked if any further correction or amendment was required to be done in the scheme of examination of the Undergraduate and Post graduate programs.

No corrections and amendments were proposed by any members for SoE Autonomous 2014 of the Undergraduate and SoE 2018 of Post graduate programs.

**Agenda No. 29.05**

**To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.**

All members were asked if any further correction or amendment was required to be done in the syllabus of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs.

The last batch of SoE 2014-15 has been graduated in the year 2020-21.

Therefore, no corrections were proposed by the faculty in syllabi of courses in Autonomous 2014 .

For the syllabi of courses in Autonomous 2018 Scheme, few corrections has been suggested.

Program	Course Code	Course Name	Corrections suggested by Faculty/BoS Expert
VII Semester	CV2435	PE-V : Design Of Bridge Structures	1.Stability analysis of Abutments & Piers added in Unit IV 2. Design of bridge bearings added in Unit V.
VII Semester	CV2432	PE-V: Project Planning Management	Reframing of the contents of the syllabus.
V semester	CV2333	OE-I Introduction to Environmental Management	Introduction to Life Cycle Assessment to be added in Unit V.

The corrections to be sent to Academic office for further submission.



**DEPARTMENT OF CIVILENGINEERING**

**Agenda No. 29.06**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

All members were asked to suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs. No changes in the books were proposed by any members.

**Agenda No. 29.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.

All members were asked if any correction or amendment was required to be done in the list of experiments Autonomous 2018 Schemes of Undergraduate and Post graduate programs of Undergraduate and Post graduate programs.

Dr.R.R.Dighade, suggested few modifications in CV2354 - LAB : Hydraulic Engineering of VI Semester.

Program	Course Code	Course Name	Corrections suggested by Faculty/BoS Expert
UG VI Semester	CV2354	LAB : Hydraulic Engineering	1. Experiment No.13 Study of performance of centrifugal pump and Experiment No.14 Study of performance of Pelton wheel to be removed.  2. Experiment No.10 Sketch the various standard profiles in open channels flow and Experiment No.11 Sketch the various profiles in open channels flow by considering break in grade to be added in the syllabus.

**Agenda No. 29.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

The chairman asked to suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs for further submission to Academic Council. No suggestions were proposed by any members. Finally, it was unanimously resolved that the existing Academic Regulations governing the Undergraduate and Post graduate programs be continued without any corrections.

**Agenda No. 29.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

As per the directives from DAM Office, it is decided to offer one NPTEL course in each semester. Accordingly, NPTEL courses and its syllabus available on the website are mapped with the syllabus of courses running in the department. The list is as follows:

S.N.	Semester	Course Code	Course Name	Course Name from NPTEL
1	VI	CV2366	PE-II Introduction to Remote Sensing	Introduction to Remote Sensing, IIT Roorkee

From the year 2021-22, it has been decided to allot professional elective offered through Coursera for VI semester students. For this, Construction Management conducted by Columbia University, US, will be offered as Professional Elective -II for first 20 bright students considering their consent for the course. The course consists of 4 modules. After successful completion of each module, student will receive certificate which have to submit for the grade allotment.



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**DEPARTMENT OF CIVIL ENGINEERING**

**Agenda No. 29.10**

**To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2021-22.**

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs in End Semester Examination of **Even Term 2021-22** after notification received from CoE office.

**Agenda No. 29.11**

**To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Even Term 2021-22.**

It was decided to finalized panel of paper setters, Moderators and Valuers for the various theory courses at Postgraduate programs in End Semester Examination of **Even Term 2021-22** after notification received from CoE office.

**Agenda No. 29.12**

**To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Even Term 2021-22.**

It was decided to finalized panel of of internal and external examiners for the various laboratory and other non- theory courses at UG and PG levels of **Even Term 2021-22** after notification received from CoE office.

**Agenda No. 29.13**

**Preparation of Electronic question Bank UG courses according to SoE 2018.**

**To review solutions to all questions of Electronic Question Banks for all courses.**

Electronic question Bank upto VI semester has been prepared. EQB for VII semester will be prepared after the notification received from Dean Academic Matters.

**Agenda No. 29.14**

**To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.**

No suggestions were proposed by any members. Finally, it was unanimously resolved that the existing Evaluation Process for theory and other courses be continued without any corrections.

**Agenda No. 29.15**

**To discuss and propose scheme for Minor and Honor course and its syllabus. Discussed and proposed Certificate courses and value-added courses in 2021-22.**

1. For Even term 2021-22 following courses of Swayam will be offered.

Sr. no	Title of course	Organized by	Engaged by	Total credits
1.	Modern construction Materials	IIT Madras	Prof. Ravindra Gettu	3
2.	Maintenance and repairs of concrete structures	IIT Madras	Radhakrishna G. Pillai	3
3.	Retrofitting and rehabilitation of civil infrastructures	IIT Kharagpur	Prof. Swati Maitra Prof. Sriman Kumar Bhattacharyya	3



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DEPARTMENT OF CIVILENGINEERING

2. Value added Course proposed to IV and VI semester students are

1. Introduction to computation & design using REVIT
2. Planning of Structure by Primavera
3. ETAB based Analysis and design of concrete structures
4. Making your career in BIM

**Agenda No. 29.16**

**Any other matter with the permission of the Chair.**

All suggestions have been welcomed and forwarded for further submission to Academic Council.  
The meeting ended with thank to chair.

Prof. Ms. Charuta S. Waghmare  
**Member Secretary**  
Board of Studies Civil Engineering

Dr. S.P. Raut  
**Head & Chairman,**  
Board of Studies Civil Engineering

# **Mechanical Engineering**



Nagar Yuwak Shikshan Sanstha's  
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## Department of Mechanical Engineering

29/07/2021

### Minutes of BOS Meeting

The **twenty-seventh meeting** of the Board of Studies in **Mechanical Engineering** is organized on **Tuesday 27<sup>th</sup> July 2021 through video conferencing at 2:30 PM.**

The Minutes of BOS Meeting are as follows:

#### Item No. 27.01 Welcome of new members

Ex BoS Chairman Dr. S. S. Chaudhari welcome the newly constituted BoS Mechanical under the chairmanship of Dr. J.P.Giri . This BoS is consists of Subject experts Dr. Y.M. Puri & Dr. A.S. Dhoble , from VNIT Nagpur, Industry Expert Shree Jamdar , Director Kinetic Gear Pvt. Ltd. Nagpur and Meritorious Alumni Mr. Irfan Makki , Plant Head, Kapilansh Dhatu Udyog Pvt., Ltd. Nagpur.

#### Item No. 27. 02 Installation of member Secretary.

Prof. A.P. Edlabadkar nominated as member secretary.

#### Item No. 27.03 Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

Minutes of 26th BoS meeting were read by Member secretary and approved by the BoS unanimously.

#### Item No. 27.04 To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board.

No Change in SoE.

#### Item No. 27.05 To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

#### Minor changes in the syllabus for following subjects are accepted:

- 1.ME2201 Material Science and Metallurgy
- 2.ME2205 Mechanics of Material
- 3.ME2207 Kinematics of Machinery
- 4.ME2208 Fluid Mechanics
- 5.ME2254 Manufacturing Process



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## Department of Mechanical Engineering

- 6.ME2301 Heat Transfer
- 7.ME2303 Dynamics of Machines
- 8. ME2354 Design of Mechanical Drives

New professional elective is introduced and syllabus is accepted:

1. Optimization in Decision Making

**Item No. 27.06 To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.**

No Change

**Item No. 27.07 To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.**

No Change

**Item No. 27.08 To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.**

No Change

**Item No. 27.09 To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.**

No Change

**Item No. 27.10 To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2021-22.**

Prof. M.S. Tufail is assigned to prepare and circulated the panel of paper setter, moderator and valuer for undergraduate program.

**Item No. 27.11 To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Even Term 2021-22.**

Prof. M.S. Tufail is assigned to prepare and circulated the panel of paper setter, moderator and valuer for postgraduate program.

**Item No. 27.12 To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Even Term 2021-22.**





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## Department of Mechanical Engineering

Prof. M.S. Tufail is assigned to prepare and circulated the panel of paper setter, moderator and valuer for UG and PG level program.

**Item No. 27.13 Preparation of Electronic question Bank UG courses according to SoE 2018. To review solutions to all questions of Electronic Question Banks for all courses.**

Chairman requested Prof. V.M.Korde to review solutions to all questions of Electronic Question Banks for all courses upto Vth SEM (SoE 2018).

**Item No. 27.14 To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.**

No change.

**Item No. 27.15 To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value-added courses in 2021-22.**

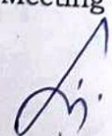
SoE of Minor and Honor courses with the syllabus are approved by BoS.

**Item No. 27.16 Any other matter with the permission of the Chair.**

Industry expert Mr. Shree jamadar discussed the topic Industry 4.0. Dr. J.P. Giri elaborated the scope of the syllabus. Prof. A.J. Bamnote said that Industry 4.0 and the innovations that are incorporated are currently under investigation by numerous research institutes as well as by companies] and even country's industrial strategies. However, the interpretation of the term is very different. Various definitions and interpretations have emerged for the industry 4.0 concept. Up to now, a generally accepted understanding of the term does not exist in addition, many different technologies, functionalities and application examples are publicly assigned to it without using defined assessment criteria.

Dr. J.P. Giri requested Prof. A.J. Bamnote to give his valuable inputs during the delivery of the course.

Meeting was concluded by the vote of thank from Chairman and Member Secretary.

  
Dr. J.P. Giri

Chairman

BoS in Mechanical Engineering

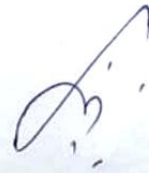
  
Prof. A.P. Edlabadkar

Member Secretary

BoS in Mechanical Engineering

## Changes proposed in 27th BoS Meeting

Sr. No.	Semester	Subject Co	Subject Name	Source of Change	Changes in syllabus	% Change in existing syllabus
1	III	ME2201	Material Science and Metallurgy	IIT Kharagpur	Introduction of Cemented Carbides, Ceramics	15
2	III	ME2205	Mechanics of Material	IIT Kharagpur, IIT Madras	Introduction of Derivation of maximum and minimum principal stresses & maximum shear stresses when the member is subjected to different types of stresses simultaneously	15
3	III	ME2207	Kinematics of Machinery	IIT BOMBAY	Mechanisms: Lower and higher pairs, degrees of freedom, various types of mechanisms, their inversions and applications, universal joints, introduction	12
4	III	ME2208	Fluid Mechanics	IIT Guwahati	to spatial linkages.	10
5	IV	ME2254	Manufacturing Process	Industry Allinged With Kinetic Gears Pvt. Ltd.	Introduction to Heat pipe (construction & working)	10
6	V	ME2301	Heat Transfer	IIT Kharagpur		




7	V	ME2303	Dynamics of Machines	IIT Kanpur	Torsional Vibration of single rotor,,Torsionally Equivalent System, Torsional Vibration of Geared System.	15
8	VI	ME2354	Design of Mechanical Drives	IIT Guwahati	Remove coupling from Unit-5	12

			<b>Introduction of New courses</b>
1	VI	ME	<b>Optimisation in Decision Making</b>






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## Department of Mechanical Engineering

15/01/2022

### Minutes of BOS Meeting

The **twenty-eight meeting** of the Board of Studies in **Mechanical Engineering** was conducted on **Friday 14<sup>th</sup> Jan 2022** through video conferencing at **11:00AM**.

**The Minutes the meeting is as follows:**

**Item No. 28.01**

**Welcome of new members**

BoS Chairman welcome new members Dr.A.P. Kedar and Dr. S.V.Prayagi.

**Item No. 28.02**

**Installation of member Secretary**

No New member secretary .

**Item No. 28.03**

**Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.**

Minutes of 27<sup>th</sup> BoS meeting were read by Member secretary and approved by the BoS unanimously

**Item No. 28.04**

**To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board**

No Change in SoE.

**Item No. 28.05**

**To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.**

Minor charges in syllabus of following subject were expected:

1. Tribology (ME1484, Professional Elective No.5)



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## Department of Mechanical Engineering

### Item No. 28.06

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

No Change

### Item No. 28.07

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Undergraduate and Post Graduate programs.

No Change

### Item No. 28.08

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

No Change

### Item No. 28.09

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

Following New Courses were introduced in syllabus:

1. Advanced Welding Techniques
2. Supply Chain Management
3. Control Systems Engineering

### Item No. 28.10

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term/Even Term 2021-22

Prof. M.S. Tufail is assigned to prepare and circulated the panel of paper setter, moderator and valuer for undergraduate program

### Item No. 28.11

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd/Even Term 2021-22

Prof. M.S. Tufail is assigned to prepare and circulated the panel of paper setter, moderator and valuer for postgraduate program.



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## Department of Mechanical Engineering

### Item No. 28.12

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd/Even Term 2021-22.

Prof. M.S. Tufail is assigned to prepare and circulated the panel of paper setter, moderator and valuer for UG and PG level program.

### Item No. 28.13

Preparation of Electronic question Bank UG courses according to SoE 2018

To review solutions to all questions of Electronic Question Banks for all courses.

Chairman requested Prof. M.S.Tufail to review solutions to all questions of Electronic Question Banks for all courses upto VIIIth SEM (SoE 2018).

### Item No. 28.14

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.

No change.

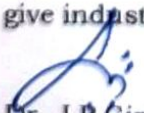
### Item No. 28.15

To discuss and propose scheme for Minor an Honor course and its syllabus. To Discuss and propose Certificate courses and value-added courses in 2021-22.

SoE of Minor and Honor courses with the syllabus are approved by BoS. Discussed and proposed Certificate courses and value-added courses in 2021-22.

### Item No. 27.16 Any other matter with the permission of the Chair

All external experts appreciated the introduction of Cousera based elective in SoE. They also asked that all the practical's related to this course should be conduct at near by industries to give industrial exposure to students.

  
Dr. J.P.Giri

Chairman

BoS in Mechanical Engineering

  
Prof. A.P. Edlabadkar

Member Secretary

BoS in Mechanical Engineering

# **Electrical Engineering**



Nagar Yuwak Shikshan Sanstha's

# Yeshwantrao Chavan College of Engineering

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Hingna Road, Wanadongri, Nagpur - 441 110

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## Department of Electrical Engineering

Date: 7/8/2021

### 28<sup>th</sup> Board of Studies in Electrical Engineering Minutes of the Meeting

Meeting of the Board of Studies (BoS) in Electrical Engineering was held on Saturday 31 July 2021 at 11. am in the Department of Electrical Engineering, YCCE, Nagpur in online mode. The meeting was attended by the following members of BoS.

S. N.	Name	S. N.	Name
1.	Dr.S.G.Kadwane (Chairman, BoS )	17	Ms.J.M.Kumbhare
2.	Dr.S.S.Ambekar (VC Nominee)	18	Mr.P.S.Shete
3.	Dr.V.S.Kale (Academic)	19	Mr.S.R.Gaigowal
4.	Dr.Ritesh Keshri (Academic)	20	Mr.P.B.Joshi
5.	Dr.R.M.Moharil	21	Ms.S.L.Tiwari
6.	Dr.S.P.Adhau	22	Mrs.U.V.Waghmare
7.	Mr.R.N.Nagpure	23	Ms.N.T.Sahu
8.	Dr.P.M.Meshram	24	Mr.R.S.Khonde
9.	Dr.S.P.Gawande	25	Ms.N.P.Wasnik
10.	Dr.S.S.Gokhale	26	Ms.T.D.Tembhekar
11.	Dr.B.Y.Bagde	27	Ms.Swati Mohod
12.	Mr.J.A.Shaikh	28	Ms.S.B.Rewatkar(Kewte)
13.	Mr.R.M.Gimonkar	29	Mr.P.S.Patil
14.	Mrs.Xma R.Pote	30	V.R.Doifode
15.	Dr.A.P.Munshi	31	Mr.A.S.Lilhare
16.	Dr.S.D.Patil	32	Mr.B.S.Sudame

Leave of absence was granted to :

S. N.	Name	S. N.	Name
1.	Mr.Rahul Nagpure (Alumni)	4	Harsha S.Kukde
2.	Mr.Pravin Palkar (Industry)	5	Akshay Kadu
3.	Shweta S.Ghadyalji		

S. Kadwane





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**Department of Electrical Engineering**

28.01	<p><b>Welcome of new members</b></p> <p>New Panel of external members was welcomed:</p> <p>Dr.S.S. Ambekar (VC Nominee)</p> <p>Dr.V.S.Kale (Academic Member)</p> <p>Dr.Ritesh Keshri (Academic Member)</p> <p>Mr.Pravin Palkar (Industry Expert)</p> <p>Mr.Rahul Nagpure (Alumni)</p>
28.02	<p>Confirmation of minutes of previous Meeting and action taken report on decisions /suggestions of the previous meeting.</p> <p>Minutes of previous Meeting were confirmed</p>
28.03	<p>To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 &amp; Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board</p> <p>Changes in SoE M.Tech was suggested (Addition of Professional electives)</p> <ol style="list-style-type: none"><li>1) PE2: Wide Area Monitoring and Control</li><li>2) PE2: Microgrid</li><li>3) PE3: Solar System Design</li></ol> <ul style="list-style-type: none"><li>• <b>Annexure 28.03</b></li></ul>
28.04	<p>To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 &amp; Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.</p> <p>Minor changes in the PG Subject of EL3920 Restructuring of Power System were suggested and approved by BoS Members</p> <ul style="list-style-type: none"><li>• <b>Annexure 28.04</b></li></ul>
28.05	<p>To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.</p> <ul style="list-style-type: none"><li>• <b>No suggestions received</b></li></ul>
28.06	<p>To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post-Graduate programs.</p> <ul style="list-style-type: none"><li>• <b>No suggestions received</b></li></ul>
28.07	<p>To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.</p> <ul style="list-style-type: none"><li>• <b>No suggestions received</b></li></ul> <p style="text-align: right;"><i>S. Kadwane</i></p>



Nagar Yuwak Shikshan Sanstha's

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## Department of Electrical Engineering

28.08	<p>To discuss and propose the new courses/MOOC received from the faculty for inclusion in the curriculum</p> <p>Following MOOC course was suggested to be included as Professional elective II in VII<sup>th</sup> Semester</p> <ul style="list-style-type: none"><li>• Sensors and Actuators</li></ul> <p>Following New Industry aligned Course was suggested and approved to be included in OEI : V<sup>th</sup> Semester and OEIII VI<sup>th</sup> Semester list:</p> <ul style="list-style-type: none"><li>• Solar Power Plant Design</li><li>• <b>Annexure 28.08</b></li></ul>
28.09	<p>To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2021-2022</p> <ul style="list-style-type: none"><li>• <b>Panel of Paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs will be included in the list of YA 11 for End Semester Examination of Odd Term 2021-22</b></li></ul>
28.10	<p>To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd Term 2021-2022</p> <ul style="list-style-type: none"><li>• <b>Panel of Paper setters, Moderators and Valuers for the various theory courses at Postgraduate programs will be included in the list of YA 11 for End Semester Examination of Odd Term 2021-22</b></li></ul>
28.11	<p>To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd Term 2021-2022</p> <ul style="list-style-type: none"><li>• <b>Panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels will be included in the list of YA 12 for End Semester Examination of Odd Term 2021-22</b></li></ul>
28.12	<ul style="list-style-type: none"><li>• Preparation of Electronic question Bank UG courses according to SoE 2018</li><li>• To review solutions to all questions of Electronic Question Banks for all courses</li></ul> <p><b>A review of Question Bank and Solution sets was taken.</b></p>
28.13	<p>To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.</p>



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## Department of Electrical Engineering

	<ul style="list-style-type: none"><li>• No suggestions received</li></ul>
28.14	<p>To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.</p> <p>The SoE of Minor and Honor courses was presented before the external BoS Members.</p>
28.15	<p>Any other matter with the permission of the Chair</p> <ul style="list-style-type: none"><li>• The <b>VII Semester EL2423: Professional elective III : Electrical Energy Audit and Safety Analysis</b> to be renamed as <b>Electrical Energy Management and Audit.</b></li></ul>

Dr.S.G.Kadwane

HoD & Chairman (BoS)



# Nagar Yuwak Shikshan Sanstha's Yeshwantrao Chavan College of Engineering

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## Department of Electrical Engineering

The screenshot shows a Google Meet interface with a presentation slide. The slide content is as follows:

Agenda Item	Description
28.03	To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board • Annexure 28.03
28.04	To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board. • Annexure 28.04
28.05	To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs

Participants visible in the meeting include XMA POTE, SUMANT KADWANE, and 20 others. A 'People' list on the right shows names like DR. RITESH KUMAR KESHRI, JAWED ANWAR SHAIKH, JYOTI KUMBHARE, NAINARA WASNIK, PIYUSH PATIL, PRAFULLCHANDRA MES..., and PRANAV SHETE.

The screenshot shows a Google Meet interface with a grid of participants. The participants visible are:

- Bhushan Bagde
- SUMANT KADWANE
- XMA POTE
- Shubhangi Ambekar
- VIJAY KALE
- SANDEEP GAIGOWAL
- SARALA ADHAU
- 14 others
- You

The meeting time is 11:21 AM. The bottom of the screen shows the Windows taskbar with various application icons.

*S. Kadwane*



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## Department of Electrical Engineering

SESSION: - 2021-2022

Sr.No.	Name of Faculty	Sign
1.	Dr.S.P.Adhau	
2.	Dr.R.M.Moharil	
3.	Dr.S.G.Kadwane	
4.	Dr.P.M.Meshram	
5.	Prof.R.N.Nagpure	
6.	Dr.S.S.Gokhale	
7.	Dr.B.Y.Bagde	
8.	Prof.R.M.Gimonkar	
9.	Prof.J.A.Shaikh	
10.	Dr.A.P.Munshi	
11.	Prof.P.S.Patil	
12.	Dr.S.P.Gawande	
13.	Prof.S.B.Rewatkar(Kewte)	
14.	Prof.T.D.Tembhekar(Sakhare)	
15.	Prof.N.T.Sahu(Shrirao)	
16.	Prof.X.R.Pote	
17.	Prof.A.S.Lilhare	
18.	Prof.V.R.Doifode	
19.	Prof.J.M.Kumbhare(Dhakate)	
20.	Prof.G.C.Gondhalekar	
21.	Prof.P.S.Shete	
22.	Dr.S.R.Gaigowal	
23.	Prof.B.S.Sudame	
24.	Prof.S.L.Tiwari(Tripathi)	
25.	Prof.P.B.Joshi	
26.	Prof.U.V.Waghmare	
27.	Prof.N.P.Wasnik	
28.	Prof.R.S.Khonde	
29.	Prof.S.K.Mohod(Bhojar)	
30.	Dr.Sarika.D.Patil	
31.	Prof.Akshay.D.Kadu	
32.	Prof.Nivedita S.Padole	
33.	Prof.Manish Kurwale	



Nagar Yuwak Shikshan Sanstha's

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## Department of Electrical Engineering

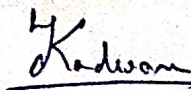
Date: 4/08/2022

Meeting of the Board of Studies was held on Thursday 4<sup>th</sup> August 2022 at 12 noon in the Department of Electrical Engineering, YCCE, Nagpur. The meeting was attended by the following staff members.

S. N.	Name	S. N.	Name
1.	Dr.S.S.Ambekar(VC Nominee)	17	Dr.Sarika Patil
2.	Dr.V.S.Kale(Academic expert)	18	Dr.A.P.Munshi
3.	Dr.Ritesh Keshri(Academic expert)	19	Ms.S.L.Tiwari
4.	Mr.Pravin Palkar(Industry expert)	20	Ms.N.P.Wasnik
5.	Dr.S.G.Kadwane	21	Mrs.Xma R.Pote
6.	Dr.R.M.Moharil	22	Mr. P. S. Shete
7.	Dr.P.M.Meshram	23	Mrs.Swati Mohod
8.	Mr.R.N.Nagpure	24	Mr.S.R.Gaigowal
9.	Dr.S.S.Gokhale	25	Mr.B.S.Sudame
10.	Dr.Mrs.S.P.Adhau	26	Mrs.Ujwalla Waghmare
11.	Mr.P.S.Patil	27	Ms.S.S.Ghadyalji
12.	Ms.S.B.Rewatkar	28	Mr.R.S.Khonde
13.	Dr.S.P.Gawande	29	Mr.V.R.Doifode
14.	Ms.N.T.Sahu		
15.	Mr.A.S.Lilhare		
16.	Mr.P.B.Joshi		

Leave of absence was granted to -

S. N.	Name
1	Mr.Rahul Nagpure(Alumni Member)
2	Ms.J.M.Kumbhare
3	Mr.Rahul Argelwar
4	Ms Surabhi Kachhwa

  
(Dr. S.G. Kadwane)



Nagar Yuwale Bhikshan Sanshodhan  
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### Department of Electrical Engineering

#### Agenda for Board of Studies (BoS) Meeting No. 30

30.01	Welcome of new members <ul style="list-style-type: none"><li>No new members have joined the department in ODD Semester 22-23</li></ul>
30.02	Installation of member Secretary <ul style="list-style-type: none"><li>Mrs.Xma R.Pote is continued as Member Secretary.</li></ul>
30.03	Confirmation of minutes of previous Meeting and action taken report on decisions /suggestions of the previous meeting. <ul style="list-style-type: none"><li>Minutes of 29<sup>th</sup> BoS Meeting were confirmed.</li></ul>
30.04	<ul style="list-style-type: none"><li>To discuss and suggest the action taken on i) CO/PO attainment of subjects taught in previous semester were presented. ii) Result analysis of subjects taught in previous semester were presented. iii) Stake holders feedback on review and design of curriculum were presented. iv) In Sem, End Sem and Exit feedback formats on Teaching Learning &amp; Curriculum were presented.</li></ul>
30.05	To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2018 & B.Tech 2020) of the Undergraduate and Post graduate programs conducted under the Board. To approve and ratify SoE22 and all syllabi of B.Tech and M.Tech I & II year <ul style="list-style-type: none"><li>SoE 2022 was presented and confirmed by Expert Members.</li></ul>
30.06	To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2018 & B.Tech 2020 Schemes of Undergraduate and Post graduate programs conducted under the Board. <ul style="list-style-type: none"><li>Minor change in the subject EL3920 Restructuring of Power System (Post graduate Program) was presented and confirmed by expert members.</li></ul>
30.07	To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs. <ul style="list-style-type: none"><li>No suggestions from the faculty members.</li></ul>
30.08	To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post-Graduate programs. <ul style="list-style-type: none"><li>No suggestions from the faculty members.</li></ul>

*K. K. Kulkarni*



Nagar Yuwak Shikshan Sanstha's

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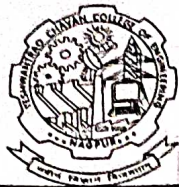
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## Department of Electrical Engineering

30.09	To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board. <ul style="list-style-type: none"><li>No suggestions from the faculty members.</li></ul>
30.10	To discuss and propose the new courses/MOOC received from the faculty for inclusion in the curriculum  EL2431 PE: Advanced Electrical Drives (7 <sup>th</sup> Semester) to be proposed as MOOC Course.
30.11	To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term/Even Term 2022-23 <ul style="list-style-type: none"><li>Panel of Paper setters, moderators and valuers for the various theory courses at Undergraduate programs will be included in the list of YA 11 for End Semester Examination of Odd Term 2022-23</li></ul>
30.12	To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd/Even Term 2022-23 <ul style="list-style-type: none"><li>Panel of Paper setters, moderators and valuers for all the Postgraduate courses under the board will be included in the list of YA 11 for End Semester Examination of Even Term 2021-23</li></ul>
30.13	To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG-levels that will be examined in End Semester Examination Odd/Even Term 2022-23. <ul style="list-style-type: none"><li>Panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels will be included in the list of YA 12 for End Semester Examination of Even Term 2022-23</li></ul>
30.14	Preparation of Electronic question Bank UG courses according to SoE 2018 To review solutions to all questions of Electronic Question Banks for all courses <ul style="list-style-type: none"><li>Electronic question Bank UG courses according to SoE 2018 is ready.</li><li>Solutions to all questions of Electronic Question Banks for all courses is in updation process.</li></ul>
30.15	To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses <ul style="list-style-type: none"><li>No suggestions from the faculty members.</li></ul>

*Y. Chavan*





Nagar Yuwak Shikshan Sanstha

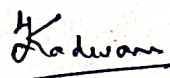
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30.16	<p>To discuss and propose scheme for Minor an Honor course and its syllabus. To discuss and propose Certificate courses and Value Added Courses in 2022-23.</p> <ul style="list-style-type: none"><li>• SoE and syllabus of Minor and Honor Courses were presented.</li><li>• It was suggested by the experts to have uniform distribution of theory and lab courses in SoE B.E Honors Renewable Energy System.</li><li>• Minor correction in the subject of 'Solar Energy Technology' (Honors: Renewable Energy System, 5<sup>th</sup> Semester) were presented and approved by the experts.</li><li>• Certificate courses and value added courses to be implemented in 2022-23 were presented in the meeting.</li></ul>
30.17	<p>Any other matter with the permission of the Chair</p> <ul style="list-style-type: none"><li>• COURSERA Subject titled 'Power Electronics Specialization' to be offered to students of 7<sup>th</sup> Semester was presented to the expert members and confirmed.</li></ul>



Dr.S.G.Kadwane

HoD

**Agenda No. 30.04****To discuss and suggest the action taken on**

- **Co/Po attainment of subjects taught in previous semester. (Annexure 2)**  
The complete process of CO/PO attainment has been discussed with the BoS Experts. The experts appreciated and approved the process of attainment. On the basis of direct and indirect assessment, it is observed that all PO's and PSO's meet the attainment expectations. Therefore, no action is requiring to be taken. However, efforts will be taken to maintain this attainment in future.

PO	Target Level	Attainment	Observations
PO1	2.37	2.43	Exceeds expectation
PO2	2.32	2.31	Needs improvement
PO3	2.24	2.30	Exceeds expectation
PO4	1.57	1.57	Meets expectation
PO5	1.95	2.03	Exceeds expectation
PO6	1.29	1.42	Exceeds expectation
PO7	1.77	1.67	Needs improvement
PO8	1.84	1.90	Exceeds expectation
PO9	1.67	1.83	Exceeds expectation
PO10	1.97	1.95	Needs improvement
PO11	1.96	1.93	Needs improvement
PO12	2.29	2.47	Exceeds expectation
PSO1	2.18	2.28	Exceeds expectation
PSO2	2.08	2.27	Exceeds expectation

- **Result analysis of subjects taught in previous semester.**  
The overall and subject wise result analysis of Even Term 2021-22 has been presented to the BoS Experts.

S.N.	Semester	Pass %
1	IV	88.75
2	VI	84.62
3	VIII	99.785

*Kashwan*

As the results of all the semesters are above 80%, no action is requiring to be taken.

### Stake holders' feedback on review and design of curriculum

S.N.	Stakeholder	Feedback	Action Taken
1.	Parent	More focus towards weak students	Various activities are organised by respective subject teachers to improve the performance of weak students.
		Core companies should be called on higher side.	Will be communicated to Training & Placement Department
		Guidance regarding Higher education is needed.	Already Implemented in the department Orientation regarding GATE Exam ,MBA entrance exam is organised.
2	Alumni	Some topics to be included in the syllabus having Industrial orientation	Topics will be added in subjects like Electric Vehicles,Electrical Drives and Professional electives.
3	Student	Students appreciated the activity of 'COURSERA' and requested to continue in next semester	COURSERA will be offered in 7 <sup>th</sup> Semester (Session 2022-23)
		Students requested for addition of subjects related to recent technical trends.	Professional electives will be added in SoE 22
4	Faculty	Faculties have suggested and designed syllabus for new SoE 22	The designed subjects will be included as professional electives in SoE 22

*Kadawan*

**Course Code: EL 3920 Course Name: Restructuring of Power System**

**Course Objectives:**

Recent Trends in Power Systems	students will be able to:
	<ul style="list-style-type: none"> <li>• Discuss deregulation of electricity market</li> <li>• Classify, illustrate different processes and operations in deregulation</li> <li>• Explain, apply solution techniques for optimal power flow</li> <li>• Discuss automation in energy management and communication technologies in power system</li> </ul>

Recent Trends in Power Systems	CO's	students will be able to:
	CO1	Discuss deregulation of electricity market
	CO2	Classify, illustrate different processes and operations in deregulation
	CO3	Explain, apply solution techniques for optimal power flow
	CO4	Discuss automation in energy management and communication technologies in power system

**Syllabus**

**UNIT 1: Deregulation of Electricity Market**

~~Introduction to Power System Deregulation, Reform Motivations, Traditional Model, Separation of Ownership, Competition and Direct Access in the Electricity Market, Role of ISO, Retail Market, International Experiences~~

**UNIT 2: Electricity Market Characteristics**

~~Direct Access and Power Wheeling, Pool & Bilateral trading, Bidding and Auction Mechanisms, Market Timing, Sequential and Simultaneous Markets, Scheduling, Gaming, Congestion Management~~

**UNIT 3: Transmission Open Access**

~~Transmission Open Access, Transmission Pricing, Impact of Congestion and Management, ATC and Factors affecting ATC, Determination of ATC, Ancillary Services and their management, Electricity Bill 2003 and its impact.~~

**UNIT 4: Optimal Power Flow**

~~OPF and its Formulation, Constraints, Different solution Techniques, Non-Linear Programming (NLP) and Genetic Algorithm~~

**UNIT-5: SCADA and Distribution Automation**

SCADA & Distribution Automation, Energy management system

**UNIT-6: Power System Communication**

Analog and Digital Communication, communication architecture, Power system communication, PLCC, Optical Fibre etc.

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#### **UNIT 1: Overview**

Introduction to power system deregulation, reform motivations, understanding restructuring process, electricity as commodity, entities involved in deregulation, traditional model, separation of ownership, competition and direct access in the electricity market, role of ISO and international experiences

#### **UNIT 2: Restructuring Models**

Different market models, pool model. ISO in pool market, bilateral trading, multilateral trade, bidding and auction mechanisms, market clearing and pricing, market power and its mitigation, ancillary services

#### **UNIT 3: Transmission Open Access**

Transmission open access, pricing, congestion management, ATC and factors affecting ATC, determination of ATC, ancillary services and management

#### **UNIT 4: Transmission Pricing**

Cost components, marginal pricing of electricity postage stamp method, megawatt mile method, nodal pricing, zonal pricing, contract path method, congestion pricing, preventive and corrective measure, management of congestion, market clearing price

#### **UNIT 5: Electricity Pricing**

Introduction, electricity price volatility, electricity price indexes, challenges to electricity pricing, construction of forward price curves, price forecasting

#### **UNIT 6: Power Market Development**

Electricity Act, 2003 and its impact on infrastructure and governance, Indian power market, power exchange in Indian market day ahead market, online power trading, challenges and synergies in the use of IT in power

**Rephrasing of Unit, I, II and III**

**Replacing Unit IV by new unit**

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Value Added Courses content (AY 2022-2023)

Dated: 04-08-2022

ODD	<ol style="list-style-type: none"><li>1. IoT Programming – BSS &amp; SPA</li><li>2. MATLAB Programming – JMK &amp; PMM</li><li>3. Solar photovoltaic : Fundamental Technologies and Applications – SPG</li><li>4. Diesel generator and protection PBJ &amp; PSS</li></ol>
EVEN	<ol style="list-style-type: none"><li>5. Solar rooftop Installation &amp; design ADK</li><li>6. Introduction to smart cities concept SPG</li><li>7. PLC Programming PBJ &amp; SSG</li><li>8. Testing and maintenance of electrical equipment PSS</li></ol>

Kadwane

Dr. S. G. Kadwane

HoD, EL

EL	Solar Energy Technology		L= 3	T= 0	P= 0	Credits = 3
Evaluation Scheme	MSE-I	MSE-II	TA	ESE	Total	ESE Duration
	15	15	30	40	100	3 Hrs

**Prerequisites** Basic knowledge of Renewable Energy

**Course Objective**

Students should be able to  
Develop the knowledge of students regarding Solar Thermal and Solar Photovoltaic System design

**Course Outcome**

- Students will be able to
1. Apply the knowledge of Solar radiation for solar cells and related parameters.
  2. Compare the different types of Solar Collectors and select appropriate collector.
  3. Determine the impact of economic parameters on selection of Solar Systems for different consumers.
  4. To design the suitable photovoltaic system based on need of consumers and load profile.

