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

1.2.1 Percentage of new courses introduced of the total number of courses across all programs offered during the years

- **Minutes of relevant BOS meetings**

- **Curriculum/ Syllabus of the courses**

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

INDEX

1.1.3 Details of courses offered by the institution that focus on employability/ entrepreneurship/ skill development during the year.

1.2.1 Details of new courses introduced across all programmes offered during the year

S.N.	Name of the Course	Course Code	Activities/Content with a direct bearing on Employability/ Entrepreneurship/ Skill development	Link to the relevant document
	CE			
1	PE-II : Construction Management(Coursera Platform)	CV2370	Construction Project Management,Construction Scheduling I,Construction Scheduling II,Construction Cost Estimating and Cost Control I,Construction Cost Estimating and Cost Control II,Construction Finance:	
2	PE-III : Energy Conversion and Management	CV2415	Waste to Energy options: physical, thermochemical and bio chemical processes, Combustion, Gasification, pyrolysis; Fuels Derived anaerobic digestion, Biogas Technology, Future Technologies for Waste to Energy Systems.	
3	PE-V : Structural Engineering Practices	CV2440	Importance, determination & calculation of different loads like Dead load, live load, wall load, seismic load, wind load, finish load, temperature load, vibratory load, etc. Various load combinations,Three dimensional Modeling of the Structure, Boundary Conditions, Section Properties, Applications of Loading, Static & Dynamic Analysis of structure, Design of structure, Understanding & Interpretation of the results, Deformation control, Mode Shapes, Vibrations, Acceptance Criteria's, Tolerances, Reinforcement detailing of Structures as per SP24 and as per exposure conditions, Fire Rating, etc.	
4	PE-III : Geotechnical Investigation & Ground Improvemen	CV2416	Importance and objectives of Geotechnical exploration:,,Field investigations: Planning of geotechnical exploration	
5	PE-V : Design of Bridge Structures	CV2435	Standard Loading for Road Bridge Design as per codes:,Introduction to various types of culverts, Slab Bridges, Beam and Slab Bridges, Plate Girder Bridges,	
	ME			
	NIL			
	EL			
1	PEI: Grid Integration of Renewable Energy	EL2366	THD, voltage regulation. Voltage rise, voltage unbalance	
2	PEI: Switched Mode Power Supply	EL2367	Resonant Load Converters, SMPS Using Resonant Circuit	
3	PEI: Programming in C for beginners	EL2368	One-dimensional Arrays, Declaration of One-dimensional Arrays	
4	PEII: Sensors and Actuators	EL2415	Design and fabrication process of Microsensors	
5	PEIV:Project Planning	EL2436	Utility in investment decisions, Decision trees, Sensitivity analysis	
6	PEIV: Industrial Safety	EL2437	Incident and critical incident review technique, Safety integrity level (SIL)	
	EE			
	NIL			
	ETC			
	NIL			
	CT			
1	Java Full Stack Development	CT2491	Employability: Framework for software development, advanced tools like Maven, Docker Skill development: Advance java features	
2	DOT NET Full Stack Development	CT2493	Employability Skill development	
3	Machine Learning using Tensorflow	CT2390	Employability- Different types of learning, Design and Analysis of Machine Learning Algorithms, Ensemble Learning, Deep Learning	
4	Introduction to Logic Building and Programming	23CT1101	Employability, Skill Development	
5	Programming with JavaScript	CT2394	Employability, Skill Development	
	IT			
	NIL			
	CSE			
1	Mobile Operating System	CSE2317	COMPLETE SYLLABUS - EMPLOYABILITY and ENTERPRENEURSHIP	
2	Java full stack	CSE2429	COMPLETE SYLLABUS - EMPLOYABILITY	
3	Dot net full stack	CSE2431	COMPLETE SYLLABUS - EMPLOYABILITY	
4	PE I: Advanced Web Technologies	AIML2317	COMPLETE SYLLABUS - EMPLOYABILITY and ENTERPRENEURSHIP	
5	PE I: Business Intelligence	AIML2315	COMPLETE SYLLABUS - EMPLOYABILITY	
6	PE II: Internet of Things	AIML2363	COMPLETE SYLLABUS - EMPLOYABILITY	
7	PE I: Advanced Web Technologies	AIML2317	COMPLETE SYLLABUS - EMPLOYABILITY	
	FYC			
1	Introduction to German Language	GE2317/GE2367	Complete Syllabus	
2	Introduction to Spanish Language	GE2319/GE2369	Complete Syllabus	
3	Introduction to French Language	GE2320/GE2370	Complete Syllabus	
4	Introduction to Japnese Language	GE2322/GE2377	Complete Syllabus	
5	Professional Communication	23GE1112 / 23GE1212	Complete Syllabus	
6	Technical Communication	23GE1113 / 23GE1213	Complete Syllabus	
7	Fundamentals of Management and Economics	23GE1301	Complete Syllabus	
8	Entrepreneurship and Development	23GE1401	Complete Syllabus	
9	Management Studies	AIDS2351 / CSD2351	Complete Syllabus	
10	Fundamentals of Economics and Management	AIML2301	Complete Syllabus	
	MBA			
	NIL			

Civil Engineering

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DEPARTMENT OF CIVIL ENGINEERING

NOTICE
{BoS}

Date:- 10th January 2024

Meeting No 33 of Board of Studies of Civil Engineering Department is scheduled on **Saturday,13th January 2024 at 11:00 am in Civil Engineering Department.**

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

Agenda No. 33.01
Welcome of new members

Agenda No.33.02
Installation of member Secretary

Agenda No. 33.03
Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

Agenda No. 33.04
A] To discuss and finalize the Scheme of Examination SoE 2023 and syllabi of Undergraduate program, framed as per NEP 20 Guidelines, issued by Government of Maharashtra through GR No: NEP2022/(67/23) / DTE-2 dated 04.07. To approve SoE23 and all syllabi of B.Tech second to final Year .

B] To discuss and finalize the Scheme of Examination SoE 2022 and syllabi of Undergraduate program framed and to approve SoE22 and all syllabi of B.Tech Third to final Year .

Agenda No.33.05
To discuss and suggest the action taken on
- Co/Po attainment of subjects taught in previous semester
- Result analysis of subjects taught in previous semester
- Stake holders' feedback on review and design of curriculum
- In Sem, End Sem and Exit feedback on Teaching Learning & curriculum

Agenda No. 33.06
To discuss and suggest the minor changes in the syllabi of various courses in B.Tech 2022 & B.Tech 2023 Schemes of Undergraduate and Post graduate programs conducted under the Board.

Agenda No.. 33.07
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.

Agenda No.. 33.08
To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-Graduate and Post Graduate programs.

Agenda No.. 33.09
To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

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DEPARTMENT OF CIVIL ENGINEERING

Agenda No.. 33.10
To discuss and propose the new courses/MOOCS received from the faculty for inclusion in the curriculum.

Agenda No.. 33.11
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 2023-24

Agenda No.. 33.12
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 Even Term 2023-24.

Agenda No.. 33.13
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 Even Term 2023-24.

Agenda No.. 33.14
Preparation of Electronic question Bank UG courses according to B.Tech SoE 2022 & 2023. To review solutions to all questions of Electronic Question Banks for all courses.
To review the creation and dissemination of content developed by senior faculty in AY 2022-23 and also propose the names of content developers in AY 2023-24.

Agenda No.. 33.15
To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation Process for theory and other courses.

Agenda No.. 33.16
To discuss and propose scheme for Minor and Honor course and its syllabus.

Agenda No.. 33.17
Any other matter with the permission of the Chair.

Prof. Ms. Charuta S. Waghmare   Dr.S.P.Raut
BoS Member Secretary   **Head and Chairman**
Department of Civil Engineering   Department of Civil Engineering

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DEPARTMENT OF CIVIL ENGINEERING

NOTICE
{BoS}

Date:- 10th January 2024

Meeting No 33 of Board of Studies of Civil Engineering Department is scheduled on **Saturday,13th January 2024 at 11:00 am in Civil Engineering Department.** All staff members are requested to attend the meeting.

S.N.	Name	Signature	S.N.	Name	Signature
1	Dr. Udaykumar P. Waghe		18	Ms. Amruta Arun Yadav	
2	Dr. Sudhir Vasantrao Ambekar		19	Ms. Sangita Shivcharan Meshram	
3	Dr. Abhay Vinayakrao Patil		20	Mr. Prashant Baban Pande	
4	Dr. Vilas Ganuji Meshram		21	Mr. Atul Sambhuji Kurzekar	
5	Dr. Ajay Ramdas Gajbhiye		22	Mr. Vivek Dnyandeo Jayale	
6	Dr. Rajendra Rupraoji Dighade		23	Mr. Harshal Madhukar Warade	
7	Mr. Bhupesh Purshottam Nandurkar		24	Ms. Pallavi Shalikram Chakole	
8	Dr. Ms. Madhuri S. Bhagat		25	Ms. Snehal Karunkumar Kamble	
9	Dr. Sanjay Padmakar Raut		26	Mr. Sanket Gajanan Kalamkar	
10	Mrs. Vaishali Nilesh Mendhe		32	Mr. Sagar Wasudeo Dhengare	
11	Ms. Charuta Subhash Waghmare		28	Ms. Monali Rewashankar Wagh	
12	Dr. Mrs. Boskey V. Bahoria		29	Mr. Yogesh Prabhakar Kherde	
13	Mr. Khalid Shamim Ansari		32	Ms. Sneha Gowardhan Hirekhan	
14	Mr. Harshal Rameshrao Nikhade		32	Mr. Rajesh Madhukar Bhagat	
15	Mr. Jayant Manohar Raut				
16	Mr. Dhiraj Giridharilal Agrawal				
17	Mr. Pawan Keshaorao Hinge				

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

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DEPARTMENT OF CIVIL ENGINEERING

Minutes of 33rd BoS Meeting dated on Saturday 13th January 2024

33rd Meeting of BoS of Civil Engineering was held on Saturday 13th January 2024.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	17	Ms. Amruta Arun Yadav
2	Dr.M.D.Goel	18	Mr. Vivek Dnyandeo Jayale
3	Dr. Udaykumar P. Waghe	19	Mr. Atul Sambhuji Kurzekar
4	Dr.Abhay V.Patil	20	Ms. Sangita Shivcharan Meshram
5	Dr.Sudhir V.Ambekar	21	Mr. Harshal Madhukar Warade
6	Dr.Vilas G.Meshram	22	Mr. Sagar Wasudeo Dhengare
7	Dr.Rajendra R.Dighade	23	Ms. Pallavi Shalikram Chakole
8	Dr.Bhupesh P.Nandurkar	24	Mr. Sanket Gajanan Kalamkar
9	Dr. Sanjay Padmakar Raut	25	Ms. Monali Rewashankar Wagh
10	Dr. Ms. Madhuri S. Bhagat	26	Mr. Yogesh Prabhakar Kherde
11	Ms. Charuta Subhash Waghmare	27	Ms. Sneha Gowardhan Hirekhan
12	Dr. Mrs. Boskey V. Bahoria	29	Mr. Rajesh Madhukar Bhagat
13	Dr. Khalid Shamim Ansari	29	Ms.Monika D.Tiwari
14	Dr. Harshal Rameshrao Nikhade	30	Ms.Payal D.Lunge
15	Mr. Dhiraj Giridharilal Agrawal	31	Ms.Mrudul A.Wairagade
16	Mr. Pawan Keshaorao Hinge		

Following members has been permitted leave of absence

1. Dr.Mangesh Madurwar
2. Er.Jagdish Lanjewar
3. Er.Sanjiv Harinkhede
4. Mrs. Vaishali Nilesh Mendhe
5. Dr. Jayant Manohar Raut
6. Dr. Prashant Baban Pande
7. Ms. Snehal Karunkumar Kamble

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DEPARTMENT OF CIVIL ENGINEERING

Minutes of Meetings 33rd BoS Meeting

Agenda No. 33.01
Welcome of new members
Dr S. P. Raut, BoS Chairman, and Dr. V.G.Meshram welcomed all BoS experts viz., Dr. A. D. Ghare, Professor, Department of Civil Engineering, VNIT and Dr,. M. D. Goel, Associate Professor, Department of Applied Mechanics, VNIT, Nagpur .Chairman also welcomed Ms. Mrudul Wairagade , new member of BoS and all departmental BoS members.

Agenda No. 33.02
Installation of member Secretary
It has been decided to retain Ms. Charuta S. Waghmare as Member secretary BoS for the session 2023-24.

Agenda No. 33.03
Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.
The minutes of previous meeting no.32 held on Thursday 20th July 2023,were already circulated to all members. The ATR of previous meeting have been discussed with BoS members. After confirmation, Chairman asked to accept the minutes of meeting. Dr. Boskey Bahoria accepted the minutes. Prof. Monali Wagh seconded it. The minutes were then accepted.

Agenda No. 33.04
A] To discuss and finalize the Scheme of Examination SoE 2023 and syllabi of Undergraduate program, framed as per NEP 20 Guidelines, issued by Government of Maharashtra through GR No: NEP2022/(67/23) / DTE-2 dated 04.07. To approve SoE23 and all syllabi of B.Tech second to final Year .

The Scheme of Examination SoE 2023 of Civil Engineering Undergraduate programme, framed as per NEP 20 Guidelines, issued by Government of Maharashtra through GR No: NEP-2022/(67/23) / DTE-2 dated 04.07.2023,has been discussed with Bos experts. The guidelines devised by Dean (Academic Matters) as per the GR and the important points of GR have been discussed thoroughly. The total of 176 credits has been distributed under various course category defined under GR.

The 11th Curriculum Development Program was conducted on Thursday 4th January 2024 for the validation of the various syllabus under SoE 2023. BoS experts appreciated the efforts taken by the department to formulate the SoE as per the NEP 2020 guidelines defined by GoM. All other courses and the respective syllabus is approved by the BoS experts

As per the suggestion of Dr.M.D.Goel, BoS Expert, an elective Basics of Structural Fire Engineering has been added in the scheme.

The experts showed concern about the courses of 2 credits having 2 hours of contact time due to conciseness of the syllabus as well as compact duration for the teaching.

Also, they were concern about the degree offered after the completion of 4 year as the requirement for the competitive exams (MPSC/UPSC/GATE) demands only core degree.
The suggestions of BoS experts will be forwarded to Dean Academic Matters for further approval.

B] To discuss and finalize the Scheme of Examination SoE 2022 and syllabi of Undergraduate program framed and to approve SoE22 and all syllabi of B.Tech Third to final Year .
The 10th Curriculum Development was conducted on Tuesday,19th July 2022 for the the validation of the SoE 2022 and the syllabi of respective courses under B.Tech. All the syllabi of courses were validated and approved by BoS Experts. Dr.M.D.Goel, BoS Expert, suggested to add Basics of Structural Fire Engineering as a course/elective for higher semester. The course will be added in the Seventh semester as Professional Elective.

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DEPARTMENT OF CIVIL ENGINEERING

Agenda No. 33.05

To discuss and suggest the action taken on

- **Co/Po attainment of subjects taught in Odd semester 2023-24**

  Institution is shifting all its processes on a new Information System Software, due to which, we are experiencing slight delay in compilation of the information hence not able to complete the Co/Po attainment process. We have done the attainment of the internal exams but final analysis is still in process.

- **Result analysis of subjects taught in previous semester**

  Institution is shifting all its processes on a new Information System Software, due to which, we are experiencing slight delay in compilation of the information hence not able to present the result analysis.

- **Stake holders' feedback on review and design of curriculum**
- **Feedback from Students**

S.N.	Feedback	Action Taken / To be taken Remark
1	**V SEM:** **CV2320: PE-I Advance Concrete Technology** More practical knowledge to be provided.	To give practical approach to the subject local site visits may be conducted.
	V SEM: **CV2331:OE-I Building Services:** Subject need to be Collaborated with industry, industrial site visits to be arranged.	
	V SEM: **CV2342:OE- Introduction to Finite Element** Reducing the difficulty level of questions looking into the subject catering to different branch students.	Difficulty level of the question paper will be reduced.
	V SEM: **CV2401:Estimating & Costing** Department does not promote or give information about pursuing career in this subject/ field. The time allotted for the paper is not sufficient, need more time for solving the question paper.	To give more exposure and awareness about the career is E&C, Valuation Workshop was conducted in the current semester and Expert Lecture for the same will be arranged in future also. Related to time allotted for the paper, the issue is forwarded to BOS..
	VII SEM : **CV 2424PE-IV Waste Water Treatment**: More Videos & Practical information about waste water treatment is needed.	To give practical approach to the subject, Swayam , NPTEL videos are shared with the students.
	CV2429: **Watershed Management:** Virtual models & Simulation working to be shown live examples or visuals.	Virtual models & Simulation working will be demonstrated, Swayam , NPTEL videos are shared with the students.
	CV2435: PE-V: Design of Bridge Structures Site Visit to the Bridge site, Numerical to be added.	Arranging the Visit to the bridge site will be taken care of. Inclusion of the numerical has been taken care of by revising the syllabus.

- **Feedback from Alumni**

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DEPARTMENT OF CIVIL ENGINEERING

S.N.	Stakeholder	Feedback	Action taken/ Action to be taken
2	Alumni	1) Provide Smart class room setup in every class. 2) Please add all the civil engineering software compulsory subjects with practical	Every classroom is provided with wall hanging projectors. Value added courses based on software is now compulsory for all the semester students.

- **In Sem, End Sem and Exit feedback on Teaching Learning & curriculum**
  Feedback analysis report of Odd term 2023-24 has been discussed with BoS Experts. (Feedback below 3.25 (65%))

Sr. NO	III	V	VII
<65%	NIL	NIL	NIL

Agenda No. 33.06
To discuss and suggest the minor changes in the syllabi of various courses in B.Tech 2022 & B.Tech 2023 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 scheme of examination of the Undergraduate and Post graduate programs.

No corrections and amendments were proposed by members for inclusion in the curriculum in the B.Tech. SoE 2022 and SoE 2023 of the Undergraduate.

Few Corrections and amendments were proposed by Dr.B.P.Nandurkar for inclusion in the course in SoE 2022 of the Postgraduate (Structural Engineering)

Course Code	Course Name	Content to be added	Content to be deleted
22STR204	Advanced Steel Structures	Analysis and Design of Tower in unit V	Analysis and Design of Bunkers from unit V

Agenda No. 33.07
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.

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

Agenda No. 33.08
To discuss and approve the list of experiments, wherever there is a change, in the laborat ory 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 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.

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DEPARTMENT OF CIVIL ENGINEERING

Agenda No. 33.09
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. 33.10
To discuss and propose the new courses/MOOCS received from the faculty for inclusion in the curriculum.
1 It has been decided to allot Professional Elective -II offered through Coursera, "Construction Management "conducted by Columbia University, US, to first 20 bright students of VI semester, for Even term 2023-24. It will be offered after 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

Agenda No. 33.11
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 2023-24.
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 2023-24 will be decided after the notification received from CoE.

Agenda No. 33.12
To prepare and propose the panel of paper setters and Valuers for all the Postgraduate courses under the Board that will be examined in End Semester Examination of Even Term 2023-24.
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 2023-24 will be decided after the notification received from CoE.

Agenda No. 33.13
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 Even Term 2023-24.
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 2023-24 will be decided after the notification received from CoE.

Agenda No. 33.14
Preparation of Electronic question Bank UG courses according to B.Tech SoE 2022 & 2023. To review solutions to all questions of Electronic Question Banks for all courses.

Preparation of Electronic question Bank UG courses according to B.Tech. SoE 2022 is in process.

To review the creation and dissemination of content developed by senior faculty in AY 2022-23 and also propose the names of content developers in AY 2023-24.

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DEPARTMENT OF CIVIL ENGINEERING

AY 2022-23

Name of Faculty	Course Name	Remark
Dr.S.R.Khandeshwar	Air Pollution and Solid Waste Management	Completed and validated
Dr.S.V.Ambekar	Industrial Wastewater Treatment and Reuse	In process and 2 units are validated

AY 2023-24

Name of Faculty	Course Name	Remark
Dr.A.R.Gajbhiye	Traffic Engineering	In process
Dr.R.R.Dighade	Hydraulic Engineering	In process

Agenda No. 33.15
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. 33.16
To discuss and propose scheme for Minor and Honor course and its syllabus.
For the session 2023-24, Department has offered B.Tech. Honor Program (Remote sensing and GIS).The course has been in collaboration with Ceinsys Tech. Ltd. Nagpur. Total 22 students opted for this course.

Agenda No. 33.17
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   Dr.S.P.Raut
BoS Member Secretary   **Head and Chairman**
Department of Civil Engineering   Department of Civil Engineering

Bachelor of Technology

SoE & Syllabus 2023
1st to 4th Semester

(Department of Civil Engineering)
B. Tech in Civil Engineering

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Yeshwantrao Chavan College of Engineering
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B.TECH SCHEME OF EXAMINATION 2023
(Scheme of Examination w.e.f. 2023-24 onward)
(Department of Civil Engineering)
B. Tech. in Civil Engineering

SoE No. 23CV-101

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
FIRST SEMESTER (GROUP-A)														
1	1	BS	GE	23GE1101	Calculus and Vector	T	3	0	0	3	3	30	20	50	3
2	1	BS	GE	23GE1104	Applied Chemistry	T	3	0	0	3	3	30	20	50	3
3	1	BS	GE	23GE1105	**Lab:** Applied Chemistry	P	0	0	2	2	1		60	40	
4	1	HS/AEC1	GE	23GE1112	Professional Communication	T	2	0	0	2	2	30	20	50	2
5	1	HS/IKS	GE	23GE1115	Indian Knowledge System	T	2	0	0	2	2	30	20	50	2
6	1	BES	CV	23CV1101	Engineering Mechanics	T	3	0	0	3	3	30	20	50	3
7	1	BES	CV	23CV1102	**Lab:** Engineering Mechanics	P	0	0	2	2	1		60	40	
8	1	BES	IT	23IT1103	Programming for Problem Solving	T	2	0	0	2	2	30	20	50	2
9	1	BES	IT	23IT1104	**Lab:** Programming for Problem Solving	P	0	0	2	2	1		60	40	
10	1	VSEC	GE	23GE1117	Get Set Go	…	…	…	…	…	2		60	40	
11	1	CC1	GE		**Liberal Learning Course (LLC1)**	…	…	…	…	…	2		60	40	
					TOTAL FIRST SEM		15	0	6	21	22				

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
SECOND SEMESTER (GROUP-A)														
1	2	BS	GE	23GE1202	Differential Equations, Matrices and Statistics	T	3	0	0	3	3	30	20	50	3
2	2	BS	GE	23GE1208	Engineering Physics	T	3	0	0	3	3	30	20	50	3
3	2	BS	GE	23GE1209	**Lab:** Engineering Physics	P	0	0	2	2	1		60	40	
4	2	BES	ME	23ME1201	Engineering Graphics	T	1	0	0	1	1	30	20	50	3
5	2	BES	ME	23ME1202	**Lab :** Engineering Graphics	P	0	0	4	4	2		60	40	
6	2	BES	EL	23EL1201	Basic Electrical and Electronics Engineering	T	3	0	0	3	3	30	20	50	3
7	2	BES	ME	23ME1207	**Lab :** FAB Shop	P	0	0	2	2	1		60	40	
8	2	PC	CV	23CV1203	Strength of Materials	T	3	0	0	3	3	30	20	50	3
9	2	PC	CV	23CV1204	**Lab :** Strength of Materials	P	0	0	2	2	1		60	40	
10	2	VSEC	GE	23GE1218	Functional English	…	…	…	…	…	2		60	40	
11	2	CC2	GE		**Liberal Learning Course (LLC2)**	…	…	…	…	…	2		60	40	
					TOTAL SECOND SEM		13	0	10	23	22				

Liberal Learning Course

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject
1	1	CC1	GE	23LLC1101	Music (Vocal)
2	1	CC1	GE	23LLC1102	Music (Instrumental)
3	1	CC1	GE	23LLC1103	Indian Classical Dance
4	1	CC1	GE	23LLC1104	Other forms of Dances
5	1	CC1	GE	23LLC1105	Painting
6	1	CC1	GE	23LLC1106	Theatre and acting
7	1	CC1	GE	23LLC1107	Photography
8	1	CC1	GE	23LLC1108	Yoga
9	1	CC1	GE	23LLC1109	Chess
10	1	CC1	GE	23LLC1110	Athletics
11	1	CC1	GE	23LLC1111	Basket Ball
12	1	CC1	GE	23LLC1112	Judo
13	1	CC1	GE	23LLC1113	Elements of Japanese Language
14	1	CC1	GE	23LLC1114	Elements of German Language
15	1	CC1	GE	23LLC1115	Elements of French Language
16	1	CC1	GE	23LLC1116	Elements of Spanish Language
17	1	CC1	GE	23LLC1117	Basics of Vedic Maths
18	1	CC1	GE	23LLC1118	Skilling in Microsoft Visio and Inkscape
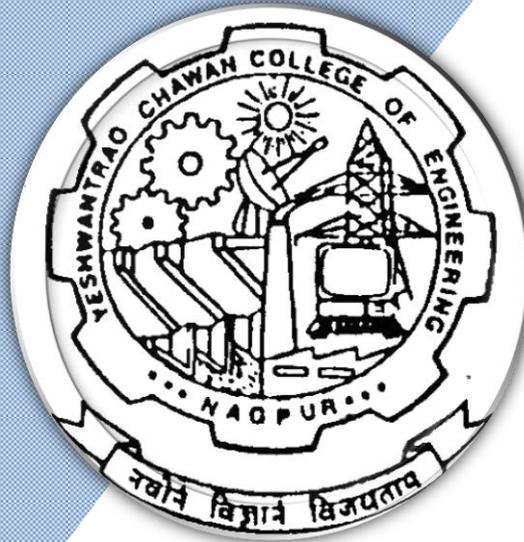
Bachelor of Technology

SoE & Syllabus 2022

1st to 8th Semester

(Department of Civil Engineering)

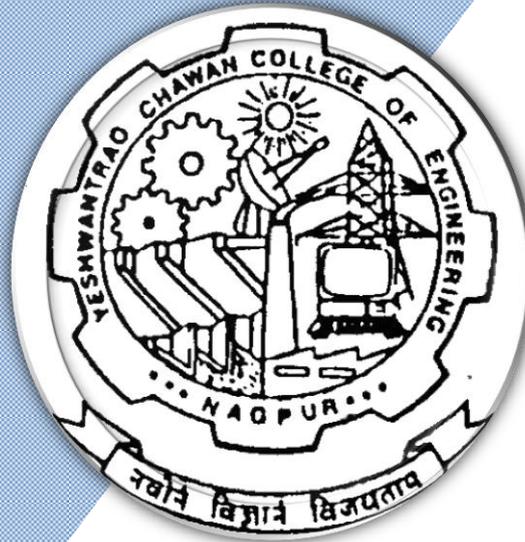# B. Tech in Civil Engineering

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
B.TECH SCHEME OF EXAMINATION 2022
(Scheme of Examination w.e.f. 2022-23 onward)
(Department of Civil Engineering)
B. Tech in Civil Engineering

SoE No.
22CV-101

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
							L	T	P	Hrs		MSEs*	TA**	ESE	
					FIRST SEMESTER										
1	1	BS	GE/MTH	22CV101	Calculus and Vector	T	3	1	0	4	**4**	30	20	50	3 Hrs
2	1	BS	GE/CHE	22CV102	Engineering Chemistry	T	3	0	0	3	**3**	30	20	50	3 Hrs
3	1	BS	GE/CHE	22CV103	Lab: Engineering Chemistry	P	0	0	2	2	**1**		60	40	
4	1	HS	GE/HUM	22CV104	Professional Communication	T	3	0	0	3	**3**	30	20	50	3 Hrs
5	1	BES	CV/CV	22CV105	Engineering Mechanics	T	3	0	0	3	**3**	30	20	50	3 Hrs
6	1	BES	CV/CV	22CV106	Lab: Engineering Mechanics	P	0	0	2	2	**1**		60	40	
7	1	BES	EE/EE	22CV107	Basic Electrical and Electronics Engineering	T	3	0	0	3	**3**	30	20	50	3 Hrs
8	1	BES	IT/IT	22CV108	Programming for Problem Solving	T	3	0	0	3	**3**	30	20	50	3 Hrs
9	1	BES	IT/IT	22CV109	**Lab:** Programming for Problem Solving	P	0	0	2	2	**1**		60	40	
						TOTAL	18	1	6	25	**22**				

	List of Mandatory Learning Course (MLC)														
1	1	HS	GE/HUM	GE2131	Universal Human Value	**A**	2	0	0	2	**0**				
2	1	HS	GE/T&P	MLC2121	YCAP1-Get Set Go	**A**	2	0	0	2	**0**				

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
					SECOND SEMESTER										
1	2	BS	GE/MTH	22CV201	Differential Equation, matrices and Statistics	T	3	1	0	4	**4**	30	20	50	3 Hrs
2	2	BS	GE/PHY	22CV202	Engineering Physics	T	3	0	0	3	**3**	30	20	50	3 Hrs
3	2	BS	GE/PHY	22CV203	Lab: Engineering Physics	P	0	0	2	2	**1**		60	40	
4	2	HS	GE/HUM	22CV204	Social Science	T	3	0	0	3	**3**	30	20	50	3 Hrs
5	2	BES	ME/ME	22CV205	Engineering Graphics	T	1	0	0	1	**1**	30	20	50	3 Hrs
6	2	BES	ME/ME	22CV206	Lab: Engineering Graphics	P	0	0	4	4	**2**		60	40	
7	2	BES	CT/CT	22CV207	Elements of AIML	T	3	0	0	3	**3**	30	20	50	3 Hrs
8	2	BES	ME/ME	22CV208	FAB Shop	P	0	0	2	2	**1**		60	40	
9	2	BES	CV/CV	22CV209	Strength of Materials	T	3	0	0	3	**3**	30	20	50	3 Hrs
10	2	BES	CV/CV	22CV210	Lab: Strength of Materials	P	0	0	2	2	**1**		60	40	
						TOTAL	16	1	10	27	**22**				

	List of Mandatory Learning Course (MLC)														
1	2	HS	GE/T&P	MLC2122	YCAP2 -Functional English	**A**	2	0	0	2	**0**				
2	2	BES	GE/CHE	GE2132	Environmental Science	**A**	2	0	0	2	**0**				

MSEs* = Two MSEs of 15 Marks each will conducted and marks of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : TA1-5 marks on Proctored Online Exam, TA2-12 marks on activitied decided by course teacher, TA3 - 3 marks on class attendance
TA** = for Practical : MSPA will be 15 marks each

|		June 2022	1.00	Applicable for AY 2022-23 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)
B.TECH SCHEME OF EXAMINATION 2022
(Scheme of Examination w.e.f. 2022-23 onward)
(Department of Civil Engineering)
B. Tech in Civil Engineering

SoE No.
22CV-101

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
							L	T	P	Hrs		MSEs*	TA**	ESE	
THIRD SEMESTER															
					THIRD SEMESTER										
1	3	BS	GE	22CV301	Integral Transforms and Partial Differential Equations	T	3	0	0	3	3	30	20	50	3 Hrs
2	3	HS	GE/HUM	22CV302	Fundamentals of Management and Economics	T	3	0	0	3	3	30	20	50	3 Hrs
3	3	PC	CV	22CV303	Geotechnical Engineering	T	3	0	0	3	3	30	20	50	3 Hrs
4	3	PC	CV	22CV304	**Lab:-** Geotechnical Engineering	P	0	0	2	2	1		60	40	
5	3	PC	CV	22CV305	Fluid Mechanics	T	3	1	0	3	3	30	20	50	3 Hrs
6	3	PC	CV	22CV306	**Lab:-** Fluid Mechanics	P	0	0	2	2	1		60	40	
7	3	PC	CV	22CV307	Water Supply Engineering	T	3	0	0	3	3	30	20	50	3 Hrs
8	3	PC	CV	22CV308	**Lab:-** Water Supply Engineering	P	0	0	2	2	1		60	40	
9	3	PC	CV	22CV309	Building Construction and Building Materials	T	3	0	0	3	3	30	20	50	3 Hrs
10	3	PC	CV	22CV310	**Lab:-** Computer Aided Drawing	P	0	0	2	2	1		60	40	
11	3	PC	CV	22CV311	Environmental Sustainability, Pollution and Management	T	3	0	0	3	3	30	20	50	3 Hrs
					TOTAL THIRD SEM		18	1	8	26	25				

List of Mandatory Learning Course (MLC)