**UNIT I : Fundamentals of Solar Energy and Solar Radiations Estimation**

Energy Scenario, solar spectrum, mechanism of absorption and scattering, global and diffuse radiation, solar radiation geometry, Extra-Terrestrial and Terrestrial Radiation. Estimation of solar radiation under different climatic conditions, Estimation of total radiation, measurement of solar radiation.

**UNIT II Fundamentals of Photovoltaic System and Design of Solar Cells**

Semiconductor, p-n junction, Fundamentals of solar PV cells, I-V, P-V characteristics of solar cell, types of PV cells, solar modules, solar arrays, series-parallel combination of solar cell, mismatches in connections, theoretical maximum power generation from PV cells. Temperature and solar irradiation effect on performance of solar photovoltaic panels, Upper limits of Cell parameters, Losses in Solar Cells, Solar cell design, Design for high  $I_{sc}$ , Design for high  $V_{oc}$ , Design for high fill factor (FF).

**UNIT III : Standalone and Grid connected Photovoltaics**

Introduction to solar PV system, regulated and unregulated Standalone PV standalone system components, standalone PV system configuration, Components of grid-connected PV system, generic grid connected PV system, general two-stage grid connected PV topology, single stage grid connected PV system, and performance analysis.

**UNIT IV Solar Collectors**

Snell's law, Bouguer law, Physical significance of Transmissivity – absorptivity product, Fundamentals of solar collectors. Liquid flat plate collector, Performance analysis of Liquid flat plate collectors and testing. Fundamentals of concentrating collectors, Cylindrical parabolic collector, Compound parabolic collector, Paraboloid dish collector, Central receiver collector, Solar concentrating ratio,

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Analytical treatment.

#### UNIT V: Photovoltaic System Design

Load profile development, Illumination profile development, preliminary array sizing, detailed array design, designing for reliability, high voltage design, Design of PV powered DC pump, wire sizing in PV system, precise sizing, PV-Diesel, PV-Wind hybrid system, preliminary array sizing, detailed array design.

#### UNIT VI: Economic Analysis

Definitions, initial and annual costs, present worth calculations, financial characteristics of PV, annual solar savings, life cycle savings, payback period, Life cycle cost, annualised life cycle cost, unit cost generation of electricity, financing in rural areas, international financing sources for PV, impact of government policies and incentives on PV project financing.

SN	Title	Year	Author	Publication
1	Solar Photovoltaic: Fundamentals, Technologies and Applications	2011	C.S. Solanki	Third Edition, PHI Publication
2	Solar Energy, Fundamentals, Design, Modeling and Applications	2002	G. N. Tiwari	Narosa
3	Solar Energy: Principles of Thermal Collection and Storage	2006	S. P. Sukhatme and J. K. Nayak	Tata McGraw Hill
4	Photovoltaic Systems: Analysis And Design	2011	A.K. Mukherjee And Nivedita Thakur	PHI Learning

#### Reference books:

SN	Title	Year	Author	Publication
1	Renewable energy sources and emerging technologies	2008	D. P. Kothari	1st Edition PHI
2	Energy Technology: Non - conventional, Renewable and Conventional		S. Rao and B.B. Parulekar	Khanna Publisher, New Delhi

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Department of Electrical Engineering  
 Coursera : Elective for Electrical Engineering students  
 University : University of Colorado Boulder

		Domain	University	Level	Average Hours	Rating	URL	Course Description
<b>Electrical Engineering</b>	<b>Power Electronics Specialization</b>	<b>Introduction to Power Electronics</b>	University of Colorado Boulder	Intermediate Level	12	4.7	<a href="https://www.coursera.org/learn/power-electronics?specialization=power-electronics">https://www.coursera.org/learn/power-electronics?specialization=power-electronics</a>	This course introduces the basic concepts of <i>switched-mode converter</i> circuits for controlling and converting electrical power with high efficiency. Principles of converter circuit analysis are introduced, and are developed for finding the steady state voltages, current, and efficiency of power converters. Assignments include simulation of a dc-dc converter, analysis of an inverting dc-dc converter, and modeling and efficiency analysis of an electric vehicle system and of a USB power regulator.
		<b>Converter Circuits</b>	University of Colorado Boulder	Intermediate Level	19	4.8	<a href="https://www.coursera.org/learn/natural-gas?specialization=energy-industry">https://www.coursera.org/learn/natural-gas?specialization=energy-industry</a>	This course introduces more advanced concepts of <i>switched-mode converter</i> circuits. Realization of the power semiconductors in inverters or in converters having <i>bidirectional power flow</i> is explained. Power diodes, power MOSFETs, and IGBTs are explained, along with the origins of their switching times. Equivalent circuit models are refined to include the effects of <i>switching loss</i> . The discontinuous conduction mode is described and analyzed. A number of well-known converter circuit topologies are explored, including those with transformer isolation. The homework assignments include a boost converter and an H-bridge inverter used in a grid-interfaced solar inverter system, as well as transformer-isolated forward and flyback converters.
		<b>Converter Control</b>	University of Colorado Boulder	Intermediate Level	19	4.8	<a href="https://www.coursera.org/learn/converter-control?specialization=power-electronics">https://www.coursera.org/learn/converter-control?specialization=power-electronics</a>	This course can also be taken for academic credit as ECEA 5702, part of CU Boulder's Master of Science in Electrical Engineering degree. This course teaches how to design a feedback system to control a switching converter. The equivalent circuit models derived in the previous courses are extended to model small-signal ac variations. These models are then solved, to find the important transfer functions of the converter and its regulator system. Finally, the feedback loop is modeled, analyzed, and designed to meet requirements such as output regulation, bandwidth and transient response, and rejection of disturbances. Upon completion of this course, you will be able to design and analyze the feedback systems of switching regulators.
		<b>Magnetics for Power Electronic Converters</b>	University of Colorado Boulder	Intermediate Level	17	4.8	<a href="https://www.coursera.org/learn/magnetics-for-power-electronic-converters-v2?specialization=power-electronics">https://www.coursera.org/learn/magnetics-for-power-electronic-converters-v2?specialization=power-electronics</a>	This course can also be taken for academic credit as ECEA 5703, part of CU Boulder's Master of Science in Electrical Engineering degree. This course covers the analysis and design of magnetic components, including inductors and transformers, used in power electronic converters. The course starts with an introduction to physical principles behind inductors and transformers, including the concepts of inductance, core material saturation, airgap and energy storage in inductors, reluctance and magnetic circuit modeling, transformer equivalent circuits, magnetizing and leakage inductance. Multi-winding transformer models are also developed, including inductance matrix representation, for series and parallel structures. Modeling of losses in magnetic components covers core and winding losses, including skin and proximity effects. Finally, a complete procedure is developed for design optimization of inductors in switched-mode power converters.

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# **Electronics Engineering**



Nagar YuwakShikshanSanstha's

YeshwantraoChavan College of Engineering

(An Autonomous Institution affiliated to RashtrasantukadojiMaharaj Nagpur University)

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Department of Electronics Engineering

Boards of Studies in Electronics Engineering

Boards of Studies in Electronics Engineering

Minutes of the Meeting No. 29

Meeting No. 29,

Date: 22<sup>nd</sup> July 2021

Meeting no. 29 of the Board of Studies in Electronics Engineering was held online on 22<sup>nd</sup> July 2021 at 10.00A.M. using Google Classroom Platform.

The meeting was attended by the following members of BoS.

- |                         |                             |                         |
|-------------------------|-----------------------------|-------------------------|
| 1. Dr.S.B.Badjate       | 11. Dr. P. P. Zode          | 21. Mr. A.A.Peshettiwar |
| 2. Dr.P.R.Deshmukh      | 12. Dr.Mrs. P. P. Palsodkar | 22. Dr.Mrs.Y.A.Gaidhani |
| 3. Mr.R.A.Deshmukh      | 13. Mrs.R. S. Balpande      | 23. Ms.P.R.Chaudhari    |
| 4. Dr.P.T.Karule        | 14. Dr.Mrs. M.N. Kalbande   | 24. Mrs.T.G.Panse       |
| 5. Dr. R. D. Thakare    | 15. Dr.Mr.P.M. Palsodkar    | 25. Mrs.S.A.Dhondse     |
| 6. Dr. S.M.Kakde        | 16. Ms.A.D.Tijare           |                         |
| 7. Dr.A.S.Khobragade    | 17. Ms. P.A. Jadhav         |                         |
| 8. Dr.S.V.Rathkanthiwar | 18. Mr. K.G.Pande           |                         |
| 9. Mr. A. V. Gokhale    | 19. Mr.A.B.Thatere          |                         |
| 10. Dr.Ms. P. P. Zode   | 20. Mr.V.D. Alagdeve        |                         |

Leave of absence was granted to

1. Dr.P.K.Dakhole

The following agenda points were deliberated in the meeting

29.01	<p>Welcome of new members</p> <p><b>Dr.P.T.Karule welcomes Dr.R.D.Thakare as a new HoD of Electronics Engineering Department. Dr.R.D.Thakare is now BoS Chairman.</b></p>
29.02	<p>Installation of member Secretary</p> <p><b>No Change</b></p>
29.03	<p>To confirm the minutes of 28<sup>th</sup> Meeting of BoS.</p> <p><b>The minutes of the 28<sup>th</sup> Meeting of BoS in Electronics Engineering held on 29<sup>th</sup> January 2021 were placed on the table by Chairman Dr.P.T.Karule / Dr.R.D.Thakare were confirmed unanimously.</b></p>
29.04	<p>To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014&amp;Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board</p> <p><b>No Change</b></p>
29.05	<p>To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 Schemes of and Post graduate programs conducted under the Board.</p> <p><b>Minor changes in the syllabi of Autonomous 2018 scheme are proposed. Details are as follows:</b></p> <ol style="list-style-type: none"> <li><b>1. Minor changes in the syllabi of 5<sup>th</sup> Semester EE 2313- PE I: Embedded Systems and EE2314 Lab: PE I: Embedded Systems is proposed.</b></li> <li><b>2. Minor changes in the syllabi of 5<sup>th</sup> Semester EE2333 – OE I: Biomedical Instrumentation is proposed.</b></li> <li><b>3. Minor changes in the syllabi of 7<sup>th</sup> Semester EE2443 PE Vi: Biomedical Instrumentation is proposed.</b></li> </ol>
29.06	<p>To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.</p> <p><b>No Change</b></p>
29.07	<p>To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-and Post Graduate programs.(Comment: The laboratory courses may be described in greater details for easy understanding by students.)</p> <p><b>No Change</b></p>
29.08	<p>To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.</p> <p><b>Previous Evaluation Scheme :</b></p> <p><b>MSE-1 - 15 Marks (Based on Unit 1 &amp; 2)</b>  <b>MSE-2 -15 Marks (Based on Unit 3 &amp; 4)</b>  <b>MSE-3 -15 Marks (Based on Unit 5 &amp; 6)</b></p> <p><b>New Evaluation Scheme :</b></p> <p><b>MSE-1 - 15 Marks (Based on Unit 1 &amp; 2&amp; 3)</b>  <b>MSE-2 -15 Marks (Based on Unit 4&amp;5 &amp; 6)</b>  <b>RE-MSE -15 marks ( Based on unit 1 to 6)</b></p> <p><b>MSEs* = Three MSEs of 15 Marks each will conducted and marks of better 2 of these 3 MSEs will be considered for Continuous Assessment</b></p> <p><b>TA ** = for Theory : 20 marks on lecture quizzes, 8 marks on assignments, 2 marks on class performance</b></p> <p><b>TA*** = for Practical : MSPA will be 15 marks each</b></p>
29.09	<p>To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the</p>


	curriculum.  <b>No Change</b>
29.10	To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of ODD Term 2020-21. <b>:-The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs for End Semester Examination of ODD Term 2020-21 was constituted.</b>
29.11	To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of ODD Term 2020-21. (Comment: Question papers of all the courses of PG programs are set and evaluated by the course instructor from ODD Term 2020-21. The grades of the students will also be decided by the Course Instructors.) <b>:-The panel of paper setters, Moderators and Valuers for the various theory courses at Postgraduate programs for End Semester Examination of ODD Term 2020-21 was constituted.</b>
29.12	To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination ODD Term 2020-21. <b>:-The panel of internal and external examiners for the various laboratory courses at UG and PG levels for End Semester Examination of ODD Term 2020-21 was constituted.</b>
29.13	Updatation/Preparation of Electronic question Bank upto VI Sem UG courses To review solutions to all questions of Electronic Question Banks for all courses upto IV SEM (SoE 2018) <b>Preparation of Electronic question Bank for VI and VII Semester UG courses is in Progress.</b> <b>To review solutions to all questions of Electronic Question Bank for all courses of VI semester. (In Progress)</b>
29.14	To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses. <b>Previous Evaluation Scheme :</b> <b>New Evaluation Scheme :</b> <b>MSE-1 - 15 Marks (Based on Unit 1 &amp; 2) MSE-1 - 15 Marks (Based on Unit 1 &amp; 2&amp; 3)</b> <b>MSE-2 -15 Marks (Based on Unit 3 &amp; 4) MSE-2 -15 Marks (Based on Unit 4&amp;5 &amp; 6)</b> <b>MSE-3 -15 Marks (Based on Unit 5 &amp; 6) RE-MSE -15 marks ( Based on unit 1 to 6)</b> <b>MSEs* = Three MSEs of 15 Marks each will conducted and marks of better 2 of these 3 MSEs will be considered for Continuous Assessment</b> <b>TA** = for Theory : 20 marks on lecture quizzes, 8 marks on assignments, 2 marks on class performance</b> <b>TA*** = for Practical : MSPA will be 15 marks each</b> <b>TA**= for Theory : 20 marks on lecture quizzes, 8 marks on assignments/Certificate Courses, Activity based learning, 2 marks on class performance</b> <b>TA*** = for Practical : MSPA will be 15 marks each</b>
29.15	To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22. <u>Certificate Courses</u> 1.Python Programming and its Applications 2.VLSI Design <u>Value Added Courses</u> 1.PCB Design 2.Python Programming 3.C, C++ Programming 4.MATLAB Programming 5.Arduino Programming

Any other matter with the permission of the Chair

29.16

**Formal Thanks to Eternal Experts on behalf of the BoS Chairman, BoS Members and member secretary.**


The meeting was concluded with thanks to the Chair. BoS Chairman has the authority to final the Scheme of Examination.



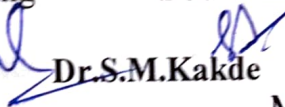
**Dr.R.D.Thakare**  
Chairman  
BoS in Electronics Engineering



**Dr.S.M.Kakde**  
Member Secretary  
BoS in Electronics Engineering



**Dr.P.T.Karule**  
Chairman  
BoS in Electronics Engineering



**Dr.S.M.Kakde**  
Member Secretary  
BoS in Electronics Engineering

Date: 22<sup>nd</sup> July 2021

## Composition of Board of Studies in Electronics Engineering

S. No.	Provision	Name of Member	Membership
1.	Head of the department	<b>Dr. R. D. Thakare</b>	<b>Chairman</b>
2.	Faculty Member	<b>Dr. S. M. Kakde</b>	<b>Member Secretary</b>
3.	Faculty Member	Dr. P. T. Karule	Member
4.	Faculty Member	Dr.A.S.Khobragade	Member
5.	Faculty Member	Dr. P. K. Dakhole	Member
6.	Faculty Member	Dr.S.V.Rathkantiwar	Member
7.	Faculty Member	Mr. M.S.Pawar	Member
8.	Faculty Member	Mr. A. V. Gokhale	Member
9.	Faculty Member	Mr. A. B. Thatere	Member
10.	Faculty Member	Dr. U. S. Ghodeswar	Member
11.	Faculty Member	Dr. P. P. Zode	Member
12.	Faculty Member	Dr. P. P. Palsodkar	Member
13.	Faculty Member	Dr. Ms. P. P. Zode	Member
14.	Faculty Member	Dr. Ms. T. G. Panse	Member
15.	Faculty Member	Dr. Ms. M. N. Kalbande	Member
16.	Faculty Member	Dr. Ms. Y. A. Gaidhani	Member
17.	Faculty Member	Ms. R. S. Balpande	Member
18.	Faculty Member	Dr. Mr.P. M. Palsodkar	Member
19.	Faculty Member	Ms. A. D. Tijare	Member
20.	Faculty Member	Mr. V. D. Alagdeve	Member
21.	Faculty Member	Ms. P.A.Jadhav	Member
22.	Faculty Member	Ms. S. A. Dhondse	Member
23.	Faculty Member	Mr. A. A. Peshattiwar	Member
24.	Faculty Member	Mr. KuldeepPande	Member
25.	Subject expert from outside the college to be nominated by the Academic Council.	<b>Dr.P.R.Deshmukh</b>	Member
26.	Subject expert from outside the college to be nominated by the Academic Council.	<b>Dr.S.B.Badjate</b>	Member

27.	Expert nominated by the vice-chancellor	-----	Member
28.	Representative from industry/corporate sector/allied area relating to placement.	<b>Mr. Amarendra G. Akre</b>	Member
29.	Postgraduate meritorious alumnus nominated by the Principal	<b>Mr.R.A.Deshmukh</b>	Member





# Nagar Yuwak Shikshan Sanstha's Yeshwantrao Chavan College of Engineering

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

**BE SoE and Syllabus 2018**

(Revised Scheme of Examination w.e.f. 2020-21 onward)

**SoE No.  
EE-201**

## Electronics Engineering

### V Semester

### EE2333 – OE I: Biomedical Instrumentation

Objective	Course Outcome
<ol style="list-style-type: none"> <li>1. This course is intended for introducing the students to evolution and development of biomedical instrumentation.</li> <li>2. The purpose of this course is to develop a strong foundation of use of transducers in biomedical measurements.</li> <li>3. Understand concepts of working principle of various biomedical instruments and analysis their output graphs like ECG, EEG, EMG, X-rays, plethysmograph and spirometry</li> <li>4. Understand the fundamentals of Telemedicine like Teleradiology, Telecardiology, Telepsychiatry and Medical Informatics</li> </ol>	<p style="text-align: center;"><b>On completion of this course, Students will be able to</b></p> <ol style="list-style-type: none"> <li>1. Describe the basic concepts of biomedical instrumentation and principle of transducer used in biomedical instrumentation</li> <li>2. Explain cardiovascular, blood pressure measurement and analyze ECG, plethysmograph and spirometry</li> <li>3. Identify various techniques used in generation and measurement of x-rays, EMG and use of pacemakers, defibrillators in health care.</li> <li>4. Recognize concept of Telemedicine, its applications and use of internet resource for hospital management system.</li> </ol>

CO	Statement	Mapped PO												PSO	
		PO 1	PO2	PO 3	PO4	PO 5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS O1	PS O2
CO 1	Describe the basic concepts of biomedical instrumentation and principle of transducer used in biomedical instrumentation	3	2	1		1									
CO 2	Explain cardiovascular, blood pressure measurement and analyze ECG, plethysmograph and spirometry	3	2	1		1									
CO 3	Identify various techniques used in generation and measurement of x-rays, EMG and use of pacemakers, defibrillators in health care.	3	2	1		1									
CO 4	Recognize concept of Telemedicine, its applications and use of internet resource for hospital management system.	3	2	1		3									

<i>Khande</i>	<i>Ambekar</i>	June 2020	1.02	Applicable for AY2020-21 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	



# Yeshwantrao Chavan College of Engineering

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

BE SoE and Syllabus 2018

(Revised Scheme of Examination w.e.f. 2020-21 onward)

SoE No.  
EE-201

## Electronics Engineering

### V Semester

### EE2333 – OE I: Biomedical Instrumentation

Unit No.	Contents	Max. Hrs.
1	Introduction to Biomedical instrumentation, development of biomedical instrumentation, biometrics, Physiological system of body, problems encountered in measuring a living system.	8
2	Basic transducer principle, active transducer, passive transducer, electrode theory, biopotential electrodes, biochemical transducers	7
3	The heart and cardiovascular system, characteristics of blood flow, blood pressure measurement, heart sound measurement. Principles of ultrasonic diagnosis, temperature measurement, electrocardiograph, plethysmography, pulmonary function measurement spirometry, pulmonary function analyzers, respiratory gas analyzers	7
4	Generation of ionizing radiation, instrumentation for diagnostic X-ray, special technique, instrumentation for medical use of radioisotopes, radiation therapy, EMG	8
5	Patient care and monitoring, the elements of intensive care monitoring, instrumentation for monitoring patient, pacemakers, defibrillators, Electrical safety of medical equipment. Physiological effects of electrical current, shock hazards from electrical equipments.	8
6	Computers in biomedical instrumentation, digital computer, Telemedicine concept, Telemedicine applications, video conferencing, digital communication in telemedicine Teleradiology, Tele Cardiology, Telepsychiatry	7

Text Books		Edition	Authors	Publisher
SN	Title			
1	Biomedical Instrumentation & Measurement	19 Jan 2010	By Leaslie Cromwell, Fred Weibell, Erich A Pfeiffer	Prentice Hall
2	Biomedical Instrumentation	1 Jan 2010	Mandeep Singh	Prentice Hall

Reference books:				
	Handbook of Biomedical Instrumentation	1987	R.S.Khandpur	TMH
2	Bioelectronics Measurement	1983	Dean A Dmane, David Michaels	Prentice Hall
3	Medicine and Clinical Engineering	1 August 2008	Jacobson and Webster	PHI

<i>Khand</i>	<i>Ambekar</i>	June 2020	1.02	Applicable for AY2020-21 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

YCCE-EE-26



# Nagar Yuwak Shikshan Sanstha's Yeshwantrao Chavan College of Engineering

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

**BE SoE and Syllabus 2018**

(Revised Scheme of Examination w.e.f. 2020-21 onward)

**SoE No.  
EE-201**

## Electronics Engineering

### V Semester

### EE2313 – PE I: Embedded Systems

Objective	Course Outcome
To provide the acquaintance with 1. Concept of RISC processor, coprocessor, bus structure, memory management. 2. Concept of RTOS & different communication protocols	<b>On completion of this course, Students will be able to</b> 1. Describe Architecture & organization of ARM. 2. Explain instructions of ARM 3. Apply the concept of programming language to interface I/O Devices. 4. Design ARM based System

CO	Statement	Mapped PO												PSO	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS O1	PS O2
C O 1	Describe Architecture & organization of ARM.	3	1												
C O 2	Explain instructions of ARM	2	3												
C O 3	Apply the concept of programming language to interface I/O Devices.			2	3	3									
C O 4	Design ARM based System			2	3	3									

		June 2020	1.02	Applicable for AY2020-21 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	



Nagar Yuwak Shikshan Sanstha's  
**Yeshwantrao Chavan College of Engineering**

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

**BE SoE and Syllabus 2018**

(Revised Scheme of Examination w.e.f. 2020-21 onward)

**SoE No.  
EE-201**

**Electronics Engineering**

**V Semester**

**EE2313 – PE I: Embedded Systems**

Unit No.	Contents	Max. Hrs.
1	Introduction to ARM, Advantages of architectural features of ARM Processor, Processor modes, Register organization, Exceptions and its handling, 3/5- stage pipeline ARM organization.	7
2	Memory and memory-mapped I/Os, ARM and THUMB instruction sets, ARM programmer's model, addressing modes, Instruction set in detail and programming, data processing instruction, data transfer instruction, Control flow instructions, simple assembly language programs.	8
3	ARM floating point architecture, programming, data processing instruction, data transfer instruction, Control flow instructions, simple assembly language programs	7
4	Memory buses: AMBA, ASB, & APB. Architectural support for system development. Memory management: DMA Architecture, Memory Hierarchy, memory size and speed, on-chip memory, caches, cache design, memory management.	7
5	Analog to Digital Conversion, DAC, Output Devices, Sensors and Actuators. Interfacing using Arduino / MSP430 / Ti Launchpad, Interfacing 7 segment display	8
6	Embedded ARM applications such as USB interface, Bluetooth, LCD, GPS, GSM	7

Text Books				
SN	Title	Edition	Authors	Publisher
1	ARM System-on-chip Architecture	2 <sup>nd</sup> edition, 2000	Steve Furber	Pearson Education Asia
2	Embedded Linux, Hardware, Software and interfacing	2002.	Craig Hallabaugh	Addison-Wesley Professional
3	ARM System Developer's Guide: Designing and Optimizing	2005	Sloss Andrew N, Symes Dominic & Wright Chris	Morgan Kaufman Publication

Reference Books	
SN	Title
1	Technical references on www.arm.com.
2	MSP 430 Data sheet

<i>Kamal</i>	<i>Anoop</i>	June 2020	1.02	Applicable for
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Nagar Yuwak Shikshan Sanstha's  
**Yeshwantrao Chavan College of Engineering**

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

**BE SoE and Syllabus 2018**

(Revised Scheme of Examination w.e.f. 2020-21 onward)

**SoE No.  
EE-201**

**Electronics Engineering**

**V Semester**

**EE2314 – Lab: PE I: Embedded Systems**

Expt. No.	Name of Experiment
1	To swap data byte
2	To perform addition, subtraction of 16 bit number
3	To find larger of a two numbers.
4	To perform factorial of a given number
5	To perform ON/OFF LED and show status of LED on LCD
6	To display number from 0 to 9 on seven segment display.
7	To ON/OFF LED using Switch.
8	Perform experiment on DAC of LPC2103
9	ADC and display value on LCD.
10	Serial Interface
11	SMS to any mobile number.

		June 2020	1.02	Applicable for AY2020-21 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

CE-EE-14

8<sup>th</sup> Semester

EE1416/ EE 2443	<b>PE V: Biomedical Instrumentation &amp; its Applications</b>	<b>L = 3</b>	<b>T = 0</b>	<b>P = 0</b>	<b>Credits = 3</b>
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Evaluation Scheme	MSE-I	MSE-II	TA	ESE	Total	ESE Duration
	15	15	10	60	100	3 Hrs

Objective	Outcome
<ul style="list-style-type: none"> <li>➤ This course is intended for introducing the students to evolution and development of biomedical instrumentation.</li> <li>➤ The purpose of this course is to develop a strong foundation of use of transducers in biomedical measurements.</li> <li>➤ Understand concepts of working principle of various biomedical instruments and analysis their output graphs like ECG, EEG, EMG, X-rays, plethysmograph and spirogram</li> <li>➤ Understand the fundamentals of Telemedicine Teleradiology, Telecardiology, Telepsychiatry and Medical Informatics</li> </ul>	<p>Students</p> <ol style="list-style-type: none"> <li>1. Will be able to understand the basic concepts of biomedical instrumentation and principle of transducer used in biomedical instrumentation</li> <li>2. Will be able to understand cardiovascular, blood pressure measurement and analyze ECG, plethysmograph and spirogram</li> <li>3. Will be able to understand various techniques used in generation and measurement of x-rays, EMG and use of pacemakers, defibrillators in health care.</li> <li>4. Will be able to understand concept of Telemedicine, its applications and use of internet resource for hospital management system.</li> </ol>

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO-1	PSO-2
CO-1	3	2	1		1									
CO-2	3	2	1		1									
CO-3	3	2	1		1									
CO-4	3	2	1		3									
Average	3	2	1		2									

**UNIT-1:**  
Introduction to Biomedical instrumentation, development of biomedical instrumentation, biometrics, Physiological system of body, problems encountered in measuring a living system.

**UNIT-2:**  
Basic transducer principle, active transducer, passive transducer, electrode theory, biopotential electrodes, biochemical transducers

**UNIT-3 :**  
The heart and cardiovascular system, characteristics of blood flow, blood pressure measurement, heart sound measurement. Principles of ultrasonic diagnosis, temperature measurement.

**UNIT-4:**

Electrocardiograph, plethysmography, pulmonary function measurement ~~spirometry, pulmonary function analyzers, respiratory gas analyzers.~~

#### UNIT-5:

Generation of ionizing radiation, instrumentation for diagnostic X-ray, special technique, instrumentation for medical use of radioisotopes, radiation therapy, EMG pacemakers, defibrillators, ~~Electrical safety of medical equipment~~ Physiological effects of electrical current, shock hazards from ~~electrical equipments.~~ Methods of accident prevention.

#### UNIT-6:

Telemedicine, Telemedicine applications, video conferencing, digital communication in telemedicine, Teleradiology, Tele Cardiology, Telepsychiatry, Hospital Information System, ~~Computer Networks in Health care~~

<b>Text books:</b>			
1	Biomedical Instrumentation & Measurement	By Leslie Cromwell, Fred Weibell, Erich A Pfeiffer	PHI
<b>Reference books:</b>			
1	Handbook of Biomedical Instrumentation	R.S.Khandpur	TMH
2	Bioelectronic Measurement	Dean A Dmane, David Michaels	Prentice Hall
3	Medicine and Clinical Engineering	Jacobson and Webster	PHI
4	Introduction to Biomedical Equipment Design	Carr and Brown	John Wiley
5	Biomedical Digital Signal Processing	Tompkins	



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Ph.: 07104-237919, 234623, 330249, 330300 Fax: 07104-232376, Website: www.ycce.edu

Department of Electronics Engineering

Boards of Studies in Electronics Engineering

Boards of Studies in Electronics Engineering

**Minutes of the Meeting No. 30**

Meeting No. 30,

Date: 13<sup>th</sup> January 2022

Meeting no. 30 of the Board of Studies in Electronics Engineering was held online on 13<sup>th</sup> January 2022 at 11.00 A.M. using Google Classroom Platform.

The meeting was attended by the following members of BoS.

- |                              |                             |                       |
|------------------------------|-----------------------------|-----------------------|
| 1. <b>Dr.S.B.Badjate</b>     | 13. Dr.U.S.Ghodeswar        | 25. Ms.P.R.Chaudhari  |
| 2. <b>Dr.N.K.Chaudhary</b>   | 14. Dr.Mrs. P. P. Palsodkar | 26. Dr. Mrs.T.G.Panse |
| 3. <b>Dr.P.R.Deshmukh</b>    | 15. Dr.Mrs.R. S. Balpande   | 27. Mrs.S.A.Dhondse   |
| 4. <b>Mr.R.A.Deshmukh</b>    | 16. Dr.Mrs. M.N. Kalbande   | 28. Mrs.Monica bhige  |
| 5. <b>Mr.Amarendran Akre</b> | 17. Dr.Mr.P.M. Palsodkar    | 29. Mr.Arijit Datta   |
| 6. <b>Dr. R. D. Thakare</b>  | 18. Dr.Ms.A.D.Tijare        |                       |
| 7. <b>Dr. S.M.Kakde</b>      | 19. Ms. P.A. Jadhav         |                       |
| 8. Dr.A.S.Khobragade         | 20. Mr. K.G.Pande           |                       |
| 9. Dr.S.V.Rathkantiwar       | 21. Mr.A.B.Thatere          |                       |
| 10. Mr. A. V. Gokhale        | 22. Mr.V.D. Alagdeve        |                       |
| 11. Dr.Ms. P. P. Zode        | 23. Mr. A.A.Peshettiwar     |                       |
| 12. Dr. P. P. Zode           | 24. Dr.Mrs.Y.A.Gaidhani     |                       |

Leave of absence was granted to

1. Dr.P.K.Dakhole 2. Dr.P.T.Karule

30<sup>th</sup> Be



The following agenda points were deliberated in the meeting

30.01	Welcome of new members <b>Dr. R.D. Thakare welcomes Mrs. Monica Bhoge and Mr. Arijit Datta as new Faculty members in the department.</b>
30.02	Installation of member Secretary <b>No Change</b>
30.03	To confirm the minutes of 29 <sup>th</sup> Meeting of BoS. <b>The minutes of the 29<sup>th</sup> Meeting of BoS in Electronics Engineering held on 22<sup>nd</sup> July 2021 were placed on the table by Chairman Dr.R.D.Thakare confirmed unanimously.</b>
30.04	To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board <b>This year, one new program Industrial IoT is introduced. SoE of Industrial IoT program is finalized after First CDW of IIoT program. Syllabus of First and Second Semester was also approved by the experts.</b>
30.05	<p>To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 Schemes of and Post graduate programs conducted under the Board.</p> <p><b>Minor changes in the syllabi of Autonomous 2018 scheme are proposed. Details are as follows:</b></p> <p>✓ <b>I. Minor changes in the syllabi of 3<sup>rd</sup> Semester EE 2205- Digital Logic Design is proposed.</b></p> <p><b>Unit II:</b> <del>Combinational Circuits</del>: Minimization methods: Incompletely specified functions, Karnaugh map, Quine McCluskey methods.</p> <p><b>Unit III:</b> <del>Combinational Circuits</del>: <del>Design of Arithmetic circuits</del>: Half &amp; Full adders, Half &amp; Full Subtractions, Multi-bit parallel adders Carry Propagate adder &amp; Carry Look ahead adder, Comparators, Multi-bit Application designs, Formation of switching functions from word statements, Functions &amp; its implementation using Multiplexer, Demultiplexer, Encoder, Decoder,</p> <p><b>2. Minor changes in the syllabi of 5<sup>th</sup> Semester EE2313 –PE I Embedded Systems is proposed.</b></p> <p><b>New:</b> ARM and THUMB instruction sets, ARM programmer's model, addressing modes, Instruction set in detail and programming, data processing instruction, data transfer instruction, Control flow instructions, simple assembly language programs</p> <p><b>OLD:</b> Memory and memory-mapped I/Os, ARM and THUMB instruction sets, ARM programmer's model, addressing modes, Instruction set in detail and programming, data processing instruction, data transfer instruction, Control flow instructions, simple assembly language programs.</p> <p><b>New:</b> LPC 2148 architecture block diagram , pins and signals. GPIO, I / O Interfaces like LED and Switch and their Programs</p>

	<p>OLD</p> <p>Memory buses: AMBA, ASB, &amp; APB. Architectural support for system development. Memory management: DMA Architecture, Memory Hierarchy, memory size and speed, on-chip memory, caches, cache design, memory management.</p> <p><b>3. Minor changes in the syllabi of 7<sup>th</sup> Semester EE2432 PE V: Nano Electronics is proposed.</b></p> <p><b>Unit I:</b> Fundamentals of the MOSFET, The two terminal MOS structure, capacitance voltage characteristics, Basic MOSFET operation <del>Introduction to Nanoelectronics, CMOS Technology scaling issues, short channel effects, sub threshold conduction, Drain Induced Barrier Lowering</del></p> <p><b>Unit-VI:</b> Chemical vapor deposition (CVD) and atomic layer deposition (ALD), <del>Carbon nanostructures, Characterization of Nanomaterials and Nanostructures,</del> Nanostructure devices, Carbon nanotube.</p>
30.06	<p>To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.</p> <p><b>No Change</b></p>
30.07	<p>To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-and Post Graduate programs. (Comment: The laboratory courses may be described in greater details for easy understanding by students.)</p> <p><b>No Change</b></p>
30.08	<p>To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.</p> <p><b>No Change</b></p>
30.09	<p>To discuss and propose the new courses/ Massive Open Online Courses (MOOCS) received from the faculty for inclusion in the curriculum.</p> <p><b>No Change</b></p>
30.10	<p>To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of EVEN Term 2021-22.</p> <p><b>:-The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs for End Semester Examination of EVEN Term 2021-22 was constituted.</b></p>
30.11	<p>To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of EVEN Term 2021-22.</p> <p>(Comment: Question papers of all the courses of PG programs are set and evaluated by the course instructor from EVEN Term 2021-22. The grades of the students will also be decided by the Course Instructors.)</p> <p><b>:- There are no Postgraduate courses under the Board.</b></p>
30.12	<p>To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination EVEN Term 2021-22.</p> <p><b>:-The panel of internal and external examiners for the various laboratory courses at UG levels</b></p>

	<b>for End Semester Examination of EVEN Term 2021-22 was constituted.</b>
30.13	Preparation of Electronic question Bank UG courses according to SoE 2018. To review solutions to all questions of Electronic Question Banks for all courses <b>Electronic Question Banks for all courses are ready.</b>
30.14	To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses. <b>No change</b>
30.15	To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.  <b><u>NPTEL/SWAYAM based HONORS COURSE-Cryptography</u></b>  5 Semester: 1. Deep Learning 2. Computer Architecture and Organization  6 Semester: 1. Data Analytics with Python 2. Computer Networks and Internet Protocol Approval for above NPTEL courses for Honor course Cryptography was put up for approvals and it was approved.
30.16	Any other matter with the permission of the Chair  <b>Formal Thanks to Eternal Experts on behalf of the BoS Chairman, BoS Members and member secretary.</b>

The meeting was concluded with thanks to the Chair. BoS Chairman has the authority to final the Scheme of Examination.



**Dr. R.D. Thakare**  
Chairman  
BoS in Electronics Engineering



**Dr. S.M. Kakde**  
Member Secretary  
BoS in Electronics Engineering

**Date: 13<sup>th</sup> January 2022**

## Composition of Board of Studies in Electronics Engineering

S. No.	Provision	Name of Member	Membership
1.	Head of the department	<b>Dr. R. D. Thakare</b>	<b>Chairman</b>
2.	Faculty Member	<b>Dr. S. M. Kakde</b>	<b>Member Secretary</b>
3.	Faculty Member	Dr. P. T. Karule	Member
4.	Faculty Member	Dr.A.S.Khobragade	Member
5.	Faculty Member	Dr. P. K. Dakhole	Member
6.	Faculty Member	Dr.S.V.Rathkanthiwar	Member
7.	Faculty Member	Mr. M.S.Pawar	Member
8.	Faculty Member	Mr. A. V. Gokhale	Member
9.	Faculty Member	Mr. A. B. Thatere	Member
10.	Faculty Member	Dr. U. S. Ghodeswar	Member
11.	Faculty Member	Dr. P. P. Zode	Member
12.	Faculty Member	Dr. P. P. Palsodkar	Member
13.	Faculty Member	Dr. Ms. P. P. Zode	Member
14.	Faculty Member	Dr. Ms. T. G. Panse	Member
15.	Faculty Member	Dr. Ms. M. N. Kalbande	Member
16.	Faculty Member	Dr. Ms. Y. A. Gaidhani	Member
17.	Faculty Member	Ms. R. S. Balpande	Member
18.	Faculty Member	Dr. Mr.P. M. Palsodkar	Member
19.	Faculty Member	Ms. A. D. Tijare	Member
20.	Faculty Member	Mr. V. D. Alagdeve	Member
21.	Faculty Member	Ms. P.A.Jadhav	Member
22.	Faculty Member	Ms. S. A. Dhondse	Member
23.	Faculty Member	Mr. A. A. Peshattiwar	Member
24.	Faculty Member	Mr. KuldeepPande	Member
25.	Faculty Member	Mrs.Monica Bhoge	Member

26.	Faculty Member	Mr.Arijit Datta	Member
27.	Subject expert from outside the college to be nominated by the Academic Council.	<b>Dr.S.B.Badjate</b>	Member
28.	Subject expert from outside the college to be nominated by the Academic Council.	<b>Dr.N.K.Chaudhary</b>	Member
29.	Expert nominated by the vice-chancellor	<b>Dr.P.R.Deshmukh</b>	Member
30.	Representative from industry/corporate sector/allied area relating to placement.	<b>Mr. Amarendra G. Akre</b>	Member
31.	Postgraduate meritorious alumnus nominated by the Principal	<b>Mr.R.A.Deshmukh</b>	Member

## EE2205 Digital Logic Design III-Sem Electronics Engineering

(7 Hr)

### Unit I:

Number Systems and IEEE Floating point representations, Logic gates, Switching Algebra & simplification of Boolean expressions, Boolean algebraic theorems, DeMorgan's theorem, SOP, POS, Canonical forms of Boolean expression. Implementations of Boolean expressions using logic gates.

(6 Hr)

### Unit II:

~~Combinational Circuits~~: Minimization methods: Incompletely specified functions, Karnaugh map, Quine McCluskey methods.

(7 Hr)

### Unit III:

~~Combinational Circuits~~: ~~Design of Arithmetic circuits~~: Half & Full adders, Half & Full Subtractions, Multi-bit parallel adders Carry Propagate adder & Carry Look ahead adder, Comparators, Multi-bit Application designs, Formation of switching functions from word statements, Functions & its implementation using Multiplexer, Demultiplexer, Encoder, Decoder,

(6 hr)

### Unit IV:

Combinational circuits design using MSI and LSI chips, PLA's ,Parity Checkers and generators, Introduction to Logic families & their characteristics such as Fan-In, Fan-out, Propagation delay, Power dissipation, Noise Margin.

(7 Hr)

### Unit V:

Sequential circuits: Latches and flip-flops: RS-FF, D-FF, JK-FF, Master-Slave JK-FF & T-FF's, Excitation & Truth Table, Flip- flop conversions, Shift registers. Introduction to Synchronous, Counters: Ring counter, Johnson counter, Ripple counter, Design of synchronous counter.

(7 Hr)

### Unit VI:

Classification of synchronous machines, Design of synchronous sequential machines using Moore & Mealy circuits: Sequence detector, State diagram, State reduction (Method of Partitioning) and implementation.



# Nagar Yuwak Shikshan Sanstha's Yeshwantrao Chavan College of Engineering

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**BE SoE and Syllabus 2018**  
(Revised Scheme of Examination w.e.f. 2020-21 onward)

**SoE No.  
EE-201**

## Electronics Engineering

### V Semester EE2313 – PE I: Embedded Systems

Objective	Course Outcome
To provide the acquaintance with <ol style="list-style-type: none"> <li>1. Concept of RISC processor, coprocessor, bus structure, memory management.</li> <li>2. Concept of RTOS &amp; different communication protocols</li> </ol>	<b>On completion of this course, Students will be able to</b> <ol style="list-style-type: none"> <li>1. Describe Architecture &amp; organization of ARM.</li> <li>2. Explain instructions of ARM</li> <li>3. Apply the concept of programming language to interface I/O Devices.</li> <li>4. Design ARM based System</li> </ol>

CO	Statement	Mapped PO												PSO		
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS O1	PS O2	
C01	Describe Architecture & organization of ARM.	3	1													
C02	Explain instructions of ARM	2	3													
C03	Apply the concept of programming language to interface I/O Devices.			2	3	3										
C04	Design ARM based System			2	3	3										



# Yeshwantrao Chavan College of Engineering

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

BE SoE and Syllabus 2018

(Revised Scheme of Examination w e f 2020-21 onward)

## Electronics Engineering

SoE No.  
EE-201

### V Semester EE2313 – PE I: Embedded Systems

Unit No.	Content	Max. Hrs.
1	1 Introduction to ARM, Advantages of architectural features of ARM Processor, Processor modes, Register organization, Exceptions and its handling, 3/5- stage pipeline ARM organization  OLD Introduction to ARM, Advantages of architectural features of ARM Processor, Processor modes, Register organization, Exceptions and its handling, 3/5- stage pipeline ARM organization.	7
2	2 ARM and THUMB instruction sets, ARM programmer's model, addressing modes, Instruction set in detail and programming, data processing instruction, data transfer instruction, Control flow instructions, simple assembly language programs  OLD Memory and memory-mapped I/Os, ARM and THUMB instruction sets, ARM programmer's model, addressing modes, Instruction set in detail and programming, data processing instruction, data transfer instruction, Control flow instructions, simple assembly language programs.	8
3	3 ARM assembly language programs and C language programs. Code conversion programs  OLD ARM floating point architecture, programming, data processing instruction, data transfer instruction, Control flow instructions, simple assembly language programs	7
4	4 LPC 2148 architecture block diagram , pins and signals. GPIO, I / O Interfaces like LED and Switch and their Programs  OLD Memory buses: AMBA, ASB, & APB. Architectural support for system development. Memory management: DMA Architecture, Memory Hierarchy, memory size and speed, on-chip memory, caches, cache design, memory management.	7
5	5 Display interfacing with LPC 2148. 7segment display interfacing. LCD interfacing and programs  OLD Analog to Digital Conversion, DAC, Output Devices, Sensors and Actuators. Interfacing using Arduino / MSP430 / Ti Launchpad, Interfacing 7 segment display	8
6	6 LPC 2148 TIMER and PWM Applications. Embedded ARM applications  OLD Embedded ARM applications such as USB interface, Bluetooth.	7



**Yeshwantrao Chavan College of Engineering**

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**Text Books**

SN	Title	Edition	Authors	Publisher
1	ARM System-on-chip Architecture	2 <sup>nd</sup> edition, 2000	Steve Furber	Pearson Education Asia
2	Embedded Linux, Hardware, Software and interfacing	2002.	Craig Hallabaugh	Addison-Wesley Professional
3	ARM System Developer's Guide: Designing and Optimizing	2005	Sloss Andrew N, Symes Dominic & Wright Chris	Morgan Kaufman Publication

**Reference Books**

SN	Title
1	Technical references on <a href="http://www.arm.com">www.arm.com</a> .
2	MSP 430 Data sheet

Department of Electronics Engineering  
 B. E. Electronics Engineering  
 Academic Session 2021-22 (ODD Term) Semester: VII

Course Code: EE2432

Course Title: PE V: Nanoelectronics

Teaching Scheme					Examination Scheme				
L	T	P	Hour/week	Credit	MSE-1	MSE-2	TA	ESE	Total Marks
3	0	0	3	3	15	15	30	40	100

**Unit I:** Fundamentals of the MOSFET, The two terminal MOS structure, capacitance voltage characteristics, Basic MOSFET operation

~~Introduction to Nanoelectronics, CMOS Technology scaling issues, short channel effects, sub-threshold conduction, Drain Induced Barrier Lowering~~

**Unit-II:** Introduction to Nanoelectronics, CMOS Technology scaling issues, Constant Field scaling, short channel effects, Drain Induced Barrier Lowering

**Unit-III:** Metal Semiconductor contacts, semiconductor Heterojunctions, Schottky barrier diode, Metal semiconductor ohmic contacts, Heterojunctions

**Unit-IV:** Germanium and Compound semiconductor Nano MOSFETs, Germanium as alternative to silicon, Compound semiconductors, Silicon on Insulator (SOI) MOSFET

**Unit-V:** Introduction to Quantum Mechanics, Principles of quantum mechanics, Schrodinger's wave equation, Applications of Schrodinger's wave equation

~~Unit-VI: Chemical vapor deposition (CVD) and atomic layer deposition (ALD), Carbon nanostructures, Characterization of Nanomaterials and Nanostructures, Nanostructure devices, Carbon nanotube.~~

**Text Books:**

- 1) Semiconductor Physics and Devices Basic Principles Third Edition Donald A. Neamen, Mc Graw Hill
- 2) Introduction to Nano Basics to Nanoscience and Nanotechnology, Amretashis Sengupta, Chavan Kumar Sarkar, Springer
- 3) Fundamentals of Modern VLSI Devices, 2<sup>nd</sup> edition, Y. Taur and T. Ning, Cambridge University Press.

**Reference Books:**

- 1) Semiconductor Devices Physics and Technology, 2<sup>nd</sup> Edition, S.M. Sze



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## Department of Electronics Engineering

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### Boards of Studies in Electronics Engineering

#### Minutes of the Meeting No. 31

Meeting No. 31,

Date: 2<sup>nd</sup> August 2022

Meeting no. 31 of the Board of Studies in Electronics Engineering was held online on 30<sup>th</sup> July 2022 at 10.00A.M.in Electronics Engineering department library.

The meeting was attended by the following members of BoS.

- |                              |                           |                        |
|------------------------------|---------------------------|------------------------|
| 1. <b>Dr.S.B.Badjate</b>     | 12. Dr.Mrs.R. S. Balpande | 23. Mrs.S.A.Dhondse    |
| 2. <b>Dr.N.K.Chaudhary</b>   | 13. Dr.Mr.P.M. Palsodkar  | 24. Dr.P.A.Maturkar    |
| 3. <b>Dr.P.R.Deshmukh</b>    | 14. Dr.Ms.A.D.Tijare      | 25. P.D.Gawande        |
| 4. <b>Dr. R. D. Thakare</b>  | 15. Ms. P.A. Jadhav       | 26. Prof.M.S.Pawar     |
| 5. <b>Dr.Pradnya P. Zode</b> | 16. Mr. K.G.Pande         | 27. Dr.Y.A.Suryawanshi |
| 6. Dr. P. P. Zode            | 17. Mr.A.B.Thatere        |                        |
| 7. Dr.A.S.Khobragade         | 18. Mr.V.D. Alagdeve      |                        |
| 8. Dr.S.V.Rathkanthiwar      | 19. Mr. A.A.Peshettiwar   |                        |
| 9. Mr. A. V. Gokhale         | 20. Dr.Mrs.Y.A.Gaidhani   |                        |
| 10. Dr.U.S.Ghodeswar         | 21. Ms.P.R.Chaudhari      |                        |
| 11. Dr.Mrs. P. P. Palsodkar  | 22. Dr. Mrs.T.G.Panse     |                        |

Leave of absence was granted to

1. **Mr.Amarendran Akre**
2. **Mr.R.A.Deshmukh**
3. Dr.P.K.Dakhole
4. Dr.P.T.Karule
5. Dr.Mrs.M.N.Kalbande





Nagar Yuwak Shikshan Sanstha's

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Electromagnetic Fields															
EE2258 Lab: Electronics Workshop	3	3	2		2	2	2	3	3	3	2	2	2		
EE2301/ EE2302 Digital Signal Processing / Digital Signal Processing Lab	3	3	3	3	2							3			
EE2303/ EE2304 Analog Integrated Circuits & Its Applications /Lab: Analog Integrated Circuits & Its Applications	3	3	2	2	2				1			3			3
EE2311/ EE2312 PE I: Computer Communication Network / Lab: PE I: Computer Communication Network	2	3	2	2	2	2			1	2					3
EE2313/ EE2314 PE I: Embedded Systems / Lab: PE I: Embedded Systems	2	3		3	2					3	3				
EE2315/ EE2316 PE I: Algorithm & Data Structure / Lab: PE I: Algorithm & Data Structure	2	2	2	2	3	2	2	3	3	3	3	3	3	2	2
EE2317/ EE2318 PE I: Applied Machine Learning/ Lab: PE I: Applied Machine Learning	3	3	3	3	3	1	1					2			
EE 2351 Control System Engineering	2	3	2	2											
EE2352 Transmission Lines and Wave Guides	2	3	2	2	3				3						2
EE2353/EE2354 Digital Communication/Lab: Digital Communication	3	3	1	2	2	2			1	2					3
EE2361 PE II: Internet of Things EE2362- Lab: PE II: Internet of Things	3	3	2		3										3
EE2363/ EE2364 PE II: Digital CMOS Circuits / Lab: PE II: Digital CMOS Circuits	2	3	3												3
EE2365/ EE2366 PE II: Digital Image	2	3	2	2	2				2	2					3



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Processing / Lab:PE II: Digital Image Processing														
EE2367 PE II: Object Oriented Programming	3	2	3	2	3	3			2		1	1	1	1
EE2368 Lab: PE II: Object Oriented Programming	3	2	3	2	3	3			2		1	1	1	1
EE2381 OE III : Fuzzy Logic & Neural Network	3	3	3	3	2	2	1	2	2	2	2	2	3	
EE2382 OE III : Basics of Analog and Digital Communication Systems	2	2	2					2				2		
EE2383 OE III: Biomedical Instrumentation	2	2	2					2				2		
EE2401/EE2402 Digital System Design	3	3	2						2	2		2	2	
EE2411PE III: Switching Theory & Finite Automata	2	2	2					1						
EE2412PE III :Power Electronics	2	2	3					1						
EE2413PE III: Wireless Sensor Network	3	2	2					2				1		
EE2414PE III: VLSI Signal Processing	3	2	2		2				2			1		3
EE2421PE IV: Wireless Communication/ EE2422Lab:PE IV: Wireless Communication	3	3		2	3			1				2		
EE2423PE IV: RF and Microwave/ EE2424Lab:PE IV: RF and Microwave	2	3		3				2	2	2				
EE2425PE IV: Analog VLSI Design	3	3	2	2					2			2	1	
EE2429PE IV: Operating Systems/ EE2430Lab: PE IV: Operating Systems	3	2	2	2										
EE2432PE V: Nano Electronics	2	2										2		
EE2433PE V: Optical Communication	2	2	2					2				1		
EE2435PE V: RF Circuit Design	3	2	2						1					
EE2442PE-VI: MEMS	2	2	2					2						



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EE2443PE-VI: Biomedical Instrumentation	2	2	2	2										
EE2445PE- VI:Computer Organization	3	3	3	2					2			3		
EE2410Industrial Training / CRT						1	1	2		2	1	2		
EE2409Mini Project	2	2	2	2		3	3	3	3	3	3	2	3	3
Major Project	2	2	2	2		3	3	3	3	3	3	2	3	3
Average Direct Attainment Target	2.44	2.42	2.08	2.18	2.43	1.96	1.57	1.76	1.88	2.08	1.56	1.82	1.72	1.95
Indirect Attainment Target	3	3	3	3	3	3	3	3	3	3	3	3		
(80 % Direct + 20% Indirect) Total Attainment Target	2.56	2.45	2.28	2.26	2.52	1.91	1.87	1.90	2.12	2.35	2.32	2.04	1.94	1.90
	3	3	3	3	3	2	2	2	3	3	3	3	2	2

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO-1	PSO-2
<b>Direct Attainment</b>	2.21	2.11	1.88	1.91	2.14	1.54	1.47	1.59	1.83	2.15	2.12	2.69	1.92	1.88
<b>In Direct Attainment</b>	2.79	2.79	2.79	2.79	2.79	2.89	2.84	2.84	2.91	2.82	2.82	2.73		
<b>(80 % Direct + 20% Indirect) Total Attainment</b>	2.33	2.25	2.06	2.09	2.27	1.81	1.74	1.84	2.05	2.29	2.26	1.90	1.92	1.88
	3	3	3	3	3	2	2	2	3	3	3	2	2	2

Semester	Course	CO Attainment	Action To Be Taken	Contribution to PO
IV	EE2253/ Microcontroller & its Applications	CO-3,4	Extra Assembly Language Programs will be practiced in the class, Also Assignment will be given	PO-1,2,3
IV	EE2257 Electromagnetic Fields	CO-1,2,3,4	More Numerical will be taught in the class & assignment will be given	PO-1,2
VI	EE 2351 Control System Engineering	CO-1,2,3,4	Further Numerical will be taught in the class & assignment will be given	PO-1,2,3
VI	EE2352 Transmission Lines and Wave Guides	CO-1,2,3,4	Additional emphasis will be given on derivations and assignment will be given	PO-1,2,3



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ii) Result analysis of subjects taught in previous semester

Sr.No	Semester	% Result
1	4	81.56
2	6	78.95
3	8	100

- For IV semester result of all courses is above 80% so no need of any action.
- For VI semester result of all courses except courses EE2363 PE II:Digital CMOS circuits (Result-72.97%) and EE2367 PE II:Object oriented programming (Result-74.36%) is above 80% so no need of any action.
- For EE2363 PE II:Digital CMOS circuits and EE2367 PE II:Object oriented programming more number of practice problems on different topics will be taken in class and more assignments will be given.

iii) Stake holders feedback on review and design of curriculum

•Stake holders feedback on review and design of curriculum was shown.

Sr.No.	Stack Holders	Feedback	Action taken
1	Employers	Industry require more practical Knowledge on latest software tools	As per Suggestion standard EDA tools as CADENCE, Keil, Multisim, PSPICE (ORCAD), Quartus II, Arduino for IOT is introduced.
		Students should have field knowledge which will be use full at the onset in their job.	<ul style="list-style-type: none"> <li>• In the SoE semester long Internship for UG Students in 8<sup>th</sup> semester is included.</li> <li>• Students have done Industry based certification courses and NPTEL courses.</li> </ul>
2	Alumni	For Core placement more hand on VLSI	<ul style="list-style-type: none"> <li>• Value added course on VLSI Design and EDA tools for more Hand on exposure in VLSI was conducted.</li> <li>• In new SoE22 digital VLSI design course is made core and more electives are added on VLSI.</li> </ul>
3	Parent	Parents enquired about mock interview/ campus training for students.	Information about CRT, YCAP and T&P activities to be conducted by the department was given.
		Parents enquired about the changes in exam pattern from online to offline	Parents were made aware about changes in the exam pattern in offline mode.
4	Students	Courses based on IoT should be introduced.	In SoE 22 IoT course is made core from elective in SoE 18-19
		Options in questions should be given in ESE	To follow the OBE, no options is given the ESE paper.

iv) In Sem, End Sem and Exit feedback on Teaching Lear & curriculum

Semester	No. of faculty with feedback more than 90%		No. of faculty with feedback more than 80%		No. of faculty with feedback less than 80% and greater than 60%	
	IN SEM	END SEM	IN SEM	END SEM	IN SEM	END SEM
IV	8/19	7/8	10/19	1/8	1/19	NIL
	42.11%	87.5%	52.63%	12.5%	5.2%	--
VI	14/26	19/23	12/26	4/23	NIL	NIL
	53.85%	82.61%	46.15%	17.39%	--	--





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31.05	<p>To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2018 &amp; B.Tech 2020) of the Undergraduate and Post graduate programs conducted under the Board. To approve and ratify SoE22 and all syllabi of B.Tech and M.Tech I &amp; II year.</p> <ul style="list-style-type: none"><li>• <b>1 new industry aligned Professional elective subject in association with MRSAC, Nagpur as "Introduction to Remote Sensing and Image Analysis" is added in the 7<sup>th</sup> sem as PE 6 of Autonomous 2018 SoE.</b></li><li>• <b>SoE22 for Electronics Engineering was presented and approved.</b></li><li>• <b>SoE22 for CSE(IoT) was presented and approved.</b></li><li>• <b>Syllabus of 5<sup>th</sup> to 8<sup>th</sup> Semester for IIoT Branch was presented and approved.</b></li></ul>
31.06	<p>To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2018 &amp; B.Tech 2020 Schemes of Undergraduate and Post graduate programs conducted under the Board.</p> <ul style="list-style-type: none"><li>• <b>Minor changes in the syllabi of 7th Semester EE2434 PE V: RF Circuit Design is proposed.</b></li><li>• <b>Minor changes in the syllabi of 7th Semester EE2431 PE V: Industrial Automation is proposed.</b></li><li>• <b>Minor changes in the syllabi of 7th Semester EE2412 PE III: Power Electronics is proposed.</b></li></ul>
07	<p>To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.</p> <ul style="list-style-type: none"><li>• <b>No change</b></li></ul>
31.08	<p>To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Undergraduate and Post Graduate programs. (Comment: The laboratory courses may be described in greater details for easy understanding by students.)</p> <ul style="list-style-type: none"><li>• <b>No change</b></li></ul>
31.09	<p>To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.</p> <ul style="list-style-type: none"><li>• <b>No change</b></li></ul>
31.10	<p>To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.</p> <ul style="list-style-type: none"><li>• <b>No change</b></li></ul>
31.11	<p>To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term/Even Term 2022-23.</p> <ul style="list-style-type: none"><li>• <b>The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs for End Semester Examination of Odd Term 2022-23 was constituted.</b></li></ul>
31.12	<p>To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd/Even Term 2022-23. (Comment: Question papers of all the courses of PG programs are set and evaluated by the course instructor from Odd Term 2021-22. The grades of the students will also be decided by the Course Instructors.)</p> <ul style="list-style-type: none"><li>• <b>There are no Postgraduate courses under the Board.</b></li></ul>
31.13	<p>To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd/Even Term 2022-23.</p> <ul style="list-style-type: none"><li>• <b>The panel of internal and external examiners for the various laboratory courses at UG levels for End Semester Examination of ODD Term 2022-23 was constituted.</b></li></ul>
31.14	<p>Preparation of Electronic question Bank UG courses according to SoE 2018. To review solutions to all questions of Electronic Question Banks for all courses</p> <ul style="list-style-type: none"><li>• <b>Electronic Question Banks for all courses are ready.</b></li></ul>
31.15	<p>To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.</p>



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- No change.

To discuss and propose scheme for Minor an Honor course and its syllabus.

**NPTEL based Honor courses in CRYPTOGRAPHY for 7 Semester, 2 courses are**

**1. Cryptography and Network Security**

**2. Social Network**

- Approval for above NPTEL courses for Honor course Cryptography was put up for approvals and it was approved.

**NPTEL based Honor courses in CRYPTOGRAPHY for 5 Semester, 2 courses are**

**1. Introduction to Machine Learning**

**2. Discrete Mathematics**

- Approval for above NPTEL courses for Honor course Cryptography was put up for approvals and it was approved.

To Discuss and propose Certificate courses and value added courses in 2022-23.

**Two Certificate courses to be conducted in ODD 2022-23 as**

- Capacity Building on Machine Learning.
- Graphics programming in "C".

**Two VACs to be conducted in ODD 2022-23 as**

- VLSI Design.
- Python Programming, its application & Data Science.

31.16

31.17

Any other matter with the permission of the Chair.

The meeting was concluded with thanks to the Chair. BoS Chairman has the authority to final the Scheme of Examination.

**Dr. R.D. Thakare**  
Chairman  
BoS in Electronics Engineering

**Dr. Pradnya Zode**  
Member Secretary  
BoS in Electronics Engineering

Date: 2<sup>nd</sup> August 2022

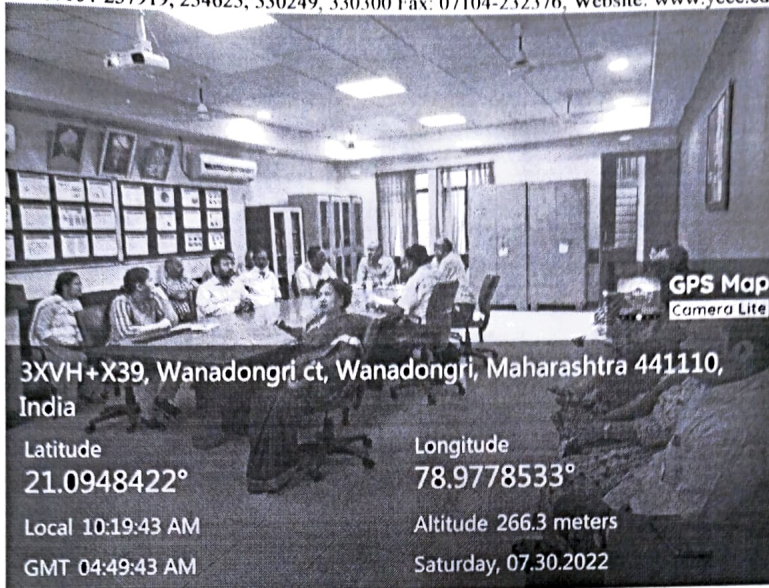


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3XVH+X39, Wanadongri ct, Wanadongri, Maharashtra 441110,  
India

Latitude  
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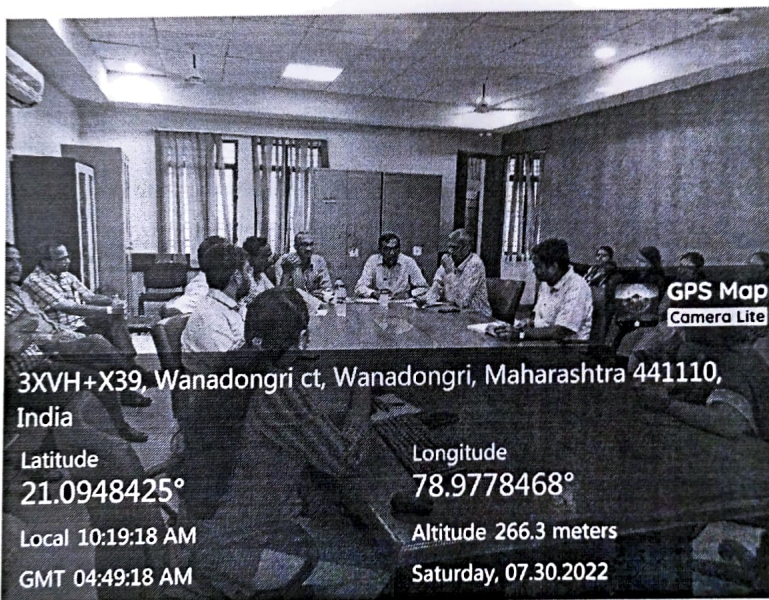
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Local 10:19:43 AM

Altitude 266.3 meters

GMT 04:49:43 AM

Saturday, 07.30.2022



3XVH+X39, Wanadongri ct, Wanadongri, Maharashtra 441110,  
India

Latitude  
21.0948425°

Longitude  
78.9778468°

Local 10:19:18 AM

Altitude 266.3 meters

GMT 04:49:18 AM

Saturday, 07.30.2022



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**Composition of Board of Studies in Electronics Engineering**

Sr. No.	Provision	Name of Member	Membership
1	Head of the department	<b>Dr. R. D. Thakare</b>	Chairman
2	Faculty Member	<b>Dr. Pradnya Zode</b>	Member Secretary
3	Faculty Member	Dr. P. T. Karule	Member
4	Faculty Member	Dr.A.S.Khobragade	Member
5	Faculty Member	Dr. P. K. Dakhole	Member
6	Faculty Member	Dr.S.V.Rathkantiwar	Member
7	Faculty Member	Mr. M.S.Pawar	Member
8	Faculty Member	Mr. A. V. Gokhale	Member
9	Faculty Member	Mr. A. B. Thatere	Member
10	Faculty Member	Dr. U. S. Ghodeswar	Member
11	Faculty Member	Dr. P. P. Zode	Member
12	Faculty Member	Dr. P. P. Palsodkar	Member
13	Faculty Member	Dr. Ms. T. G. Panse	Member
14	Faculty Member	Dr. Ms. M. N. Kalbande	Member
15	Faculty Member	Dr. Ms. Y. A. Gaidhani	Member
16	Faculty Member	Ms. R. S. Balpande	Member
17	Faculty Member	Dr. Mr.P. M. Palsodkar	Member
18	Faculty Member	Dr.Y.A.Suryavanshi	Member
19	Faculty Member	Ms. A. D. Tijare	Member
20	Faculty Member	Mr. V. D. Alagdeve	Member
21	Faculty Member	Ms. P.A.Jadhav	Member
22	Faculty Member	Ms. S. A. Dhondse	Member
23	Faculty Member	Mr. A. A. Peshattiwar	Member
24	Faculty Member	Mr. KuldeepPande	Member
25	Faculty Member	P.R.Choudhary	Member
26	Faculty Member	Dr.P.A.Maturkar	Member
27	Faculty Member	P.D.Gawande	Member
28	Subject expert from outside the college to be nominated by the Academic Council.	<b>Dr.S.B.Badjate</b>	Member
29	Subject expert from outside the college to be nominated by the Academic Council.	<b>Dr.N.K.Chaudhary</b>	Member
30	Expert nominated by the vice-chancellor	<b>Dr.P.R.Deshmukh</b>	Member
31	Representative from industry/corporate sector/allied area relating to placement.	<b>Mr. Amarendra G. Akre</b>	Member
32	Postgraduate meritorious alumnus nominated by the Principal	<b>Mr.R.A.Deshmukh</b>	Member

Session 2021-22

**NPTEL based Honor courses-CRYPTOGRAPHY**

7 Semester:

1. Cryptography and Network Security
2. Social Network

Session 2022-23

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
						L	T	P	Hrs		MSEs*	TA**	ESE	
1	5	PC	EE	Computer Networks and Internet Protocol	T	3	0	0	3	3	30	30	40	3 Hours
2	5	PC	EE	Discrete Mathematics	T	3	0	0	3	3	30	30	40	3 Hours
3	6	PC	EE	Data Analytics	T	3	0	0	3	3	30	30	40	3 Hours
4	6	PC	EE	Machine Learning	T	3	0	0	3	3	30	30	40	3 Hours
5	7	PC	EE	Cryptography and Network Security	T	3	0	0	3	3	30	30	40	3 Hours
6	7	PC	EE	Social Networks Analysis	T	3	0	0	3	3	30	30	40	3 Hours

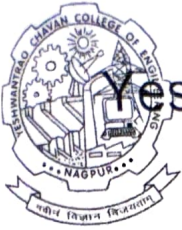


## Department of Electronics Engineering

### Proposed Syllabus for Professional Elective for VII Semester Electronics Engineering Introduction to Remote Sensing and Image Analysis

<b>Prerequisites</b>	<b>Principles of Image Analysis</b>
<b>Course Objective</b> Students should be able to 1) Understand Remote Sensing & sensor Concepts 2) Understand the fundamentals and image characteristics of remote sensing. 3) Learn image enhancement techniques 4) Study image classification technique and hyperspectral image analysis	<b>Course Outcome</b> Students will be able to 1) Comprehend the basic and applied principles of remote sensing, RS image characteristics 2) Understand and evaluate image spatial and spectral transforms and their effect on image quality and data integrity 3) Apply the image correction techniques and classification algorithms on remote sensing images 4) Analyze high-dimensional remote sensing imagery with appropriate remote sensing data and processing methods.