1	3	HS	T&P	MLC123	**YCAP3 :**	A	3	0	0	3	0				
2	3	BES	CV	MLC101	Application of Python Programming in Civil Engineering	A	2	0	0	2	0				

					FOURTH SEMSTER										
1	4	PC	CV	22CV401	Wastewater Engineering	T	3	0	0	3	3	30	20	50	3 Hrs
2	4	PC	CV	22CV402	Reinforced Concrete Structures	T	3	1	0	3	3	30	20	50	3 Hrs
3	4	PC	CV	22CV403	Concrete Technology	T	3	0	0	3	3	30	20	50	3 Hrs
4	4	PC	CV	22CV404	**Lab:-** Concrete Technology	P	0	0	2	2	1		60	40	
5	4	PC	CV	22CV405	Surveying	T	3	0	0	3	3	30	20	50	3 Hrs
6	4	PC	CV	22CV406	**Lab:-** Surveying	P	0	0	2	2	1		60	40	
7	4	PC	CV	22CV407	Structural Analysis	T	3	0	0	3	3	30	20	50	3 Hrs
8	4	PC	CV	22CV408	**Lab:-** Structural Analysis	P	0	0	2	2	1		60	40	
9	4	PC	CV	22CV409	Transportation Engineering	T	3	0	0	3	3	30	20	50	3 Hrs
10	4	PC	CV	22CV410	**Lab:-** Transportation Engineering	P	0	0	2	2	1		60	40	
					TOTAL FOURTH SEM		18	1	8	26	22				

List of Mandatory Learning Course (MLC)

1	4	HS	T&P	MLC2124	**YCAP4 :**	A	3	0	0	3	0				
2	4	BES	CV	MLC102	Quantity ,Estimation and Management	A	2	0	0	2	0				

		June 2022	1.00	Applicable for AY 2022-23 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)

(Accredited 'A' Grade by NAAC with a score of 3.25)

Hingna Road, Wanadongri, Nagpur - 441 110

Bachelor of Engineering
SoE & Syllabus 2018
3rd to 8th Semester
Civil Engineering

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

SoE No. CV-201

B.E. SCHEME OF EXAMINATION 2018-19
(Revised Scheme of Examination w.e.f. 2020-21 onward)
Civil Engineering

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration
						L	T	P	Hrs		MSEs*	TA**	ESE	
				TOTAL FIRST & SECOND SEM						47				
Third Semester														
1	3	BS	GE2201	Engineering Mathematics III	T	3	0	0	3	3	30	30	40	3
2	3	PC	CV2201	Strength of Materials	T	3	0	0	3	3	30	30	40	3
3	3	PC	CV2202	**Lab:-** Strength of Materials	P	0	0	2	2	1		60	40	
4	3	PC	CV2203	Geotechnical Engineering	T	3	0	0	3	3	30	30	40	3
5	3	PC	CV2204	**Lab:-** Geotechnical Engineering	P	0	0	2	2	1		60	40	
6	3	PC	CV2205	Fluid Mechanics	T	3	0	0	3	3	30	30	40	3
7	3	PC	CV2206	**Lab:-** Fluid Mechanics	P	0	0	2	2	1		60	40	
8	3	PC	CV2207	Water Supply Engineering	T	3	0	0	3	3	30	30	40	3
9	3	PC	CV2208	**Lab:-**Water Supply Engineering	P	0	0	2	2	1		60	40	
				TOTAL		15	0	8	23	19				

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration
Fourth Semster														
1	4	BS	GE2204	Advance Mathematical Techniques	T	3	0	0	3	3	30	30	40	3
2	4	PC	CV2251	Concrete Technology	T	3	0	0	3	3	30	30	40	3
3	4	PC	CV2252	**Lab:-** Concrete Technology	P	0	0	2	2	1		60	40	
4	4	PC	CV2253	Surveying	T	3	0	0	3	3	30	30	40	3
5	4	PC	CV2254	**Lab:-** Surveying	P	0	0	2	2	1		60	40	
6	4	PC	CV2255	Structural Analysis	T	4	0	0	4	4	30	30	40	3
7	4	PC	CV2256	**Lab:-** Structural Analysis	P	0	0	2	2	1		60	40	
8	4	PC	CV2257	Transportation Engineering	T	3	0	0	3	3	30	30	40	3
9	4	PC	CV2258	**Lab:-** Transportation Engineering	P	0	0	2	2	1		60	40	
				TOTAL		16	0	8	24	20				

Audit Courses

1	4	HS	GE2121	Env Studies for 4 Sem. CV,ME,EE,IT	A	3	0	0	3	0				

MSEs* = Two MSEs of 15 Marks each will conducted and marks of of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 12 marks on lecture quizzes, 12 marks on two TA2 activitied decided by course teacher, 2 marks on class attendance and 4 marks on TA4 activities

TA** = for Practical : MSPA will be 15 marks each

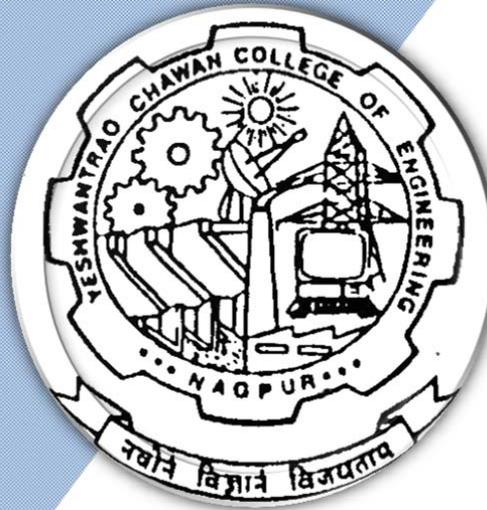|		June 2020	1.02	**Applicable for AY 2020-21 Onwards**
Chairperson	**Dean (Acad. Matters)**	**Date of Release**	**Version**	

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
B.E. SCHEME OF EXAMINATION 2018-19
(Revised Scheme of Examination w.e.f. 2020-21 onward)
Civil Engineering

SN	Sem	Type	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
											% Weightage			
				Fifth Semester										
1	5	HS	GE2311	Fundamental of Management	T	3	0	0	3	3	30	30	40	3
2	5	PC	CV2301	Reinforced Concrete Structures	T	3	0	0	3	3	30	30	40	4
3	5	PC	CV2302	Advanced Structural Analysis	T	3	0	0	3	3	30	30	40	3
4	5	PC	CV2303	**Lab:-** Analysis and Design Studio	P	0	0	2	2	1		60	40	
5	5	PE		Professional Elective-I	T	3	0	0	3	3	30	30	40	3
6	5	PE		**Lab:-** Professional Elective -I	P	0	0	2	2	1		60	40	
7	5	OE		Open Elective - I *	T	3	0	0	3	3	30	30	40	3
8	5	OE		Open Elective - II *	T	3	0	0	3	3	30	30	40	3
				TOTAL		18	0	4	22	20				

Professional Elective - I

1	5	PE-I	CV2311	PE-I : Advanced Surveying
	5	PE-I	CV2312	**PE-I Lab :** Advanced Surveying
2	5	PE-I	CV2313	PE-I : Computer Applications in Civil Engineering
	5	PE-I	CV2314	**PE-I Lab :** Computer Applications in Civil Engineering
3	5	PE-I	CV2315	PE-I : Building Construction and Materials
	5	PE-I	CV2316	**PE-I Lab :** Building Construction and Materials
4	5	PE-I	CV2317	PE-I : Matrix Analysis of Structures
	5	PE-I	CV2318	**PE-I Lab :** Matrix Analysis of Structures
5	5	PE-I	CV2319	PE-I : Advanced Concrete Technology
	5	PE-I	CV2320	**PE-I Lab :** Advanced Concrete Technology
6	5	PE-I	CV2321	PE-I : Water Treatment
	5	PE-I	CV2322	**PE-I Lab :** Water Treatment
7	5	PE-I	CV2323	PE-I : Environmental Management
	5	PE-I	CV2324	**PE-I Lab :** Environmental Management
8	5	PE-I	CV2325	PE-I : Soil Characterization & Identification
	5	PE-I	CV2326	**PE-I Lab :** Soil Characterization & Identification
9	5	PE-I	CV2327	PE-I : Geographical Information Systems
	5	PE-I	CV2328	**PE-I Lab :** Geographical Information Systems

Open Electives -I

1	5	OE-I	CV2331	OE-I : Building Services Engineering
2	5	OE-I	CV2332	OE-I : Construction Techniques
3	5	OE-I	CV2333	OE-I : Introduction to Environmental Management
4	5	OE-I	CV2334	OE-I : Basics of Transportation Engineering
5	5	OE-I	CV2335	OE-I : Basics of Water Resource Engineering
6	5	OE-I	CV2336	OE-I : Elements of Water Power Engineering

Open Electives -II

1	5	OE-II	CV2341	OE II : Elements of Earthquake Engineering
2	5	OE-II	CV2342	OE II : Introduction to Finite Element Method
3	5	OE-II	CV2343	OE II : Air Pollution and Solid Waste Management
4	5	OE-II	CV2344	OE-II : Environmental & Social Impact Assessment
5	5	OE-II	CV2345	OE II : Disaster Management

MSEs* = Two MSEs of 15 Marks each will conducted and marks of of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 12 marks on lecture quizzes, 12 marks on two TA2 activitied decided by course teacher, 2 marks on class attendance and 4 marks on TA4 activities

TA = for Practical : MSPA will be 15 marks each**

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

B.E. SCHEME OF EXAMINATION 2018-19
(Revised Scheme of Examination w.e.f. 2020-21 onward)
Civil Engineering

SN	Sem	Type	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours

SN	Sem	Type	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
colspan-Sixth Semester														
1	6	HS	GE2312	Fundamental of Economics	T	3	0	0	3	3	30	30	40	3
2	6	PC	CV2351	Steel Structures	T	3	0	0	3	3	30	30	40	4
3	6	PC	CV2352	Lab:- Building Design Drawing	P	0	0	2	2	1		60	40	
4	6	PC	CV2353	Hydraulic Engineering	T	3	0	0	3	3	30	30	40	3
5	6	PC	CV2354	Lab:- Hydraulic Engineering	P	0	0	2	2	1		60	40	
6	6	PC	CV2355	Foundation Engineering	T	3	0	0	3	3	30	30	40	3
7	6	PE-II		Professional Elective -II	T	3	0	0	3	3	30	30	40	3
8	6	OE-II		Open Elective - III **	T	3	0	0	3	3	30	30	40	3
9	6	OE-IV		Open Elective - IV **	T	3	0	0	3	3	30	30	40	3
10	6	STR	CV2360	Industry Visit and its report	P	0	0	0	0	1		100		
					TOTAL	21	0	4	25	24				

Audit Courses

1	6	IT	IT1121	Industrial Programmin Language	A	3	0	0	3	0				

Professional Elective - II

1	6	PE-II	CV2361	PE-II : Building Services
2	6	PE-II	CV2362	PE-II : New Engineering Materials
3	6	PE-II	CV2363	PE-II : Construction Management And Machinery
4	6	PE-II	CV2364	PE-II : Earthquake Engineering
5	6	PE-II	CV2365	PE-II : Optimization Techniques
6	6	PE-II	CV2366	PE-II : Introduction to Remote Sensing
7	6	PE-II	CV2367	PE-II : Environmental Geotechniques
8	6	PE-II	CV2368	PE-II : Traffic Engineering
9	6	PE-II	CV2369	PE-II : Water Transmission and Distribution Systems

Open Electives -III

1	VI	OE-III	CV2371	OE-III : Building Services Engineering
2	VI	OE-III	CV2372	OE-III : Construction Techniques
3	VI	OE-III	CV2373	OE-III : Introduction to Environmental Management
4	VI	OE-III	CV2374	OE-III : Basics of Transportation Engineering
5	VI	OE-III	CV2375	OE-III : Basics of Water Resource Engineering
6	VI	OE-III	CV2376	OE-III : Elements of Water Power Engineering

Open Electives -IV

1	VI	OE-IV	CV2381	OE-IV : Elements of Earthquake Engineering
2	VI	OE-IV	CV2382	OE-IV : Introduction to Finite Element Method
3	VI	OE-IV	CV2383	OE-IV : Air Pollution and Solid Waste Management
4	VI	OE-IV	CV2384	OE-IV : Environmental & Social Impact Assessment
5	VI	OE-IV	CV2385	OE-IV : Disaster Management

MSEs* = Two MSEs of 15 Marks each will conducted and marks of of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 12 marks on lecture quizzes, 12 marks on two TA2 activitied decided by course teacher, 2 marks on class attendance and 4 marks on TA4 activities

TA = for Practical : MSPA will be 15 marks each**

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

Seventh Semester

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
B.E. SCHEME OF EXAMINATION 2018-19
(Revised Scheme of Examination w.e.f. 2020-21 onward)

SoE No.
CV-201

Civil Engineering

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
						L	T	P	Hrs		MSEs*	TA**	ESE	
	Chairperson			Dean (Acad. Matters)		Date of Release				Version	AY 2020-21 Onwards			
Seventh Semester														
1	7	PC	CV2401	Estimating & Costing	T	3	0	0	3	3	30	30	40	3
2	7	PC	CV2402	Lab:- Estimating &Costing	P	0	0	2	2	1		60	40	
3	7	PC	CV2403	Wastewater Engineering	T	3	0	0	3	3	30	30	40	3
4	7	PC	CV2404	Hydrology and Water Resources Engineering	T	3	0	0	3	3	30	30	40	3
5	7	PE-III		Professional Elective -III	T	3	0	0	3	3	30	30	40	3
6	7	PE-IV		Professional Elective -IV	T	3	0	0	3	3	30	30	40	3
7	7	PE-V		Professional Elective -V	T	3	0	0	3	3	30	30	40	3
8	7	STR	CV2409	Mini Project	P	0	0	4	4	2		60	40	
9	7	STR	CV2410	Campus Recruitment Training (CRT)	P	0	0	0	0	2		100		
				TOTAL		18	0	6	24	23				

Professional Elective - III

1	7	PE-III	CV2411	PE-III : Prestressed Concrete
2	7	PE-III	CV2412	PE-III : Advanced RCC
3	7	PE-III	CV2413	PE-III : Numerical Methods and Computational Techniques
4	7	PE-III	CV2414	PE-III : Environmental Impact Assessment
5	7	PE-III	CV2415	PE-III : Energy Conversion and Management
6	7	PE-III	CV2416	PE-III : Geotechnical Investigation & Ground Improvement Techniques
7	7	PE-III	CV2417	PE-III : Earth and Earth Retaining Structures
8	7	PE-III	CV2418	PE-III : Urban Transportation Planning
9	7	PE-III	CV2419	PE-III : Advanced Hydraulics

Professional Elective - IV

1	7	PE-IV	CV2421	PE-IV : Natural Resources Management
2	7	PE-IV	CV2422	PE-IV : Finite Element Method
3	7	PE-IV	CV2423	PE-IV : Introduction to Structural Dynamics
4	7	PE-IV	CV2424	PE-IV : Wastewater Treatment
5	7	PE-IV	CV2425	PE-IV : Environmental Legislation and Management System
6	7	PE-IV	CV2426	PE-IV : Advanced Foundation Engineering
7	7	PE-IV	CV2427	PE-IV : Geosynthetics
8	7	PE-IV	CV2428	PE-IV : Advanced Transportation Engineering
9	7	PE-IV	CV2429	PE-IV : Watershed Management

Professional Elective - V

1	7	PE-V	CV2431	PE-V : Maintenance and Rehabilitation Engineering
2	7	PE-V	CV2432	PE-V : Project Planning and Management
3	7	PE-V	CV2433	PE-V : Modern Surveying Technique
4	7	PE-V	CV2434	PE-V : Advanced Steel Design
5	7	PE-V	CV2435	PE-V : Design of Bridge Structures
6	7	PE-V	CV2436	PE-V : Industrial Waste Water Treatment and Reuse
7	7	PE-V	CV2437	PE-V : Finite Element methods in Geotechnical Engineering
8	7	PE-V	CV2438	PE-V : Pavement Design
9	7	PE-V	CV2439	PE-V : Water Power Engineering
10	7	PE-V	CV2440	PE-V : Structural Engineering Practices

MSEs* = Two MSEs of 15 Marks each will conducted and marks of of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 12 marks on lecture quizzes, 12 marks on two TA2 activitied decided by course teacher, 2 marks on class attendance and 4 marks on TA4 activities

TA** = for Practical : MSPA will be 15 marks each

Chairperson	Dean (Acad. Matters)	June 2020	1.02	Applicable for AY 2021-22 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	Applicable for AY 2021-22 Onwards

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
B.E. SCHEME OF EXAMINATION 2018-19
(Revised Scheme of Examination w.e.f. 2020-21 onward)

**SoE No.
CV-201**

Civil Engineering

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
						L	T	P	Hrs		MSEs*	TA**	ESE	
Eigth Semester														
1	8	STR	CV2451	Major Project	P	0	0	12	12	9		60	40	
2	8	STR	CV2452	Extra curricular Activity Evaluation	P	0	0	0	0	1		100		
					TOTAL	0	0	12	12	10				

					GRAND TOTAL	88	0	42	130	163				

MSEs* = Two MSEs of 15 Marks each will conducted and marks of of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 12 marks on lecture quizzes, 12 marks on two TA2 activitied decided by course teacher, 2 marks on class attendance and 4 marks on TA4 activities

TA = for Practical : MSPA will be 15 marks each**

		June 2020	**1.02**	**Applicable for AY 2021-22 Onwards**
Chairperson	**Dean (Acad. Matters)**	**Date of Release**	**Version**	

VI Semester
CV2370 - PE-II : Construction Management

COURSE OBJECTIVES	COURSE OUTCOME
Students will be introduced to	Students will be able to
1. Construction project management processes. 2. Principles and Techniques of construction scheduling 3. Overview of construction cost estimating and cost control 4. Financial aspects involved in construction project management	1. Analyze the construction project management processes. 2. Apply the knowledge of construction scheduling. 3. Apply the knowledge of construction cost estimating and cost control. 4. Explain the financial aspects involved in construction project management..
Mapped Program Outcomes : 1, 6, 7, 8, 9, 10, 11, 12	

UNIT–1 : **Construction Project Management**: Course Overview, Construction Industry Overview, Project Delivery, Lean Project Delivery, Sustainability in the Construction Industry, Environment, Health and Safety of Construction Processes, Building Information Modeling and Technology Trends in Construction, International View of Construction Projects, Role of a Construction Manager, Introduction to Project Planning.	**[06 Hrs.]**
UNIT–2 : **Construction Scheduling I:** Introduction to Construction Scheduling, The Role of the Scheduler in Construction Management, Linear Construction Operations and Line of Balance, Technology Applications for Scheduling, Scheduling for Large Programs, Risk Allocation and Planning, Lean Design in Construction Scheduling.	**[06 Hrs.]**
UNIT–3 : **Construction Scheduling II:** Bar (Gantt) Charts, Activity Precedence Diagrams, Types of Construction Activity Relationships, Forward and Backward Pass Calculations, Critical Path, Activity Floats, Understanding Work Dates and Calendar Dates, Activity on Arrow, Program Evaluation & Review Technique (PERT) and Range Estimating.	**[07 Hrs.]**
UNIT–4 : Construction Cost Estimating and Cost Control I:Construction Cost Estimating and Cost Control Overview, Understanding Design in the Construction Industry, Introduction to the Types of Cost Estimates, Quantity Take-Off and Measurement, Pricing.	**[07 Hrs.]**
UNIT–5 : Construction Cost Estimating and Cost Control II: Building the Estimate Procurement, Post Contract and Cost Estimation within a Project, Construction cost Control methods, Earned Value Method (EVM), Close Out Period, Cost Estimation in Practice, Project Cash Flow, Technology Trends in Cost Estimating and Cost Control, Program Cost Estimating, Lean in Cost Control	**[07 Hrs.]**
UNIT–6 : Construction Finance: Introduction To The Construction Finance Course, The Mathematics of Money, Real Estate Finance for Development Projects, Financial Plans for Development Projects, Project Finance, Risk In Project Finance, Public - Private Partnerships.	**[06 Hrs.]**

		June 2020	1.00	Applicable for AY 2020-21 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

VI Semester
CV2370 - PE-II : Construction Management

Text Books :
1. Construction Planning and Management – Purifoy
2. Construction Planning and Management – Dr U K Shrivastava, Galgotia Publ.
3. Project Planning & Management – B C Punmia
4. Laws related to buildings and engineering contracts in India- Gajaria G T, LexisNexis Butterworths India Publisher, 2000.
5. Punmia B.C. & Khandelwal K.K., Project Planning & Control with PERT&CPM, Laxmi Publications, New Delhi,1990.

Reference Books :
1. Construction Contracts- Jimmie Hinze McGraw Hill,
2. Contracts and the legal Environment for Engineers and Architects- Joseph T Bockrath, McGraw Hill,
3. Srinath L, CPM & PERT, Affiliated East-West Press Pvt. Ltd., New Delhi.
4. P.S. Gahlot & B.M. Dhir, Construction Planning and Management, New Age International.
5. Chaudhary Roy, Project Management, Tata McGraw Hill, New Delhi.

		June 2020	1.00	Applicable for AY 2020-21 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

YCCE-CE-87

Nagar Yuwak Shikshan Sanstha's
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BE SoE and Syllabus 2018
(Revised Scheme of Examination w.e.f. 2021-22 onward)
CIVIL ENGINEERING

VII Semester
CV2415 - PE-III : Energy Conversion & Management

COURSE OBJECTIVES	COURSE OUTCOME
Students will be introduced to 1. Energy crisis and energy management, and the importance of energy conservation. 2. Techniques of energy analysis and the associated energy conversion technologies. 3. Energy management systems and their essential elements.	Students will be able to 1. Analyze energy crisis, and of environmental and sustainability concerns associated with the energy management. 2. Work on energy conservation and having the knowledge of energy conversion strategies and methods. 3. Understand the Energy Management Systems

Mapped Program Outcomes : 1,2,3,5,6,7,12

UNIT–1 : Significance of Energy Conversion and Environment, Overview of Global and Indian Energy Scenario; Environmental Impacts of Energy Conversion, Principles of Waste Minimization and Energy Recovery.	**[07 Hrs.]**
UNIT–2 : Renewable and Non-Renewable Energy Sources; Estimation of Potential of Energy Recovery from various Sources, Energy economics.	**[06 Hrs.]**
UNIT–3 : Energy Conversion Methods: Thermal, hydro, nuclear, solar, wind, tidal etc. their principles and application.	**[07 Hrs.]**
UNIT–4 : Waste to Energy options: physical, thermochemical and bio chemical processes, Combustion, Gasification, pyrolysis; Fuels Derived anaerobic digestion, Biogas Technology, Future Technologies for Waste to Energy Systems.	**[06 Hrs.]**
UNIT–5 : Introduction to Microbial Fuel cell, Gas generations and collection in landfills, Measurements and Control; Energy and Resources Conservation Strategies and Policies.	**[07 Hrs.]**
UNIT–6 : Intelligent Green Building, Green Rating Systems Alternative Construction Materials& methods Testing and Verification.	**[06 Hrs.]**

Text Books :
1. D. O. Hall, G. W. Barnard and P. A. Moss, Biomass for Energy in the Developing Countries, Current Roles, Potentials, Problems, Prospects, Pergamon Press Ltd, 1st edition.
2. W. C. Turner, Energy Management Handbook Wiley New york 1st edition.
3. P. Meier, Energy System Analysis for Developing countries, Sringer Verlag 1st edition.
4. Dorthy J De Renzo, Energy from Bioconversion of Waste materials, Noyes data Corporation USA 1st edition.

Reference Books :
1. G.D. Rai, Non-Conventional Energy Source, Standard Publishers Distributors.
2. Fowler J. M. Energy and the Environment McGraw Hill New York 2nd edition.
3. B.H. Khan, Non-Conventional Energy Resources, 2nd Edition, McGraw Hill Companies.

		June 2021	1.00	Applicable for AY 2021-22 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

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CIVIL ENGINEERING

VII Semester

CV2440 - PE-V : Structural Engineering Practices

COURSE OBJECTIVE	COURSE OUTCOMES
1. To make the students aware about Structural Engineering Practices and pre-requisites in initiating structural design 2. To provide the students the knowledge about various standards and specifications frequently referred by Structural Engineers and their use in practice 3. To make the students aware about architectural plans, structural analysis and design of structural elements, identification of points for discussion between an architect and structural designer 4. To design an RCC building and prepare structural drawings.	1. An Ability to understand structural engineering practices and pre-requisites. 2. An ability to understand relevant standards and software related to structural design. 3. An ability to understand important construction process related to structural members. 4. An ability to design building components and prepare detailed structural drawings.

Mapped Program Outcomes : 1,2,3,4,12   **PSO** : i

UNIT–1 : Importance of various architectural building plans and sections for the structural design. Structural behavior, Design basis, Design Intent, Standards, Manuals, Methods, material testing, Material Properties, Mix design, Quality Control, Different Tests & checks carried out at site, cube tests, buckling, creep, Shrinkage, etc. Professional ethics	**[07 Hrs.]**
UNIT–2 : Preparation of the structural framing plan of the building, beam locations, column positions, column orientations, shear walls locations. Introduction of SP16, IS:1893, IS:13920	**[06 Hrs.]**
UNIT–3 : Importance, determination & calculation of different loads like Dead load, live load, wall load, seismic load, wind load, finish load, temperature load, vibratory load, etc. Various load combinations.	**[06 Hrs.]**
UNIT–4 : Three dimensional Modeling of the Structure, Boundary Conditions, Section Properties, Applications of Loading, Static & Dynamic Analysis of structure, Design of structure, Understanding & Interpretation of the results, Deformation control, Mode Shapes, Vibrations, Acceptance Criteria's, Tolerances, , .	**[7 Hrs.]**
UNIT–5 : Foundations – Importance of soil exploration, Various types of Foundation, Selection of type of foundation. Construction Methods.	**[07 Hrs.]**
UNIT–6 : Reinforcement detailing of Structures as per SP24 and as per exposure conditions, Fire Rating, etc.	**[06 Hrs.]**

Text books:
1. P.C. Vergese, Limit State Design of Reinforced Concrete, Prentice Hall Publishers, 2nd edition, 2008
2. Shah and Karve, Reinforced Concrete Structures, Structures Publishers, Pune, 5th edition, 2015.
3. Sinha S.N, Reinforced Concrete Design, Tata McGraw Hill Publishing Company Limited, New Delhi, 2007
4. Ashok K. Jain, Reinforced Concrete –Limit State Design, Nem chand and Brothers, 7th edition,2012

Reference books:
1. P.C. Varghese, Advanced Design of Structures, Prentice Hall Publishers,2009
2. Punmia B.C.,Jain A.K.,Jain A.K,Reinforced Concrete Structures (Vol-I),Laxmi Publications Pvt Ltd, New Delhi, 2007
3. N. Krishana Raju,Prestressed Concrete,Tata McGraw Hill Publishing Company Limited, New Delhi, 5th edition 2012

		June 2021	1.00	Applicable for AY 2021-22 Onwards
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BE SoE and Syllabus 2018
(Revised Scheme of Examination w.e.f. 2021-22 onward)
CIVIL ENGINEERING

VII Semester
CV2416 - PE-III : Geotechnical Investigation & Ground Improvement Techniques

COURSE OBJECTIVES	COURSE OUTCOMES
1. To study important methods of soil exploration and interpretation of the results. 2. Understanding the methods of ground improvement. 3. Understand the use of geosynthetics materials.	Student will be able to understand 1. Various methods of soil exploration and interpretation of the results. 2. Various methods of ground improvement. 3. The use of geosynthetic materials in construction.

Mapped Program Outcomes : 1,2,3,4 **PSO** : ii

UNIT–1 : **Importance and objectives of Geotechnical exploration**: Planning of geotechnical exploration program: Methods of boring, location, number of boreholes, depth of boring. Sub-surface Investigation Report: Salient features and boring logs; Types of soil samplers& their suitability, precautions in sampling, preservation & shipment of samplers. Seismic refraction method, electrical resistivity method, qualitative and quantitative interpretation of test results.	**[07 Hrs.]**
UNIT–2 : **Field investigations:** Standard Penetration Test, static cone and dynamic cone penetration tests, interpretation of test results for obtaining design soil parameters for cohesive and cohesion less soils, Plate load test– purpose, procedure, interpretation for bearing capacity and settlement of foundation. Field vane shear test, design value of un-drained shear strength of clays, correction factor, pressure meter tests.	**[06 Hrs.]**
UNIT–3 : **Introduction to ground improvement techniques** - Need for ground improvement, various ground improvement techniques, economic considerations and suitability. Grouting: Materials and methods of grouting Stone Columns.	**[06 Hrs.]**
UNIT–4 : **Reinforced soil and Geo-synthetics:** Basic theory of reinforced soil, concept of reinforced soil wall and reinforced slope, geo-synthetic types: applications in Civil Engineering.	**[07 Hrs.]**
UNIT–5 : **Ground Anchor and Soil Nailing:** Concept, Design features, types, construction procedure, Functions, Applications, Advantages. Limitations of soil nailing system and ground anchors.	**[07 Hrs.]**
UNIT–6 : **Diaphragm wall:** Construction sequence, cement slurry wall, Design features, Functions, applications, Case study on Diaphragm wall. Deep soil mixing.	**[06 Hrs.]**

Text Books :
1. Geotechnical Engineering: Principles and Practices of Soil Mechanics and Foundation Engineering, 2003, VNS Murthy, CRC Press.
2. Soil Mechanics & Foundation Engineering, 2009, Arora K.R., Standard Publisher Distributors.
3. Soil Mechanics & Foundations, 2009, Punmia B. C., Laxmi publication.

		June 2021	1.00	Applicable for AY 2021-22 Onwards
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BE SoE and Syllabus 2018
(Revised Scheme of Examination w.e.f. 2021-22 onward)
CIVIL ENGINEERING

VII Semester
CV2435 - PE-V : Design Of Bridge Structures

COURSE OBJECTIVES	COURSE OUTCOMES
1. Understand various types of bridges and loadings. 2. Understand various types of bridge superstructure, substructure and its components. 3. Understand basics of long span bridges.	The students will be able to; 1. Identify various types of bridge, loading and their components. 2. Describe superstructure and substructure. 3. Discuss suitability of long span bridges.

Mapped Program Outcomes : 1,2,3

UNIT–1 : **Introduction** - History of Bridges; Definition and Basic Forms, Components of a Bridge and its definitions. **Classification of Road Bridges**, related structures, span length; classification of road bridge, short history of bridge development.	**[06 Hrs.]**
UNIT–2 : **Standard Loading for Road Bridge Design as per codes**: Introduction of IRC codes. Dead load, Live load, Impact factor, Centrifugal force, Wind loads, Longitudinal forces, Buoyancy, Water Current Forces, Thermal Forces, Deformation and Horizontal Forces, Erection Stresses, Seismic Forces, Load combinations for different working state and limit state designs.	**[07 Hrs.]**
UNIT–3 : Introduction to various types of culverts, Slab Bridges, Beam and Slab Bridges, Plate Girder Bridges, Prestressed Concrete Bridges, Composite Bridges, Introduction to their design.	**[06 Hrs.]**
UNIT–4 : **Substructure:** Pier, Loads on Piers Abutment, Major types of abutments. **Bridge Foundations:** Open foundation, Pile foundation; Well foundation.	**[07 Hrs.]**
UNIT–5 : **Bearings and Deck Joints**: Bearings, Forces on Bearings, Types of Bearings, Basis for Selection of Bearings. Different types of bridge expansion joints.	**[07 Hrs.]**
UNIT–6 : **Suspension bridges**: Components of suspension bridge, Structural behavior, Advantages. **Cable Stayed Bridge**: General Features, Components of cable stayed bridges, Towers or Pylons, Types of cable stays.	**[06 Hrs.]**

Text Books:
1. T.R. Jagadeesh, M.A. Jayaram, Design of Bridge Structure, PHI publication.
2. Krishnaraju „ Bridge Engineering, UPD Publishers, New Delhi, 2000.
3. Baider Bakht and Leslie, G. Jaeger,' Bridge Analysis Simplied, Mcgraw Hill Book Co,1998.