<b>UNIT-1: Remote Sensing Concepts</b>	(Hours)
Review of Remote Sensing Concepts: spatial and radiometric characteristics – spectral and temporal characteristics, Optical Radiation Model: The wave/ particle models - energy/matter interaction – Radiometric Correction – Atmospheric Correction, Image sensors	
<b>UNIT-2: Digital Image Formation and Characteristics</b>	( Hours)
Digital Image Formation: point spread functions – sampling and quantization Digital Image Characteristics: Univariate and multivariate image statistics – noise models- power spectral density- co-occurrence matrix	
<b>UNIT-3: Image Enhancement and Spectral Transforms</b>	(Hours)
Contrast enhancement – band rationing – principal component analysis – vegetation transforms – texture transforms, Spatial Transforms: convolution concept - low and high pass filtering – spatial transformations – Fourier transform	
<b>UNIT 4: Geometric Correction</b>	(Hours)
Sensor geometry and empirical models for geometric corrections techniques. Distortion Correction, Sensor compensation, Noise reduction, Radiometric Calibration	
<b>Unit 5: RS Image Classification</b>	(Hours)
Thematic Information Extraction: review of supervised and unsupervised Image classification – Maximum Likelihood and Bayesian classification, Non-parametric & parametric classification	
<b>Unit 6: High Dimension Image Analysis</b>	(Hours)
Subpixel classification: Linear mixing model, fuzzy set classification, Hyperspectral Image Analysis: Feature extraction, classification algorithms for hyperspectral data, Applications of Remote Sensing	



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## Department of Electronics Engineering

Textbooks:					
1	Remote Sensing:and Methods forProcessing	Models Image	Third Edition, 2007	RobertSchowenge A. rdt	Elsevier
2	RemoteSensingDigitalImageAnalysis		4thEdition,2006	JohnA.Richards, XiupingJia	Springer

Referencebooks:					
1	IntroductoryDigitalImageProcessing:ARemoteSensing Perspective		Fourth Edition, 2016	JhonR.Jensen	PearsonSeries
2	Physical Principles ofRemoteSensing		Third Edition, 2012	W.G.Rees	CambridgeUniversityPress



## ElectronicsEngineering

### VII Semester EE2434-PEV:RFCircuitDesign

Objective	Course Outcome
<ol style="list-style-type: none"> <li>1. To study Learn fundamentals of series and parallel RF circuits.</li> <li>2. To study RF component such as resonator, filter, transmission lines, etc</li> <li>3. To learn design of RF amplifiers using transistors.</li> </ol>	<p><b>On completion of this course, Students will be able to</b></p> <ol style="list-style-type: none"> <li>1. Students will have an ability to demonstrate in depth knowledge of general RF circuits, components, fundamental parameters of transmission line and its constraints in high frequency transmission of information.</li> <li>2. Students will be able to understand and use Smith Chart circuits in RF applications.</li> <li>3. Students will be able to Design impedance matching networks.</li> <li>4. Students will be able to Design passive RF filters ,RF amplifiers ,and RF Oscillators.</li> </ol>

Unit No.	Contents	Max. Hrs.
1	Introduction, Importance of Radio frequency Design, RF Behaviour of Passive Components, Chip Components, Transmission Line Analysis, Equivalent Circuit Representation, Circuit Parameters for a Parallel Plate Transmission Line, Microstrip Transmission Line, Terminated Lossless Transmission Line, Special Termination Conditions, Sourced and Loaded Transmission Line.	8
2	The Smith Chart, From Reflection Coefficient to Load Impedance, Impedance Transformation, Admittance, Transformation, Parallel and Series Connections, Single- and Multiport Networks, Interconnecting Networks, Network Properties and Applications, Scattering Parameters.	8
3	An Overview of RF Filter Design, Basic Resonator and Filter Configurations, Special Filter Realizations, Filter Implementation, Coupled Filter.	6





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## Department of Electronics Engineering

Power Supplies, SMPS, SMAC power supplies, power factor conditioning Gate Drive Circuits- Protection of Devices and Circuits Snubber, reverse recovery transients, protection devices varistors, Introduction to AC and DC drives.( 7 Hours)

### **Text books:**

1 Power Electronics: Circuits, Devices and Applications 2nd edition 1993 M. Rashid PHI

### **Reference books:**

1 Power Electronics and its application 2nd Edition 2004 Alok Jain Penram International Publishing Pvt Ltd



Department of Electronics Engineering

**VII Semester**  
**EE2412 – PE III :Power Electronics**

Objective	Outcomes
<ul style="list-style-type: none"><li>➤ To make familiar with the SCR &amp; other power devices.</li><li>➤ To study power controller, various techniques of improving power factor, different methods of commutation.</li><li>➤ To understand uncontrolled and controlled converters</li><li>➤ To describe function of various types of an inverter.</li><li>➤ To explain operation of choppers.</li></ul>	<p>Students will be able to</p> <ol style="list-style-type: none"><li>1. Understand basic semiconductor physics and properties of power devices for circuit analysis using linear and non-linear operations.</li><li>2. Design and Analyze power inverter circuits and learn to select suitable power electronic devices by assessing the requirements of application fields.</li><li>3. Formulate analyze and design the converters for various load types.</li><li>4. Identify the critical areas in application levels and derive typical alternative solutions, select suitable power converters to control Electrical Motors and other industry grade apparatus.</li></ol>

**UNIT-1:**

Power Semiconductor Diodes and Circuits, control Characteristics of power devices, power modules, power diodes, reverse recovery, series, shunt connected diodes, Diode Rectifiers-single phase, three phase rectifiers, bridge rectifiers, design of rectifiers. (8 Hours)

**UNIT-2:**

Power Transistors, Switching characteristics of BJT, Power MOSFETs, IGBTs, limitations, Power Thyristors. (7 Hours)

**UNIT-3**

Pulse-width Modulated Inverters: Principle, single phase, multiple phase, PWM-Force commutated inverters, current source inverters, design of inverter, DC-DC Converters, Step up, step down, SMPS, thyristor Choppers, design of choppers. (8 Hours)

**UNIT-4:**

Resonant Pulse Inverters-Series, parallel, resonant inverters, Class E resonant inverter, Zero voltage/current Switching resonant inverter, Multilevel Inverters. (7 Hours)

**UNIT-5**

Controlled Rectifiers: phase control converter, single phase, three phase converters, power factor improvement, AC Voltage Controllers. Principle of ON-OFF control, Phase control, Single phase controllers, three phase controllers, cyclo-converters. (8 Hours)

**UNIT-6:**

	Networks-	
5	RF Transistor Amplifier Designs: Characteristics of Amplifiers, Amplifier Power Relations, Stability Considerations, Constant Gain, Noise Figure Circles, Constant VSWR Circles, Broadband, High-Power, and Multistage Amplifiers	7
6	Oscillators, Basic Oscillator Model, High-Frequency Oscillator Configuration, Oscillators describing functions, Colpitt's oscillators Resonators, Tuned Oscillators, Negative resistance oscillators, Phase-noise Basic Characteristics of Mixers. Non-linear based mixers, Quadratic mixers, Multiplier based mixers, Single balanced and doubles balanced mixers, sub sampling mixers	8

TextBooks				
SN	Title	Edition	Authors	Publisher
1	RF Circuit Design- Theory and Applications",	2nd Edition	Reinhold Ludwig and Pavel Bretchko,	Pearson Education, 2000.

ReferenceBooks	
S N	Title
1	T.Lee, "Design of CMOS RF Integrated Circuits", Cambridge, 2004.
2	B.Razavi, "RF Microelectronics", Pearson Education, 1997. B.Razavi, "Design of Analog CMOS Integrated Circuits", McGraw Hill, 2001

<i>Praveen</i>	<i>Praveen</i>	June 2020	1.02	Applicable for AY 2020-21 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

YCCE-EE-12



Department of Electronics Engineering

**VII Semester**  
**EE2431 –PE V: INDUSTRIAL AUTOMATION**

Prerequisites	PrinciplesofImageAnalysis
<b>Course Objective</b> 1. Understand automation technologies and identify advantages, limitations and applications of the same. 2. To Develop ability to recognize, articulate and solve industrial problems using automation technologies.	<b>Course Outcome</b> 3. Remember the architecture of industrial automation system. 4. Understand the process control, PLC architecture and interfacing 5. Apply PLC ladder logic for industrial applications 6. Apply the function of SCADA with PLC systems.

UnitNo.	Contents	Max.Hrs.
1	<b>Introduction:</b> Automation overview, requirement of automation, systems, architecture of industrial automation system, introduction of PLC and supervisory control and data acquisition (SCADA). Industrial bus systems: Modbus & profibus.	7
2	<b>Controllers &amp; actuators :</b> PID controller, mechanical switches, solid-state switches, electrical actuators: Solenoids, relays and contactors, ac motor, energy conservation schemes through vfd, dc motors, servo motor, pneumatic and hydraulic actuators.	7
3	<b>PLC operation:</b> Definition, advantages and importance of PLC, history of PLC, architecture and block diagram, types of PLC, CPU unit architecture, memory classification.	7
4	<b>PLC programming :</b> Basic ladder logic function, electrical wiring diagram, scan cycle, programming language of PLC, module addressing, basic relay, input, output and timer counter instruction, arithmetic and comparison function,	7
5	<b>SCADA &amp; distributed control system:</b> Introduction, block diagram, elements of SCADA, features of SCADA, MTU, RTU functions, applications of SCADA, communications in SCADA, introduction to DCS, architecture, input and output modules, specifications of DCS.	7
6	<b>Material handling, automated storage system, and Identification Technologies</b> The material handling function, its types, analysis for Material handling systems, Storage system performance, automated storage/retrieval systems, work-in-process storage, interfacing handling and storage with manufacturing. Product	7



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### Department of Electronics Engineering

#### Boards of Studies in Electronics Engineering

#### Minutes of the Curriculum Development Workshop (CDW-2022)

Meeting No.IX,

Date:24<sup>th</sup> July 2022

Curriculum Development Workshop for the framing of SoE-22 and syllabi of 1<sup>st</sup>,2<sup>nd</sup>,3<sup>rd</sup> and 4<sup>th</sup> Semester UG under the Board of Studies in Electronics Engineering was held on 21<sup>st</sup> July 2022 from 10.00 onwards in the Electronics Engineering department library.

Faculty members of Department of Electronics Engineering attended the meeting. Subject experts were,

1. **Dr. A.G.Keskar**,VNIT, Nagpur.
2. **Dr. V.R.Satpute**,VNIT, Nagpur.

The meeting was conducted by Chairman BoS **Dr.R.D.Thakare**.

The following agenda points were deliberated in the meeting.

1. Finalization of Scheme of Examination, SoE 2022.
  - Course **Digital System Modeling** should be taught in Lab.
  - Course **Algorithm and Data Structure** can be shifted to 4th Sem.
  - Course **PE-I: Embedded System** should be shifted to Compulsory Core.
  - Course **PE-I: Operating system** should be moved to earlier semester.
  - Add more VLSI related course to PC and PE.
  - The **Fundamentals of Economics & Management** course should be shifted to 7<sup>th</sup> sem.
  - Change the name of course **Analog Integrated Circuit & its Application** to **Analog Integrated Circuits & Design**
2. Framing of syllabi of 1<sup>st</sup>,2<sup>nd</sup>,3<sup>rd</sup> and 4<sup>th</sup> Semester UG
  - 1<sup>st</sup> year course **Basic Electrical & Electronics Engineering(EL)**
    - First 3 Units should be electrical and last 3 should be electronics.
  - 3<sup>rd</sup> sem course **Microprocessor and Interfacing**
    - Replace complete syllabus by IC 8086 instead of IC 8085.

#### **Special Suggestion**

Open elective credits should be flexible and in the range of 6 to 12 credits.

The meeting was concluded with thanks to the Chair.

Dr.R.D.Thakare  
Chairman  
BoS in Electronics Engineering

Dr.Pradnya Zode  
Member Secretary  
BoS in Electronics Engineering

Date: 24-07-2022



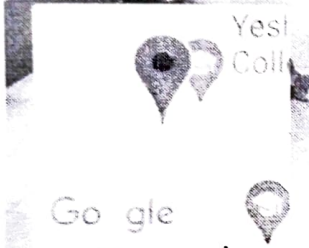
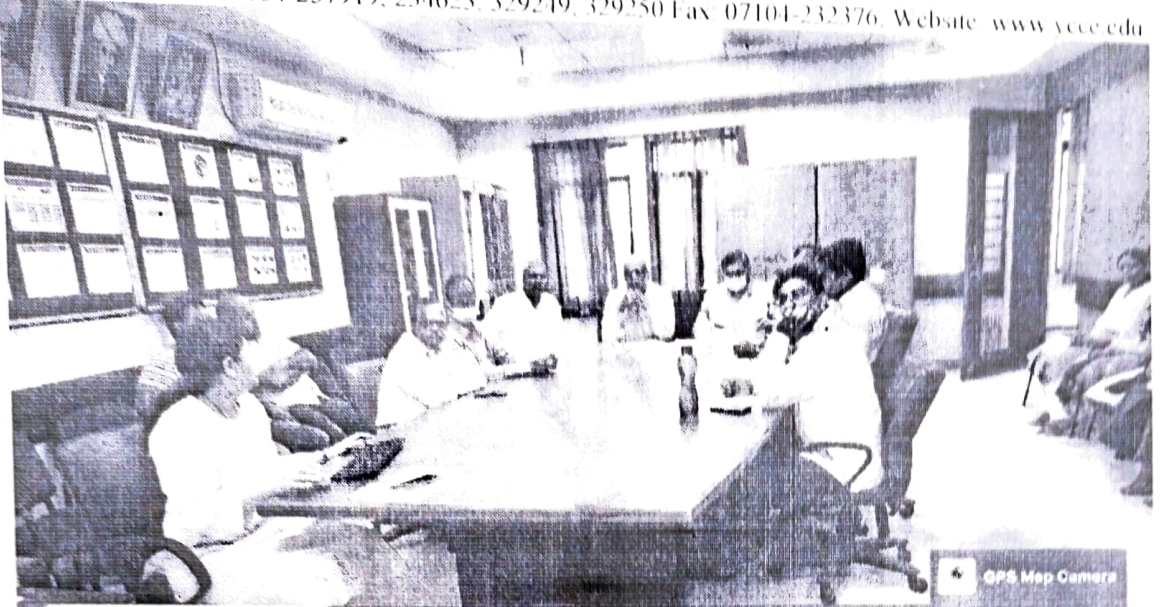
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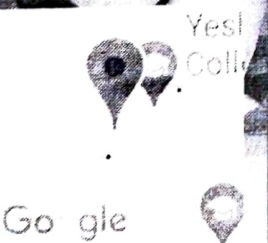
**Wanadongri, Maharashtra, India**

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## Department of Electronics Engineering

Date: 27 July 2022

### Boards of Studies in Electronics Engineering

#### Minutes of the Curriculum Development Workshop (CDW-2022)

**Meeting No. 1** for CSE IOT (2022-23) &

**Meeting No. 2** for Industrial Internet of Things (IOT)(2021-22)

Curriculum Development Workshop for finalization of Scheme of Examination and Syllabus of B.Tech CSE IOT (2022-23) & Syllabus of Industrial Internet of Things (2021-22) was held on 25/7/2022 from 10.00AM onwards in the Electronics Engineering department library.

Faculty members of Department of Electronics Engineering attended the meeting.

Subject experts were,

- **Dr. A.G.Keskar, VNIT, Nagpur.**
- **Dr. U.A. Deshpande, VNIT, Nagpur.**

The meeting was conducted by Chairman BoS, **Dr.R.D.Thakare.**

Agenda of Workshop was as follows

- Finalization Scheme of Examination of CSE IOT (1st to 8th Semester)
- Syllabus framing of CSE IOT (1st to 4th Semester)
- Syllabus framing of Industrial Internet of Things (IOT) (5th to 8th Semester)

The following agenda points were deliberated in the meeting & accordingly corrections are made.

- **Constitution of India** Subject name is to be changed as **Social Science**
- **C Programming** Subject name is to be changed as **Programming for problem solving**
- From **Linear Algebra and Graph Theory subject, Graph Theory** is to be removed and shift to Second semester in place of **Probability theory and Statistical Interference** (vice-versa)
- In **Electronics Devices and Circuits** (TH+ PR) topics BJT and Op-Amp are to be included.
- **SQL foundation** subject name changed to **Data Base Management System.**
- **Microprocessor and Interfacing** subject should be removed and include **Computer Architecture & Organization** in third semester.
- **Microcontroller & its Applications** subject shift from fifth semester to fourth semester.
- More emphasis is to be given on **Data Structures** subjects



## Department of Electronics Engineering

- **Introduction to IoT (TH+PR), Computer Communication network(TH+PR), Mathematical Foundations for Data Analysis(TH+PR)** these new subjects are to be added in 5th semester.
- **Control system engineering** subject is to be made compulsory.
- **Pattern Recognition** subject is to be added in place of Professional Electives-I subject Control system engineering.
- **Digital System Design ( TH +PR)** subject to be removed and **Data Analytics( TH +PR)** subject is to be added
- In place of **Data Acquisition & Signal conditionings** subject, **Design & Analysis of Algorithms** subject is to be included.
- **Cloud computing(TH +PR)** subject to be shift from 6th to 7th semester.
- In **Cryptography for IoT** subject, Network Security topic should be added with Cryptography.
- In place of **Software Engineering** subject, **Real Time Operating System** subject is to be included in 7th Semester.
- **Applications of IoT** subject name is to be changed and shift from 7th semester to 5th semester.
- Experiment List should be generic in **Microcontroller & its Applications**.

### Special Suggestion

Open elective credits should be flexible and in the range of 6 to 12 credits.

The meeting was concluded with thanks to the Chair.

Dr.R.D.Thakare  
Chairman  
BoS in Electronics Engineering

Dr.Pradnya Zode  
Member Secretary  
BoS in Electronics Engineering

Date: 27-07-2022





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**Department of Electronics Engineering**



Yes! Coll.

**Wanadongri, Maharashtra, India**

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441110, India

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# **Electronics Telecommunication Engineering**



**Department of Electronics & Telecommunication Engineering**  
YCCE/ET/FORMAT/BOS/MOM/26

**Minutes of the 26<sup>th</sup> BOS Meeting**

**Date: 3<sup>rd</sup> August 2022**

The 26<sup>th</sup> meeting of the Board of Studies in Electronics & Telecommunication Engineering was held on Wednesday, 3<sup>rd</sup> August 2022 at 10:00 am in the departmental Library ET, YCCE, Nagpur

The meeting was attended by the following members of Board of Studies.

Sr. No.	Name	Signature
01	Dr.A.G.Keskar, Expert, VNIT, Nagpur	
02	Dr. R. B. Deshmukh, Expert, VNIT, Nagpur	
03	Dr.S.L.Badjate ,VC Nominee, Principal S. B .Jain, Nagpur	
04	Mr. Ranjit Singh, Industry person, M.D. & CEO, Syslogix systems Pvt. Ltd, Nagpur	
05	Mr. Sagar Ghormade, PG Alumni	Absent

S. No.	Name	Signature	S No.	Name	Signature
1	Dr. M. M. Mushrif		15	Dr.M.L.Keote	
2	Dr.M.D. Chawhan		16	Dr. P. D. Dorge	
3	R.P.Deshmukh		17	S.A.Desai	
4	Dr. P.W. Raut		18	Dr.V.D. Bondre	
5	Dr. D.B.Bhoyar		19	Dr.B.Y. Masram	
6	K.P.Kamble		20	Y. S. Kale	
7	Dr. Y.U.Chitriv		21	V.B.Niranjane	
8	Dr. A.D.Belsare		22	A.A.Madankar	
9	Dr. N.D.Rehpade		23	R.P.Kamdi	
10	A.V.Choudhari		24	D.K.Thote	
11	N.A.Pande		25	M.S.Patil	
12	Dr. S.S.Khade		26	Dr. R.S.Keote	
13	Dr.C.S.Gode		27	S.R.Nitnaware	
14	S.S.Chiwande		28	M. S. Ghule	



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E-mail : [principal@ycce.edu](mailto:principal@ycce.edu), [info@ycce.edu](mailto:info@ycce.edu)

## Department of Electronics & Telecommunication Engineering

YCCE/ET/FORMAT/BOS/MOM/26

### Minutes of the 26<sup>th</sup> BOS Meeting

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The meeting was attended by the following members of Board of Studies.

Sr. No.	Name	Signature
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02	Dr. R. B. Deshmukh, Expert,VNIT, Nagpur	Present
03	Dr.S.L.Badjate ,VC Nominee, Principal S. B .Jain, Nagpur	Present
04	Mr. Ranjit Singh, Industry person, M.D. & CEO, Syslogix systems Pvt. Ltd, Nagpur	Present
05	Mr. Sagar Ghormade, PG Alumni	Absent

S. No.	Name	Signature	S No.	Name	Signature
1	Dr. M. M. Mushrif	Present	15	Dr.M.L.Keote	Present
2	Dr.M.D. Chawhan	Present	16	Dr. P. D. Dorge	Present
3	R.P.Deshmukh	Present	17	S.A.Desai	Present
4	Dr. P.W. Raut	Present	18	Dr.V.D. Bondre	Present
5	Dr. D.B.Bhoyar	Present	19	Dr.B.Y. Masram	Present
6	K.P.Kamble	Present	20	Y. S. Kale	Present
7	Dr. Y.U.Chitriv	Present	21	V.B.Niranjane	Present
8	Dr. A.D.Belsare	Present	22	A.A.Madankar	Present
9	Dr. N.D.Rehpade	Present	23	R.P.Kamdi	Present
10	A.V.Choudhari	Present	24	D.K.Thote	Present
11	N.A.Pande	Present	25	M.S.Patil	Present
12	Dr. S.S.Khade	Present	26	Dr. R.S.Keote	Present
13	Dr.C.S.Gode	Present	27	S.R.Nitnaware	Present
14	S.S.Chiwande	Present			



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## Department of Electronics & Telecommunication Engineering

Leave of absence was granted to –

Sr. No.	Name
1	Mr. Sagar Ghormade, PG Alumni

The following agenda points were discussed and deliberated in the meeting.

### 26.01 Welcome of new members.

BoS members have been welcomed by the Chairman.

### 26.02 Installation of member Secretary.

No changes

### 26.03 Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

The minutes of the 25<sup>th</sup> BOS meeting held on, **10<sup>th</sup> January 2022** in Electronics and Telecommunication Engineering Department were placed on the table and were confirmed unanimously.

### 26.04 To discuss and suggest the action taken on

- i) Co/Po attainment of subjects taught in previous semester
- ii) Result analysis of subjects taught in previous semester
- iii) Stake holders feedback on review and design of curriculum
- iv) In Sem, End Sem and Exit feedback on Teaching Learning & curriculum

#### i) Co/Po attainment of subjects taught in previous semester

- The complete process of CO/PO attainment has been discussed with the BoS Experts. The experts appreciated and approved the process of attainment. The overall attainment of all POs for the program has been carried and all PO's are achieved except PO2 and PO3.
- PO2 and PO3 are marginally achieved due to courses in odd semester (Wireless Sensor Network, Multimedia Communication, Embedded System and Network Analysis) and in even semester, extra-curricular activities.
- The more emphasis would be given on problem analysis through practice assignments on courses like WSN, NA, Embedded System, and Multimedia Communication.
- It is planned that awareness on participation in technical event and publications amongst students would be carried.



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## Department of Electronics & Telecommunication Engineering

PO	Target Level	PO Benchmark in %	PO Benchmark inlevel	Attainment Level	Observations
PO1	2.99	75	2.24	2.25	Attained
PO2	2.89	75	2.17	2.15	Marginally Attained
PO3	2.64	75	1.98	1.96	Marginally Attained
PO4	2.09	70	1.46	1.58	Attained
PO5	2.75	75	2.06	2.10	Attained
PO6	2.37	70	1.66	1.78	Attained
PO7	2.49	70	1.74	2.11	Attained
PO8	2.93	70	2.05	2.36	Attained
PO9	2.51	75	1.88	1.97	Attained
PO10	2.58	70	1.81	2.00	Attained
PO11	2.23	70	1.56	1.69	Attained
PO12	2.60	70	1.82	2.03	Attained
PSO1	2.62	75	1.97	2.01	Attained
PSO2	2.74	75	2.06	2.10	Attained

### Program level Course-PO matrix of all courses including first year courses

Semester	Course Code/Name	% AVG (A+B+C)	attainment														
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
III	ET2201 - Electronic Devices and Circuits/ ET2202 - Lab: Electronic Devices and Circuits	<b>82.76</b>	2.48	2.31	2.45		2.48					2.48	2.48	1.66	2.48	2.48	2.48
III	ET2203 - Digital Circuits and Fundamentals of Microprocessor / ET2204 - Lab: Digital Circuits and Fundamentals of Microprocessor	<b>83.62</b>	2.34	2.14	2.62		2.50					2.17	2.17	1.67	2.50	2.50	2.50
III	ET2205 - Electronic Measurement & Instrumentation / ET2206 - Lab: Electronic Measurement & Instrumentation	<b>85.56</b>	2.14	2.14			2.53					2.12	2.36		1.73	1.28	
III	ET2207 - Network Analysis	<b>52.23</b>	1.57	1.57			1.04					1.04	1.04		1.04	1.57	1.04
IV	ET2251 - Electromagnetic Fields	<b>64.53</b>	1.94	1.94								1.29	1.29		1.29	1.29	
IV	ET2252 - Microcontroller and Interfacing / ET2253 - Lab: Microcontroller and Interfacing	<b>69.84</b>	2.10	2.07	1.61	0.69	2.07	1.38				1.92	1.92	1.38	2.10	2.10	2.07
IV	ET2254 - Analog Communication / ET2255 - Lab: Analog Communication	<b>69.72</b>	2.09	1.97		0.66	1.33	1.32				1.99	1.39	1.32	1.39	2.09	1.33
IV	ET2256 - Control Systems / ET2257 - Lab: Control	<b>71.18</b>	2.14	2.14			2.14					2.14	2.14		1.42	1.42	2.14



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## Department of Electronics & Telecommunication Engineering

	Systems													
V	ET 2301 - ANALOG INTEGRATED CIRCUITS / ET 2302 - LAB: ANALOG INTEGRATED CIRCUITS	90.37	2.71	2.48	2.29	2.71				2.71	2.71	1.81	2.71	2.71
V	ET 2303 - FIELDS & RADIATING SYSTEMS	76.02	2.28	2.28	1.54	1.38				0.76	1.52		1.52	1.38
V	ET 2304 - SIGNALS & SYSTEMS / ET 2305 - LAB: SIGNALS & SYSTEMS	86.39	2.59	2.59	0.88	1.75	2.59			2.59	2.59		2.59	2.59
V	ET 2306 - LAB: ELECTRONICS WORKSHOP	88.10	2.64	2.64	2.56	2.05	1.76			2.64	2.64	1.76	2.64	2.05
VI	ET2351 - Digital Signal Processing / ET2352 - Lab: Digital Signal Processing	64.37	1.93	1.93	1.62	1.80				1.93	1.93	1.29	1.93	1.80
VI	ET2361 - PE I : Object Oriented Programming / ET2362 - Lab.: PE I: Object Oriented Programming	70.39	2.11	2.11	1.81	1.97				2.11	2.11	1.41	2.11	1.97
VI	ET2363 - PE I : Discrete Structures / ET2364 - Lab.: PE I : Discrete Structures	71.90	2.16	2.16	1.48	2.16				2.16	2.16	1.44	2.16	1.44
VI	ET2365 - PE I : Microprocessors and Peripherals / ET2366 - PE I : Lab. Microprocessors and Peripherals	60.58	1.82	1.87	1.92	1.59				1.59	1.59	1.21	1.82	1.87
VI	ET2367 - PE I : Electronic Instrumentation / ET2368 - PE I : Lab Electronic Instrumentation	68.88	2.07	1.88	1.41	1.41				1.75	1.91		2.07	1.41
VI	ET2371 - PE I : Fundamentals of Computing / ET2372 - Lab: PE I - Fundamentals of Computing	84.08	2.52	2.51	1.65	2.52				2.52	2.52	1.68	2.52	1.68
VI	ET2377 - PE II : Antenna Theory & Design / ET2378 - PE II : Lab. Antenna Theory & Design	66.37	1.99	1.99	1.97	2.01				1.83	1.83	1.33	1.99	1.98
VI	ET2379 - PE II : Digital System Design / ET2380- PE II : Lab. Digital system Design	66.26	1.99	1.99	2.11	2.11				1.85	1.85	1.25	1.99	2.11
VI	ET2381- PE II : Internet of Things (IoT) / ET2382- PE II : Lab. Internet of Things (IoT)	75.38	2.26	2.26	2.30	2.23				2.07	2.07	1.49	2.26	2.23
VI	ET2383- PE II : Optical Communication / ET2384- PE II : Lab. Optical	78.08	2.34	2.12		2.34				2.34	2.34		2.34	2.34



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## Department of Electronics & Telecommunication Engineering

	Communication															
VI	ET2385- PE II: Principles of image processing / ET2386- PE II: Lab. Principles of image processing	<b>70.19</b>	2.11	2.11		2.11				2.11	2.11	1.40	2.11	2.11	2.11	
VII	ET 2401–RF & Microwave / ET 2402 – Lab: RF & Microwave	<b>84.14</b>	2.52	2.55		2.36				2.52	2.52		2.52	2.52		
VII	ET2403 – Digital Communication / ET2404 – Lab: Digital Communication	<b>82.77</b>	2.48	2.26		2.52				2.52	2.33	1.68	2.52	2.48	2.52	
VII	ET 2411 – PEIII:Power Electronics	<b>83.22</b>	2.50	2.50	2.48					1.66	1.66		2.50	1.66		
VII	ET2412 – PE III: Data compression and encryption	<b>67.84</b>	2.04	1.33		1.36				0.68	1.36		1.36	0.68	1.36	
VII	ET 2413 –PE III :Analog VLSI Design	<b>83.76</b>	2.51	2.51	2.57					0.84	1.68		1.68	1.68		
VII	ET 2414 – PE III: Error Correcting Code	<b>80.46</b>	2.41	2.38						1.61	1.61		2.41	2.41		
VII	ET2415– PE III: Wireless Mobile Communication Systems	<b>73.23</b>	2.20	1.67						0.73	1.46		1.46	2.20		
VII	ET2421 – PE IV: Satellite Communication & Radar Engineering	<b>89.07</b>	2.67	2.26						1.78	1.78		1.78	2.67		
VII	ET2422- PE IV: Embedded System	<b>54.92</b>	1.65	1.28	1.36	0.90				1.10	1.10		1.10	1.65	0.90	
VII	ET 2423 – PE IV: Switching Theory	<b>66.87</b>	2.01	2.01	1.95					1.34	1.34		1.34	1.34		
VII	ET 2424 – PE IV: Topics in Machine Learning	<b>80.16</b>	2.40	2.40		2.40				2.40	2.40	1.60	2.40	0.80	2.40	
VII	ET 2425 – PE IV:Multimedia Communications	<b>64.84</b>	1.95	1.49	0.73	1.30				1.30	1.30		1.30	1.95	1.30	
VII	ET2431-PE V: Display Technology	<b>86.65</b>	2.60	2.37	1.55						1.73		1.73	1.73		
VII	ET2432-PE V:Biomedical Instrumentation	<b>86.68</b>	2.60							1.73	1.73		1.73	1.73		
VII	ET 2433 – PE V: Fuzzy Logic & Neural Network	<b>75.00</b>	2.25	2.25	1.61	1.50				1.50	1.50		1.50	0.75	1.50	
VII	ET 2434 -PE V: Wireless Sensor Networks	<b>76.45</b>	2.29	1.35	1.10					1.53	1.53		1.50	1.53		
VII	ET2435 – PE V : RF Circuit Design	<b>86.58</b>	2.60	2.32	2.77					1.73	1.73		1.73	1.73		
VII	ET2441-PE VI : CMOS VLSI Design	<b>76.31</b>	2.29	2.08	2.07	1.53				1.53	1.53		1.53	2.29	1.53	
VII	ET2442– PE VI: Digital Image Analysis for Remote Sensing	<b>68.99</b>	2.07	1.93		1.38				1.38	1.38		1.38		1.38	
VII	ET 2443- PE VI : Microwave Integrated circuits	<b>85.14</b>	2.55	2.52	2.52	1.68				0.85	1.70		1.70	1.70	1.68	
VII	ET2444 – PE VI: Communication Networks	<b>70.88</b>	2.13	2.13	1.77					1.42	1.42		1.42	2.13		
VII	ET2446 – PE VI:PLCs& SCADA	<b>90.37</b>	2.71	2.79	1.86					1.81	1.81		1.81	1.81		
VII	ET2409: Mini Project	<b>75.82</b>	2.27	2.27	1.52	1.52	2.27	1.89	1.89	2.27	2.27	2.27	1.52	2.27	2.27	2.27





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VII	ET2410: Campus Recruitment Training (CRT)	<b>91.41</b>	2.74	2.74			2.74		1.83	2.74	2.74	2.74		2.74	2.74	2.74
VIII	ET2452: Extra curricular Activity Evaluation / Internship	<b>67.10</b>	2.01	2.01	1.58	1.58	2.01	1.05	1.05	1.05	2.01	2.01	1.34	2.01	2.01	2.01
VII	ET2451 : Major Project	<b>84.29</b>	2.53	2.48	2.33	2.33	2.53	2.15	2.29	2.29	2.53	2.53	2.36	2.53	2.53	2.53

### Evaluation of each PO & PSO

Weightage	PO 1		PO 2		PO 3		PO 4		PO 5		PO6		PO7		PO8		PO9		PO10		PO11		PO12		PSO1		PS O2		
	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	
	<b>80%</b> TH + PR	2.99	2.21	2.86	2.12	2.57	1.85	1.86	1.36	2.69	1.99	2.11	2.36	2.03	2.92	2.35	2.39	1.83	2.47	1.88	2.04	1.49	2.49	1.91	2.52	1.88	2.67	1.98	1.88
<b>20%</b> Survey	3.00	2.41	3.02	2.26	3.00	2.30	3.00	2.40	3.05	2.30	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
<b>Total</b>	2.99	2.81	2.81	2.16	2.69	2.09	2.57	2.11	2.36	2.11	2.36	2.49	2.11	2.93	2.35	2.51	1.97	2.58	1.90	2.23	1.66	2.60	1.93	2.60	1.91	2.74	1.91	1.90	
	<b>75.28%</b>	<b>74.40%</b>	<b>74.02%</b>	<b>75.60%</b>	<b>76.28%</b>	<b>75.14%</b>	<b>84.90%</b>	<b>80.39%</b>	<b>78.56%</b>	<b>77.57%</b>	<b>75.75%</b>	<b>78.05%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>	<b>76.66%</b>

### ii) Result analysis of subjects taught in previous semester

The overall and subject wise result analysis of Even Term 2021-22 has been shown to the BoS Experts.

S.N.	Semester	Pass %
1	IV	86.534
2	VI	90.526
3	VIII	100.00

As the results of all the semesters are above 80%, no action is requiring to be taken.

### iii) Stake holders feedback on review and design of curriculum



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S.N.	Stakeholder	Feedback	Action Taken
1.	<b>Parents</b>	1. Update curriculum to cater to the needs of the future of the industry. Faculty must be empathetic towards students and provide an education instead of reading from PPT.	1. For catering future needs of industries specialized courses are included in the new SoE 22. Also judicious combination of PPT and Chalk and Duster is suggested to the faculty as per the requirement of the subject.
		2. Exam pattern should be changed, options in question papers required.	2. Sentiments of parents and students regarding options in question paper is communicated to DAM office.
		3. Improve library facility.	3. Information of online library and facilities available in the library are communicated to students. Reference material for GATE is purchased and made available in Departmental library
2	<b>Alumni</b>	1. Industry institution interaction should be strengthened	1. For strengthening ,Industry institution interaction , MoU are signed with 20 + Industries , industrial visits are organized, more than 25 technical activities including guest lectures, workshops, seminars, etc. are taken. In addition industry expert is member of BoS and industry; research centre electives are included in the SoE
		2. Compulsory seminar should be taken for developing self confidence	2. For overall personality, soft skills & self-confidence development of students YCAP Audit course is specially started from III semester itself.
		3. Core Companies should be visited to college for placements	3. Core companies like Cerium Systems, L&T Technologies Services and Blue berry semiconductor visited last year for campus placement. Efforts are also being taken by T & P office for campus placement of few more core companies
		4. Courses on currents trends in technical employability must be increased	4. The courses like Machine learning, IoT, PLCs and SCADA etc are introduced to improve technical employability of students.
3	<b>Employers</b>	1. Some Skill based content in curriculum to solve local and global problems must be added	1. To develop analytical and practical skills and solve local and global problems, activities like Mini Projects in all hardware labs, Industry based major projects and project based learning are added.



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		2. Current syllabus must be updated with current trends in industry	2. For updating syllabus as per industry requirement, SoE is modified after every 04 years in consultation with Experts from Industries as well as inputs received from Employers, Alumni etc.
4	<b>Faculty</b> (points discussed in 25 BoS meeting)	<p><b>ET2385- PE II:</b> Principles of image processing: Following topics need to add in syllabus Unit 3: Filtering in spatial and frequency domain, Unit 5: Clustering Unit 6: Feature Extraction</p> <p><b>ET2444 – PE VI:</b> Communication Networks: Following topics need to add in syllabus Unit 3: Congestion and Congestion Control Mechanism, Unit 4: Introduction, virtual circuit and datagram networks, internet protocol, routing algorithm, routing in the internet, broadcast and multicast routing</p> <p><b>ET 2434 -PE V:</b> Wireless Sensor Networks: Unitization of syllabus is needed to revise.</p> <p><b>ET2446 PE VI:</b> PLCs and SCADA : Unitization of syllabus is needed to revise.</p>	Incorporated in the said syllabus.

#### iv) In Sem, End Sem and Exit feedback on Teaching Learning & curriculum

All feedback has been discussed with BoS Experts.

Semester	No. of faculty with feedback more than 90%		No. of faculty with feedback more than 80%		No. of faculty with feedback less than 80% and greater than 60%	
	In-sem	End-sem	In-sem	End-sem	In-sem	End-sem
IV	06/15	13/15	07/15	02/15	02/15	-
	40%	86.66%	46.66%	13.33%	13.33%	-
VI	07/13	03/09	06/13	06/09	-	-
	53.46%	33.33%	46.15%	66.66%	-	-

Since the feedback is more than 60% for all faculty members, no action is required to be taken.



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**26.05 To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2018 & B.Tech 2020) of the Undergraduate and Post graduate programs conducted under the Board. To approve and ratify SoE22 and all syllabi of B.Tech and M.Tech I & II year**

- No Changes have been proposed in the Scheme of Examination 2018 of Undergraduate and Post graduate programs.
- The course Fundamentals of Internet of Things to be included as Open Elective I and Open Elective II in V semester and VI semester respectively of B.Tech 2020 has been proposed and approved by experts.
- The Experts approved and confirmed SoE 22 and II, III, IV semester syllabi of B.Tech and M.Tech I & II year.
- The Expert suggested following minor changes in syllabi of SoE22 B.Tech  
In the course Digital Logic Design Remove the topic Excess 3 code; modify the syllabus as per the Switching & Finite Automata Theory by Zvi Kohavi, Niraj K. Jha book.
- In the course Passive RF Circuit (M.Tech I sem course) experts suggested to swap unit 5 with Unit 6.