Reference Books:
1. IRC 005, Standard Specifications and Code of Practice for Road Bridges, Section I (General Features of Design) (Seventh Revision), 1998.
2. IRC 006, Standard Specifications and Code of Practice for Road Bridges, Section II – Loads and Stresses (Fourth Revision), 2014.
3. IRC-21:2000; Standards specifications and code of practice for Road bridges.
4. IRC 078, Standard Specifications and Code of Practice for Road Bridges, Section VII – Foundations and Substructure (Revised Revision), 2014.
5. IRC 083-1, Standard Specifications and Code of Practice for Road Bridges, Section IX (Bearings), Part I (Metallic Bearings) (First Revision), 1999.
6. IRC 112, Code of Practice for Concrete Road Bridges, 2011.
7. Johnson Victor, 'Bridge Engineering', Oxford IBH, New Delhi, 2000.
8. Raina, R.K, 'Principles of Design of RCC Bridges, Tata McGraw Hill, 1999.Conrad P. Heins and Richard A. Lawrie, 'Design of Modern Concrete Highway Bridges, John Wiley andSons, 1999.

		June 2021	1.00	Applicable for AY 2021-22 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

Electrical Engineering

{BoS}

33th Meeting of Board of Studies(Thursday 20/01/2024)

BoS Members

S.N.	Name	Signature	S.N.	Name	Signature
1	Dr.S.G.Kadwane		20	Dr.S.R.Gaigowal	
2	Dr.R.M.Moharil		21	Prof.B.S.Sudame	
3	Dr.P.M.Meshram		22	Prof.S.L.Tiwari(Tripathi)	
4	Prof.R.N.Nagpure		23	Dr.Sarika.D.Patil	
5	Dr.S.S.Gokhale		24	Prof.P.B.Joshi	
6	Dr.B.Y.Bagde		25	Prof.U.V.Waghmare	
7	Prof.S.B.Rewatkar(Kewte)		26	Prof.R.S.Khonde	
8	Dr.S.P.Adhau		27	Prof.S.K.Mohod(Bhoyar)	
9	Prof.P.S.Patil		28	Prof.Akshay.D.Kadu	
10	Prof.T.D.Tembhekar(Sakhare)		29	Prof.Nivedita S.Padole	
11	Prof.N.T.Sahu(Shrirao)				
12	Prof.X.R.Pote				
13	Dr.A.P.Munshi				
14	Dr.S.P.Gawande				
15	Prof.A.S.Lilhare				
16	Prof.V.R .Doifode				
17	Prof.J.M.Kumbhare(Dhakate)				
18	Prof.P.S.Shete				
19	Prof.G.C.Gondhalekar				

BoS Experts

Name	Name	Name
Dr.S.S.Ambekar	Dr.Ritesh Keshri	Er.Rahul Nagpure
Dr.V.S.Kale	Er.Pravin Palkar	

Minutes of 33rd BoS Meeting dated on Saturday 20th January 2024

33rd Meeting of BoS of Electrical Engineering was held on Saturday 20th January 2024

It was chaired by Dr.S.G.Kadwane, Chairman BoS. Following members were present.

S.N.	Name	S.N.	Name
1	Dr.S.G.Kadwane	20	Prof.B.S.Sudame
2	Dr.R.M.Moharil	21	Prof.S.L.Tiwari(Tripathi)
3	Dr.P.M.Meshram	22	Prof.P.B.Joshi
4	Prof.R.N.Nagpure	23	Prof.U.V.Waghmare
5	Dr.S.S.Gokhale	24	Prof.R.S.Khonde
6	Dr.B.Y.Bagde	25	Prof.Nivedita S.Padole
7	Prof.S.B.Rewatkar(Kewte)	26	Dr.Ritesh Keshri(External)
8	Dr.S.P.Adhau		
9	Prof.X.R.Pote		
10	Dr.A.P.Munshi		
11	Dr.S.P.Gawande		
12	Prof.A.S.Lilhare		
13	Prof.V.R .Doifode		
14	Prof.J.M.Kumbhare(Dhakate)		
15	Prof.P.S.Shete		
16	Dr.S.R.Gaigowal		

Following members has been permitted leave of absence
1. Dr.S.S.Ambekar
2. Dr.V.S.Kale
3. Er.Pravin Palkar
4. Akshay.D.Kadu
5. T.D.Tembhekar(Sakhare)
6. P.S.Patil
7. Dr.Sarika.D.Patil
8. N.T.Sahu(Shrirao)

Minutes of Meetings 33ʳᵈ BoS Meeting

Agenda No. 33.01
Welcome of new members
Dr S.G.Kadwane welcomed BoS expert ,Dr. Ritesh Keshri Assistant Professor, Department of Electrical Engineering, VNIT, Nagpur, Departmental BoS members were also welcomed by the Chairman.

Agenda No. 33.02
Installation of member Secretary
It has been decided to retain Mrs. Xma Pote as Member secretary BoS for the session 2023-24.

Agenda No. 33.03
Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.
The minutes of previous meeting no.32 held on Saturday 22 July 2023 were already circulated to all members. The ATR of previous meeting have been discussed with BoS members. (Annexure A). After confirmation, Chairman asked to accept the minutes of meeting.

Agenda No. 33.04

A] To discuss and finalize the Scheme of Examination SoE 2023 and syllabi of all 13 Undergraduate programmes, framed as per NEP 20 Guidelines, issued by Government of Maharashtra through GR No: NEP2022/(67/23) / DTE-2 dated 04.07. To approve SoE23

B] To discuss and finalize the Scheme of Examination SoE 2022 and syllabi of all 12 Undergraduate programmes framed and to approve SoE22 and all syllabi of B.Tech Third to final Year

- Scheme of Examination SoE 2022 with syllabus (Annexure B) and Scheme of Examination SoE 2023 (Annexure C) were presented and confirmed by BoS members with minor suggested corrections

Agenda No. 33.05
To discuss and suggest the action taken on
- **Co/Po attainment of subjects taught in Odd semester 2023-24**
  Institution is shifting all its processes on a new Information System Software, due to which, we are experiencing slight delay in compilation of the information hence not able to complete the Co/Po attainment process. We have done the attainment of the internal exams but final analysis is still in process.
- **Result analysis of subjects taught in previous semester**
  Institution is shifting all its processes on a new Information System Software, due to which, we are experiencing slight delay in compilation of the information hence not able to present the result analysis.

- **Stake holders' feedback on review and design of curriculum**

S.N.	Stakeholder	Feedback	Action Taken
1.	Parent	Information regarding guidance for higher studies competitive exams and placement was demanded	Information regarding GATE guidance and YCAP ,CRT was elaborated by HoD.
2	Alumni	Industry based courses should be run.	Offered from new session
3	Student	1Courses including current practices and innovative application should be started.	Courses like Industrial safety, Electrical Energy Audit and Project Planning have been included in the curriculum
4	Faculty	Some topics to be rearranged in the subject 23EL1102 Basic Electrical Engineering	The suggested changes will be communicated in Minutes of meeting report to DAM Office.

- **In Sem, End Sem and Exit feedback on Teaching Learning & curriculum.**
  Feedback analysis report of Odd term 2023-24 has been discussed with BoS Experts. (Feedback below 3.25 (65%))

Sr. NO	III	V	VII
<65%	NIL	1	NIL

Action Taken: The concerned faculty members were called for counselling by a committee consisting of Principal, DAM and HoD and discussed the reasons behind less student feedback. Committee suggested the measures and necessary actions to improve the performance.

Agenda No. 33.06
To discuss and suggest the minor changes in the syllabi of various courses in B.Tech 2022 & B.Tech 2023 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 B.Tech 2022 & B.Tech 2023 of Undergraduate and Post graduate programs. The modifications were suggested in following subject was
- 23EL1102 Basic Electrical Engineering (By Dr.A.P.Munshi and Prof.Xma Pote)
- 23EL1101 Basic Electronics and Electrical Engineering (By Prof.S.S.Kewte)
  Annexure D

The BoS experts approved to make the suggested changes and incorporate the modifications.

Agenda No. 33.07
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.

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

Agenda No. 33.08
To discuss and approve the list of experiments, wherever there is a change, in the laborat ory 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 B.Tech 2022 & B.Tech 2023 scheme 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. 33.09
To discuss and suggest the changes in the Academic Regulations governing the Undergrad uate 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. 33.10
To discuss and propose the new courses/MOOCS received from the faculty for inclusion in the curriculum.

For the academic session Even 2023-24, it has been decided to allot professional elective offered through Coursera for VI semester students. For this, "Energy Production, Distribution and Safety" will be offered as Professional Elective -I(PE-I) for first 20 bright students considering their consent for the course. The course consists of 4 modules. After successful completion of each module and laboratory work, student will receive certificate which have to submit for the grade allotment.

Agenda No. 33.11
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 2023-24
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 2023-24 will be decided after the notification received from CoE.

Agenda No. 33.12
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 Even Term 2023-24.
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 2023-24will be decided after the notification received from CoE.

Agenda No. 33.13
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 Even Term 2023-24.

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 2023-24 will be decided after the notification received from CoE.

Agenda No. 33.14
Preparation of Electronic question Bank UG courses according to B.Tech SoE 2022 & 2023. To review solutions to all questions of Electronic Question Banks for all courses.
To review the creation and dissemination of content developed by senior faculty in AY 2022-23 and propose the names of content developers in AY 2023-24.

Content development:
AY 2022-23
Dr.R.M.Moharil: EL2432   :Fundamentals of Smart Grid

AY 2023-24
Dr.S.P.Adhau - EL2413   :Electrical Machine Design
R.N.Nagpure - 22EL304   :Network Analysis
Dr.S.S.Gokhale- EL2304   : Electrical Drives

Agenda No. 33.15
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. 33.16
To discuss and propose scheme for Minor and Honor course and its syllabus.
  B.Tech.Honor Program in Renewable Energy System has been offered in Session 22-23
  B.Tech.Honor Program in PLC and Industrial Automation has been offered in Session 23-24

Agenda No. 33.17
Any other matter with the permission of the Chair.
It has been strongly recommended by external expert not to include professional elective in 8th semester for SoE 23 as students will be busy with Internship.

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

 Xma R.Pote   Dr.S.G.Kadwane
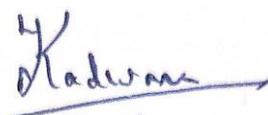
BoS Member Secretary   **Head and Chairman BoS**
Department of Electrical Engineering   Department of Electrical Engineering

LIST OF ANNEXURES

1) Annexure - A: Action Taken Report on Previous BoS
2) Annexure - B: Scheme of Examination SoE 2022 with syllabus
3) Annexure - C: Scheme of Examination SoE 2023
4) Annexure - D: Minor changes in the syllabi of various courses in B.Tech 2022 &
                   B.Tech 2023

Bachelor of Engineering
SoE & Syllabus 2018
3rd to 8th Semester
Electrical Engineering

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
B.TECH SCHEME OF EXAMINATION 2020-21
(Revised Scheme of Examination w.e.f. 2022-23 onward)
Electrical Engineering

SoE No.
EL-202.1

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
						L	T	P	Hrs		MSEs*	TA**	ESE	
				TOTAL FIRST & SECOND SEM						47				
				Third Semester										
1	3	BS	GE2201	Engineering Mathematics III	T	3	0	0	3	3	30	20	50	3 Hours
2	3	PC	EL2201	Analog Electronics	T	3	0	0	3	3	30	20	50	3 Hours
3	3	PC	EL2202	Lab. : Electronics Engineering Workshop	P	0	0	2	2	1		60	40	
4	3	PC	EL2203	Electrical Machines	T	4	0	0	4	4	30	20	50	3 Hours
5	3	PC	EL2204	Lab.:Electrical Machines	P	0	0	2	2	1		60	40	
6	3	PC	EL2205	Network Analysis	T	3	0	0	3	3	30	20	50	3 Hours
7	3	PC	EL2206	Lab.:Computer Programming	P	0	0	2	2	1		60	40	
8	3	PC	EL2207	Electrical Measurement & Instrumentation	T	3	0	0	3	3	30	20	50	3 Hours
9	3	PC	EL2208	Lab.:Electrical Measurement & Instrumentation	P	0	0	2	2	1		60	40	
				TOTAL		16	0	8	24	20				

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
						L	T	P	Hrs		MSEs*	TA**	ESE	
				Fourth Semster										
1	4	BS	GE2204	Advance Mathematical Techniques	T	3	0	0	3	3	30	20	50	3 Hours
2	4	PC	EL2251	Electrical Machines in Power System	T	3	0	0	3	3	30	20	50	3 Hours
3	4	PC	EL2252	Lab.:Electrical Machines in Power System	P	0	0	2	2	1		60	40	
4	4	PC	EL2253	Electrical Energy Generation System	T	3	0	0	3	3	30	20	50	3 Hours
5	4	PC	EL2254	Lab.:Renewable Energy System	P	0	0	2	2	1		60	40	
6	4	PC	EL2255	Electric & Magnetic Fields	T	3	0	0	3	3	30	20	50	3 Hours
7	4	PC	EL2256	Lab.:Electrical Engineering Workshop	P	0	0	2	2	1		60	40	
8	4	PC	EL2257	Microprocessor	T	3	0	0	3	3	30	20	50	3 Hours
9	4	PC	EL2258	Lab.:Microprocessor	P	0	0	2	2	1		60	40	
10	4	PC	EL2259	Signals & Systems	T	4	0	0	4	4	30	20	50	3 Hours
				TOTAL		19	0	8	27	23				

List of Audit Courses

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
						L	T	P	Hrs		MSEs*	TA**	ESE	
1	3	HS	GE2121	Env Studies for 3 Sem. EL,ET,CT	A	3	0	0	3	0				
2	3	HS	AU2123	YCCE Communication Aptitude Preparation (YCAP3)	A	3	0	0	3	0				
3	4	HS	AU2125	YCCE Communication Aptitude Preparation (YCAP4.2) for EL,EE,ET	A	3	0	0	3	0				

MSEs* = Two MSEs of 15 Marks each will conducted and marks of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 5 marks on lecture quizzes, 11 marks on TA2+TA4 activitied decided by course teacher, 4 marks on class attendance

TA** = for Practical : MSPA will be 15 marks each

		June 2022	1.05	Applicable for AY 2022-23 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)
B.TECH SCHEME OF EXAMINATION 2020-21
(Revised Scheme of Examination w.e.f. 2022-23 onward)

SoE No.
EL-202.1

Electrical Engineering

SN	Sem	Type	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
						Contact Hours					% Weightage			
Fifth Semester													
1	5	HS	GE2312	Fundamental of Economics	T	3	0	0	3	3	30	20	50	3 Hours
2	5	PC	EL2301	Power Electronics	T	3	0	0	3	3	30	20	50	3 Hours
3	5	PC	EL2302	Lab.:Power Electronics	P	0	0	2	2	1		60	40	
4	5	PC	EL2303	Fundamentals of Power System	T	3	0	0	3	3	30	20	50	3 Hours
5	5	PC	EL2304	Electrical Drives	T	3	0	0	3	3	30	20	50	3 Hours
6	5	PC	EL2305	Lab.:Electrical Drives	P	0	0	2	2	1		60	40	
7		OE		Open Elective - I *	T	3	0	0	3	3	30	20	50	3 Hours
8	5	OE		Open Elective - II *	T	3	0	0	3	3	30	20	50	3 Hours
				TOTAL		18	0	4	22	20				

Audit Courses

| 1 | 5 | HS | AU2127 | YCCE Communication Aptitude Preparation (YCAP5.2) for EL,EE,ET | A | 3 | 0 | 0 | 3 | 0 | | | | |

Open Electives -I

1	5	OE	EL2311	OEI:Renewable Energy Generation System
2	5	OE	EL2312	OEI:Electrical Machines and their Applications
3	5	OE	EL2313	OEI:Testing and Maintenance of Electrical Machines
4	5	OE	EL2314	OEI: Solar power plant design and Installation

Open Electives -II

4	5	OE	EL2321	OEII:Electrical Energy Audit and Safety
5	5	OE	EL2322	OEII:Utilization of Electrical Energy
6	5	OE	EL2323	OEII:Power System Engineering

MSEs* = Two MSEs of 15 Marks each will conducted and marks of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 5 marks on lecture quizzes, 11 marks on TA2+TA4 activitied decided by course teacher, 4 marks on class attendance

TA = for Practical : MSPA will be 15 marks each**

		June 2022	1.05	Applicable for AY 2022-23 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)
B.TECH SCHEME OF EXAMINATION 2020-21
(Revised Scheme of Examination w.e.f. 2022-23 onward)
Electrical Engineering

| SoE No. |
| EL-202.1 |

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
						L	T	P	Hrs		MSEs*	TA**	ESE	
				Sixth Semester										
1	6	HS	GE2311	Fundamental of Management	T	3	0	0	3	3	30	20	50	3 Hours
2	6	PC	EL2351	Control System	T	3	0	0	3	3	30	20	50	3 Hours
3	6	PC	EL2352	Lab.:Control System	P	0	0	2	2	1		60	40	
4	6	PC	EL2353	Power System Analysis	T	3	0	0	3	3	30	20	50	3 Hours
5	6	PE		**Professional Elective I**	T	3	0	0	3	3	30	20	50	3 Hours
6	6	PE	EL2354	**Lab.:**Simulation of Power Electronics & Power System	P	0	0	2	2	1		60	40	
7	6	OE		**Open Elective III ***	T	3	0	0	3	3	30	20	50	3 Hours
8	6	OE		**Open Elective IV ***	T	3	0	0	3	3	30	20	50	3 Hours
9	6	PC	EL2355	Lab.:Substation Design	P	0	0	2	2	1		60	40	
10	5/6	STR	EL2360	**Industry Visit and its report**	P	0	0	0	0	1		60	40	
				TOTAL		18	0	6	24	22				

Professional Electives -I

1	6	PE	EL2361	**PEI:**Advanced Power Electronics
2	6	PE	EL2362	**PEI:**Electrical Distribution in Power System
3	6	PE	EL2363	**PEI:**Illumination Engineering (MOOC)
4	6	PE	EL2364	**PEI:**Electric Vehicles
5	6	PE	EL2365	**PEI:**Electric Power Utilization
6	6	PE	EL2366	**PEI:** Grid Integration of Renewable Energy
7	6	PE	EL2367	**PEI:** Switched Mode Power Supply
8	6	PE	EL2368	**PEI:** Programming in C for beginners

Open Electives -III

9	6	OE	EL2371	**OEIII:**Renewable Energy Generation System
10	6	OE	EL2372	**OEIII:**Electrical Machines and their Applications
11	6	OE	EL2373	**OEIII:**Testing and Maintenance of Electrical Machines
12	6	OE	EL2374	**OEIII:**Solar power plant design and Installation

Open Electives -IV

13	6	OE	EL2381	**OEIV:**Electrical Energy Audit and Safety
14	6	OE	EL2382	**OEIV:**Utilization of Electrical Energy
15	6	OE	EL2383	**OEIV:**Power System Engineering
16	6	OE	EL2384	**OEIV:** Electrical Wiring: Estimation and Costing

Audit Courses

1	6	HS	AU2128	YCCE Communication Aptitude Preparation (YCAP6.1) for CV,EL	A	3	0	0	3	0				

MSEs* = Two MSEs of 15 Marks each will conducted and marks of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 5 marks on lecture quizzes, 11 marks on TA2+TA4 activitied decided by course teacher, 4 marks on class attendance

TA** = for Practical : MSPA will be 15 marks each

		June 2022	**1.05**	
				Applicable for AY 2022-23 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)
B.TECH SCHEME OF EXAMINATION 2020-21
(Revised Scheme of Examination w.e.f. 2022-23 onward)
Electrical Engineering

SoE No.
EL-202.1

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
						L	T	P	Hrs		MSEs*	TA**	ESE	
Seventh Semester														
1	7	PC	EL2401	Switchgear & Protection	T	3	0	0	3	3	30	20	50	3 Hours
2	7	PC	EL2402	Lab.:Switchgear & Protection	P	0	0	2	2	1		60	40	
3	7	PC	EL2403	High Voltage Engineering	T	3	0	0	3	3	30	20	50	3 Hours
4	7	PC	EL2404	Lab.:High Voltage Engineering	P	0	0	2	2	1		60	40	
5	7	PE		**Professional Elective II**	T	3	0	0	3	3	30	20	50	3 Hours
6	7	PE		**Professional Elective III**	T	3	0	0	3	3	30	20	50	3 Hours
7	7	PE		**Professional Elective IV**	T	3	0	0	3	3	30	20	50	3 Hours
8	7	STR	EL2409	Mini Project	P	0	0	4	4	2		60	40	
9	7	STR	EL2410	Campus Recrutment Training (CRT)	P	0	0	0	0	2		100		
				TOTAL		15	0	8	23	21				

Professional Electives -II

1	7	PE	EL2411	**PEII:** Fundamentals of Power Quality
2	7	PE	EL2412	**PEII:**Electrical Installation Design
3	7	PE	EL2413	**PEII:**Electrical Machine Design
4	7	PE	EL2421	**PEII:** Power System Operation and Control
5	7	PE	EL2428	**PEII:** Sensors and Actuators
6	7	PE	EL2429	**PEII:** Micro Grid

Professional Electives -III

7	7	PE	EL2422	**PEIII:**FACTS Devices
8	7	PE	EL2423	**PEIII:** Electrical Energy Management and Audit
9	7	PE	EL2424	**PEIII:**Advanced Control System
10	7	PE	EL2425	**PEIII:**Artificial Intelligence Based System
11	7	PE	EL2426	**PEIII:** Converters and Configurations of Renewable Energy Systems
12	7	PE	EL2427	**PEIII:** Distributed Generation in Power System

Professional Electives -IV

13	7	PE	EL2431	**PEIV:**Advanced Electrical Drives
14	7	PE	EL2432	**PEIV:**Fundamentals of Smart Grid
15	7	PE	EL2433	**PEIV:**Computer Methods in Power System
16	7	PE	EL2434	**PEIV:**EHVAC-HVDC Transmission
17	7	PE	EL2436	**PEIV:**Project Planning
18	7	PE	EL2437	**PEIV:** Industrial Safety

Coursera Electives

1	6	PE	EL2366	**PEI:**Energy Production, Distribution and Safety
1	7	PE	EL2435	**PEIV:** Power Electronics Specialization

MSEs* = Two MSEs of 15 Marks each will conducted and marks of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 5 marks on lecture quizzes, 11 marks on TA2+TA4 activitied decided by course teacher, 4 marks on class attendance
TA** = for Practical : MSPA will be 15 marks each

		June 2020	1.04	Applicable for AY 2020-21 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)

(Accredited 'A++' Grade by NAAC with a score of 3.25)

Hingna Road, Wanadongri, Nagpur - 441 110

Bachelor of Technology
SoE & Syllabus 2022
1st to 6th Semester

(Department of Electrical Engineering)
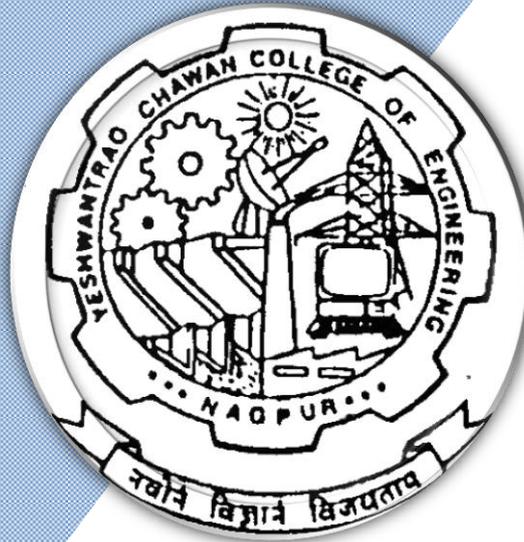
B. Tech in Electrical Engineering

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
B.TECH SCHEME OF EXAMINATION 2022
(Scheme of Examination w.e.f. 2022-23 onward)
(Department of Electrical Engineering)
B. Tech in Electrical Engineering

SoE No.
22EL-101

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
							Contact Hours					% Weightage			
						FIFTH SEMESTER									
1	5	PC	EL	22EL501	Control System	T	3	0	0	3	3	30	20	50	3 Hrs
2	5	PC	EL	22EL502	Lab: Control System	P	0	0	2	2	1		60	40	
3	5	PC	EL	22EL503	Power Electronics	T	3	0	0	3	3	30	20	50	3 Hrs
4	5	PC	EL	22EL504	**Lab:** Power Electronics	P	0	0	1	2	1		60	40	
5	5	PC	EL	22EL505	**Lab:** Electronic Engineering Workshop	P	0	0	1	2	1		60	40	
6	5	PE	EL		**Professional Elective -I ***	T	3	0	0	3	3	30	20	50	3 Hrs
7	5	PE	EL		**Professional Elective -II****	T	3	0	0	3	3	30	20	50	3 Hrs
8	5	STR	EL	22EL506	Industrial Training, Seminar and Report	P	0	0	1	1	1		60	40	
9	5	OE	EL		**Open Elective - I**	T	3	0	0	3	3	30	20	50	3 Hrs
10	5	OE	EL		**Open Elective - II**	T	3	0	0	3	3		60	40	
					TOTAL FIFTH SEM		**18**	**0**	**5**	**25**	**22**				

List of Lab. Professional Electives-I *

1	5	PE-I	EL	22EL511	PEI: Electric and Magnetic Field
2	5	PE-I	EL	22EL512	PEI: Electrical Machine Design
3	5	PE-I	EL	22EL513	PEI: Design of Photovoltaic System
4	5	PE-I	EL	22EL514	PEI: Electric Power Utilization

List of Lab. Professional Electives-II **

1	5	PE-I	EL	22EL531	PEII:Illumination Engineering(MOOC)
2	5	PE-I	EL	22EL532	PEII:Energy Storage System
3	5	PE-I	EL	22EL533	PEII:Electrical Wiring :Estimation and Costing
4	5	PE-I	EL	22EL534	PEII:Distributed Generations in Power System

Open Elective-I

1	5	OE-I	EL	22EL551	OEI:Renewable Energy Generation System
2	5	OE-I	EL	22EL552	OEI:Electrical Machines and their Applications
3	5	OE-I	EL	22EL553	OEI:Solar Power Plant Design and Installation

Open Elective-II

1	5	OE-II	EL	22EL571	OEII:Electrical Energy Audit and Safety
2	5	OE-II	EL	22EL572	OEII:Utilization of Electrical Energy
3	5	OE-II	EL	22EL573	OEII:Power System Engineering

Audit Courses

1	5	HS	T&P	MLC2125	YCAP5: YCCE Communication Aptitude Preparation	A	3	0	0	3	0
2	5	HS	R&D	MLC125	Design thinking	A	2	0	0	2	0

MSEs* = Two MSEs of 15 Marks each will conducted and marks of of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 12 marks on lecture quizzes & TA2 activities decided by course teacher, 2 marks on class attendance and 4 marks on TA4 activities

TA** = for Practical : MSPA will be 15 marks each

		June 2022	**1.00**	**Applicable for AY 2022-23 Onwards**
Chairperson	**Dean (Acad. Matters)**	**Date of Release**	**Version**	

Bachelor of Engineering
SoE & Syllabus 2018
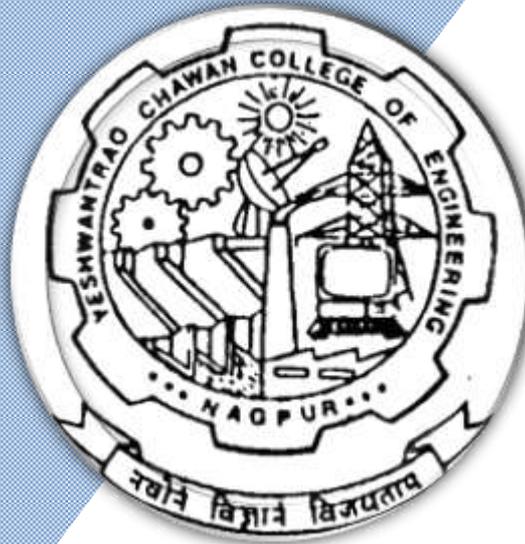# 3rd to 8th Semester
Electrical Engineering

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
B.TECH SCHEME OF EXAMINATION 2020-21
(Revised Scheme of Examination w.e.f. 2022-23 onward)

**SoE No.
EL-202.1**

Electrical Engineering

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
						L	T	P	Hrs		MSEs*	TA**	ESE	
				TOTAL FIRST & SECOND SEM						47				

				Third Semester										
1	3	BS	GE2201	Engineering Mathematics III	T	3	0	0	3	3	30	20	50	3 Hours
2	3	PC	EL2201	Analog Electronics	T	3	0	0	3	3	30	20	50	3 Hours
3	3	PC	EL2202	Lab. : Electronics Engineering Workshop	P	0	0	2	2	1		60	40	
4	3	PC	EL2203	Electrical Machines	T	4	0	0	4	4	30	20	50	3 Hours
5	3	PC	EL2204	Lab.:Electrical Machines	P	0	0	2	2	1		60	40	
6	3	PC	EL2205	Network Analysis	T	3	0	0	3	3	30	20	50	3 Hours
7	3	PC	EL2206	Lab.:Computer Programming	P	0	0	2	2	1		60	40	
8	3	PC	EL2207	Electrical Measurement & Instrumentation	T	3	0	0	3	3	30	20	50	3 Hours
9	3	PC	EL2208	Lab.:Electrical Measurement & Instrumentation	P	0	0	2	2	1		60	40	
				TOTAL		16	0	8	24	20				

				Fourth Semster										
1	4	BS	GE2204	Advance Mathematical Techniques	T	3	0	0	3	3	30	20	50	3 Hours
2	4	PC	EL2251	Electrical Machines in Power System	T	3	0	0	3	3	30	20	50	3 Hours
3	4	PC	EL2252	Lab.:Electrical Machines in Power System	P	0	0	2	2	1		60	40	
4	4	PC	EL2253	Electrical Energy Generation System	T	3	0	0	3	3	30	20	50	3 Hours
5	4	PC	EL2254	Lab.:Renewable Energy System	P	0	0	2	2	1		60	40	
6	4	PC	EL2255	Electric & Magnetic Fields	T	3	0	0	3	3	30	20	50	3 Hours
7	4	PC	EL2256	Lab.:Electrical Engineering Workshop	P	0	0	2	2	1		60	40	
8	4	PC	EL2257	Microprocessor	T	3	0	0	3	3	30	20	50	3 Hours
9	4	PC	EL2258	Lab.:Microprocessor	P	0	0	2	2	1		60	40	
10	4	PC	EL2259	Signals & Systems	T	4	0	0	4	4	30	20	50	3 Hours
				TOTAL		19	0	8	27	23				

List of Audit Courses

1	3	HS	GE2121	Env Studies for 3 Sem. EL,ET,CT	A	3	0	0	3	0				
2	3	HS	AU2123	YCCE Communication Aptitude Preparation (YCAP3)	A	3	0	0	3	0				
3	4	HS	AU2125	YCCE Communication Aptitude Preparation (YCAP4.2) for EL,EE,ET	A	3	0	0	3	0				

MSEs* = Two MSEs of 15 Marks each will conducted and marks of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 5 marks on lecture quizzes, 11 marks on TA2+TA4 activitied decided by course teacher, 4 marks on class attendance
TA = for Practical : MSPA will be 15 marks each**

		June 2022	1.05	
S. Kishun	(signature)			**Applicable for AY 2022-23 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)
B.TECH SCHEME OF EXAMINATION 2020-21
(Revised Scheme of Examination w.e.f. 2022-23 onward)
Electrical Engineering

**SoE No.
EL-202.1**

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
						L	T	P	Hrs		MSEs*	TA**	ESE	
				Fifth Semester										
1	5	HS	GE2312	Fundamental of Economics	T	3	0	0	3	3	30	20	50	3 Hours
2	5	PC	EL2301	Power Electronics	T	3	0	0	3	3	30	20	50	3 Hours
3	5	PC	EL2302	Lab.:Power Electronics	P	0	0	2	2	1		60	40	
4	5	PC	EL2303	Fundamentals of Power System	T	3	0	0	3	3	30	20	50	3 Hours
5	5	PC	EL2304	Electrical Drives	T	3	0	0	3	3	30	20	50	3 Hours
6	5	PC	EL2305	Lab.:Electrical Drives	P	0	0	2	2	1		60	40	
7		OE		Open Elective - I *	T	3	0	0	3	3	30	20	50	3 Hours
8	5	OE		Open Elective - II *	T	3	0	0	3	3	30	20	50	3 Hours
					TOTAL	18	0	4	22	20				

Audit Courses

1	5	HS	AU2127	YCCE Communication Aptitude Preparation (YCAP5.2) for EL,EE,ET	A	3	0	0	3	0				