**26.06 To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2018 & B.Tech 2020 Schemes of Undergraduate and Post graduate programs conducted under the Board.**

No Changes have been proposed

**26.07 To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and**

Experts suggested changes in the books for the following courses

**ET2201 Electronics devices and circuits :**

The reference book Electronic Devices and Theory, Boylestad, Nashelsky, 9th. Edition May 2010, PHI shifts to text book.

**ET2252 Microcontroller & Interfacing:**

To add The book Fundamentals of microcontrollers & applications in Embedded systems by Ramesh Gaonkar in the syllabus

**Postgraduate Programs.**

**26.08 To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.**

Experts suggested modifying the experiment list for all lab courses of Under-Graduate and Post Graduate programs



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**26.09 To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.**

No changes have been suggested

**26.10 To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.**

-----

**26.11 To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2022-23**

The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2022-23 have been prepared and proposed.

**26.12 To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd Term 2022-23**

The list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd Term 2022-23 have been prepared and proposed.

**26.13 To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd Term 2022-23**

The panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd Term 2022-23 have been prepared and proposed.

**26.14 Preparation of Electronic question Bank UG courses according to SoE 2018. To review solutions to all questions of Electronic Question Banks for all courses.**

Electronic question bank UG courses according to SoE 2018 are prepared/ updated. Solutions to all questions of Electronic Question Banks for all courses are reviewed.

**26.15 To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.**

No changes have been suggested



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**26.16 To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2022-23.**

Scheme for Honor course and its syllabus is proposed and discussed; minor Changes have been suggested by experts and were incorporated in Honors in Computer Vision & Automation.

In the course ETH 132 Industrial Automation and Robotics

- Changes in syllabus is below 20%
- Unitization of syllabus is revised

Following Certification courses and Value added courses were proposed and approved by experts.

- Image processing and Computer Vision Applications of duration 30 Hrs
- Advances in Embedded system and IoT of duration 30 Hrs
- Advanced CMOS VLSI Design of duration 30 Hrs

**26.17 Any other matter with the permission of the Chair.**

- It is suggested by the experts that every undergraduate course unit will not reflect Contemporary issues, hence it should be remove from each unit and “recent trend /topic related to course” should be added at the end of sixth unit.
- Through the observations on post graduate curriculum design, experts have recommended reconciled course curriculum as paragraph instead of unitized one.

Chairman was authorized to finalize the SOE.

The meeting concluded with thanks to the Experts.

**Dr. M.S. Dorle**  
Member Secretary  
BoS, ET

**Dr. M.S. Narlawar**  
Chairman & HoD, ET



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## Department of Electronics & Telecommunication Engineering

YCCE/ET/FORMAT/BOS/MOM/25

### Minutes of the 25<sup>th</sup> BOS Meeting

Date: 10<sup>th</sup> January 2022

The online 25<sup>th</sup> meeting of the Board of Studies in Electronics & Telecommunication Engineering was held on Monday, 10<sup>th</sup> January 2022 at 3:00 pm through Google meet

The meeting was attended by the following members of Board of Studies.

Sr. No.	Name	Signature
01	Dr.A.G.Keskar, Expert,VNIT, Nagpur	Present
02	Dr. R. B. Deshmukh, Expert,VNIT, Nagpur	Present

S. No.	Name	S No.	Name
1	Dr. M. M. Mushrif	15	S.S.Chiwande
2	Dr.M.D. Chawhan	16	Dr.M.L.Keote
3	R.P.Deshmukh	17	Dr. P. D. Dorge
4	Dr. P.W. Raut	18	S.A.Desai
5	Dr. D.B.Bhoyar	19	Dr.V.D. Bondre
6	K.P.Kamble	20	Dr.B.Y. Masram
7	Dr. Y.U.Chitriv	21	Y. S. Kale
8	Dr. A.D.Belsare	22	V.B.Niranjane
9	Dr. N.D.Rehpade	23	A.A.Madankar
10	A.V.Choudhari	24	R.P.Kamdi
11	N.A.Pande	25	D.K.Thote
12	Dr. S.S.Khade	26	M.S.Patil
13	C.S.Gode	27	R.S.Keote

Leave of absence was granted to –

Sr. No.	Name
1	Dr.S.L.Badjate , VC Nominee, Principal S. B .Jain, Nagpur
2	Mr. Ranjit Singh, Industry person, M.D. & CEO, Syslogix systems Pvt. Ltd, Nagpur
3	Mr. Sagar Ghormade, PG Alumni
4	Prof. S.R.Nitnaware, ET, YCCE



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## Department of Electronics & Telecommunication Engineering

The following agenda points were discussed and deliberated in the meeting.

ITEM NO.	AGENDA POINT
25.01	<b>Welcome of new members.</b> -----
25.02	<b>Installation of member Secretary.</b> -----
25.03	<b>Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.</b>  The minutes of the 24 <sup>th</sup> BOS meeting held on, <b>24<sup>th</sup> July 2021</b> in Electronics and Telecommunication Engineering Department were placed on the table and were confirmed unanimously.
25.04	<b>To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 &amp; Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board</b>  No Changes have been proposed.
25.05	<b>To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 &amp; Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.</b>  Minor Changes have been suggested by experts and were incorporated in VII semester UG syllabus for following Courses  <b>ET2385- PE II: Principles of image processing</b> Changes in syllabus is 15% Following topics were added in syllabus Unit 3: Filtering in spatial and frequency domain Unit 5: Clustering Unit 6: Feature Extraction  Unit 4 Image Compression was deleted and Unit 2 was splitted into two units. Topics Image Representation and Description Representation, Boundary Descriptors, Region Descriptors deleted from unit 6  <b>ET2444 – PE VI: Communication Networks</b> Changes in syllabus is 15% , Following topics were added in syllabus Unit 3: Congestion and Congestion Control Mechanism, Unit 4: Introduction, virtual circuit and datagram networks, internet protocol,





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	<p>routing algorithm, routing in the internet, broadcast and multicast routing</p> <p>Following topics were deleted from Unit 4 Network layer design issues, IP packets, IP addressing, virtual circuit and datagram networks, router and routing algorithms, congestion, internetworking, UDP, routers and gateways</p> <p><b>ET 2434 -PE V: Wireless Sensor Networks</b> Changes in syllabus is 10% Following topics were deleted from Unit 3 Wireless channel and communication fundamental, physical layer and transceiver design consideration in WSN Unitization of syllabus is revised.</p> <p><b>ET2446 PE VI: PLCs and SCADA</b></p> <ul style="list-style-type: none"> <li>• Changes in syllabus were done and approved, according to Industry requirement.</li> <li>• Changes in syllabus is below 20%</li> <li>• Unitization of syllabus is revised.</li> </ul> <p>Following topics were deleted from syllabus Processors, the Power Supply, and Memory, I/O Installation, Wiring, and Precautions ,PLC Start-Up and Checking Procedures, Database &amp; Controller Connectivity, Programming HMI</p> <p><b>ET2325 /ET2400– OE II/ OE IV: PLCs and SCADA</b></p> <ul style="list-style-type: none"> <li>• Changes in syllabus were done and approved, according to Industry requirement.</li> <li>• Changes in syllabus is below 20%</li> <li>• Unitization of syllabus is revised.</li> </ul> <p>Following topics were deleted from syllabus Processors, the Power Supply, and Memory, I/O Installation, Wiring, and Precautions ,PLC Start-Up and Checking Procedures, Database &amp; Controller Connectivity, Programming HMI</p>
<p>25.06</p>	<p><b>To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.</b></p> <p>Book suggested by experts and were added in syllabus</p> <p><b>ET2446 PE VI: PLCs and SCADA</b> Programmable Logic Controllers, Fifth Edition, Frank Petruzella, McGraw-Hill Education</p> <p><b>ET2325 /ET2400– OE II/ OE IV: PLCs and SCADA</b> Programmable Logic Controllers, Fifth Edition, Frank Petruzella, McGraw-Hill Education</p>



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## Department of Electronics & Telecommunication Engineering

25.07	<p><b>To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.</b></p> <p>No changes have been suggested</p>
25.08	<p><b>To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.</b></p> <p>No changes have been suggested.</p>
25.09	<p><b>To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.</b></p> <p>-----</p>
25.10	<p><b>To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2021-22</b></p> <p>The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2021-22 have been prepared and finalized under YA11 of YCCE.</p>
25.11	<p><b>To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Even Term 2021-22</b></p> <p>The list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Even Term 2021-22 have been prepared and finalized under YA11 format of YCCE.</p>
25.12	<p><b>To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Even Term 2021-22</b></p> <p>The panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Even Term 2021-22 have been prepared and finalized under YA12 format of YCCE.</p>
25.13	<p><b>Updation/Preparation of Electronic question Bank UG courses according to SoE 2018.To review solutions to all questions of Electronic Question Banks for all courses</b></p> <p>Electronic question bank UG courses till VII semester according to SoE 2018 are prepared/ updated. Preparation of Electronic question bank for VII Sem UG courses is going on. Solutions to all questions of Electronic Question Banks for all courses of till VI semester are reviewed.</p>
25.14	<p><b>To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.</b></p>



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## Department of Electronics & Telecommunication Engineering

	No changes have been suggested
25.15	<p><b>To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.</b></p> <p>Scheme for Honor course and its syllabus is proposed and discussed; minor Changes have been suggested by experts and were incorporated in Honors in Automation and Computer Vision VII semester. The following courses were added in Scheme of Examination</p> <p><b>ETH 152 Database Management Systems</b> <b>ETH 153 Database Management Systems Lab</b></p> <p>Changes in syllabus of ETH141 Machine learning of VI semester have been suggested by experts and were incorporated.</p> <p><b>ETH141 Machine Learning</b></p> <p>Unit 1 and Unit 2 are merged, accordingly further units are shifted and added one unit named as Deep learning. ICA and LDA topics are deleted from syllabus.</p> <p>Following Certification courses were proposed and approved by experts.</p> <ul style="list-style-type: none"><li>➤ Image processing and Computer Vision Applications of duration 30 Hrs</li><li>➤ Advances in Embedded system and IoT of duration 30 Hrs</li><li>➤ Implementation of CMOS VLSI and DSD of duration 30 Hrs</li></ul>
25.16	<p><b>Any other matter with the permission of the Chair.</b></p> <ul style="list-style-type: none"><li>• Dr.M.M.Mushrif put forth the following query related to TA marks: Students doing value added or certification courses in a semester are awarded 4 TA marks in all the subjects which is not justified. Expert suggested to award marks only in the concerned subject and for the remaining courses evaluation can be carried out by taking viva.</li><li>• Experts suggested to use the key words so that the COs will be measurable and observable. Hence COs of all courses are redefined.</li></ul> <p>Chairman was authorized to finalize the SOE.</p>

**The meeting concluded with thanks to the Experts.**

**Dr. M.S. Dorle**  
Member Secretary  
BoS in E & T Engineering

**Dr. M.S. Narlawar**  
Chairman  
BoS in E & T Engineering



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## Department of Electronics & Telecommunication Engineering

YCCE/ET/MOM/CDW/3

Curriculum development workshop: 20<sup>th</sup> July 2022

### Minutes of the Curriculum Development Workshop

The Curriculum Development Workshop was held at Department of Electronics & Telecommunication Engineering on 20/07/2022, Wednesday

#### Agenda of CDW

1. To discuss and finalize the SoE & syllabi (II, III, IV semester) of ~~B.Tech~~ ELECTRONICS & TELECOMMUNICATION ENGG.
2. To discuss and finalize the SoE, & Syllabi (I, II semester) of M.Tech Communication Engineering.

The subject experts were as follows.

Sr.No.	Name	Signature
1	Dr. A.G.Keskar, VNIT Nagpur.	
2	Dr. P.K. Sharma, VNIT Nagpur	



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## Department of Electronics & Telecommunication Engineering

The meeting was attended by the following faculty members.

Sr. No.	Name	Signature	Sr. No.	Name	Signature
1	Dr.M.M.Mushrif		15	N.A.Pande	
2	Dr M.D.Chawhan		16	Dr.M.L.Keote	
3	R.P.Deshmukh		17	S.A.Desai	
4	Dr. P.W. Raut		18	Dr.V.D. Bondre	
5	Dr. D.B.Bhoyar		19	Dr.P.D.Dorge	
6	Dr. Y.U.Chitriv		20	Dr.B.Y. Masram	
7	Dr. A.D.Belsare		21	Y. S. Kale	
8	Dr. N.D.Rehpade		22	A.A.Madankar	
9	K.P.Kamble		23	R.P.Kamdi	
10	S.S.Chiwande		24	D.K.Thote	
11	A.V.Choudhari		25	M.S.Patil	
12	Dr. S.S.Khade		26	V.B.Niranjane	
13	Dr. C.S.Gode		27	Dr.R.S.Keote	
14	M.S.Ghute		28	S.R.Nitnware	



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## Department of Electronics & Telecommunication Engineering

YCCE/ET/MOM/CDW/3

### Curriculum Development Workshop

20<sup>th</sup> July 2022

#### Minutes of the Curriculum Development Workshop

The Curriculum Development Workshop was held at Department of Electronics & Telecommunication Engineering on 20/07/2022, Wednesday in departmental library ET YCCE.

#### Agenda of CDW

1. Finalization of B.Tech Scheme of Examination.
2. To discuss and finalize the syllabus of II, III & IV semester B.Tech Electronics & Telecommunication Engineering.
3. Finalization of M.Tech Scheme of Examination
4. To discuss and finalize the syllabus of I & II semester M.Tech Communication Engineering.

The subject experts present were as follows.

Sr. No.	Name
1	Dr. A.G.Keskar, VNIT, Nagpur
2	Dr. Prabhat Kumar Sharma, VNIT Nagpur



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## Department of Electronics & Telecommunication Engineering

SN	Name	Signature	SN	Name	Signature
1	Dr. M. M. Mushrif	Present	15	S.S.Chiwande	Present
2	Dr.M.D. Chawhan	Present	16	Dr.M.L.Keote	Present
3	R.P.Deshmukh	Present	17	Dr. P. D. Dorge	Present
4	Dr. P.W. Raut	Present	18	S.A.Desai	Present
5	Dr. D.B.Bhojar	Present	19	Dr.V.D. Bondre	Present
6	K.P.Kamble	Present	20	Dr.B.Y. Masram	Present
7	Dr. Y.U.Chitriv	Present	21	Y. S. Kale	Present
8	Dr. A.D.Belsare	Present	22	V.B.Niranjane	Present
9	Dr. N.D.Rehpade	Present	23	A.A.Madankar	Present
10	A.V.Choudhari	Present	24	R.P.Kamdi	Present
11	N.A.Pande	Present	25	M.S.Patil	Present
12	M.S.Ghute	Present	26	Dr. R.S.Keote	Present
13	Dr. S.S.Khade	Present	27	S.R.Nitnaware	Present
14	Dr.C.S.Gode	Present			

Leave of absence was granted to –

SN	Name
1	Prof.D.K.Thote, ET YCCE



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## Department of Electronics & Telecommunication Engineering

The following suggestions on SoE for UG Electronics & Telecommunication Engineering were given in the Curriculum Development Workshop (CDW)

### 1. Scheme of Examination

- i. The experts and faculty members discussed & decided to remove the Course Sensors and Instrumentation from II semester and add course Digital logic Design with laboratory in II semester & Digital system design with laboratory to be shifted from professional elective to core in III semester.
- ii. The experts suggested the Course Signals & Systems can be in III semester instead of IV semester. The course Probability Theory and Statistics to be shifted to IV semester from III semester. The course Control System can be in IV semester.
- iii. The experts suggested to include the course Computer Organization in III semester. & course Soft Computing & its application to be included as a professional elective (PEIII) in semester VI.
- iv. The expert suggested title of course PLC & SCADA (PE & OE) to be changed to Industrial Automation.

### 2. The syllabi of II, III and IV semester B.Tech in Electronics & Telecommunication Engineering

1. **In the course Digital logic Design**, the expert suggested refers the Switching & Finite Automata Theory by Zvi Kohavi, Niraj K. Jha book for framing the syllabus. Verilog portion from syllabus to be deleted.
2. **In the course Electronics Devices and Circuits**, the expert suggested unit 1 Semiconductor diodes to be deleted and Design of amplifier, oscillator should be added in the syllabus.
3. **In the course Network Theory**, the expert suggested no changes in the syllabus.
4. **In the course Analog Communication**, the expert suggested to swap unit 4 with unit 6 and title of unit 4 to be changed.
5. **In the course Control Systems**, the expert suggested no changes in the syllabus.
6. **In the course Microcontroller and Interfacing**, the expert suggested no changes in the syllabus.



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## Department of Electronics & Telecommunication Engineering

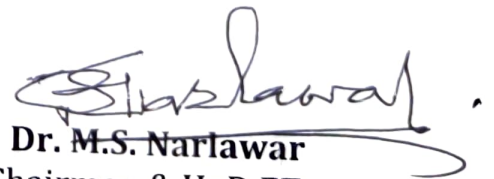
7. In the course **Object Orient Programming**, the expert suggested no changes in the syllabus.

### 3. The SoE & syllabi of I, II semester M.Tech in Communication Engineering

1. The scheme of examination and syllabus of M.Tech in Communication Engineering was discussed with the experts.
2. Following new courses to be added as professional electives were proposed and approved by experts.
  - Optical Communication
  - Millimeter wave communication
  - RISC & CISC Processors
3. The experts suggested the title of the course Mathematical Foundations for communication engineering to be changed to Probability & Stochastic Processes.
4. In the course **Lab advanced digital communication**: the expert suggested to include hardware based experiments
5. The experts suggested the title of the course Advanced Antenna Theory to be changed to Antenna Design.
6. The experts suggested the title of the course Optical communication to be changed to Optical communication & Network.



**Dr. M.S. Dorle**  
Member Secretary  
BoS, ET



**Dr. M.S. Narlawar**  
Chairman & HoD ET



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## Department of Electronics & Telecommunication Engineering

YCCE/ET/FORMAT/BOS/MOM/24

### Minutes of the 24<sup>th</sup> BOS Meeting

Date: 24<sup>th</sup> July 2021

The online 24<sup>th</sup> meeting of the Board of Studies in Electronics & Telecommunication Engineering was held on Saturday, 24<sup>th</sup> January 2021 at 10:00 am through Google meet

The meeting was attended by the following members of Board of Studies.

Sr. No.	Name	Signature
01	Dr.A.G.Keskar, Expert,VNIT, Nagpur	Present
02	Dr. R. B. Deshmukh, Expert,VNIT, Nagpur	Present
03	Mr. Ranjit Singh, Industry person, M.D. & CEO, Syslogix systems Pvt. Ltd, Nagpur	Present
04	Mr. Sagar Ghormade, PG Alumni	Present

S. No.	Name	S No.	Name
1	Dr. M. M. Mushrif	12	S.S.Chiwande
2	Dr.M.D. Chawhan	13	Dr.M.L.Keote
3	R.P.Deshmukh	14	Dr. P. D. Dorge
4	Dr. P.W. Raut	15	Dr.V.D. Bondre
5	Dr. D.B.Bhoyar	16	Dr.B.Y. Masram
6	K.P.Kamble	17	Y. S. Kale
7	Dr. Y.U.Chitriv	18	V.B.Niranjane
8	A.V.Choudhari	19	A.A.Madankar
9	N.A.Pande	20	R.P.Kamdi
10	Dr. S.S.Khade	21	D.K.Thote
11	C.S.Gode	22	M.S.Patil

Leave of absence was granted to –

Sr. No.	Name
1.	Dr.A.D.Belsare ET, YCCE
2.	Dr.N.D.Rehpade ET, YCCE
3.	Dr.R.S.Keote ET, YCCE
4.	Prof. S.A. Desai ET, YCCE
5.	Prof. S.R.Nitnaware ET, YCCE



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## Department of Electronics & Telecommunication Engineering

The following agenda points were discussed and deliberated in the meeting.

ITEM NO.	AGENDA POINT
24.01	<p><b>Welcome of new members.</b></p> <p>BoS Chairman Dr. M. S. Narlawar welcomes, BoS, Expert from Academic <b>Dr. R. B. Deshmukh, VNIT, Nagpur</b> and <b>Mr. Ranjit Singh, M.D. &amp; CEO, Syslogix systems Pvt. Ltd, Nagpur</b>, from Industry and PG Alumni <b>Mr. Sagar Ghormade, Nagpur</b> to the department of ET, YCCE, Nagpur</p>
24.02	<p><b>Installation of member Secretary.</b></p> <p>-----</p>
24.03	<p><b>Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.</b></p> <p>The minutes of the 23<sup>rd</sup> BOS meeting held on, <b>30<sup>th</sup> January 2021</b> in Electronics and Telecommunication Engineering Department were placed on the table and were confirmed unanimously.</p>
24.04	<p><b>To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 &amp; Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board</b></p> <p>No Changes have been proposed.</p>
24.05	<p><b>To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 &amp; Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.</b></p> <p>Minor Changes have been suggested by experts and were incorporated in VII semester UG syllabus for following Course</p> <p><b>ET 2401–RF &amp; Microwave</b> Minor changes in syllabus were done and approved Changes in syllabus was below 10% Unit 5: overview of spectrum analyzer, Various measurements using spectrum analyzer added Unit 6: Introduction to devices working in Terahertz frequency range added.</p> <p><b>ET 2411-PE III : Power Electronics</b> Changes in syllabus was below 10% ,Following topics were added in syllabus Unit 2: Firing circuit, Unit 5: Application of DC –AC Converter ,Unit 6:SMPS</p> <p><b>ET 2414 -PE III: Error Correcting Codes</b> Changes in syllabus was below 10%</p>



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## Department of Electronics & Telecommunication Engineering

	<p>Unit 2: Coding for reliable digital transmission and storage. Groups, Rings, Vector Spaces, Galois Fields, Polynomial rings added</p> <p><b>ET2421- PE IV : Satellite Communication &amp; RADAR Engineering</b> Changes in syllabus was below 10%</p> <p>Unit 3: Case Study on trends in satellite communication added</p> <p><b>ET2415-PE III: Wireless Mobile Communication Systems</b> Changes in syllabus was below 10%</p> <p>Unit 5: Routers 901, 920 and Switches added</p> <p>Unit 6: Wi-max Technology, Unlicensed Band Radio (UBR) added</p> <p><b>ET 2434 -PE V: Wireless Sensor Networks</b> Changes in syllabus was below 15%</p> <p>Unit 1: Applications of WSN added and deleted topics were Physical layer and transceiver design considerations in WSNs,</p> <p>Unit 4: Wireless channel and communication fundamental, physical layer and transceiver design consideration in WSN added and Routing And Data Gathering Protocols were deleted.</p> <p>V semester open elective <b>ET2325 /ET2400– OE II/ OE IV: PLCs and SCADA</b></p> <ul style="list-style-type: none"><li>• Changes in syllabus were done and approved, according to Industry requirement.</li><li>• Changes in syllabus is below 20%</li><li>• Unitization of syllabus is revised.</li></ul>
24.06	<p><b>To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.</b></p> <p>Books suggested by experts and were added in syllabus</p> <p><b>ET 2414– PE III: Error Correcting Codes</b> Error Control Coding- Fundamentals and Applications, Shu Lin, Daniel J. Costello, Prentice Hall, Inc.</p> <p><b>ET2421 – PE IV: Satellite Communication &amp; Radar Engineering</b> Satellite Communications, 2nd Edition, 2003, Timothy Pratt, Charles Bostian and Jeremy Allnutt John Wiley &amp; Sons</p>
24.07	<p><b>To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.</b></p> <p>No changes have been suggested</p>
24.08	<p><b>To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.</b></p> <p>No changes have been suggested.</p>



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## Department of Electronics & Telecommunication Engineering

24.09	<b>To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.</b> -----
24.10	<b>To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2021-22</b> The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2021-22 have been prepared and finalized under YA11 of YCCE.
24.11	<b>To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd Term 2021-22</b> The list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd Term 2021-22 have been prepared and finalized under YA11 format of YCCE.
24.12	<b>To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd Term 2021-22</b> The panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination Odd Term 2021-22 have been prepared and finalized under YA12 format of YCCE.
24.13	<b>Updation/Preparation of Electronic question Bank UG courses according to SoE 2018. To review solutions to all questions of Electronic Question Banks for all courses</b> Electronic question bank UG courses till VI semester according to SoE 2018 are prepared/ updated. Preparation of Electronic question bank for VII Sem UG courses is going on. Solutions to all questions of Electronic Question Banks for all courses of till VI semester are reviewed.
24.14	<b>To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.</b> No changes have been suggested
24.15	<b>To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.</b> Scheme for Minor an Honor course and its syllabus is proposed and discussed, Minor Changes have been suggested by experts and were incorporated in Honors in Automation and Computer Vision VII semester (old scheme). The following courses were added in Scheme of Examination ET 2521 Database Management Systems ET 2522 Database Management Systems Lab



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## Department of Electronics & Telecommunication Engineering

	<p>Following Certification courses were proposed and approved by experts.</p> <ul style="list-style-type: none"><li>➤ Image processing and Computer Vision Applications of duration 30 Hrs</li><li>➤ Advances in Embedded system and IoT of duration 30 Hrs</li><li>➤ Implementation of CMOS VLSI and DSD of duration 30 Hrs</li></ul>
24.16	<p><b>Any other matter with the permission of the Chair.</b> Chairman was authorized to finalize the SOE</p>

**The meeting concluded with thanks to the Experts.**

**Dr. M.S. Dorle**  
Member Secretary  
BoS in E & T Engineering

**Dr. M.S. Narlawar**  
Chairman  
BoS in E & T Engineering

# **Computer Technology**



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## Department of Computer Technology

### Board of Studies in Computer Technology

#### Minutes of the Meeting No. 27

Date: 24<sup>th</sup> July 2021

Meeting no. 27<sup>th</sup> of the Board of Studies in Computer Technology department was held on

24<sup>th</sup> July 2021 at 11 a.m. in online mode.

The meeting was attended by the following members of BoS.

#### External Members

Sr. No.	Name of Honorable External Member	Position held in BoS
1	Dr. U. A. Deshpande	External Expert
2	Dr. Jitendra Temburne	External Expert
3	Mr. Ajit Dharmik	Industry Expert
4	Mr. Vaibhav Deshpande	Alumnus Representative

#### BoS Members

Sr. No.	Name of Member	Sr. No.	Name of Member
1.	Dr. R. D. Wajgi	2.	Dr. S. D. Kamble
3.	Dr. A. R. Patil Bhagat	4.	Dr. K. R. Singh
5.	Dr. G. M. Dhopavkar	6.	Mr. P.V. Barekar
7.	Mr. Ganesh Yenurkar	8.	Mr. N.S. Mangrulkar
9.	Dr. P. Deshkar	10.	Mrs. S. S. Thombre
11.	Mrs. S. R. Kapse	12.	Mrs. R. S. Khedgoankar
13.	Mr. N.U. Sambhe		

Leave of Absence was granted to following members:

Sr. No.	Name of Member
1.	Dr. M. M. Kshirsagar
2.	Dr. S. J. Karale
3.	Mr. T. R. Ravi
4.	Mr. S. Pande
5.	Mrs. G.A Chaudhary
6.	Mr. G. Vaidya
7.	Mr. R. S. Bhanuse

Received  
B. J. J.  
18/8/21





Nagar Yuwak Shikshan Sanstha's  
**Yeshwantrao Chavan College of Engineering**  
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)  
Hingna Road, Wanadongri, Nagpur - 441 110  
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**Department of Computer Technology**

The following agenda points were deliberated in the meeting

27.01	Welcome of new members Dr. R. D. Wajgi is now BoS Chairman. Dr. R. D. Wajgi welcomes all newly constituted committee from academic session 2021-2022 w.e.f. 01 July 2021.
27.02	Installation of member Secretary No Change
27.03	To confirm the minutes of 25 <sup>th</sup> and 26 <sup>th</sup> Meeting of BoS. The minutes of the 25 <sup>th</sup> and 26 <sup>th</sup> Meeting of BoS in Computer Technology were placed on the table by Chairman Dr. R. D. Wajgi were confirmed unanimously.
27.04	To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board No Change
27.05	To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 Schemes of and Post graduate programs conducted under the Board. Minor changes in the syllabi of M.Tech are proposed. Details are as follows: 1. Minor changes in the syllabi of 2 <sup>nd</sup> Semester CSE 3925- PE III: Research Methodology and Statistic is proposed.
27.06	To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs. No Change
27.07	To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-and Post Graduate programs. (Comment: The laboratory courses may be described in greater details for easy understanding by students.) No Change
27.08	To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board. Previous Evaluation Scheme : MSE-1 - 15 Marks (Based on Unit 1 & 2) MSE-2 - 15 Marks (Based on Unit 3 & 4) MSE-3 - 15 Marks (Based on Unit 5 & 6) New Evaluation Scheme : MSE-1 - 15 Marks (Based on Unit 1 & 2 & 3) MSE-2 - 15 Marks (Based on Unit 4 & 5 & 6) RE-MSE - 15 marks (Based on unit 1 to 6)



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## Department of Computer Technology

27.09	To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum. <b>No Change</b>
27.10	To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of ODD Term 2020-21.  :-The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs for End Semester Examination of ODD Term 2020-21 was constituted.
27.11	To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of ODD Term 2020-21. (Comment: Question papers of all the courses of PG programs are set and evaluated by the course instructor from ODD Term 2020-21. The grades of the students will also be decided by the Course Instructors.)  :-The panel of paper setters, Moderators and Valuers for the various theory courses at Postgraduate programs for End Semester Examination of ODD Term 2020-21 was constituted.
27.12	To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination ODD Term 2020-21.  :-The panel of internal and external examiners for the various laboratory courses at UG and PG levels for End Semester Examination of ODD Term 2020-21 was constituted.
27.13	Preparation of Electronic question Bank UG courses according to SoE 2018 To review solutions to all questions of Electronic Question Banks for all courses  Preparation of Electronic question Bank for VI and VII Semester UG courses is in Progress. To review solutions to all questions of Electronic Question Bank for all courses of VI semester. (In Progress)
27.14	To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses. <b>Previous Evaluation Scheme :</b> MSE-1 - 15 Marks (Based on Unit 1 & 2) MSE-2 - 15 Marks (Based on Unit 3 & 4) MSE-3 - 15 Marks (Based on Unit 5 & 6) <b>New Evaluation Scheme :</b> MSE-1 - 15 Marks (Based on Unit 1 & 2 & 3) MSE-2 - 15 Marks (Based on Unit 4 & 5 & 6) RE-MSE - 15 marks (Based on unit 1 to 6)
27.15	To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.  Expert suggested following points: Computer Network of Minor to be replaced by Fundamentals of Algorithms course with



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## Department of Computer Technology

	Lab for Minor 5 <sup>th</sup> Sem and Proposed New Data Structure Syllabus. Syllabi of few Honors courses should be different from regular courses (syllabus of AI: Problem solving should be different from syllabus of AI of regular program).
27.16	Any other matter with the permission of the Chair <b>Formal Thanks to Eternal Experts on behalf of the BoS Chairman, BoS Members and member secretary.</b>

The meeting concluded by vote of thanks by chairperson, BoS of Computer Technology

**Dr. Shailesh D. Kamble**  
Member Secretary  
BoS Computer  
Technology

**Dr. R. D. Wajgi**  
Chairperson  
BoS Computer Technology



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## Department of Computer Technology

### Board of Studies in Computer Technology

#### Minutes of the Meeting No. 28

Date: 11<sup>th</sup> January 2022

Meeting no. 28<sup>th</sup> of the Board of Studies in Computer Technology department was held on 11<sup>th</sup> January 2022 at 4 p.m. in online mode.

The meeting was attended by the following members of BoS.

#### External Members

Sr. No.	Name of Honorable External Member	Position held in BoS
1.	Dr. U. A. Deshpande	External Expert
2.	Mr. Vaibhav Deshpande	Alumnus Representative

#### BoS Members

Sr. No.	Name of Member	Sr. No.	Name of Member
1.	Dr. R. D. Wajgi	2.	Dr. N. V. Thakur
3.	Dr. K. R. Singh	4.	Dr. S. D. Kamble
5.	Dr. P. Deshkar	6.	Mr. P.V. Barekar
7.	Mr. Ganesh Yenurkar	8.	Mr. N.S. Mangrulkar
9.	Mr. N.U. Sambhe	10.	Mrs. S. S. Thombre
11.	Mrs. S. R. Kapse	12.	Mrs. R. S. Khedgoankar
13.	Mr. G. Vaidya	14.	Mr. R. S. Bhanuse
15.	Mrs. Neha Kadu	16.	Ms. Charvi Suri

Leave of Absence was granted to following members:

Sr. No.	Name of Member
1.	Dr. Jitendra Temburne, External Expert
2.	Dr. D. S. Adane, External Expert
3.	Mr. Ajit Dharmik, Industry Expert
4.	Dr. M. M. Kshirsagar
5.	Dr. A. R. Patil Bhagat
6.	Dr. G. M. Dhopavkar
7.	Dr. S. J. Karale
8.	Mr. T. R. Ravi
9.	Mr. S. Pande
10.	Mrs. G.A Chaudhary



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## Department of Computer Technology

The following agenda points were deliberated in the meeting

28.01	Welcome of new members <b>Dr. R. D. Wajgi welcomes all New Members</b>
28.02	Installation of member Secretary <b>No Change</b>
28.03	To confirm the minutes of 27 <sup>th</sup> Meeting of BoS. <b>The minutes of the 27<sup>th</sup> Meeting of BoS in Computer Technology were placed on the table by Chairman Dr. R. D. Wajgi were confirmed unanimously.</b>
28.04	To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board <b>Suggested to shift 5<sup>th</sup> semester CT2311- PE I: Randomized Algorithm and CT2312- PE I: Lab Randomized Algorithm course to 7<sup>th</sup> Semester PE-IV</b>
28.05	To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 and Autonomous 2018 Schemes of undergraduate and post graduate programs conducted under the Board. <b>Minor changes in the syllabi of undergraduate are proposed. Details are as follows:</b> <ol style="list-style-type: none"><li>1. Minor changes in the syllabi of 7<sup>th</sup> Semester CT2437 PE V: Data Mining is proposed.</li><li>2. Minor changes in the syllabi of 7<sup>th</sup> Semester CT2425 PE IV: Machine Learning is proposed.</li><li>3. Minor changes in the syllabi of 4<sup>th</sup> Semester CT2255 Mathematical Foundations for Data Analysis is proposed.</li><li>4. Minor changes in the syllabi of 7<sup>th</sup> Semester CT2403 Network Security is proposed.</li><li>5. Minor changes in the syllabi of 7<sup>th</sup> Semester CT2423 PE IV: Cyber Forensic is proposed.</li></ol>
28.06	To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs. <b>No Change</b>
28.07	To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-and Post Graduate programs. (Comment: The laboratory courses may be described in greater details for easy understanding by students.) <b>No Change</b>
28.08	To discuss and suggest the changes in the Academic Regulations governing the Undergraduate

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## Department of Computer Technology

	and Post graduate programs conducted under the Board.  <b>No Change</b>
8.09	To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.  <b>No Change</b>
8.10	To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of EVEN Term 2020-21.  <b>The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs for End Semester Examination of EVEN Term 2020-21 was constituted.</b>
8.11	To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of EVEN Term 2020-21. (Comment: Question papers of all the courses of PG programs are set and evaluated by the course instructor from ODD Term 2021-22. The grades of the students will also be decided by the Course Instructors.)  <b>The panel of paper setters, Moderators and Valuers for the various theory courses at Postgraduate programs for End Semester Examination of EVEN Term 2021-22 was constituted.</b>
8.12	To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination EVEN Term 2021-22.  <b>The panel of internal and external examiners for the various laboratory courses at UG and PG levels for End Semester Examination of EVEN Term 2021-22 was constituted.</b>
8.13	Preparation of Electronic question Bank UG courses according to SoE 2018 To review solutions to all questions of Electronic Question Banks for all courses  <b>Preparation of Electronic question Bank for VI and VII Semester UG courses is in Progress.</b> <b>To review solutions to all questions of Electronic Question Bank for all courses of VI semester. (In Progress)</b>
8.14	To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.  <b>No Change</b>
8.15	To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.  <b>No Change</b>

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	and Post graduate programs conducted under the Board.  <b>No Change</b>
8.09	To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.  <b>No Change</b>
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8.12	To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination EVEN Term 2021-22.  <b>The panel of internal and external examiners for the various laboratory courses at UG and PG levels for End Semester Examination of EVEN Term 2021-22 was constituted.</b>
8.13	Preparation of Electronic question Bank UG courses according to SoE 2018 To review solutions to all questions of Electronic Question Banks for all courses  <b>Preparation of Electronic question Bank for VI and VII Semester UG courses is in Progress.</b> <b>To review solutions to all questions of Electronic Question Bank for all courses of VI semester. (In Progress)</b>
8.14	To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.  <b>No Change</b>
8.15	To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.  <b>No Change</b>



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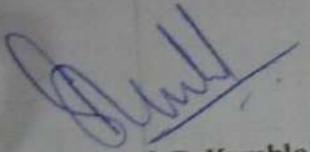
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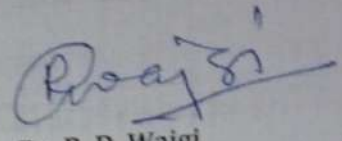
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**Department of Computer Technology**

28.16	Any other matter with the permission of the Chair <b>Formal Thanks to External Experts on behalf of the BoS Chairman, BoS Members, and member secretary.</b>
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The meeting concluded by vote of thanks by chairperson, BoS of Computer Technology

  
Dr. Shaillesh D. Kamble  
Member Secretary  
BoS Computer  
Technology

  
Dr. R. D. Wajgi  
Chairperson  
BoS Computer Technology





Nagar Yuwak Shikshan Sanstha's

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## Department of Computer Technology

Date : 11<sup>th</sup> September 2021

### Curriculum Development Workshop (CDW) for New Branches

#### Minutes of Curriculum Development Workshop

The first Curriculum Development Workshop (CDW) for following new Branches was conducted on 11<sup>th</sup> Sept. 2021 at 10.30 am at Department of Computer Technology, YCCE.

1. BE in Artificial Intelligence and Data Science
2. BE in CSE (Artificial Intelligence and Machine Learning)
3. BE in Computer Science and Design

The external expert members were **Dr. O.G. Kakde**, Director, IIIT, Nagpur and **Dr. Umesh Deshpande**, Professor, Department of Computer Science & Engineering, VNIT, Nagpur.

Following are suggestions given by expert members pertaining to specific branches

#### • BE Artificial Intelligence and Data science

1. If needed then only include Basic science courses or professional core courses
2. If Chemistry to be added then with branch specific contents like contribution of AI-DS for drug designing, quantum computing and other applications to be added in syllabus.
3. Contents of Physics to be designed according to AI-DS branch.
4. Reduce number of Humanities courses
5. One branch specific course per semester to be added starting from first year.
6. If not needed then courses like CAO (though GATE related ) to be removed
7. Cyber Laws and Ethics in IT and Design Thinking and Innovation to be shifted for higher semesters
8. For Labs use the nomenclature as Software Lab1, Software Lab2 etc. and design the contents accordingly without redundancy
9. Softcomputing to be added at III year or IV year
10. Experts suggested following courses to be included in SoE
  - a. Bayesian Statistics
  - b. Human Computer Interactions
  - c. Robotics
  - d. Numerical Methods with Lab
  - e. Optimization Techniques
  - f. Data Analytics for Industry 4.0
  - g. Tool-based courses
11. Computational Logic to be shifted after AI

## Department of Computer Technology

12. Professional electives with provision for online (MOOC) courses to be incorporated
13. Open elective courses to be excluded as due to specialized branch.

### • Computer Science and Design

1. Rename the course name Technical and Visual communication as "Technical Communication"
2. The contents of Engineering Mechanics course should be Programme oriented/relevant
3. For the programme Computer Science & Design, there is no need of course Engineering Chemistry
4. The expert members suggested to Include the following courses in SOE as core courses or Professional electives
  - i) Course on Automation
  - ii) Human Computer Interaction (HCI)
  - iii) Industry 4.0
  - iv) Course on Robotics
  - v) Course on Sensor/Instrumentation
  - vi) Software Architecture Design
5. The expert members suggested, Computer Science & Design is specialized Programme so there is no need to study Open Electives courses offered by the other department
6. Expert members suggested rename of titles of mathematics courses and also suggested to modify the contents of Probability and Statistics, Linear Algebra
7. The expert members suggested to add the content on Quantum Physics in Physics course
8. The expert members suggested to keep one course on Management Studies which covers accounting, taxation etc. There is no need of Economics course
9. The expert members suggested to keep at least one core course in First and second semester based on Programme

### • CSE (Artificial Intelligence and Machine Learning)

1. Computational logic course should be after AI subject
2. Electives must be based on AI -ML topics: ML for industry 4.0
3. Robotics, Bayesian statistics to be included
4. No need to add fundamental of Economic subject.

Following faculty members were present during CDW.



Nagar Yuwak Shikshan Sanstha's

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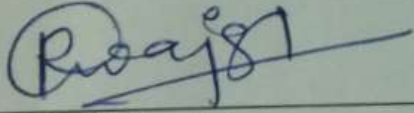

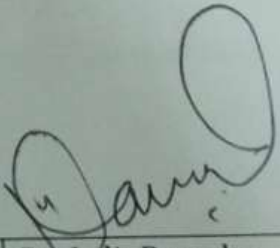
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## Department of Computer Technology

Dr. R. D. Wajgi	HoD CT	Dr. M. P. Gandhi	Assoc. Prof. Mathematics
Dr. Rajesh Dharmik	HoD IT	Dr. Malabika Adak	HoD Mathematics
Dr. Shailesh Kamble	Assoc. Prof. CT	Dr. Hemlata Vikrant Ganvir	HoD Physics
Dr. K. K. Bhoyar	Prof. CSE	Dr. Jayant Ramchandra Ghulghule	Prof. Physics
Dr. K. R. Singh	Assoc. Prof. CT	Dr. (Mrs.) Megha S. Sawangikar	Assist. Prof. Chemistry
Dr. G. M. Dhopavkar	Dean T & P	Shruti Gomkale	Assist. Prof. Chemistry
Mr. Nikhil Mangrulkar	Assist. Prof. Ct	Dr. Arvinder Kour	Assist. Prof. Humanities
Mrs. Rupa Fadanvis	Assist. Prof. CSE	Vishakha Bhandarkar	Assist. Prof. Humanities

 Dr. Rakhi Wajgi	 Dr. Rajesh Dharmik	 Dr. Lalit Damahe
HoD, CT	HoD, IT	HoD CSE

**Information Technology**



Nagar Yuwak Shikshan Sanstha's  
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## Department of Information Technology

YCCE/IT/NOTICE/BOS/2021-22/27

01/07/2021

### Notice of BOS Meeting

To,

Member of Board of Studies in

Information Technology

Dear Sir/ Madam,

The **twenty-seventh** meeting of the Board of Studies in Information Technology is scheduled on **Saturday 3<sup>rd</sup> July 2021** in an online mode on Google Meet Platform ([meet.google.com/gsq-exvy-qix](https://meet.google.com/gsq-exvy-qix)) at **02:00 PM**.

The agenda for the meeting is as follows:

**Item No. 27.01**

Welcome of new members

**Item No. 27.02**

Installation of member Secretary

**Item No. 27.03**

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

**Item No. 27.04**

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2018) of the Undergraduate programs conducted under the Board

**Item No. 27.05**

To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

**Item No. 27.06**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate Programs.

**Item No. 27.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate programs.



Nagar Yuwak Shikshan Sanstha's

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## Department of Information Technology

### Item No. 27.08

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

### Item No. 27.09

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

### Item No. 27.10

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2021-22

### Item No. 27.11

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG levels that will be examined in End Semester Examination Even Term 2021-22.

### Item No. 27.12

Preparation of Electronic question Bank UG courses according to SoE 2018

To review solutions to all questions of Electronic Question Banks for all courses.

### Item No. 27.13

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses

### Item No. 27.14


To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.

### Item No. 27.15

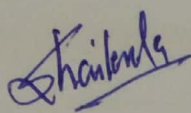
To discuss the feedback received from students/ teachers/ employers/ alumni / parents regarding reaching learning process in order to review and design the syllabus.

### Item No. 27.16

Any other matter with the permission of the Chair.

  
Dr. R. C. Dharmik

Chairman

  
Prof. Shailendra W. Shende

Member Secretary

BoS in Information Technology

YCCE, Nagpur - 441110

BOS in Information Technology

Version-1

Approved by:- BoS Chairman

2020-21



## Department of Information Technology

YCCE/IT/FORMAT/BOS/MOM/27

12/07/2021

### Minutes of BOS Meeting

The **twenty-seventh meeting** of the Board of Studies in **Information Technology** was held on **Saturday, 3<sup>rd</sup> July 2021** in an online mode on Google Meet Platform ([meet.google.com/gsq-exvy-qix](https://meet.google.com/gsq-exvy-qix)) at **02:00 PM**.

Following are the minutes of the meeting:

**Item No. 27.01**

**Welcome of new members**

BoS Chairman Welcome all the external and internal members.

**Item No. 27.02**

**Installation of member Secretary (Comment: If there is a change from previous meeting)**

No

**Item No. 27.03**

**Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.**

Minutes of 26th BoS meeting and CDW-8 were read by Member secretary and approved by the BoS unanimously.

**Item No. 27.04**

**To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2014 & Autonomous 2018) of the Undergraduate and Post graduate programs conducted under the Board**

**Run only two open electives instead of four, and space created can be utilized by the Professional electives.**

**Item No. 27.05**

**To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2014 & Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.**

**Following Minor Changes in the VII Sem. courses of SoE-2018 has been suggested by the course teachers and approved by the expert members.**

Sem	Course	Suggestions
VI	IT2361: PE-II Machine Learning	Topic to be added: basics of feature engineering in Unit-V
V&VII	Information Security (OE)	Public key cryptography contents should



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## Department of Information Technology

		be added in course.
IV	IT2251-DSPD-II	Mutually Interchange the sequence for the unit 5(Pattern matching) & 6 (Hash table, File Organization, external sort)

### Item No. 27.06

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

NO

### Item No. 27.07

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.

No Change.

### Item No. 27.08

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

No Change.

### Item No. 27.09

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

No Change..

### Item No. 27.10

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of EVEN Term 2021-22

Prepared and circulated among the BoS member for approval. Panel is approved with minor changes.

### Item No. 27.11

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination EVEN Term 2020-21.



**Department of Information Technology**

Prepared and circulated among the BoS member for approval. Panel is approved with minor changes.

**Item No. 27.12**

**Preparation of Electronic question Bank UG courses according to SoE 2018**

**To review solutions to all questions of Electronic Question Banks for all courses.**

STATUS OF QUESTION BANKS WITH SOLUTION SET AVAILABLE FOR SESSION 2020-21 ARE AS UNDER:

\*- indicates E-question bank targeted for subjects in session 2020-21.

All other E-question banks are already prepared in session 2019-20 and are available

	Electronic question Bank in session 2020-21 available FOR following subjects	Solution set completion status (in %)	Faculty name
I SEM	(ITCP)	100	B.U.BAWANKAR
III SEM			
	DCM	40%	S.S.GOGULOTHU
	OOP	80%	N.R.WANKHADE
	DSPD1	100%	N.R.WANKHADE
	CAO	100	S.G.KALE
IV SEM			
	DSPD2		S.S.CHAVHAN
	CN	80%	A.D.GAIKWAD
	OS		DR.K.K.BHOYAR
	TOC		B.U.BAWANKAR
V SEM			
	DBMS	80%	P.G.JAISWAL



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## Department of Information Technology

	SE		A.D.GAIKWAD
	DAS	80%	R.A.FADNAVIS
	*WP - question bank complete	NA	S.G.KALE
	*CRM- question bank incomplete	NA	A.D.GAIKWAD
VI - SEM			
	DAA		B.U.BAWANKAR
	PCD		DR.R.C.DHARMIK
	BI	60%	R.A.FADNAVIS
	*ML- question bank	NA	DR.K.K.BHOYAR
	IOT	100%	S.S.GOGULOTHU
VII SEM			
	PCD		DR.R.C.DHARMIK
	RTS	40%	S.W.SHENDE
	DS		S.S.CHAVHAN
	DM	50%	P.G.JAISWAL
	NNFL		DR.U.H.GAWANDE
	CC	40%	A.D.GAIKWAD
	NS		S.G.KALE

### Item No. 27.13

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses

Reduce the number of options given and to have more compulsory questions.



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### Item No. 27.14

To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.

SoE and Syllabi of following Minor and Honors Programme were discussed and approved with following suggestions:

1. B.E. Minor in Cloud Computing and Big Data Analytics
2. B.E. Honors in Data Sciences and Machine Learning
3. B.E. Honor in Cyber Security (Industry Associated-CryptoForensic)
4. B.E. Honors in Soft Computing (SWAYAM/NPTEL Courses)

In case of SWAYAM/NPTEL Courses we do not have any control over courses which will be offered by them in a particular semester. So mapping of courses with each semester will not work here. So provide the list of total around 10 to 12 courses and ask the students to complete and submit the certificates of any 6 courses in order to get the said degree in a stipulated time period.

### Item No. 27.15

To discuss the feedback received from students/ teachers/ employers/ alumni / parents regarding reaching learning process in order to review and design the syllabus.


Minor Changes received by course teachers were discussed.

Feedback By students : Concern about the more number of open elective, needs to be reduce. Remove Network Programming Course.

### Item No. 27.16

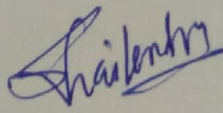
Any other matter with the permission of the Chair

Number of Open electives to be reduced to two and increase the number of Professional Electives or introduce seminar and mini project in 5 & 6 Sem.

  
Dr. R. C. Dharmik

Chairman

BoS in Information Technology

  
Prof. Shailendra W. Shende

Member Secretary

BoS in Information Technology

Head, Deptt. of Information Technology  
Encl: Syllabus copy of 3 Courses for minor changes.

BoS 27<sup>th</sup> meeting

Action Taken Report CDW-8 & BOS-26

SN	Agenda	Comments	Action Taken
8.2	To review the Scheme of Examination-2018 for UG programme.	Reviewed and Approved	Approved
8.3	To discuss and suggest the changes in the syllabi of various courses in VII Sem & VIII Sem. of Undergraduate program	<ol style="list-style-type: none"> <li>1. <b>Principles of Artificial Intelligence-(UHG):</b> Add the topics Responsible AI and Explainable AI, etc in last unit, Case studies in AI to be included.</li> <li>2. <b>Network Security-(SGK):</b> Add topics Galois Field Groups, Rings</li> <li>3. <b>Information Retrieval (KKB):</b> Restructure unit 3,4,5,6.</li> <li>4. <b>Neural Network and Fuzzy Logic(UHG):</b> Modify unit 6 (Arch. of Neuro fuzzy n/w may be removed)</li> <li>5. <b>Parallel Computing-(SWS):</b> Add the topics techniques for extracting parallelism ,</li> <li>6. <b>Advanced Computer Architecture(SSC):</b> Add the topics based on new architecture (Multi core, CDAC).</li> <li>7. <b>E-commerce- (BUB):</b> Add the topic SKU in either unit1 or 2.</li> <li>8. <b>Mobile Communication (ADG) :</b> Add the topics on IoT and 5G Technologies.</li> <li>9. <b>Natural Language Processing (SGK):</b> Add the topics Word embedding , Phrase embedding etc.</li> </ol>	<i>Suggested modifications were done and included in the syllabi</i>
8.4	To review the Scheme of Examination of Minor Programme	SoE of B.E. Minors in Cloud Computing and Big Data Analytics reviewed and approved.	Done
8.5	To review the Scheme of Examination of Honors	SoE of B.E. Honors in Data Sciences and Machine Learning, B.E. Honor in Cyber	Students opting for BE Honours program are not allowed to take the

<p>Programme</p>	<p>Security, &amp; B.E. Honors in Artificial Intelligence and Deep Learning (SWAYAM/NPTEL Courses), Reviewed and following suggestions were given by the Expert members:</p> <ol style="list-style-type: none"> <li>1. Give the Flexibility to the students to opt to this programme from III sem. onwards because it tough for the students to handle two extra courses in each semester.</li> <li>2. Overlapping of courses in SoE of IT and SoE of Honors is there, Needs some check so same course should not be opted by the students.</li> <li>3. Try to remove the repetition of the courses.</li> </ol>	<p>same Professional Electives from Curriculum of IT.</p>
<p>8.6 To discuss and suggest the changes in the syllabi of various courses under the Minor &amp; Honor Programme.</p>	<p>Introduction to Cloud Computing (RCD): Remove the topic HDFS.</p>	<p>Done</p>
<p>8.7 To discuss and suggest the changes in the Text Books/ Reference Books/ Literature Sources published in the syllabi of courses in Undergraduate, Minor &amp; Honors Programme.</p>	<p><b>Principles of Artificial Intelligence-(UHG):</b> Check the book authored by Patterson appear as Text and Reference, modify accordingly</p>	<p>Done</p>
<p>8.8 To discuss the feedback received from students /teachers/ employers/alumni/parents</p>	<p>Add the latest topics used in Industry like 5G Technologies, SKU (Stock-keeping unit), Latest Architecture, Multi core architecture.</p>	<p>Done</p>

regarding teaching  
learning process in order  
to review and design the  
syllabus

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Nagar Yuwak Shikshan Sanstha's

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BE SoE and Syllabus 2018-2022

## Information Technology

Minor  
Changes

Course Code	Data Structures & Program Design-2		L=4	T=0	P=1	Credits=
Evaluation Scheme	MSE-I	MSE-II	TA	ESE	Total	ESE Duration
	15	15	10	60	100	3 Hrs.
Prerequisite Courses						

Course Learning Objective	Course Outcomes
<ol style="list-style-type: none"><li>1.To understand the basic structure concept such as Abstract Data Types, Linear and Non Linear Data structures.</li><li>2.To understand the notations used to analyze the Performance of algorithms.</li><li>3.To understand the behavior of data structures such as stacks, queues, trees, hash tables, search trees, Graph and their representations.</li><li>4.To choose the appropriate data structure for a specified application.</li><li>5.To understand and analyze various searching and sorting algorithms.</li><li>6.To write programs in C to solve problems using data structures such as array, linked lists, queues, trees, graphs, hash tables, search trees.</li></ol>	<p>Upon successful completion of this course, students will be able to:</p> <ol style="list-style-type: none"><li>1. Understand data structures like Tree, Graph, Set, Hash table.</li><li>2. Apply appropriate data structures in problem solving.</li><li>3. Analyze the performance of operations performed on data structures.</li><li>4. Design application by using data structures for real world problems</li></ol>



# Yeshwantrao Chavan College of Engineering

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

BE SoE and Syllabus 2018-2022

## Information Technology

Unit No.	Contents	Max. Hrs.
1	Trees, binary trees: representation and traversals, Binary search Trees (BSTs), Height-balanced trees	5
2	Heap tree, Splay trees, B-trees, B+ trees. Applications of trees	7
3	Graphs: representation & traversals. Spanning trees, shortest path algorithm, topological sort	5
4	Sets: Representation and Operations. Sorting and searching	6
5	Hash table, File Organization, external sort	5
6	Pattern matching and Tries: Pattern matching algorithms-Brute force, the Boyer -Moore algorithm, the Knuth-Morris-Pratt algorithm, Standard Tries, Compressed Tries, Suffix tries.	5

Text Books/Reference Book			
Sr. No.	Title	Authors	Publisher
1	The C Programming Language	Brian W. Kernighan and Dennis M. Ritchie	1. Prentice Hall of India
2	Programming in ANSI C	E. Balaguruswamy	Tata McGraw-Hill
3	How to Solve it by Computer	R. G. Dromey	Pearson Education
4	Data Structures & Program Design in C	Robert Kruse, G. L. Tondo and B. Leung	PHI-EEE
5	Data Structures	Seymour Lipschutz	Tata McGraw-Hill
6	Fundamentals of Data Structures in C	Ellis Horowitz, Satraj Sahni and Susan Anderson-Freed	W. H. Freeman and Company.



## V Semester IT 2382 - OE-2: Information Security

Unit 1: Introduction- Computer Security, History of Computer security, Computer Security Concepts (CIA), The OSI security architecture, security attacks, security mechanism, a model for network security, Threats to security, Computer System Security and Access Controls (System access and data access), Key Terms.

Unit 2: Malicious software: Types of Malicious software, Viruses, Virus countermeasures, Worms, Trojan horse, bombs, Trap doors, spoofs, Email virus, Macro viruses, Remedies, Intruders, vulnerabilities & threats, distributed Denial of service attack and Firewalls.

Unit 3: Communication security- Encryption, classical encryption techniques, Block cipher and data encryptions standards, advance encryption standard. Kerberos, X.509

Unit 4: Principles of public key cryptosystems: RSA algorithm - security of RSA - key management - Diffie-Hellman key exchange algorithm. Hash Function: Authentication requirements - authentication functions - message authentication code hash functions - birthday attacks

Unit 5: Network and Internet Security- Transport-Level Security-Secure Socket Layer and Transport Layer Security, SSL Architecture. Electronic Mail security-Pretty Good Privacy, S/MIME.

Unit 6:  
System security and cyber security - Security for network server, web servers, Intrusion detection techniques, intruders, Password management,  
Cybercrime and Computer Crime Types of Computer Crime, Law Enforcement Challenges, Working With Law Enforcement, Intellectual Property [Types of Intellectual Property, Intellectual Property Relevant to Network and Computer Security], Ethical Issues [Ethics and the IS Professions, Ethical Issues Related to Computers and Information Systems], Security tools, The Information Technology ACT, 2008.

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BE SoE and Syllabus 2018-2022

## Information Technology

Course Code	Title of the Course: PE-II- Machine Learning		L=3	T=0	P=0	Credits=3
IT2361	MSE-I	MSE-II	TA	ESE	Total	ESE Duration
Evaluation Scheme	15	15	10	60	100	3 Hrs,
Prerequisite Courses						

Course Learning Objectives	Course Outcomes
<ol style="list-style-type: none"> <li>1. To introduce basic concepts of machine learning and explain the relative strengths and weaknesses of different machine learning Methods.</li> <li>2. To understand the different aspects of supervised learning</li> <li>3. To understand the concepts of unsupervised learning</li> <li>4. To understand different methods of evaluation of machine learning models</li> </ol>	<p>After undergoing the course, student will be able to:</p> <p>IT____.1 Understand various models of supervised and unsupervised learning</p> <p>IT____.2 analyze a problem and identify the machine learning algorithm appropriate for its solution</p> <p>IT____.3 apply supervised learning for the given set of labelled samples and design the model to meet the desired needs</p> <p>IT____.4 apply unsupervised learning for the given set of samples, and design the model to meet the desired needs</p>

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BE SoE and Syllabus 2018-2022

## Information Technology

Contents	Max. Hrs.
<b>Introduction to machine learning.</b> What Is Machine Learning, Examples of Machine Learning Applications, Learning Associations, Classification, Regression, Supervised and Unsupervised Learning, Reinforcement Learning, Generalization, Overfitting, and Underfitting	(6)
<b>Supervised Learning-1:</b> k-Nearest Neighbors, linear Models, Naive Bayes Classifiers, Decision Trees	(6)
<b>Supervised Learning-2:</b> Kernelized Support Vector Machines, Uncertainty Estimates from Classifiers, The Decision Function, predicting Probabilities, Uncertainty in Multiclass Classification, multivariate classification and regression.	(6)
<b>Unsupervised Learning:</b> k-Means Clustering, Expectation-Maximization Algorithm, Supervised Learning after Clustering, Hierarchical Clustering, Choosing the Number of Clusters	(6)
<b>Design and Analysis of Machine Learning Experiments:</b> Factors, Response, and Strategy of Experimentation, Randomization, Replication, and Blocking, Guidelines for Machine Learning Experiments, Cross-Validation and Resampling Methods, K-Fold Cross-Validation, Bootstrapping, Measuring Classifier Performance, Hypothesis Testing, Assessing a Classification Algorithm's Performance, Comparing Two Classification Algorithms, <u>Basics of feature engineering..</u>	(5)
<b>Advances in Machine Learning:</b> Combining multiple learners, bagging and boosting, introduction to learning using Neural networks, shallow and deep networks.	(6)

Text Books			
Sr. No.	Title	Authors	Publisher
1	Introduction to Machine Learning, Second Edition	Ethem Alpaydın	The MIT Press
2	Introduction to Machine Learning with Python, A Guide for Data Scientists	Andreas C. Müller and Sarah Guido	ORIELLY
Reference Books			
1	Machine Learning	Tom M. Mitchel	McGraw Hill
2			



Nagar Yuwak Shikshan Sanstha's  
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## Department of Information Technology

05/01/2022

YCCE/IT/NOTICE/BOS/2021-22/28

### Agenda BOS Meeting-28

To,

Member of Board of Studies in  
Information Technology

Dear Sir/ Madam,

The twenty-eighth meeting of the Board of Studies in Information Technology is scheduled on Saturday 15<sup>th</sup> January 2022 in an online mode on Google Meet Platform at 11:00 AM.

The agenda for the meeting is as follows:

Item No. 28.01

Welcome of new members

Item No. 28.02

Installation of member Secretary

Item No. 28.03

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

Item No. 28.04

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2018) of the Undergraduate programs conducted under the Board

Item No. 28.05

To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board

Item No. 28.06

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate Programs.

Item No. 28.07

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate programs.

Version-1

Approved by:- BoS Chairman

2021-22



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## Department of Information Technology

**Item No. 28.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

**Item No. 28.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

**Item No. 28.10**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term/Even Term 2021-22

**Item No. 28.11**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG levels that will be examined in End Semester Examination Even Term 2021-22.

**Item No. 28.12**

Preparation of Electronic question Bank UG courses according to SoE 2018  
To review solutions to all questions of Electronic Question Banks for all courses.

**Item No. 28.13**

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.

**Item No. 28.14**

To discuss and propose scheme for Minor an Honor course and its syllabus. To Discuss and propose Certificate courses and value added courses in 2021-22.

**Item No. 28.15**

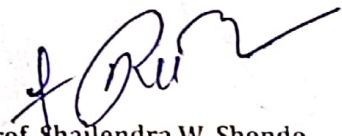
To discuss the feedback received from students/ teachers/ employers/ alumni / parents regarding reaching learning process in order to review and design the syllabus.

**Item No. 28.16**

Any other matter with the permission of the Chair.

  
Dr. R. C. Dharmik

Chairman  
**Head, Deptt. of Information Tech.,**  
**YCCOE, NAGPUR - 441110**  
Department of Information Technology

  
Prof. Shailendra W. Shende  
Assistant Secretary  
Member of the Board  
Dept. of Information Tech.  
YCCOE, NAGPUR - 441110



Nagar Yuwak Shikshan Sanstha's

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## Department of Information Technology

YCCE/IT/FORMAT/BOS/MOM/28

17/01/2022

### Minutes of BOS Meeting

The twenty-eighth meeting of the Board of Studies in Information Technology was held on Saturday, 15<sup>th</sup> January 2022 in an online mode on Google Meet Platform (<https://meet.google.com/sbm-bmkj-fnu>) at 11:00 AM.  
Following BoS Members were present:

Sr. No.	Name	Sr. No.	Name
1.	Dr. R. C. Dharmik, Chairman	15	Mr. S. S. Chavhan
2.	Dr. U. A. Deshpande Prof. CSE VNIT, Nagpur	16	Ms. Kavita Gudadhe
3.	Dr. Latesh Malik, Prof. CSE GCOE, Nagpur	17	Ms. Warsha Sirskar
4.	Mr. Sandesh Supekar, Manager, TCS Pune	18	Ms. Swapna Kamble
5.	Mr. Abhishek Nachankar, Member PG Alumni	19	Ms. Bhagyashri Mankar
6.	Mr. S. W. Shende, Member Secretary	20	Mrs. Sakshi Gabhane
7.	Dr U. H. Gawande	21	Ms. Rutuja Chirwatkar
8.	Ms. N. R. Wankhade	22	Ms. Divya Kantode
9.	Mrs. Swati G. Kale	23	Ms. Apurva Bodkhe
10.	Mr. M. K. Hadap	24	Mrs. Shraddha. G. Vaidya
11.	Mr. B. U. Bawankar	25	Ms. Minal Narad
12.	Mr. A. D. Gaikwad	26	Ms. Pallavi Thakre
13.	Ms. P. G. Jaiswal	27	Mrs. Lata Bopche (Tembhare)
14.	Mrs. Kiran Gavhale		

Leave of Absence is granted to the following Members:

1	Dr. P. S. Deshpande, Professor & Head, Deptt. of CSE, VNIT Nagpur
2	Mrs. S. S. Gugulothu



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## Department of Information Technology

Following are the minutes of the meeting:

### Item No. 28.01

#### Welcome of new members

BoS Chairman Welcome the following external and internal members:

1. Dr. P. S. Deshpande
2. Dr. Latesh Malik
3. Mr. Sandesh Supekar
4. Ms. Kavita Gudadhe
5. Ms. Warsha Sirskar
6. Ms. Swapna Kamble
7. Ms. Bhagyashri Mankar
8. Mrs. Sakshi Gabhane
9. Ms. Rutuja Chirvatkar
10. Ms. Divya Kantode
11. Ms. Apurva Bodkhe
12. Mrs. Shraddha. G. Vaidya
13. Ms. Minal Narad
14. Ms. Pallavi Thakre
15. Mrs. Lata Bopche (Tembhare)

### Item No. 28.02

Installation of member Secretary (Comment: If there is a change from previous meeting)

No

### Item No. 28.03

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

Minutes and Action Taken Report of 27th BoS meeting were approved by the BoS unanimously.

### Item No. 28.04

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2018) of the Undergraduate programs conducted under the Board



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## Department of Information Technology

- Shift Object Oriented Programming course to IV Sem.
- Shift Design and Analysis of Algorithm course to V Sem.
- Shift Software Engineering course to VI Sem.
- Make Cloud Computing as a Core Course.
- Maintain the ratio of credits & number of hours for the Project.

### Item No. 28.05

To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2018 Schemes of Undergraduate and Post graduate programs conducted under the Board.

Following Minor Changes in the courses of SoE-2018 has been suggested by the expert members.

Sem	Course	Suggestions
III	IT2208: Software Lab	Remove Object Oriented parts. include the data handling concepts. Packages. Visualization topics.
V	IT2301: Data Base Management Systems	Add topics related to Non-Relational Databases.
VI	IT2361: PE II: Machine Learning	Add topics on Reinforcement Learning.

### Item No. 28.06

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate Programs.

NO Change

### Item No. 28.07

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.

No Change.

### Item No. 28.08

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

No Change.





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**Department of Information Technology**

**Item No. 28.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

IV Sem. IT2253: Computer networks

VI Sem. IT2351: Design and Analysis of Algorithms

**Item No. 28.10**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of EVEN Term 2021-22

Prepared and circulated among the BoS member for approval. Panel is approved.

**Item No. 28.11**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination EVEN Term 2020-21.

Prepared and circulated among the BoS member for approval. Panel is approved with minor changes.

**Item No. 28.12**

Preparation of Electronic question Bank UG courses according to SoE 2018

To review solutions to all questions of Electronic Question Banks for all courses.

STATUS OF QUESTION BANKS WITH SOLUTION SET AVAILABLE FOR SESSION 2021-22  
ARE AS UNDER:

SR. NO.	Semester	Sub_code	Subject name	Name of Faculty	E-Question Bank status [completed/not completed]	Solution set status
1	1 st/2nd	IT2101	Introduction to Computer Programming	Prof.B.U.Bawankar	Completed	In-process
2	3rd	IT2201	Digital Circuits & Microprocessors	Prof. S.S.Goguluthu/ Kavita Gudadhe	In-process	
3		IT2203	Object Oriented Programming	Prof. N.R.Wankhade	Completed	In-process
3		IT2205	Data Structures and Program Design-I	Prof.B.U.Bawankar/ Prof.S.S.Chavhan	Completed	In-process
4		IT2207	Computer Architecture & Organization (Self-Learning-Online)	Prof. S.G.Kale/ K.R. Gavhale	Completed	In-process
5	4th	IT2251	Data Structures and Program Design-II	Prof.S.W.Shende/Prof.S.S.C havhan	Completed	In-process
6		IT2253	Computer Networks	PROF.A.D. GAIKWAD	Completed	In-process
7		IT2255	Operating Systems	K.R. Gavhale, Rutuja Chirwatkar	Completed	In-process
8		IT2257	Theory of Computation	Prof.B.U.Bawankar	Completed	In-process
9	5th	IT2301	Data Base Management Systems	Prof. P. G. Jaiswal	Completed	In-process



Nagar Yuwak Shikshan Sanstha's

# Yeshwantrao Chavan Collège of Engineering

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)  
Hingna Road, Wanadongri, Nagpur - 441 110

Ph.: 07104-237919, 234623, 329259, 329250 Fax: 07104-232376, Website: www.yccc.edu

## Department of Information Technology

10	6th	IT2303	Software Engineering (Self - LearningOnline)	PROF.A.D.GAIKWAD	Incomplete	
11		IT2311	PE I: Web Programming	Prof. S.G.Kale	Completed	
12		IT2313	PE I: Data Analysis and Statistics			
13		IT2315	PE I: Customer Relationship Management	PROF.A.D.GAIKWAD	Incomplete	
14		IT2321	OE I: Industry 4.0	Prof. S.S.Goguluthu		In process
15		IT2322	OE I: Core JAVA	Prof. N.R.Wankhade	Completed	
16		IT2331	OE II: Introduction to Machine Learning	Prof.S.S.Chavhan/Dr.U.H.Gawande	Completed	Completed
17		IT2332	OE II: Information Security	Prof. S.G.Kale/Prof. P. G. Jaiswal		
18		IT2351	Design & Analysis of Algorithms	Prof. N.R.Wankhade	Completed	In process
19		IT2353	Principles of Compiler Design	Dr. R. C. Dharmik	Completed	Completed
20		IT2361	PE II::Machine Learning	Dr.U.H.Gawande	Completed	Completed
21		IT2363	PE II: Business Intelligence	Prof. P. G. Jaiswal		
22		IT2365	PE II: Internet of Things	Prof. S.S.Goguluthu/ Divya Kantode		
23		IT2371	OE-III: Industry 4.0	Prof. S.S.Goguluthu		
24		IT2372	OE-III : Core JAVA	Prof. N.R.Wankhade	Completed	In process
25		IT2381	OE-IV : Introduction to Machine Learning	Prof.S.S.Chavhan/Dr.U.H.Gawande	Completed	Completed
26	IT2382	OE-IV : Information Security	Prof. S.G.Kale			
27	7th	IT2401	Data Mining	Prof. P. G. Jaiswal	Completed	In process
28		IT2403	Principles of Artificial Intelligence	Prof. S.G.Kale	In process	
29		IT2411	PE III: Cloud Computing	Dr. R. C. Dharmik	Completed	In process
30		IT2412	PE III:Real Time Systems	Prof.S.W.Shende	Completed	In process
31		IT2413	PE III: Network Security	Prof. S.G.Kale	Completed	
32		IT2414	PE III: Information Retrieval			
33		IT2421	PE IV: Neural Network and Fuzzy Logic	Dr.U.H.Gawande	Completed	In process
34		IT2423	PE IV: Ethical Hacking and Cyber Forensics			
35		IT2425	PE IV: Human Computer Interaction			
36		IT2427	PE IV: Parallel Computing	Prof.S.W.Shende	In-process (First Time Offered)	In process
37		IT2431	PE V: Digital Image Processing	Dr.U.H.Gawande	Completed	In process
38		IT2432	PE V: Distributed Systems	ADG/SSC/PGJ		
39		IT2433	PE V: Coding Standard and Technical Documentation	Not Offered		
40		IT2441	PE VI: Advanced Computer Architecture	Not Offered		
41		IT2442	PE VI: Mobile Communication	Prof. Hadap sir	Completed	Completed
42		IT2443	PE VI: E-commerce	Not Offered		
43		IT2444	PE VI: Natural Language Processing	Prof. S.G.Kale	Completed	



**Department of Information Technology**

Item No. 28.13

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses

NO

Item No. 28.14

To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22.