Open Electives -I

1	5	OE	EL2311	OEI:Renewable Energy Generation System
2	5	OE	EL2312	OEI:Electrical Machines and their Applications
3	5	OE	EL2313	OEI:Testing and Maintenance of Electrical Machines
4	5	OE	EL2314	OEI: Solar power plant design and Installation

Open Electives -II

4	5	OE	EL2321	OEII:Electrical Energy Audit and Safety
5	5	OE	EL2322	OEII:Utilization of Electrical Energy
6	5	OE	EL2323	OEII:Power System Engineering

MSEs* = Two MSEs of 15 Marks each will conducted and marks of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 5 marks on lecture quizzes, 11 marks on TA2+TA4 activitied decided by course teacher, 4 marks on class attendance

TA = for Practical : MSPA will be 15 marks each**

		June 2022	1.05	**Applicable for AY 2022-23 Onwards**
Chairperson	**Dean (Acad. Matters)**	**Date of Release**	**Version**	

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B.TECH SCHEME OF EXAMINATION 2020-21
(Revised Scheme of Examination w.e.f. 2022-23 onward)
Electrical Engineering

**SoE No.
EL-202.1**

SN	Sem	Type	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
						L	T	P	Hrs		MSEs*	TA**	ESE	
				Sixth Semester										
1	6	HS	GE2311	Fundamental of Management	T	3	0	0	3	3	30	20	50	3 Hours
2	6	PC	EL2351	Control System	T	3	0	0	3	3	30	20	50	3 Hours
3	6	PC	EL2352	Lab.:Control System	P	0	0	2	2	1		60	40	
4	6	PC	EL2353	Power System Analysis	T	3	0	0	3	3	30	20	50	3 Hours
5	6	PE		**Professional Elective I**	T	3	0	0	3	3	30	20	50	3 Hours
6	6	PE	EL2354	**Lab.:**Simulation of Power Electronics & Power System	P	0	0	2	2	1		60	40	
7	6	OE		**Open Elective III ***	T	3	0	0	3	3	30	20	50	3 Hours
8	6	OE		**Open Elective IV ***	T	3	0	0	3	3	30	20	50	3 Hours
9	6	PC	EL2355	Lab.:Substation Design	P	0	0	2	2	1		60	40	
10	5/6	STR	EL2360	**Industry Visit and its report**	P	0	0	0	0	1		60	40	
					TOTAL	18	0	6	24	22				

Professional Electives -I

1	6	PE	EL2361	**PEI:**Advanced Power Electronics
2	6	PE	EL2362	**PEI:**Electrical Distribution in Power System
3	6	PE	EL2363	**PEI:**Illumination Engineering (MOOC)
4	6	PE	EL2364	**PEI:**Electric Vehicles
5	6	PE	EL2365	**PEI:**Electric Power Utilization
6	6	PE	EL2366	**PEI:** Grid Integration of Renewable Energy
7	6	PE	EL2367	**PEI:** Switched Mode Power Supply
8	6	PE	EL2368	**PEI:** Programming in C for beginners

Open Electives -III

9	6	OE	EL2371	**OEIII:**Renewable Energy Generation System
10	6	OE	EL2372	**OEIII:**Electrical Machines and their Applications
11	6	OE	EL2373	**OEIII:**Testing and Maintenance of Electrical Machines
12	6	OE	EL2374	**OEIII:**Solar power plant design and Installation

Open Electives -IV

13	6	OE	EL2381	**OEIV:**Electrical Energy Audit and Safety
14	6	OE	EL2382	**OEIV:**Utilization of Electrical Energy
15	6	OE	EL2383	**OEIV:**Power System Engineering
16	6	OE	EL2384	**OEIV:** Electrical Wiring: Estimation and Costing

Audit Courses

1	6	HS	AU2128	YCCE Communication Aptitude Preparation (YCAP6.1) for CV,EL	A	3	0	0	3	0				

MSEs* = Two MSEs of 15 Marks each will conducted and marks of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 5 marks on lecture quizzes, 11 marks on TA2+TA4 activitied decided by course teacher, 4 marks on class attendance

TA** = for Practical : MSPA will be 15 marks each

		June 2022	1.05	**Applicable for AY 2022-23 Onwards**
Chairperson	**Dean (Acad. Matters)**	**Date of Release**	**Version**	

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**SoE No.
EL-202.1**

B.TECH SCHEME OF EXAMINATION 2020-21
(Revised Scheme of Examination w.e.f. 2022-23 onward)
Electrical Engineering

SN	Sem	Type	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
Contact Hours											% Weightage			
Seventh Semester														
1	7	PC	EL2401	Switchgear & Protection	T	3	0	0	3	3	30	20	50	3 Hours
2	7	PC	EL2402	Lab.:Switchgear & Protection	P	0	0	2	2	1		60	40	
3	7	PC	EL2403	High Voltage Engineering	T	3	0	0	3	3	30	20	50	3 Hours
4	7	PC	EL2404	Lab.:High Voltage Engineering	P	0	0	2	2	1		60	40	
5	7	PE		**Professional Elective II**	T	3	0	0	3	3	30	20	50	3 Hours
6	7	PE		**Professional Elective III**	T	3	0	0	3	3	30	20	50	3 Hours
7	7	PE		**Professional Elective IV**	T	3	0	0	3	3	30	20	50	3 Hours
8	7	STR	EL2409	Mini Project	P	0	0	4	4	2		60	40	
9	7	STR	EL2410	Campus Recrutment Training (CRT)	P	0	0	0	0	2		100		
				TOTAL		15	0	8	23	21				

Professional Electives -II

1	7	PE	EL2411	**PEII:** Fundamentals of Power Quality
2	7	PE	EL2412	**PEII:**Electrical Installation Design
3	7	PE	EL2413	**PEII:**Electrical Machine Design
4	7	PE	EL2421	**PEII:** Power System Operation and Control
5	7	PE	EL2428	**PEII:** Sensors and Actuators
6	7	PE	EL2429	**PEII:** Micro Grid

Professional Electives -III

7	7	PE	EL2422	**PEIII:**FACTS Devices
8	7	PE	EL2423	**PEIII**: Electrical Energy Management and Audit
9	7	PE	EL2424	**PEIII:**Advanced Control System
10	7	PE	EL2425	**PEIII:**Artificial Intelligence Based System
11	7	PE	EL2426	**PEIII:** Converters and Configurations of Renewable Energy Systems
12	7	PE	EL2427	**PEIII:** Distributed Generation in Power System

Professional Electives -IV

13	7	PE	EL2431	**PEIV:**Advanced Electrical Drives
14	7	PE	EL2432	**PEIV:**Fundamentals of Smart Grid
15	7	PE	EL2433	**PEIV:**Computer Methods in Power System
16	7	PE	EL2434	**PEIV:**EHVAC-HVDC Transmission
17	7	PE	EL2436	**PEIV:**Project Planning
18	7	PE	EL2437	**PEIV:** Industrial Safety

Coursera Electives				
1	6	PE	EL2366	**PEI:**Energy Production, Distribution and Safety
1	7	PE	EL2435	**PEIV**: Power Electronics Specialization

MSEs* = Two MSEs of 15 Marks each will conducted and marks of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : 5 marks on lecture quizzes, 11 marks on TA2+TA4 activitied decided by course teacher, 4 marks on class attendance
TA** = for Practical : MSPA will be 15 marks each

		June 2020	1.04	**Applicable for AY 2020-21 Onwards**
Chairperson	**Dean (Acad. Matters)**	**Date of Release**	**Version**	

Computer Technology

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Department of Computer Technology

NOTICE
32nd Board of Studies Meeting

Date: 20th January 2024

The **32nd** meeting of the Board of Studies in **Computer Technology** is scheduled on **20th January 2024** at **10.30 A.M** in **Department of Computer Technology, YCCE, Nagpur**.

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

Agenda No. 31.01
Welcome of new members

Agenda No. 31.02
Installation of member Secretary

Agenda No. 31.03
Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

Agenda No. 31.04
To discuss and finalize the Scheme of Examination SoE 2023 of all 13 Undergraduate programmes, framed as per NEP 20 Guidelines, issued by Government of Maharashtra through GR No: NEP-2022/(67/23) /DTE-2 dated 04.07.2023 and Post graduate programs in VLSI and Data Science and Automation & Robotics, conducted under the respective boards Board. To approve SoE23 and all syllabi of B.Tech I Year .

Agenda No. 31.05
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 holder's feedback on review and design of curriculum
  iv In Sem, End Sem and Exit feedback on Teaching Lear & curriculum

Agenda No. 31.06
To discuss and suggest the minor changes in the syllabi of various courses in B.Tech 2022 & B.Tech 2022 Schemes of Undergraduate and Post graduate programs conducted under the Board.

Agenda No. 31.07
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.

Agenda No. 31.8
To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses of Under-and Post Graduate programs.

Agenda No. 31.9
To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

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Agenda No. 31.10

To discuss and propose the new courses/ Massive Open Online Courses (MOOCS received from the faculty for inclusion in the curriculum.

Agenda No. 31.11

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 2023-24.

Agenda No. 31.12

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 2023-24.

Agenda No. 31.13

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 2023-24.

Agenda No. 31.14

Preparation of Electronic question Bank UG courses according to B.Tech SoE 2020 & 2022 To review solutions to all questions of Electronic Question Banks for all courses.

Agenda No. 31.15

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

Agenda No. 31.16

To discuss and propose scheme for Minor an Honor course and its syllabus. To Discuss and propose Certificate courses and value-added courses in 2023-24.

Agenda No. 31.17

Any other matter with the permission of the Chair.

Dr. Prarthana A. Deshkar   Dr. Rakhi D. Wajgi

Member Secretary   **Chairperson**
BoS, Deptt of Computer Technology   BoS, Deptt. of Computer Technology

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Date:- 22nd July 2023

31st Meeting of Board of Studies(Saturday 22/07/2023)

BoS Members

Sr. No.	Name of Member	Signature
1.	Dr. Rakhi D. Wajgi	
2.	Dr. Manali M. Kshirsagar	
3.	Dr. NileshSingh V. Thakur	
4.	Dr. Arvind R.Bhagat Patil	
5.	Dr. Kavita R Singh	
6.	Dr. Shivkumar J.Karale	
7.	Dr. Gauri M. Dhopavkar	
8.	Smita R. Kapse	
9.	Roshni S. Khedgaonkar	
10.	Gauri A. Chaudhary	
11.	Nilesh U. Sambhe	
12.	Dr. Prarthana A. Deshkar	
13.	Supriya Thombre	
14.	Praful V. Barekar	
15.	Nikhil Mangrulkar	
16.	Roshan S. Bhanuse	
17.	Ganesh K.Yenurkar	
18.	Sanjay P. Pande	
19.	Gendlal M.Vaidya	
20.	Charvi S. Suri	
21.	Pradnya S. Moon	
22.	Archana S. Pimpalkar	
23.	Shweta N. Jain	
24.	Lata R. Tembhare	
25.	Shubhangi Shambharkar	
26.	Shruti G. Sarwate	
27.	Sharayu R. Kawale	
28.	Shubhangi M. Borkar	
29.	Prachi Bainalwar	
30.	Sneha Sahare	
31.	Ashwini Gote	
32.	Shweta A. Gode	

* Leave of absence granted

BoS Experts

S. N.	Name of Honorable External Member	Expert From	Signature
1.	Prof. (Dr.) U. A. Deshpande, Professor, CSE, VNIT, Nagpur	Academia	Leave of absence granted
2.	Prof.Dr.D.S.Adane, Professor, RKNECE,Nagpur	Academia	Leave of absence granted
2.	Mr. Ajit Dharmik, Director, 6 Simplex Software Solutions Pvt. Ltd., Nagpur	Industry	
3.	Mr. Vaibhav Deshpande, Assistant Professor, CE Dept. SVPCET, Nagpur	PG Alumni	

Minutes of 31st BoS Meeting conducted on Saturday 22nd July 2023

Nagar Yuwak Shikshan Sanstha's

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31st Meeting of BoS of Computer Technology was held on Saturday 22nd August 2022.
It was chaired by Dr.R.D.Wajgi, Chairman BoS.

Agenda No. 31.01

Dr. R. D. Wajgi welcomed all BoS experts, Dr. Adane, Ramdeobaba College of Engineering,

Nagpur, Mr. Ajit Dharmik, Director 6Simplex pvt. Ltd. Nagpur, Dr. Vaibhav Deshpande, Alumni

and Assistant Professor, SVPCE.

Chairperson also welcomed all departmental BoS members.

Agenda No. 31.02
NIL

Agenda No. 31.03
Confirmation of minutes of previous Meeting and action taken report on decisions/suggestions of the previous meeting.

Agenda No. 31.04
To discuss and finalize the Multidisciplinary Minor Tracks (MDM) in the Scheme of Examination SoE 2023, framed as per NEP 20 Guidelines, issued by Government of Maharashtra through GR No: NEP-2022/(67/23) /DTE-2 dated 04.07.2023.

1. Multidisciplinary Minor Track 1 in the domain of Cyber Security was proposed and approved by the experts

2. Multidisciplinary Minor Track 2 in the domain of 'Digital IT Support' was proposed and approved by the experts

3. Multidisciplinary Minor Track 3 in the domain of 'Project Management' was proposed and approved by the experts

4. Experts have suggested that Multidisciplinary Minor Track 4 should be based on the 'UI/UX Design' domain

Agenda No. 31.05

- **Co/Po attainment of subjects taught in Odd semester 2023-24**
  Institution is shifting all its processes on a new Information System Software, due to which, we are experiencing slight delay in compilation of the information hence not able to complete the Co/Po attainment process. We have done the attainment of the internal exams but final analysis is still in process.

- **Result analysis of subjects taught in previous semester**
  Institution is shifting all its processes on a new Information System Software, due to which, we are experiencing slight delay in compilation of the information hence not able to present the result analysis.

- **Stake holders' feedback on review and design of curriculum**

Stakeholder	Suggestions given	Action taken
Alumni Feedback	- Self learning should be there for the new technology courses - More industry based courses is required	- Coursera courses added as a PE II in the SoE 2020 of B.Tech - Honor and Minor programs on Full Stack is introduced from session 2023-24 under the 'Institutional Technical Hub. And the course contents are delivered by the Industry

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		experts
Student Feedback	Advance topics are needed in the practical courses	• Complete practical list of the course 'Advance Web Technology' is changed according to suggestions from the industry experts • The advance topics like GitLab, Devops are added in the practical list of course 'Software Engineering'

- **In Sem, End Sem and Exit feedback on Teaching Learning & curriculum (No. of faculties scored feedback less than the set threshold value)**

Sr. NO	III	V	VII
<65%	NIL	1	NIL

Action Taken: The concerned faculty members were called for counselling by a committee consisting of Principal, DAM and HoD and discussed the reasons behind less student feedback. Committee suggested the measures and necessary actions to improve the performance.

Agenda No. 31.06

To discuss and suggest the minor changes in the syllabi of various courses in B.Tech 2020, 2022 & B.Tech 2023 Schemes of Undergraduate and Post graduate programs conducted under the Board (CT and AIDS).

1. Minor changes were suggested in the syllabus of course 'Big data and Hadoop' of the 7th semester course of the program B.Tech in AIDS. Experts have suggested to reframe the Unit I and Unit VI
2. Minor changes were suggested in the syllabus of 'Deep Learning' of the 7th semester course of the program B.Tech in AIDS
3. Experts have suggested to add some language independent tools for the course 'Introduction to Logic Building and Programming' ex : Scratch

Agenda No. 31.07

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.

No corrections and amendments were proposed by any members in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate and Postgraduate Programs.

Agenda No. 31.8

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

1. In the list of experiments of the course Software Engineering in the SoE of B.Tech 2022 of undergraduate program, practical based on deployment of software, complete lifecycle of software, is added and approved by the experts
2. List of pure lab course, 'Advance Web Technology', in the SoE B.Tech 2022 of program AIDS is proposed and approved by the experts

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Department of Computer Technology

3. In the list of experiments of the course Operating Systems in the SoE of B.Tech 2022 of undergraduate program, practical based on OpenMP, thread programming and shell scripting is added and approved by experts.

Agenda No. 31.9
To discuss and suggest the changes in the Academic Regulations governing the Undergraduate and Post graduate programs conducted under the Board.

No corrections and amendments were proposed by any members.

Agenda No. 31.10
To discuss and propose the new courses/ Massive Open Online Courses (MOOCS received from the faculty) for inclusion in the curriculum.