SoE and Syllabi of following Minor and Honors Programme were discussed and approved:

1. B.E. Minor In Cloud Computing and Big Data Analytics
2. B.E. Honors In Data Sciences and Machine Learning
3. B.E. Honors In Soft Computing (SWAYAM/NPTEL Courses)

Item No. 28.15

To discuss the feedback received from students/ teachers/ employers/ alumni / parents regarding reaching learning process in order to review and design the syllabus.

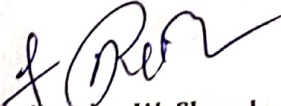
Minor Changes received by course teachers were discussed (IT2203: Object Oriented Programming)


Feedback By students: Concern about the more number of open elective, needs to be reduce.

Item No. 28.16

Any other matter with the permission of the Chair

Nil

  
Prof. Shailendra W. Shende  
Assistant Professor  
Department of Information Technology  
YCCEE, NAGPUR - 441110

  
DR. R. C. Dharmik  
Chairman  
Head, Deptt. of Information Technology  
B.E. Deptt. of Information Technology  
Nagpur

Encl: Syllabus copy of IT2203: Object Oriented Programming for minor changes.



### III Semester

### IT 2208 – Software Lab

IT2208	Lab: Software Lab			L=0	T=0	P=2	Credits=1
Evaluation Scheme	MSEs*	TA	ESE	Total		ESE Duration	
	--	40	60	100		--	

Course Learning Objective	Course Outcomes
<ol style="list-style-type: none"> <li>Understanding data types, data structures, control, and Loop statements in Python.</li> <li>Learn def function definitions, and modules.</li> <li>Learn basic object oriented concepts using Python.</li> <li>Developing applications in Python using customized and built in modules and packages.</li> </ol>	<p>After learning the course, the students will be able to</p> <ol style="list-style-type: none"> <li>Understand the basic data types, built in data structures, control statements and loops and write simple programs in Python</li> <li>To understand the concepts of functions modules and packages and write complex programs using them.</li> <li>To understand defining and handling Python objects and develop classes required for the given application</li> <li>To develop a useful application in Python.</li> </ol>

Course Outcomes	Statement	Mapped PO												PSO		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	
CO1	Understand the basic data types, built in data structures, control statements and loops and write simple programs in Python	3														
CO2	To understand the concepts of functions modules and packages and write complex programs using them.	3	1													
CO3	To understand defining and handling Python objects and develop classes required for the given application	3	1													
CO4	To develop an useful application in Python	2	2	2	1	1				2			2	1	1	

#### Contents:

**Module 1: Introduction:** Build-in Data types: Data type & Variables, Python numbers, Python Strings, Python built in data structures: Lists, Dictionaries, Tuples, Sets, Arrays. Datatype conversion. Statements: Assignment statement, import statement, print statement, input statement, Python Control Statements: if, if – else, elif statements, Loop statements: For, while, continue and break, try and except statement, raise, with statements, case statement.

		June 2020	1.02	Applicable for AY2020-21 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	



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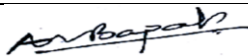
BE SoE and Syllabus 2018

## INFORMATION TECHNOLOGY

**Module 2: Python Functions, Modules and Packages:** The def statement, returning values, parameters, arguments, local variables, global variables and global statement, doc strings for functions, Mathematical Function, Generating Random numbers, File Handling.

**Module 3: Visualizing Information:** what is data visualization, use of Pyplot Matplotlib Library, Creating Line charts and scatter plot, Creating bar charts and Pie Charts, Customizing the plots, Creating Histogram with PyPlot and other library, Creating Frequency Polygons, Creating Box plot, Plotting data from Data frame.

**Module 4: Developing applications** in Python using built in and customized modules and packages.

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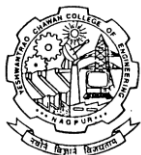
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## Information Technology

<b>Course Code</b>	<b>Data Structures &amp; Program Design-2</b>		L=4	T=0	P=1	Credits=
<b>Evaluation Scheme</b>	MSE-I	MSE-II	TA	ESE	Total	ESE Duration
	15	15	10	60	100	3 Hrs.
<b>Prerequisite Courses</b>						

<b>Course Learning Objective</b>	<b>Course Outcomes</b>
<ol style="list-style-type: none"><li>1.To understand the basic structure concept such as Abstract Data Types, Linear and Non Linear Data structures.</li><li>2.To understand the notations used to analyze the Performance of algorithms.</li><li>3.To understand the behavior of data structures such as stacks, queues, trees, hash tables, search trees, Graph and their representations.</li><li>4.To choose the appropriate data structure for a specified application.</li><li>5.To understand and analyze various searching and sorting algorithms.</li><li>6.To write programs in C to solve problems using data structures such as array, linked lists, queues, trees, graphs, hash tables, search trees.</li></ol>	<p>Upon successful completion of this course, students will be able to:</p> <ol style="list-style-type: none"><li>1.Understand data structures like Tree, Graph, Set, Hash table.</li><li>2.Apply appropriate data structures in problem solving.</li><li>3.Analyze the performance of operations performed on data structures.</li><li>4.Design application by using data structures for real world problems</li></ol>



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BE SoE and Syllabus 2018-2022

## Information Technology

Unit No.	Contents	Max. Hrs.
1	Trees, binary trees: representation and traversals, Binary search Trees (BSTs), Height-balanced trees	5
2	Heap tree, Splay trees, B-trees, B+ trees. Applications of trees	7
3	Graphs: representation & traversals. Spanning trees, shortest path algorithm, topological sort	5
4	Sets: Representation and Operations. Sorting and searching	6
5	Hash table, File Organization, external sort	5
6	Pattern matching and Tries: Pattern matching algorithms-Brute force, the Boyer –Moore algorithm, the Knuth-Morris-Pratt algorithm, Standard Tries, Compressed Tries, Suffix tries.	5

Text Books/Reference Book			
Sr. No.	Title	Authors	Publisher
1	The C Programming Language	Brian W. Kernighan and Dennis M. Ritchie	1. Prentice Hall of India
2	Programming in ANSI C	E. Balaguruswamy	Tata McGraw-Hill
3	How to Solve it by Computer	R. G. Dromey	Pearson Education
4	Data Structures & Program Design in C	Robert Kruse, G. L. Tondo and B. Leung	PHI-EEE
5	Data Structures	Seymour Lipschutz	Tata McGraw-Hill
6	Fundamentals of Data Structures in C	Ellis Horowitz, Satraj Sahni and Susan Anderson-Freed	W. H. Freeman and Company.



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**BE SoE and Syllabus 2018**  
**INFORMATION TECHNOLOGY**

**V Semester**

**IT 2302- Data Base Management Systems Lab**

**List of Practical's**

Sr. No..	Problem Statements
1	Database design using E-R Model for: Payroll processing system, Banking system Library Information System Student Information System, etc.
2	Mapping of E-R model to relational Schema and creation of Tables using DDL (Data DefinitionLanguage).
3	Modification of Database objects using DDL and DML
4	Querying the Database based on various inbuilt functions (Date Function, Numeric Function, Character Function, Conversion Function, Miscellaneous Function, etc.).
5	Querying the Database based on Set, Arithmetic and Logical operator.
6	Implementation of Joins(all types ).
7	Queries based on Data Grouping Restricting and sorting.
8	To create and manipulate various database objects of the Table using Views:
9	Querying the Database based on to create triggers for various events such as insertion, updation, etc.
10	Exploring NOSQL Database.

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**V Semester IT 2332 - OE-2: Information Security**

**VI Semester IT 2382 - OE-4: Information Security**

Unit 1: Introduction- Computer Security, History of Computer security, Computer Security Concepts (CIA), The OSI security architecture, security attacks, security mechanism, a model for network security, Threats to security, Computer System Security and Access Controls (System access and data access), Key Terms.
Unit 2: Malicious software: Types of Malicious software, Viruses, Virus countermeasures, Worms , Trojan horse, bombs, Trap doors, spoofs, Email virus, Macro viruses, Remedies, Intruders, vulnerabilities & threats, distributed Denial of service attack and Firewalls.
Unit 3: Communication security- Encryption, classical encryption techniques, Block cipher and data encryptions standards, advance encryption standard. Kerberos, X.509
Unit 4: Principles of public key cryptosystems: RSA algorithm - security of RSA - key management – Diffie-Hellman key exchange algorithm. Hash Function: Authentication requirements - authentication functions - message authentication code hash functions - birthday attacks
Unit 5: Network and Internet Security- Transport-Level Security-Secure Socket Layer and Transport Layer Security, SSL Architecture. Electronic Mail security-Pretty Good Privacy, S/MIME.
Unit 6: System security and cyber security - Security for network server, web servers, Intrusion detection techniques, intruders, Password management,. Cybercrime and Computer Crime Types of Computer Crime, Law Enforcement Challenges, Working With Law Enforcement , Intellectual Property [Types of Intellectual Property, Intellectual Property Relevant to Network and Computer Security], Ethical Issues [Ethics and the IS Professions, Ethical Issues Related to Computers and Information Systems], Security tools, The Information Technology ACT, 2008.



### VI Semester

### PE-II: IT 2361 - Machine Learning

Objective	Course Outcome
<p>The student should be able to</p> <ol style="list-style-type: none"> <li>To introduce basic concepts of machine learning and explain the relative strengths and weaknesses of different machine learning Methods.</li> <li>To understand the different aspects of supervised learning</li> <li>To understand the concepts of unsupervised learning</li> <li>To understand different methods of evaluation of machine learning models</li> </ol>	<p>After undergoing the course, student will be able to:</p> <ol style="list-style-type: none"> <li>Understand various models of supervised and unsupervised learning</li> <li>analyze a problem and identify the machine learning algorithm appropriate for its solution</li> <li>apply supervised learning for the given set of labelled samples and design the model to meet the desired needs</li> <li>apply unsupervised learning for the given set of samples, and design the model to meet the desired needs</li> </ol>

Unit No.	Contents	Max. Hrs.
1	<b>Introduction to machine learning.</b> What Is Machine Learning, Examples of Machine Learning Applications, Learning Associations, Classification, Regression, Supervised and Unsupervised Learning, Reinforcement Learning, Generalization, Over-fitting, and Under-fitting	(6)
2	<b>Supervised Learning-1:</b> k-Nearest Neighbors, linear Models, Naive Bayes Classifiers, Decision Trees	(6)
3.	<b>Supervised Learning-2:</b> Kernelized Support Vector Machines, Uncertainty Estimates from Classifiers, The Decision Function, predicting Probabilities, Uncertainty in Multiclass Classification, multivariate classification and regression.	(6)
4	<b>Unsupervised Learning:</b> k-Means Clustering , Expectation-Maximization Algorithm, Supervised Learning after Clustering , Hierarchical Clustering, Choosing the Number of Clusters	(6)
5	<b>Design and Analysis of Machine Learning Experiments:</b> Factors, Response, and Strategy of Experimentation, Randomization, Replication, and Blocking, Guidelines for Machine Learning Experiments , Cross-Validation and Resampling Methods, K-Fold Cross-Validation, Bootstrapping, Measuring Classifier Performance, Hypothesis Testing, Assessing a Classification Algorithm's Performance, Comparing Two Classification Algorithms, <b>Basics of feature engineering.</b>	(5)
6	<b>Advances in Machine Learning:</b> Combining multiple learners, bagging and boosting, <b>Reinforcement Learning</b> , introduction to learning using Neural networks, shallow and deep networks.	(6)

		June 2020	1.02	Applicable for AY2020-21 Onwards
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## INFORMATION TECHNOLOGY

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**INFORMATION TECHNOLOGY**

**VI Semester**  
**PE-II: IT 2361 - Machine Learning**

Text Books				
SN	Title	Edition	Authors	Publisher
1	Introduction to Machine Learning, Second Edition		Ethem Alpaydın	The MIT Press
2	Introduction to Machine Learning with Python, A Guide for Data Scientists		Andreas C. Müller and Sarah Guido	ORIELLY

Reference Books				
SN	Title	Edition	Authors	Publisher
1	Machine Learning		Tom M. Mitchel	McGraw Hill

		June 2020	1.02	Applicable for AY2020-21 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

# **Computer Science & Engineering**



Nagar Yuwak Shikshan Sanstha's  
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## Department of Computer Science and Engineering

YCCE/CSE/NOTICE/BOS/1

6/8/2021

### Notice of BOS Meeting

To,

Member of Board of Studies in  
Computer Science and Engineering

Dear Sir/ Madam,

The **First meeting** of the Board of Studies in **Computer Science and Engineering** is scheduled on **Saturday 7<sup>th</sup> August' 2021** in an online mode on Google Meet Platform (Meeting ID: [meet.google.com/dbe-ombu-dkh](https://meet.google.com/dbe-ombu-dkh)) at **10:15 AM**.

The agenda for the meeting is as follows:

**Item No. 1.01**

Welcome of new members

**Item No. 1.02**

Installation of member Secretary

**Item No. 1.03**

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2020-21) of the Undergraduate program conducted under the Board.

**Item No. 1.04**

To discuss and suggest the minor changes in the syllabi of various courses of 3rd and 4th Semester in Autonomous 2020-21 Schemes of Undergraduate program conducted under the Board

**Item No. 1.05**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate Programs.

**Item No. 1.06**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term 2021-22



Nagar Yuwak Shikshan Sanstha's  
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**Department of Computer Science and Engineering**

**Item No. 1.07**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG level that will be examined in End Semester Examination Odd Term 2021-22

**Item No. 1.08**

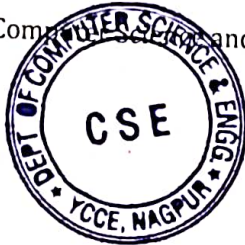
Preparation of Electronic question Bank for core courses

**Item No. 1.09**

Any other matter with the permission of the Chair.

**Dr. L.B. Damahe**  
Chairman

BoS in Computer Science and Engineering



**Prof. Rupa A. Fadnavis**  
Member Secretary

BoS in Computer Science and Engineering



**Minutes of BOS Meeting**

First meeting of the Board of Studies in Computer Science & Engineering was held on Saturday, 07/08/2021 at 10:15 a.m. in online mode on Google Meet Platform (Meeting ID meet.google.com/ooo-bnzk-zxi).

The meeting was attended by the following members of BoS.

**External Members**

Sr. No.	Name of Honorable External Member	Position held in BoS
1	Dr. U. A. Deshpande	External Expert

**BoS Members**

Sr. No.	Name of Member
1	Dr. Lalit Damahe
2	Mrs. R.A.Fadnavis
3	Dr. K.K.Bhoyar

Leave of Absence was granted to following members:

Sr. No.	Name of Member
1.	Dr. P.S.Deshpande
2.	Mr. Swapnil Deshmukh

Following are the minutes of the meeting:

**Item No. 1.01**

**Welcome of new members**

BoS Chairman Dr. Lalit Damahe welcomes all the external and internal members.

**Item No. 1.02**

**Installation of member Secretary**

Mrs. Rupa Fadnavis, Assistant Professor given charge of new member secretary

**Item No. 1.03**

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

- NA

**Item No. 1.04**

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2020-21) of the Undergraduate program conducted under the Board

Changes suggested are as follows:

1. Introduce new professional electives real time systems, distributed systems , parallel programming - Real time systems and Distributed systems are added in professional elective-V and Parallel programming added in Professional elective -IV



**Department of Computer Science & Engineering**

2. Remove Professional elective course Mobile Operating system - Mobile operating system has been removed and added Introduction to soft computing in its place
3. Instead of discrete maths and probability theory , discrete maths and graph theory should be included - change has been incorporated .

**Item No. 1.05**

To discuss and suggest the minor changes in the syllabi of various courses in 3<sup>rd</sup> and 4<sup>th</sup> semester courses in Autonomous 2020-21 Schemes of Undergraduate program conducted under the Board.

Following Minor Changes in the III and IV Semester courses of SoE-2020-21 has been suggested by the expert members:

Course	Suggestions
CSE2202 Object Oriented Programming CSE2203 lab: Object Oriented Programming	Either of two syllabi suggested can be kept, object oriented programming lab can have java programs List of practicals should be generalized one
GE2206- Discrete mathematics and probability Theory	Remove Probability theory contents ,and graph theory contents should be added
CSE2251- Operating system CSE2252- Lab: Operating system	Proper unitization should be done Remove case study- amoeba , introduce practical on Semaphores
CSE2204- Data Structure -I CSE2205- Lab Data Structure -I	Use standard text books List of practicals should be generalized one
CSE2253 Data Structure -II CSE2254- Lab Data Structure -II	Use standard text books List of practicals should be generalized one

**Item No. 1.06**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

Course	Suggestions
CSE2201- Computer Architecture and Organization	Add John L. Hennessy, David A. Patterson Book as a text book.
CSE2204- Data Structure -I CSE2253 Data Structure -II	Add Robert Kruse, G. L. Tondo and B. Leung book as a textbook Add Seymour Lipschutz book as a reference book
CSE2251- Operating System	Add Charles Crowley Book as reference Book



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**Department of Computer Science & Engineering**

**Item No. 1.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate programs.

Course	Suggestions
CSE2203 lab: Object Oriented Programming	List of practicals should be generalized one
CSE2252- Lab: Operating system	Remove case study- amoeba , introduce practical on Semaphores
CSE2205- Lab Data Structure -I	List of practicals should be generalized one
CSE2254- Lab Data Structure -II	List of practicals should be generalized one

**Item No. 1.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.-

Previous Evaluation Scheme :

New Evaluation Scheme :

MSE-1 - 15 Marks (Based on Unit 1 & 2)

MSE-1 - 15 Marks (Based on Unit 1 & 2 & 3)

MSE-2 -15 Marks (Based on Unit 3 & 4)

MSE-2 - 15 Marks (Based on Unit 4 & 5 & 6)

MSE-3 -15 Marks (Based on Unit 5 & 6)

RE-MSE -15 marks ( Based on unit 1 to 6)

**Item No. 1.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum. - NA

**Item No. 1.10**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of ODD Term 2021-22.

The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs for End Semester Examination of ODD Term 2020-21 was constituted.

**Item No. 1.11**

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of ODD Term 2021-22- NA

**Item No. 1.12**

To prepare and propose the panel of Internal and external examiners for the various laboratory and other non-theory courses at UG level that will be examined in End Semester Examination ODD Term 2021-22.

The panel of internal and external examiners for the various laboratory courses at UG level for End Semester Examination of ODD Term 2021-22 was constituted.



Nagar Yuwak Shikshan Sanstha's

# Yeshwantrao Chavan College of Engineering

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

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## Department of Computer Science & Engineering

### Item No. 1.13

Preparation of Electronic question Bank for core UG courses.

List of Courses for which EQB is to be prepared :

SN	Semester	Course Name
1.	III	CSE2201: Computer Architecture and Organization
2.		CSE2202: Object Oriented Programming
3.		CSE2204: Data structure -I

### Item No. 1.14

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.

Previous Evaluation Scheme :

MSE-1 - 15 Marks (Based on Unit 1 & 2)  
MSE-2 - 15 Marks (Based on Unit 3 & 4)  
MSE-3 - 15 Marks (Based on Unit 5 & 6)

New Evaluation Scheme :

MSE-1 - 15 Marks (Based on Unit 1 & 2 & 3)  
MSE-2 - 15 Marks (Based on Unit 4 & 5 & 6)  
RE-MSE - 15 marks (Based on unit 1 to 6)

### Item No. 1.15


To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22. -nil

### Item No. 1.16

Any other matter with the permission of the Chair-

Formal Thanks to External Experts on behalf of the BoS Chairman, BoS Members and Member Secretary.

The meeting concluded by vote of thanks by chairperson, BoS of Computer Science and Engineering

  
Dr. L.B. Damaha

Chairman  
BoS in Computer Science & Engineering



  
Prof. Rupa Fadnavis

Member Secretary  
BoS in Computer Science & Engineering



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## Department of Computer Science & Engineering

YCCE/CSE/FORMAT/BOS/MOM/1

07/08/2021

Following members of were present for BoS meeting 1 on 07/08/2021

### External Members

Sr. No.	Name of Honorable External Member	Signature
1	Dr. U. A. Deshpande	
2	Dr. P.S.Deshpande	—
3	Mr. Swapnil Deshmukh	—

### BoS Members

Sr. No.	Name of Member	Signature
1	Dr. Lalit Damahe, Head, CSE	
2	Mrs. R.A.Fadnavis, Member secretary	
3	Dr. K.K.Bhoyar, Member	



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E-mail : principal@ycce.edu, info@ycce.edu

## Department of Computer Science and Engineering

YCCE/CSE/NOTICE/BOS/2

6/1/2022

### Notice of BOS Meeting

To,

Member of Board of Studies in  
Computer Science and Engineering

Dear Sir/ Madam,

The **Second meeting** of the Board of Studies in **Computer Science and Engineering** is scheduled on **Saturday 15<sup>th</sup> January' 2022** in an online mode on Google Meet Platform at **1PM**.(meet id will be mailed to all before one hour of the meet)

**The agenda for the meeting is as follows:**

**Item No. 2.01**

Welcome of new members

**Item No. 2.02**

Installation of member Secretary- already done in first meeting since then, no change

**Item No. 2.03**

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

**Item No. 2.04**

To discuss and suggest the changes in the Scheme of Examination known as Autonomous 2020-21 of the Undergraduate program conducted under the Board

**Item No. 2.05**

To discuss and suggest the minor changes in the syllabi of various courses of 3rd and 4th Semester in Autonomous 2020-21 Schemes of Undergraduate program conducted under the Board. (based on the remarks given by the faculty in course completion reports of previous terms, remarks given by students, teachers, employers, alumni mentioned in their feedback if any under the head of design and review of curriculum)



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E-mail : [principal@ycce.edu](mailto:principal@ycce.edu), [info@ycce.edu](mailto:info@ycce.edu)

## Department of Computer Science and Engineering

**Item No. 2.06**

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate Programs.

**Item No. 2.07**

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under Graduate program

**Item No. 2.08**

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate program conducted under the Board.

**Item No. 2.09**

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

**Item No. 2.10**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG level that will be examined in End Semester Examination Even Term 2021-22

**Item No. 2.11**

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2021-22

**Item No. 2.12**

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG level that will be examined in End Semester Examination Even Term 2021-22.

**Item No. 2.13**

Preparation of Electronic question Bank for core courses

**Item No. 2.14**

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.

**Item No. 2.15**

To discuss and propose scheme for Minor an Honor course and its syllabus. To Discuss and propose Certificate courses and value added courses in 2021-22.

**Item No. 2.16**

Any other matter with the permission of the Chair.

**Dr. L.B. Damahe**  
Chairman

**Prof. Rupa A. Fadnavis**  
Member Secretary

BoS in Computer Science and Engineering

BoS in Computer Science and Engineering

Version-1

Approved by:- BoS Chairman

2021-22





Nagar Yuwak Shikshan Sanstha's

# Yeshwantrao Chavan College of Engineering

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## Department of Computer Science & Engineering

YCCE/CSE/FORMAT/BOS/MOM/2

17/01/2022

### Minutes of BOS Meeting

Second Meeting of the Board of Studies in Computer Science & Engineering was held on Saturday, 17/01/2022 at 1pm. in online mode on Google Meet Platform (Meeting ID: <https://meet.google.com/ytd-tfgm-ifg>).

The meeting was attended by the following members of BoS.

#### External Members

Sr. No.	Name of Honorable External Member	Position held in BoS
1	Dr. U. A. Deshpande	External Expert
2	Mr. Swapnil Deshmukh	External Expert

#### BoS Members

Sr. No.	Name of Member
1	Dr. Lalit Damahe
2	Mrs. R.A. Fadnavis
3	Dr. K.K. Bhojar
4	Mrs. Baharati Karare
5	Ms. Kalyani Karule
6	Ms. Renuka Kadu
7	Mr. Fazil Sheikh

Leave of Absence was granted to following members:

Sr. No.	Name of Member
1.	Dr. P.S. Deshpande
2.	Dr. D.A. Adane
3	Ms. Ashwini Nagpure

Following are the minutes of the meeting:

#### Item No. 2.01

##### Welcome of new members

BoS Chairman Dr. Lalit Damahe welcome all the external and internal members.

#### Item No. 2.02

##### Installation of member Secretary

Version-1

Approved By: BoS CSE

2021-22



Nagar Yuwak Shikshan Sanstha's

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## Department of Computer Science & Engineering

- no

### Item No. 2.03

**Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.**

Minutes of first BoS meeting were read by Member secretary and approved by the BoS unanimously.

### Item No. 2.04

**To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2020-21) of the Undergraduate program conducted under the Board**

To rename PE-1 Course - advanced web technologies to web technology

### Item No. 2.05

**To discuss and suggest the minor changes in the syllabi of various courses in 3<sup>rd</sup> and 4<sup>th</sup> semester courses in Autonomous 2020-21 Schemes of Undergraduate program conducted under the Board.**

Minor changes in the syllabus of following III Semester subject are accepted by the expert members:

semester	Course
III	CSE2201- Computer Architecture and Organization CSE2202 Object Oriented Programming

Minor changes in the syllabus of following IV Semester subject suggested by the expert members are :

se ms ter	Course	Suggestions
IV	CSE2257 Theory of Computation	Course to be shifted to higher semester or make course syllabus little lighter





Nagar Yuwak Shikshan Sanstha's

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## Department of Computer Science & Engineering

### Item No. 2.06

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

Minor changes in the books of following subject are accepted by the expert members:

semester	Course
III	CSE2206- Software laboratory CSE2202 Object Oriented Programming

### Item No. 2.07

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate programs.

se ms ter	Course	Suggestions
IV	CSE2252- Lab: Operating system	Process Management practical should taken after semaphores or keep two separate practicals

### Item No. 2.08

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.-

Number of quizzes should be reduced . 4-5 quizzes are sufficient

### Item No. 2.09

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum. - NA

### Item No. 2.10

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of EVEN Term 2021-22.

The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs for End Semester Examination of Even Term 2021-22 was constituted.



Nagar Yuwak Shikshan Sanstha's

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## Department of Computer Science & Engineering

### Item No. 2.11

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Even Term 2021-22- NA

### Item No. 2.12

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG level that will be examined in End Semester Examination EVEN Term 2021-22.

The panel of internal and external examiners for the various laboratory courses at UG level for End Semester Examination of EVEN Term 2021-22 was constituted.

### Item No. 2.13

Preparation of Electronic question Bank for core UG courses.

List of Courses for which EQB is to be prepared :

SN	Semester	Course Name
1.	III	CSE2201: Computer Architecture and Organization
2.		CSE2202: Object Oriented Programming
3.		CSE2204: Data structure -I

### Item No. 2.14

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.

No suggestions

### Item No. 2.15

To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2021-22. -nil

### Item No. 2.16

Any other matter with the permission of the Chair-

Formal Thanks to External Experts on behalf of the BoS Chairman, BoS Members and Member Secretary.

The meeting concluded by vote of thanks by chairperson, BoS of Computer Science and Engineering

Dr. L.B. Damahe

Chairman

BoS in Computer Science & Engineering

Prof. Rupa Fadnavis

Member Secretary

BoS in Computer Science & Engineering

Version-1



Approved By: BoS CSE

2021-22



Nagar Yuvak Shikshan Sanstha's

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## Department of Computer Science & Engineering

YCCE/CSE/FORMAT/BOS/MOM/2

17/01/2022

Following members of were present for BoS meeting 2 on 17/01/2022

### External Members

Sr. No.	Name of Honorable External Member	Signature
1	Dr. U. A. Deshpande	
2	Dr. P.S.Deshpande	—
3	Mr. Swapnil Deshmukh	

### BoS Members

Sr. No.	Name of Member	Signature
1	Dr. Lalit Damahe, Head, CSE	
2	Mrs. R.A.Fadnavis, Member secretary	
3	Dr. K.K.Bhoyar, Member	
4	Ms.K.P.Karule	
5	Ms. Bharti Karare	
6	Ms. Renuka Kadu	
7	Mr. Fazil Sheikh	
8	Ms. A.Nagpure	Absent.

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RUPA FADNAVIS is presenting

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REC

RUPA FADNAVIS is presenting

Fourth Semester																
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
21																
22																
23	1	4	BS	DE2207	Discrete Mathematics & Graph Theory	T	3	0	0	3	3	30	30	40	3	Hours
24	2	4	PC	CSE2251	Operating Systems	T	3	0	0	3	3	30	30	40	3	Hours
25	3	4	PC	CSE2252	Lab Operating Systems	P	0	0	2	2	1	60	40			
26	4	4	PC	CSE2253	Data Structures II	T	3	0	0	3	3	30	30	40	3	Hours
27	5	4	PC	CSE2254	Lab Data Structures II	P	0	0	2	2	1	60	40			
28	6	4	PC	CSE2255	Introduction to Data Analysis	T	3	0	0	3	3	30	30	40	3	Hours
29	7	4	PC	CSE2256	Lab Introduction to Data Analysis	P	0	0	2	2	1	60	40			

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RUPA FADNAVIS is presenting

No.	Task	OS	Topic
1	Study of Windows task manager (Exploring various tabs, operations, processes, services, taskmgr, performance)	Windows	OS-1
2	Study of Advanced Linux shell commands (Process management, Memory management, Networking, etc.)	Linux Commands	OS-1
3	Write a program that illustrates the creation of child process using fork system call. Each child and parent Process perform different task.	Process Control	OS-1
4	Write a multitasking program to multiply 6 two given matrices.	Threads	OS-1
5	Simulate a priority scheduling algorithm to any non-preemptive CPU scheduling algorithm.	CPU Scheduling	OS-4
6	Write a program to perform inter-process communication using shared memory or pipe or message queue.	Inter-Process Communication	OS-4
7	Write a program that solves two process Producer-Consumer problem with bounded buffer using semaphores.	Semaphore	OS-4

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RUPA FADNAVIS is presenting

CO Mapping with activities for the course	M	(12 Marks)	(12 Marks)	(12 Marks)	(12 Marks)
Course Name	Module of TA	22 ONLINE QUIZES ON VITEI COMPLETED	Activities & Decided by External teacher or assignment of TA0	Attendance	*ACTIVITIES COMPLETED BY ALL TEACHERS (COLLECTED BY COURSE) FOR EXAMINATION
Course Code	Schedule	After 10:00 AM (VITEI) Regularly	Practical Video assignment / Project / Seminar / Report / Viva Voce / Interview / etc.	Completion of syllabus	1. Formatted PDF and submitted to the teacher. 2. SHARABLE PDF certificate issued with teacher verification ON 3. Award given by the student as COURSE MASTER or TEACHER or assigned from the VITEI TEAM
Total Credits	Medium of Submission	Google Class Room	Research paper / Journal / Article / Seminar / Report / Viva Voce / Interview / etc.	MIS	
EW - 40					
MIS - 1-15 marks		Minimum 12 Quizzes containing minimum 10			

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## Department of Computer Science and Engineering

YCCE/CSE/NOTICE/BOS/3

27/7/2022

BOS MEETING-3 AGENDA  
JULY 2022

To,

Member of Board of Studies in Computer

Science and Engineering Dear Sir/ Madam,

The **Third meeting** of the Board of Studies in **Computer Science and Engineering** is scheduled on **Saturday 30<sup>th</sup> July' 2022 at 11AM.**

**The agenda for the meeting is as follows:**

**Item No. 3.01**

Welcome of new members

**Item No. 3.02**

Installation of member Secretary – no change

**Item No. 3.03**

Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

**Item No. 3.04**

To discuss and suggest the action taken on

- i) Co/Po attainment of subjects taught in previous semester
- ii) Result analysis of subjects taught in previous semester
- iii) Stakeholders feedback on review and design of curriculum
- iv) In Sem, End Sem and Exit feedback on Teaching Learning & curriculum

**Item No. 3.05**

To discuss and suggest the changes in the Scheme of Examination known as Autonomous 2020-21 of the Undergraduate program conducted under the Board .and to approve and ratify SoE22 and all syllabi of B.Tech I & II year

**Item No. 3.06**

To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2020-21 Schemes of Undergraduate program conducted under the Board. (based on the remarks given by the faculty in course completion reports of previous terms, remarks given by students, teachers, employers, alumni mentioned in their feedback if any under the head of design and review of curriculum)



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E-mail : principal@ycce.edu, info@ycce.edu

## Department of Computer Science and Engineering

### Item No. 3.07

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate Programs.

### Item No. 3.08

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate program.

### Item No. 3.09

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate programs conducted under the Board.

### Item No. 3.10

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum.

### Item No. 3.11

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of Odd Term/Even Term 2022-23

### Item No. 3.12

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Odd/Even Term 2022-23

### Item No. 3.13

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG level that will be examined in End Semester Examination Odd/Even Term 2022-23.

### Item No. 3.14

Preparation of Electronic question Bank UG courses according to SoE 2020-21

To review solutions to all questions of Electronic Question banks for all courses

### Item No. 3.15

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.

### Item No. 3.16

To discuss and propose scheme for Minor an Honor course and its syllabus. To Discuss and propose Certificate courses and value-added courses in 2022-23.

### Item No. 3.17

Any other matter with the permission of the Chair.

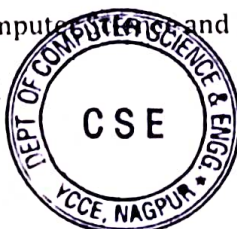
Dr. L.B. Damahe  
Chairman

Prof. Rupa A. Fadnavis  
Member Secretary

BoS in Computer Science and Engineering

BoS in Computer Science and Engineering

Version-1



Approved by:- BoS Chairman

2021-22



Nagar Yuwak Shikshan Sanstha's

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## Department of Computer Science & Engineering

YCCE/CSE/FORMAT/BOS/MOM/3

30/07/2022

### Minutes of BOS Meeting

Third Meeting of the Board of Studies in Computer Science & Engineering was held on Saturday, 30/07/2022 at 11 am. in offline mode at Board room Information Technology department.

The meeting was attended by the following members of BoS.

#### External Members

Sr. No.	Name of Honorable External Member	Position held in BoS	Sign
1	Dr. U. A. Deshpande	External Expert	Bpucce (Recd) U. A. Deshpande
2	Dr. P.S.Deshpande	External Expert	W. S.

#### BoS Members

Sr. No.	Name of Member	Sign
1	Dr. Lalit Damahe	[Signature]
2	Mrs. R.A.Fadnavis	[Signature]
3	Dr. K.K.Bhoyar	[Signature]
4	Mrs Bharati Karare	[Signature]
5	Mr. Fazil Sheikh	[Signature]
6	Ms. Renuka Kadu	[Signature]
7	Ms.Ashwini Nagpure	[Signature]
8	Ms. Kalyani Karule	[Signature]
9	Mrs. V.N. Bagade	[Signature]
10	Mrs. P.P. Wagale	[Signature]
11	Mrs. C.A.Tripathi	[Signature]
12	Mrs. A.T. Paul	[Signature]
13	Mrs. S. B. Meshram	[Signature]
14	Ms. R.P. Suryavanshi	[Signature]
15	Mrs. K.R. Kolarkar	[Signature]
16	Mrs. N.P. Giradkar	[Signature]

Leave of Absence was granted to following members:

Sr. No.	Name of Member
1.	Dr. D.A Adane, RTMNU nominee
2.	Mr.Swapnil Deshmukh, External Expert





## Department of Computer Science & Engineering

Following are the minutes of the meeting:

### Item No. 3.01

#### Welcome of new members

BoS Chairman Dr. Lalit Damahe welcome all the external and internal members.

### Item No. 3.02

#### Installation of member Secretary

- no change

### Item No. 3.03

#### Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

Minutes of second BoS meeting were read by Member secretary and approved by the BoS unanimously.

### Item No. 3.04

To discuss and suggest the action taken on

- i. Co/PO attainment of subjects taught in previous semester
- ii. Result analysis of subjects taught in previous semester
- iii. Stakeholders feedback on review and design of curriculum
- iv. In Sem, End Sem and Exit feedback on Teaching Learning & curriculum

#### i) CO/PO attainment of subjects taught in previous semester

The complete process of CO/PO attainment has been discussed with the BoS Experts. The experts appreciated and approved the process of attainment. On the basis of direct and indirect assessment, CO/PO attainment of odd semester courses in 2021-22 was shown to BOS expert members and was approved. It is observed that all PO6, PO7, PO8 and PO11, PSO1 and PSO2 are yet not mapped through subjects upto 4<sup>th</sup> semester. These POs will be mapped through next semester's courses. Attainment of PO12 is not up to the mark. So efforts will be taken to improve this attainment in future.



## Department of Computer Science & Engineering

Program level Course-PO matrix of all courses including first year courses Program  
 Articulation Matrix: All courses including first year courses. (Semester 1 to Semester 8)

Name of Program: **Department of Computer Science and Engineering**

	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
		GE-2101 Engineering Mathematics-I	2	2											
GE-2105 Engineering Physics GE-2106 Engineering Physics Lab.	2.6	2.8													
GE-2107 Communication Skills										2	2				
CV-2101 Engineering Mechanics CV-2102 Engineering Mechanics (Lab)	3	2.8							2	2	2	2			
EE-2101 Basic Electronics	2	2	1												
IT-2101 Introduction to Computer Programme															
IT-2102 Introduction to Computer Programme (Lab)	2.5	1.7	2												
SEMES TER-1															
GE-2102 Engineering Mathematics-II	2	2	2												
GE-2103 Engineering Chemistry GE-2104 Engineering Chemistry(Lab)	3	2.3						2.25							
GE-2108 Social Science							3					3	3		
EL-2101 Electrical Engineering EL-2102 Electrical Engineering (Lab)	3	1	1	1	1				1	1	1	1	1		
ME2101 Engineering Graphics Engineering Graphics LAB ME2102	3	2			3					2	3		3		
SEMES TER-2															
ME-2103 Workshop Practice															
GE2201 Engineering Mathematics III	3	3	3												
CSE2201 Computer Architecture and Organisation	3					1							1		
CSE2202/CSE2203 Object Oriented Programming	3	2.5	3	3	1					2	1				
CSE2204/CSE2205 Data Structures I	3	2			2										
CSE2206 Software Lab-I	3	1	1							2					
SEMES TER-3															
Discrete Mathematics & Graph Theory	2	2													
CSE2251/CSE2252 Operating Systems	2.25	2.5		2											
CSE2253/CSE2254 Data Structures II	2.5	2.75	3		3										
CSE2255/CSE2256 Introduction to Data Analysis	3	3		3	3										
CSE2257 Theory of Computation	1.25	2	2.75	2.5											
SEMES TER-4															
<b>Average</b>		<b>2.6</b>	<b>2.2</b>	<b>2.1</b>	<b>2.3</b>	<b>2.0</b>	<b>3.0</b>	<b>2.3</b>	<b>1.5</b>	<b>1.8</b>	<b>1.8</b>	<b>2.0</b>	<b>2.0</b>		

### Evaluation of each PO & PSO

Attainment Parameters A:U	PO1		PO2		PO3		PO4		PO5		PO6		PO7		PO8		PO9		PO10		PO11		PO12		PSO1		PSO2	
	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A
	Direct	3.00	2.59	2.50	2.28	2.50	2.18	3.00	2.78	1.33	0.83							2.00	1.73	1.00	0.91			1.00	0.45	2.50	2.05	2.00
	86.36%		91.38%		87.25%		92.50%		61.88%								86.25%		91.25%				45.00%		82.08%		90.25%	
Indirect	3.00	2.99	3.00	2.99	3.00	2.99	3.00	2.99	3.00	2.99	3.00	2.99	3.00	2.99	3.00	2.99	3.00	2.99	3.00	2.99	3.00	2.99	3.00	2.99	3.00	2.99	3.00	2.99
	99.67%		99.67%		99.67%		99.67%		99.67%		99.67%		99.67%		99.67%		99.67%		99.67%		99.67%		99.67%		99.67%		99.67%	
Total	3.00	2.67	2.60	2.43	2.60	2.34	3.00	2.82	1.67	1.26	3.00	2.99	3.00	2.99	3.00	2.99	2.20	1.98	1.40	1.33	3.00	2.99	1.40	0.96	1.67	1.42	1.80	1.68
	89.02%		93.29%		90.12%		93.93%		75.48%		99.67%		99.67%		99.67%		89.91%		94.86%		99.67%		68.43%		85.00%		93.33%	



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## Department of Computer Science & Engineering

### 1. Result analysis of subjects taught in previous semester.

The overall and subject wise result analysis of Even Term 2021-22 has been shown to the BoS Experts. Experts appreciated the efforts taken by the faculty for good results.

S.N	Semester	Pass %
1	IV	89.54

As the results of all the semesters are above 80%, No action required to be taken

### 2. Stake holders feedback on review and design of curriculum –

S.N.	Stakeholder	Feedback	Action Taken
1.	Parent	Industry oriented subject should be there	Mobile programming made to be Industry aligned elective in 5 <sup>th</sup> semester
2	Faculty	Reunitization of unit I and II to be done in Introduction to data analysis course	Updatons incorporated in the said course syllabus.

### 3. In Sem, End Sem and Exit feedback on Teaching Learning & curriculum.

All feedback has been discussed with BoS Experts.

Sem	No. of faculty with feedback more than 90%		No. of faculty with feedback more than 80%		No. of faculty with feedback less than 80% and greater than 60%		No. of faculty with feedback less than 60%	
	In Sem	End Sem	In Sem	End Sem	In Sem	End Sem	In Sem	End Sem
IV	6/7	7/7	01/7	-	-	-	-	-

As feedback on teaching learning is above 60%, BoS experts appreciated and asked to maintain the same.

#### Item No. 3.05

To discuss and suggest the changes in the Scheme of Examination (known as Autonomous 2018 & B.Tech 2020) of the Undergraduate and Post graduate programs conducted under the Board. To approve and ratify SoE22 and all syllabi of B.Tech and M.Tech I & II year

SoE B.Tech 2020 :

To rename PE-1 Course - advanced web technologies to web technology

SoE22 was verified by experts . Following suggestions were given :

1. Remove Transforms and Partial Differential Equations instead add Linear algebra or Numerical methods
2. Audit course – Green computing syllabus need modifications or other course that can be added as Open elective are Latex, Yoga or Physical Education.



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3. Database system- I and II syllabus need to be revised design DBMS-I syllabus up to normalization and add topics - query processing, concurrency control, transaction management in DBMS-II Or keep DBMS only as a single subject including all above topics .
4. Move introduction to Data analysis course in 3<sup>rd</sup> or 4<sup>th</sup> semester.

### Item No. 3.06

To discuss and suggest the minor changes in the syllabi of various courses in Autonomous 2018 & B.Tech 2020 Schemes of Undergraduate and Post graduate programs conducted under the Board.

Minor changes in the syllabus of following B.Tech SoE2020 -IV Semester subject are suggested by the expert members:

semester	Course	Suggestions
IV	CSE2255- Introduction to data Analysis	<ul style="list-style-type: none"><li>• Unit 4 should include non parametric methods for hypothesis testing</li><li>• Add multivariate regression in last unit</li></ul>

Minor changes in the syllabus of following V Semester subject are suggested by the expert members:

semester	Course	Suggestions
V	CSE2301- Database Management Systems	<ul style="list-style-type: none"><li>• Add topic JDBC connectivity</li></ul>
V	CSE2313 - PE I: Web Technologies	<ul style="list-style-type: none"><li>• Add web service implementation topic</li></ul>
V	CSE2331 - OE I: Database System Essentials	<ul style="list-style-type: none"><li>• Includes PL/SQL, NO-SQL concepts</li></ul>
V	CSE2333 - OE I: Programming with Python	<ul style="list-style-type: none"><li>• Add topic " data visualization"</li></ul>

### Item No. 3.07

Version-1

Approved By: BoS CSE

2022-23



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## Department of Computer Science & Engineering

To discuss and suggest the changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

Minor changes in the books of following subject are suggested by the expert members:

semester	Course
V & VI	CSE2303- Design & Analysis of Algorithms (Algorithm Design by Tardos and Kleinberg) CSE2351- Computer Networks("Computer Networking- A Top down Approach" by KeithW. Ross and Kurose)

### Item No. 3.08

To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate programs.

SoE B.Tech- 2020 scheme:

semester	Course	Suggestions
V	CSE2302- Lab: Database Management Systems	<ul style="list-style-type: none"><li>Revise practical list</li></ul>
V	CSE2304- Lab: Design & Analysis of Algorithms	<ul style="list-style-type: none"><li>Revise practical list</li></ul>
V	CSE2318 PE I-Lab: Mobile Programming	<ul style="list-style-type: none"><li>Use swift tool for iphone as well as android.</li><li>Practicals to be based on different ( at least 4) design pattern category(like survey form, single form, multiform, sensor based, location based, departmental application)</li></ul>
V	CSE2314 - PE I: Lab: Web Technologies	<ul style="list-style-type: none"><li>Add case study based practicals</li></ul>
VI	CSE2354 - Lab: Compilers	<ul style="list-style-type: none"><li>Revise practical list completely</li></ul>
VI	CSE2362 - PE II: Lab: Image Processing	<ul style="list-style-type: none"><li>Use Raspberry Pi or Arduino (in python)</li></ul>
IV	CSE2256- Lab:	<ul style="list-style-type: none"><li>Include case studies</li></ul>



## Department of Computer Science & Engineering

	Introduction to data Analysis	<ul style="list-style-type: none"><li>• Take some practical on integrating R code in Java (input output in java, processing to be done in R)</li></ul>
IV	CSE2206- Lab: Software laboratory	<ul style="list-style-type: none"><li>• Includes practicals based on Importing Packages</li><li>• circuit designing using python.</li></ul>

### Item No. 3.09

To discuss and suggest the changes in the Academic Regulations governing the Undergraduate programs conducted under the Board.-

### Item No. 3.10

To discuss and propose the new courses/MOOCs received from the faculty for inclusion in the curriculum. - NA

### Item No. 3.11

To prepare and propose the panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs that will be examined in End Semester Examination of ODD Term 2022-23.

The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs for End Semester Examination of ODD Term 2022-23 was constituted.

### Item No. 3.12

To prepare and propose the list of question paper setters and evaluators for all the Postgraduate courses under the Board that will be examined in End Semester Examination of ODD Term 2022-23 - NA

### Item No. 3.13

To prepare and propose the panel of internal and external examiners for the various laboratory and other non-theory courses at UG level that will be examined in End Semester Examination ODD Term 2022-23.

The panel of internal and external examiners for the various laboratory courses at UG level for End Semester Examination of ODD Term 2022-23 was constituted.



## Department of Computer Science & Engineering

### Item No. 3.14

Preparation of Electronic question Bank for core UG courses.

List of Courses for which EQB is prepared :

SN	Semester	Course Name
1.	III	CSE2201: Computer Architecture and Organization
2.		CSE2202: Object Oriented Programming
3.		CSE2204: Data structure -I
4.	IV	CSE2255: Introduction to Data Analysis
5.		CSE2251: Operating System
6.		CSE2257: Theory Of Computation

List of Courses for which EQB is to be prepared-

SN	Semester	Course Name
1.	IV	CSE2253: DataStructure 2

### Item No. 3.15

To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses- Number of Quizzes to be reduced.

### Item No. 3.16

To discuss and propose scheme for Minor an Honor course and its syllabus. Discussed and proposed Certificate courses and value added courses in 2022-23.

Proposed Certificate courses and value added courses in 2022-23

Sr. No.	Sem	Name of Course	Proposed Date
1	Odd	Salesforce Admin	01/10/2022
2		Data Analysis Using Microsoft Excel	05/11/2022
3	Even	Salesforce Development / Certification Course on Amazon Web Services	11/02/2023
4		Introduction to Ethical Hacking / Hands on Animation using Adobe Flash	18/03/2023



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## Department of Computer Science & Engineering

### Item No. 3.17

#### Any other matter with the permission of the Chair-

Formal Thanks were given to External Experts on behalf of the BoS Chairman, BoS Members and Member Secretary.

The meeting concluded by vote of thanks by chairperson, BoS of Computer Science and Engineering

  
Prof. Rupa Fadnavis

Member Secretary

BoS in CSE

  
Dr. L.B. Damahe

Chairman

BoS in CSE







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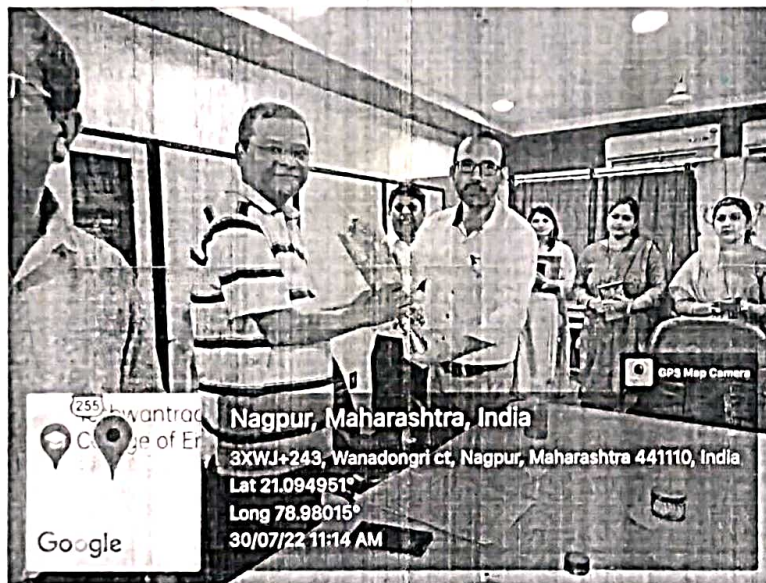
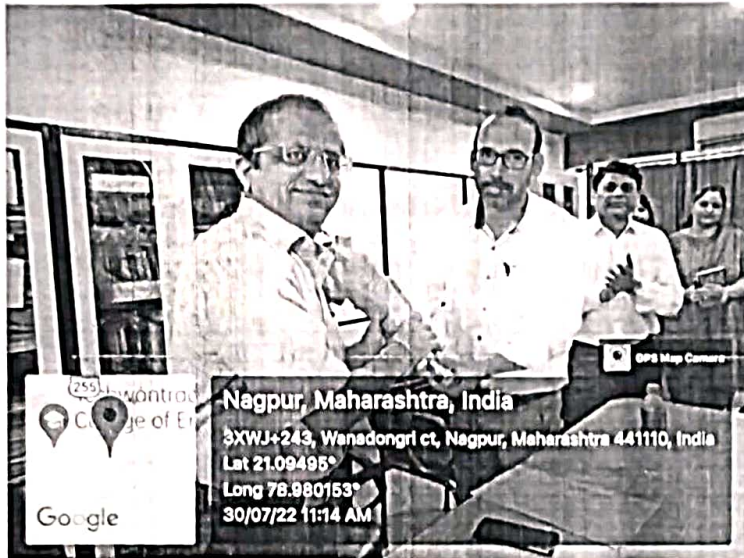
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## Department of Computer Science & Engineering





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## Department of Computer Science & Engineering



### III Semester

## CSE2201 : Computer Architecture and Organisation

Unit No.	Contents	Max. Hrs.
1	Basic Structure of Computer Hardware and Software: Functional Units, Basic Operational Concepts, Bus Structures, Software, processor clock and basic performance evaluation, number systems, and arithmetic operations, Memory Locations, addressing and encoding of information, instruction and instruction sequencing, branching, condition codes, zero, one and two address instructions, RISC vs CISC computers.	6
2	Addressing modes, Stacks, and Subroutines, Processing Unit: Some fundamental concepts, Execution of a complete instruction, One, two, and three bus organization, Sequencing of control Signals, Assembly language programming.	6
3	Processor Design, hardwired control, Microprogrammed Control: Microinstructions, Grouping of control signals, Microprogram sequencing, Micro Instructions with next Address field, prefetching microinstructions.	7
4	Arithmetic (Fixed and Floating point): Number Representation, Addition of Positive numbers, Logic Design for fast adders, Addition and Subtraction, Arithmetic and Branching conditions, Multiplications of positive numbers, Signed- Operand multiplication, Booth's Algorithm , fast Multiplication, Integer Division algorithms, Floating point numbers and operations, IEEE floating point standards	7
5	The Main Memory: Basic concepts, Memory Hierarchy, semiconductor RAM memories, Static RAM vs Dynamic RAM, semiconductor ROM memories, DDRAM, Memory system considerations, Speed , Size and Cost. Cache Memory: cache memory mapping techniques, secondary storage devices, HDD vs SSD, Performance Considerations.	6
6	Computer Peripherals, I/O modules and I/O Devices, I/O transfers : program controlled, memory mapped and I/o mapped I/O, Interrupt handling and Interrupt driven I/O, DMA.  Pipelining: Basic Concepts, Data Hazards and Instruction Hazards. Introduction to GPU and GPU Computing.	6

#### Text Books

SN	Title	Edition	Authors	Publisher
1	Computer Organization	5th edition	V. Carl Hamacher, Zvonko Vranesic,	McGraw Hill Publications.
2	Computer Architecture: A Quantitative approach	6th edition	John L. Hennessy, David A. Patterson	MK series in computer architecture and design

#### Reference Books

SN	Title	Edition	Authors	Publisher
1	Computer Organization and Architecture	6th edition	Willaiam Staliing	Pearson Education
2	Computer Architecture & Organization	3rd edition	J.P. Hayes	McGraw Hill Publications

		Jan 2021	1.00	Applicable for AY 2021-22 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

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**BE SoE and Syllabus 2021**

(Scheme of Examination w.e.f. 2021-22 onward)

**Computer Science Engineering****SoE No.  
CSE-201****III Semester****CSE2202 : Object Oriented Programming**

Objective	Course Outcome
Student will :  1. Learn the Concepts of Java programming language  2. Learn Java's syntax, idioms, patterns, and styles to write simple JAVA program.  3. To develop object centric thinking and to use object oriented features of JAVA to write complex programs.  4. Learn the essentials of the Java class library, and learn how to learn about other parts of the library when you need them in application development	After completion of the course students will be able to:  1. Demonstrate the understanding of Object oriented concepts.  2. Analyze problem statement and identify appropriate objects and methods for problem solving.  3. Make use of predefined classes and frameworks for reducing coding efforts and improving performance.  4. Apply features of object oriented programming to write programs to solve real world problems.

Unit No.	Contents	Max. Hrs.
1	Introduction to object oriented programming paradigm, procedure oriented programming vs OOP, features of OOP, benefits of OOP, defining class, instantiating a class. Declaring Classes and objects, Creating Classes and objects, methods, argument passing, Recursion, this keyword, constructors ,Visibility control	8
2	Other Class Modifiers: static, final, Abstract, Method overloading, Super keyword, Overriding (polymorphism), nested inner classes, packages (encapsulation), Interfaces (multiple Inheritances)	7
3	Arrays, Strings Arrays, One Dimensional Arrays, Two Dimensional Arrays, variable size arrays, Strings and String Buffer classes, Wrapper Classes	8
4	exception handling mechanism: Fundamentals exception types, uncaught exception, try-catch Block, displaying description of an exception, multiple catch clauses, nested try-catch statements, throw, throws, finally, built in exceptions, creating own exception subclasses. <b>Introduction to multithreading, life cycle of Thread, Runnable interface and Thread class.</b>	7
5	Collection Vector and Framework: Introduction to collection framework, Vectors, Array List, Linked list, Hashset, TreeSet, Hashmap, <b>Accessing a collection via Iterator, Comparators.</b>	7
6	IO Steam: Introduction to stream classes, use of stream classes,I/O stream, bytes stream, character stream, predefined stream, reading console input, reading character, reading string, writing console output, the print write class, reading & writing files, transient and volatile modifiers, <b>Introduction to AWT, Working with Windows, Graphics and Text, Introduction to Swings.</b>	8

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**Computer Science Engineering****SoE No.  
CSE-201**

Text Books				
SN	Title	Edition	Authors	Publisher
1	Java Complete Reference	7th	Herbert Schildt	McGraw-Hill

Reference Books				
SN	Title	Edition	Authors	Publisher
1	Thinking in Java	4th	Bruce Eckel	Prentice Hall
2	Programming with Java	-	E. Balagurusamy	TATA McGraw-Hill

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## Computer Science Engineering

**SoE No.  
CSE-201**

### V Semester

### CSE2331 – OE I: Database System Essentials

CSE 2331	<b>Database System Essentials</b>			L= 3	T=0	P=0	Credits=3
Evaluation Scheme	MSE-I	MSE-II	TA	ESE	Total	ESE Duration	
	15	15	30	40	100	3 Hrs	

Unit No.	Contents	Max. Hrs.
Unit:1	<b>Database system Essentials:</b> Purpose of Database systems, Example of Database Applications, Basic Terminologies, Data Models, Entity–Relationship Model, Relational Model.	6 Hours
Unit:2	<b>Relational Databases:</b> Introduction, SQL, DDL, DML, DCL, Database Integrity and Security, Relational–Database Design, database constraints, functional dependencies and normalization.	7 Hours
Unit:3	<b>Data Storage and Querying:</b> Storage and File Structure, Indexing and Hashing, Data Retrieval, Query Processing, data-access techniques, query-evaluation.	6 Hours
Unit:4	<b>Transaction Management:</b> Introduction, transaction atomicity, consistency, isolation, and durability, concurrency control, serializability, locking, time stamping, Deadlock issues.	6 Hours
Unit:5	<b>Database System Architecture:</b> Centralized systems, client–server systems, parallel and distributed architectures, and network types.	6 Hours
Unit :6	<b>PL-SQL and No SQL:</b> Introduction to PL-SQL, Block Structure: Variables, Decision Structures & Loops, Basic PL-SQL programming. Overview of NoSQL Databases, SQL Vs NO SQL, Types of NoSQL Database	6 Hours

Text Books			
SN	Title	Authors	Publisher
1	Database System Concepts	Silberschatz–Korth–Sudarshan	McGraw–Hill, 2019
2	Fundamentals of Database Systems	Elmasri, Navathe & Gupta	Pearson Education
3		P. S. DESHPANDE	

Reference Books			
SN	Title	Authors	Publisher

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**BE SoE and Syllabus 2021**

(Scheme of Examination w.e.f. 2021-22 onward)

## Computer Science Engineering

**SoE No.  
CSE-201**

1	Database Systems	S. K. Singh	Pearson Education
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YCCE e- library book links [ACCESSIBLE FROM COLLEGE CAMPUS]	
1	<a href="http://link.springer.com/openurl?genre=book&amp;isbn=978-1-4613-6193-0">http://link.springer.com/openurl?genre=book&amp;isbn=978-1-4613-6193-0</a>
2	<a href="https://onlinelibrary.wiley.com/doi/book/10.1002/9780470168042">https://onlinelibrary.wiley.com/doi/book/10.1002/9780470168042</a>
MOOCs Links and additional reading, learning, video material	
1	<a href="https://onlinecourses.nptel.ac.in/noc21_cs04/preview">https://onlinecourses.nptel.ac.in/noc21_cs04/preview</a>
2	<a href="https://onlinecourses.nptel.ac.in/noc22_cs80/preview">https://onlinecourses.nptel.ac.in/noc22_cs80/preview</a>

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YCCE-CSE-2



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**BE SoE and Syllabus 2021**

(Scheme of Examination w.e.f. 2021-22 onward)

**Computer Science Engineering**

**SoE No.  
CSE-201**

V Semester

CSE2301– Database Management Systems

Unit No.	Contents	Max. Hrs.
1	<b>Introduction to Database Management System:</b> General File System and Database system Concepts and Architecture, Data Models, Schemas and Instances, Abstraction & Different Levels of Data Abstraction, Data Independence: Logical & Physical Independence.	8
2	<b>Entity-Relationship Model:</b> Entities and Entity Sets, Relationships and Relationship Sets, Attributes, Mapping Constraints, Keys, Entity Relationship Diagram, Reducing E-R Diagrams to Tables, Generalization, Aggregation, Design of an E-R Database Scheme	6
3	<b>SQL:</b> Data definition language (DDL), Data Manipulation Language (DML), Basic structure of SQL Queries, Set operations, Null Values, Nested subqueries, views, modification of database, transaction, Joins. <b>Advanced SQL:</b> SQL data types & schemas, Integrity Constraints, Domain Constraints, Assertions, triggers, Advanced SQL Features. <b>Jdbc connectivity</b>	8
4	<b>Relational Data Model:</b> Structure of Relational Databases <b>Relational Algebra:</b> Structure of relational databases, Fundamental Relational-Algebra Operations, Additional relational algebra operations, extended relational algebra operations, modification of the databases	6
5	<b>Relational Database Design:</b> Pitfalls in Relational Database Design, Functional Dependencies, Normalization using Functional Dependencies, Alternative Approaches to Database design. <b>Transaction Management:</b> ACID Properties, Implementation of ACID Properties, Database processes to support ACID Properties, Schedules, and Testing of Serializability.	6
6	<b>Concurrency Control:</b> Lock-based Protocols, Timestamp Based Protocols, Validation Techniques, Multiple Granularity, Multi version Timestamp Protocol, Transaction isolation levels, Read consistency. <b>Crash Recovery:</b> Failure Classification, Log Based Recovery, Buffer Management, Checkpoints, Shadow Paging.	6

SN	Title	Authors	Publisher
1	Database System Concepts	Korth, Silberschatz	McGraw-Hill publication
2	Fundamentals of Database Systems	Elmasri, Navathe & Gupta	Pearson Education.

SN	Title	Authors	Publisher
1	Database Systems	Connolly	Pearson Education
2	Database Systems	S. K. Singh,	Pearson Education

		Jan 2021	1.00	Applicable for AY 2021-22 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	



**IV Semester**  
**CSE2255 – INTRODUCTION TO DATA ANALYSIS**

Unit No.	Contents	Max. Hrs.
1	INTRODUCTION TO STATISTICS & PROBABILITY: : The role of statistics. Grouping and displaying data. Measures of central tendency and dispersion, Basic terminology in probability, probability rules, Probabilities under conditions of statistical independence, probabilities under conditions of statistical dependence.	6
2	PROBABILITY DISTRIBUTION: What is probability distribution, random variables, use of expected value in decision making, and various probability distributions: Binomial, Poisson, Uniform and Normal distributions.	6
3	SAMPLING DISTRIBUTION : Introduction to sampling distributions, sampling distribution of mean and proportion, application of central limit theorem, sampling techniques.  ESTIMATION THEORY: Estimation: Point and Interval estimates ,confidence intervals ,calculating interval estimates for population parameters of large sample and small samples, determining the sample size	7
4	TESTING OF HYPOTHESIS: : Introduction, null hypothesis, tests of hypothesis and significance, type I and type II errors, one tailed and two tailed tests, p-value one sample tests for means and proportions of large samples (z-test), one sample tests for means of small samples (t-test), Chi-square tests for goodness of fit. Analysis of variance.	7
5	<b>NON-PARAMETRIC METHODS: Sign test for paired data. Rank sum test. Mann –Whitney U test and Kruskal Wallis H test. One sample run test, rank correlation. Kolmogorov-Smirnov –test.</b>	6
6	REGRESSION and CORRELATION: Estimation of regression line by least square method, linear regressions, Multivariate regression ,Correlation analysis,	6

		Jan 2021	1.00	Applicable for AY 2021-22 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

## V Semester

### CSE2313 – PE I: Web Technologies

CSE 2313	<b>Web Technologies</b>			L= 3	T=0	P=0	Credits=3
Evaluation Scheme	MSE-I	MSE-II	TA	ESE	Total	ESE Duration	
	15	15	30	40	100	3 Hrs	

Objective	Course Outcome
1. To learn basic aspects of Web services, Server side scripting, Advanced CSS 2. To introduce with AJAX 3. To learn Basics of Advanced Client side programming 4. To learn JavaScript	On completion of this course, the student will be able to 1. Design Web pages using HTML5 2. Build an interactive website with CSS3 3. Develop basic programming skills using JavaScript 4. Use features of Client side programming

Unit No.	Contents	Max. Hrs.
1	<b>Web Essentials:</b> Clients, Servers, and Communication, Overview of Internet, Intranet, Basic Internet Protocols (HTTP, FTP, SMTP), WWW, HTTP: HTTP Request and Response message, Client Side Scripting, Server Side Scripting.	<b>6 Hours</b>
2	<b>Hyper Text Markup Language (HTML5):</b> Structure of an HTML Program, Basic HTML Tags (Headings, Paragraph, Division, Text formatting, Image element, Anchors), HTML Lists (Ordered Lists, Unordered Lists, Description Lists), HTML Links (Href Attribute, Target Attribute), HTML colors, Table handling in HTML, HTML Layout Elements (Semantic Elements), HTML Style Attribute, HTML class and id Attribute, HTML Forms, HTML Media(video, audio, YouTube).	<b>6 Hours</b>
3	<b>Cascading Style Sheets (CSS3):</b> Introduction to CSS3, Differences between CSS3 and earlier CSS specifications, Inserting CSS: Inline, Internal, External, CSS3 selectors, CSS3- Colors, Backgrounds, Borders, Text, Font, List, CSS3 Box Model, CSS3 Navigation Bar (Vertical, Horizontal), Media Queries, Basics of Responsive Web Designs, Introduction to Bootstrap.	<b>6 Hours</b>
4	<b>Client Side Scripting with JavaScript:</b> Introduction to JavaScript, Variables and Data Types, Operators and Expressions in JavaScript, Functions In JavaScript, Arrays, Loops and control statement, RegExp, Dialog Boxes, JavaScript Events. Event Handling and Form Validation, Error Handling, Handling Cookies, XML, JSON. Introduction to Web Frameworks- React JS, Angular JS.	<b>6 Hours</b>
5	<b>Advanced Client side programming:</b> WebSockets, Server-Sent Event (SSE), WebRTC, Web Graphics & Canvas, WebGL, WebWorkers, SVG. Libraries: Modernizr, Polyfills, Polymer.	<b>6 Hours</b>
6	<b>Server Side Programming:</b> Introduction to the server-side programming, Server-side web frameworks like Node JS/Express JS, Django, etc. <b>web service implementation</b>	<b>6 Hours</b>

Text Books				
SN	Title	Edition	Authors	Publisher
	Web Technologies Black Book: HTML, JavaScript, PHP, Java, JSP, XML and AJAX			Kogent Learning Solutions Inc.

Reference Books				
SN	Title	Edition	Authors	Publisher
1	HTML & CSS: The Complete Reference	Fifth Edition	Thomas A. Powell	The McGraw-Hill Companies, Inc.
2	Web Technologies		Ivan Bayross	BPB Publication

MOOCs Links and additional reading, learning, video material	
1	<a href="https://nptel.ac.in/courses/106105084">https://nptel.ac.in/courses/106105084</a>
2	<a href="https://www.youtube.com/watch?v=uUhOEj4z8Fo">https://www.youtube.com/watch?v=uUhOEj4z8Fo</a>
3	<a href="https://www.w3schools.com/js/js_events.asp">https://www.w3schools.com/js/js_events.asp</a>

## V Semester CSE2314 – PE I: Lab: Web Technologies

### Course Objectives:

Student will:

1. To introduce with the internet technology
2. To study the basic of web page designing
3. To introduce the validations in the web page
4. To introduce the concepts of data storage using XML
5. To learn the advance technique for designing the interactive web page

### Course Outcomes:

Upon successful completion of the course students will be able to

1. Understand various internet technologies
2. To design the web pages using some basic techniques
3. To design and implement the interactive web pages
4. To use the XML technology to store the data
5. To design and develop the interactive web pages using the advanced technique

Sr. No.	List of Experiment
1	Write a JavaScript function that creates a table, accept row, column numbers from the user, and input row-column number as content (e.g. Row-0 Column-0) of a cell.
2	Create employee registration webpage using HTML5 form objects
3	Implement CSS3 for any webpage
4	Create a dynamic web page which displays arithmetic operations [addition, subtraction, division, multiplication and modulus] using HTML Frame
5	Write a suitable scripts which show methods of Server object [HTML Encode, URL Encode, Mappath, Execute and Transfer]
6	Write a script which creates and retrieves Cookies information
7	Create a dynamic web page which displays capabilities of a web browser using Browser Capabilities Component using JavaScript
8	Create a simple XMLHttpRequest and retrieve data from a TXT file.
9	Create a simple script to download Images Using AJAX
10	Create a simple script to Auto-Populate Select Boxes using AJAX

## V Semester

### CSE2333 – OE I: Programming with Python

CSE 2333	<b>Programming with Python</b>			L= 3	T=0	P=0	Credits=3
Evaluation Scheme	MSE-I	MSE-II	TA	ESE	Total	ESE Duration	
	15	15	30	40	100	3 Hrs	

Course Outcome
<p>Upon successful completion of the course the students will be able to :</p> <ol style="list-style-type: none"> <li>Understand the basic data types, built in data structures, control statements and loops and write simple programs in Python.</li> <li>Apply the concepts of functions modules and packages and write programs using them.</li> <li>Design and develop classes in Python.</li> </ol>

Unit No.	Contents	Max. Hrs.
Unit:1	<b>Introduction to Python:</b> Build-in Data types & variables, arithmetic operators, assignment statement, print & input function, relational and logical operators, if, if – else & nested if- else statements, writing simple programs.	7 Hours
Unit:2	<b>Data Structures:</b> Built in data structures: Lists, Dictionaries, Tuples, Sets, and Arrays. Programs based on the built in data structures	6 Hours
Unit:3	<b>Looping: Loop statements:</b> For, while, continue and break statements, list comprehension. Bitwise operators, Real world problem solving based on loops.	6 Hours
Unit:4	<b>Functions:</b> Library functions in Python standard library, user defined Functions, returning values, local & global variables , global statement, doc strings for functions, developing useful functions, Modules and Packages, import statement.	6 Hours
Unit:5	<b>Introduction to Object oriented programming in Python:</b> Features of object oriented programming, Python Object and Classes: defining classes, member variables, doc strings for classes, Private members, Operator Overloading, inheritance and polymorphism.	7 Hours
Unit :6	<b>Application Development:</b> Developing applications using libraries and packages, File handling, Exception handling, <b>data visualization</b> , developing applications using Python	5 Hours

Text Books				
SN	Title	Edition	Authors	Publisher
1	Learn Python Programming	Third Edition	Fabrizio Romano, Heinrich Kruger	PACKT Publishing

Reference Books				
SN	Title	Edition	Authors	Publisher
1	Introduction to Computation and Programming Using Python	Second Edition	John V. Guttag	PHI EEE (MIT Press)



Nagar Yuwak Shikshan Sanstha's

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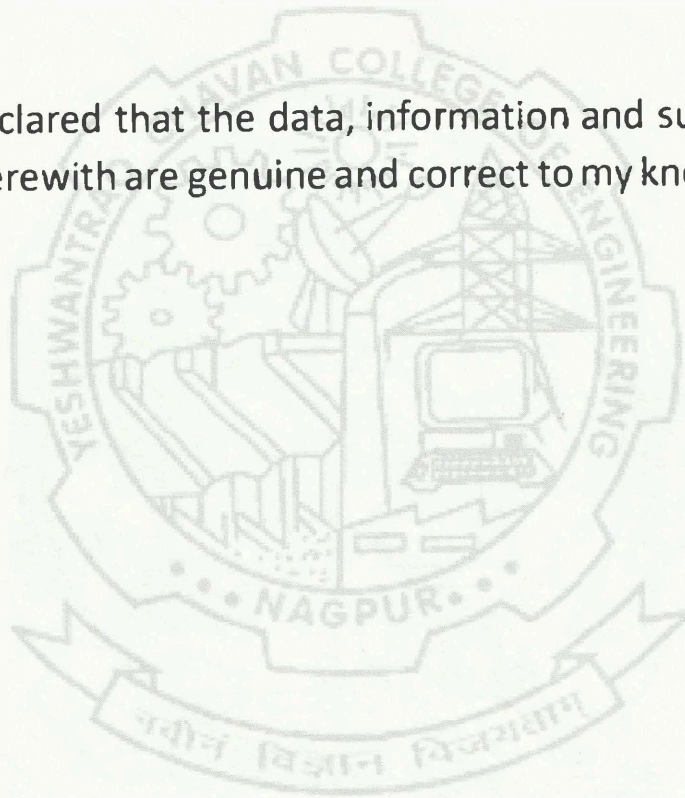
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## Declaration by Head of Institute

I hereby declared that the data, information and support documents attached herewith are genuine and correct to my knowledge.



*G. Chavan*

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