Coursera Course is added as a Professional Elective II in the SoE of B.Tech 2020. The name of the course is Programming with Javascript and React Basics.

Agenda No. 31.11
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 2023-24.

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 2023-24 will be provided after the notification received from CoE

Agenda No. 31.12
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 Even Term 2023-24.

The panel of paper setters, Moderators and Valuers for the various theory courses at Postgraduate programs that will be examined in End Semester Examination of Even Term 2023-24 will be provided after the notification received from CoE

Agenda No. 31.13
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 Even Term 2023-24.

The panel of paper setters, Moderators and Valuers for the various laboratory and other non-theory courses at UG and PG levels that will be examined in End Semester Examination of Even Term 2023-24 will be provided after the notification received from CoE

Agenda No. 31.14
Preparation of Electronic question Bank UG courses according to B.Tech SoE 2020 & 2022 to review solutions to all questions of Electronic Question Banks for all courses.

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Department of Computer Technology

Preparation of Electronic question Bank for all semesters is ready. Solutions of few courses are ready and few courses partially ready. EQB with Solution of newly introduced courses and PE is ongoing.

Agenda No. 31.15

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

No corrections and amendments were proposed by any members.

Agenda No. 31.16

To discuss and propose scheme for Minor an Honor course and its syllabus. To Discuss and propose Certificate courses and value-added courses in 2023-24.

1. Honor and Minor programs for the session 2023-24 are conducted by the 'Institutional Technical Hub'.
2. Honor and Minor programs are, B. Tech Honors in AWS and DevOps and B.Tech Minors in AWS and DevOps.

To Discuss and propose certificate courses and value-added courses in session 2023-24.

SN	Deptt.	TITLE OF COURSE	Sem	COURSE HOURS	MODE OF TRAINING	DATES OF CONDUCTION & TOTAL HOURS IN COURSE
1	CT	VAC on Programming and Logic Building	4th	30	Offline	24 March 2024 to 06 April 2024
2	CT	VAC on Core Competence Building	6th	30	Offline	10 Feb 2024 to 02 March 2024
3	CT	VAC on Entrepreneurship Skill Development	4th, 6th	30	Online + Offline	10 Feb 2024 to 02 March 2024

Agenda No. 31.17

Any other matter with the permission of the Chair.

NO.

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

Dr. Prarthana A. Deshkar   Dr. Rakhi D. Wajgi

Nagar Yuwak Shikshan Sanstha's

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Member Secretary
BoS, Deptt of Computer Technology

Chairperson
BoS, Deptt. of Computer Technology

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B. Tech SoE and Syllabus 2023
(Scheme of Examination w.e.f. 2023-24 onward)
(Department of Computer Technology)

SoE No.
23CT-101

B.Tech in Computer Technology

I SEMESTER
23CT1101 : Introduction to Logic Building and Programming

Course Outcomes :

Upon successful completion of the course the students will be able to

1. Describe the basics of computer system components and operation, write algorithms and draw flowcharts.
2. Write programs using flow control statements.
3. Use functions to write modular programs.
4. Use linear data structures such as arrays and structures in programs.

Unit I:	6 Hrs.

Computer System Basics: Introduction to components of a computer system (disks, memory, processor), how program is executed, understanding of concepts such as compilers, source and object programs, etc. Introduction to algorithms and flowcharts, types of programming errors.
Basic building blocks of C: Character set, variables, identifiers & keywords, Data types, Operators: arithmetic, logical and relational operators, precedence of operators

Unit II:	6 Hrs.

Expressions, sizeof() operator, constants, typedef statement, basic input/output statements and functions (scanf, printf, getch, putch, gets, puts), Introduction to library functions, writing straight line programs.
Decision control statements: if, if - else and nested if-else statements, else-if ladder statement, switch-case control statement.

Unit III:	6 Hrs.

Loop Structures: While, do while and for loops, break and continue statement, "goto" statement, bitwise operators

Unit IV:	6 Hrs.

Modular programming: Concept of functions, user defined functions, function prototypes, formal parameters, actual parameters, return types, call by value, Recursive functions, comparing recursion against iteration, Concepts of a pointer, call by reference.

Unit V:	6 Hrs.

Arrays: One dimensional array, array manipulation, insertion, deletion of an element, searching techniques- Linear and binary search, sorting techniques – Bubble sort , and selection sort. Two-dimensional arrays: matrix representation, basic matrix operations such as addition, multiplication and transpose, Array as function arguments. Strings: string representation and string handling functions

Chairperson	Dean (Acad. Matters)	Dean OBE	July,2023	1.00	Applicable for AY 2023-24 Onwards
			Date of Release	Version	

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Yeshwantrao Chavan College of Engineering

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

B. Tech SoE and Syllabus 2023
(Scheme of Examination w.e.f. 2023-24 onward)
(Department of Computer Technology)

SoE No.
23CT-101

B.Tech in Computer Technology

Unit VI:	**6 Hrs.**
Structure: Introduction, defining a structure, declaring structure variables, accessing structure members, structure initialization, array of structures.	

		Total Lecture	**36 Hours**

Textbooks:	
1.	Computer Science: A Structured Programming Approach Using C, 3rd , B.A.Forouzan and R.F. Gilberg, Cengage Learning
2.	The C Programming Language, 2nd, Brian Kernighan and Dennis Ritchie, Prentice Hall

Reference Books:	
1.	Let Us C, 15th , Yashavant Kanetkar , BPB
2.	Computer Programming and Data Structures, 4th , E Balagurusamy, Tata McGraw Hill

YCCE e- library book links [ACCESSIBLE FROM COLLEGE CAMPUS]
1

MOOCs Links and additional reading, learning, video material
1.	https://onlinecourses.nptel.ac.in/noc22_cs40/preview

Chairperson	Dean (Acad. Matters)	Dean OBE	July,2023	1.00	Applicable for
			Date of Release	Version	AY 2023-24 Onwards

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Yeshwantrao Chavan College of Engineering

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

B. Tech SoE and Syllabus 2023
(Scheme of Examination w.e.f. 2023-24 onward)
(Department of Computer Technology)

SoE No.
23CT-101

B.Tech in Computer Technology

I SEMESTER

23CT1102 : Lab. Introduction to Logic Building and Programming

Course Outcomes :
Upon successful completion of the course the students will be able to

1. Describe the basics of computer system components and operation, write algorithms and draw flowcharts.
2. Write programs using flow control statements.
3. Use functions to write modular programs.
4. Use linear data structures such as arrays and structures in programs.

Minimum Eight Practical's to be performed from the list as below

Sr.	Problem Statements
1 A	Introduction to Linux Operating system & it"s different commands.
1 B	Introduction to Vi editor, Compilation and Execution of a program in Linux
2 A	1) Write a C program to display Your Name, Address and City in different lines. 2) Write a C program to convert centigrade into Fahrenheit. Formula: C= (F-32)/1.8.
2 B	1) Write program using conditional operators to evaluate the following function and print the value of y. $y = 2.4x + 3$, for $x <= 2$ $y = 3x - 5$, for $x > 2$
3	Write a program to implement the following table, which tries to predict if a customer would buy a product. In particular, you need to ask for inputs Age, Gender and City, and print one of the three outputs Yes, No or Cannot Say.

Age	Gender	City	Will Buy?
25-30	M	Chenaai	Yes
33-45	F	Bangalore	Yes
57-80	F	Chennai	No
25-30	F	Hyderabad	No
13-19	M	Bangalore	Yes
16-20	M	Chenaai	No

Sr.	Problem Statements
4	Write a menu driven program to perform following operations. 1) To display maximum number among inputted three number. 2) To display the final prize based on assumption that if total purchase price is above 2500 rs then discount is 25% and if total prize is above 5000 then discount is 30% else 40% discount. 3) To Display percentage of 2nd number to 1st number if two number is entered by the user. 4) Exit.
5	Write a program print weather entered number is Prime or not
6	Write a program to print the sum of exponential series $e(x) = 1 + x/1! + x^2 / 2! + x^3 / 3! + \ldots\ldots$

			July,2023	1.00	Applicable for AY 2023-24 Onwards
Chairperson	Dean (Acad. Matters)	Dean OBE	Date of Release	Version	

Nagar Yuwak Shikshan Sanstha's

Yeshwantrao Chavan College of Engineering

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

B. Tech SoE and Syllabus 2023
(Scheme of Examination w.e.f. 2023-24 onward)
(Department of Computer Technology)

SoE No.
23CT-101

B.Tech in Computer Technology

7	Write a program to print following pyramid
	1 **1 2 3** **1 2 3 4 5** **1** 2 3 4 5 6 7
8	i) Write a program in C that will scan a number N and then output the sum of the powers from 1 to N. thus, if the input is 4, the output should be 288. E.g. $(1)^1 + (2)^2 + (3)^3 + (4)^4 = 1 + 4 + 27 + 256 = 288$ [1,2,3,4] Use power function to calculate the power of number. ii) Write a recursive function to print Factorial of a entered number.
9	Write a program to sort an elements using bubble Sort.
10	Produce a multiplication table. Top left hand corner will show 1x1 and bottom right shows 12x12, as below. 1 2 3 4 5 6 7 8 9 10 11 12 2 4 6 8 10 12 14 16 18 20 22 24 3 6 9 12 15 18 21 24 27 30 33 36 4 8 12 16 20 24 28 32 36 40 44 48 5 10 15 20 25 30 35 40 45 50 55 60 6 12 18 24 30 36 42 48 54 60 66 72 7 14 21 28 35 42 49 56 63 70 77 84 8 16 24 32 40 48 56 64 72 80 88 96 9 18 27 36 45 54 63 72 81 90 99 108 10 20 30 40 50 60 70 80 90 100 110 120 11 22 33 44 55 66 77 88 99 110 121 132 12 24 36 48 60 72 84 96 108 120 132 144
11	Write a program To copy one string to another string without using library function
12	Define a structure for a student having name, roll number and marks obtained in six, subjects. Write a program to input the details for 20 students and print the same.
13	Write a program that copies a file to another file. The names of two files should be sent as command line arguments.

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
B. Tech SoE and Syllabus 2021-22
(Scheme of Examination w.e.f. 2021-22 onward)
(Department of Computer Technology)
B.Tech in Computer Technology

SEMESTER V

Code :CT2390 Subject Name: PE I: Machine Learning using Tensorflow

Course Outcomes :
Upon successful completion of the course the students will be able to
1. Demonstrate the foundational concepts of machine learning, including supervised and unsupervised learning, classification, regression, clustering, Neural Network, evaluation metrics, and machine learning tools
2. Apply machine learning algorithms to real-world problems using real-world datasets using open source TensorFlow's high-level APIs and provide an appropriate interpretation
3. Evaluate the implementation and performance of different machine techniques and neural networks using different methods of performance evaluation

Unit I:	(8 Hrs.)
Basics of Machine Learning, Steps in Machine Learning Process, Loss Functions in Machine Learning, Gradient Descent, Model Tuning and Selection, Evaluation of Machine Learning Algorithm	
Unit II:	**(8 Hrs.)**
Basics of Supervised Machine Learning, VC Dimension, Types of Supervised Machine Learning Algorithms: *k*-NN, Naive Bayes, Regression, Decision Tree	
Unit III:	**(7 Hrs.)**
Basics of Unsupervised Machine Learning, Types of Unsupervised Machine Learning Algorithms: *k*-means, Hierarchical Clustering, Cluster Validation, Dimensionality Reduction	
Unit IV:	**(5 Hrs.)**
Ensemble Learning, Introduction to Deep Learning, Introduction to Reinforcement Learning	
Unit V:	**(6 Hrs.)**
Basics of Neural Network, Neuron Concepts, Activation Functions, Neural Network Architectures, Learning Rules, Perceptron, Training a perceptron, Important Parameters of Perceptron	
Unit VI:	**(5 Hrs.)**
Limitations of a Single layer Perceptron, Multilayer Perceptron, Error Backpropagation Network, Real life Case Studies	
	Total Lecture	**Hours**

		July 2022	1.00	Applicable for AY 2022-23 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)

B. Tech SoE and Syllabus 2021-22
(Scheme of Examination w.e.f. 2021-22 onward)
(Department of Computer Technology)

B.Tech in Computer Technology

Textbooks:
1.	Machine Learning with TensorFlow, Chris A. Mattmann
2.	Building Machine Learning Projects with TensorFlow, Rodolfo Bonnin, Packt Publishing Ltd.

Reference Books:
1.	Machine Learning, Tom M. Mitchell, McGraw-Hill Science/Engineering
2.	Introduction to Machine Learning, Ethem Alpaydın, TheMITPress

Chairperson	Dean (Acad. Matters)	July 2022	1.00	Applicable for AY 2022-23 Onwards
		Date of Release	Version	

YCCE-CT-2

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Yeshwantrao Chavan College of Engineering

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

B. Tech SoE and Syllabus 2021-22
(Scheme of Examination w.e.f. 2021-22 onward)
(Department of Computer Technology)

B.Tech in Computer Technology

SEMESTER V

Code :CT2391 Subject Name: Lab: PE I: Machine Learning using Tensorflow

Course Outcomes :

Upon successful completion of the course the students will be able to

1. Demonstrate the foundational concepts of machine learning, including supervised and unsupervised learning, classification, regression, clustering, Neural Network, evaluation metrics, and machine learning tools
2. Apply machine learning algorithms to real-world problems using real-world datasets using open source TensorFlow's high-level APIs and provide an appropriate interpretation
3. Evaluate the implementation and performance of different machine techniques and neural networks using different methods of performance evaluation

Expt.	Practical based on
01	Overview of Machine Learning Python Libraries, Datasets, Environments, Keras, and Tensorflow.
02	Implementation of Supervised Learning Algorithms from Scratch.
03	Implementation of Unsupervised Learning Algorithms from Scratch.
04	Introduction to Tensors, TensorFlow Basic Syntax, TensorFlow Graphs, Variables and Placeholders
05	Tensor flow implementation of regression , *k*-nn for structured data using csv file
06	Tensor flow implementation of *k* means for structured data using csv file
07	Implement Neural Network for MLP Digit-Classifier using TensorFlow
08	Save and Restore Models

		July 2022	1.00	Applicable for
				AY 2022-23 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

YCCE-CT-3

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

B. Tech SoE and Syllabus 2021-22

(Scheme of Examination w.e.f. 2021-22 onward)

(Department of Computer Technology)

B.Tech in Computer Technology

SEMESTER VI

Code: CT2392 Subject Name: PE II: Machine Learning using Tensorflow Part-2

Course Outcomes :
Upon successful completion of the course the students will be able to
1. Demonstrate the foundational concepts of machine learning, including supervised and unsupervised learning, classification, regression, clustering, Neural Network, evaluation metrics, and machine learning tools 2. Apply machine learning algorithms to real-world problems using real-world datasets using open source TensorFlow's high-level APIs and provide an appropriate interpretation 3. Evaluate the implementation and performance of different machine techniques and neural networks using different methods of performance evaluation

Unit I:	(7 Hrs.)
Introduction to Deep Learning: Limitations of Machine Learning, Deep Learning Refresher, Tensors Refresher	
Unit II:	**(8 Hrs.)**
Convolutional Neural Networks (CNN): Introduction to CNNs, CNNs Application, Architecture of a CNN, Convolution operations to build image classifier, Transfer Learning with pre-trained CNNs, Transfer Learning with TensorFlow hub	
Unit III:	**(8 Hrs.)**
Recurrent Neural Networks (RNN): Introduction to RNN and RNN architecture, Training RNNs with Backpropagation, Long Short-Term Memory (LSTM), RNN model for sequential time series, Introduction to GRU model	
Unit IV:	**(6 Hrs.)**
Text Processing with TensorFlow, Text Classification	
Unit V:	**(7 Hrs.)**
Neural network models (unsupervised): Introduction to Boltzmann Machine, Restricted Boltzmann Machine (RBM), Autoencoders	
Unit VI:	**(6 Hrs.)**
Large Language Model: Introduction to Large Language Model General Architecture, Open-Source Large Language Models (LLM)	
	Total Lecture	**42 Hours**

		July 2022	1.00	Applicable for
				AY 2022-23 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)

B. Tech SoE and Syllabus 2021-22
(Scheme of Examination w.e.f. 2021-22 onward)
(Department of Computer Technology)

B.Tech in Computer Technology

Textbooks:	
1.	Deep Learning, Ian Goodfellow Yoshua Bengio Aaron Courville, **The MIT Press**
2.	Neural Networks and Deep Learning, CharuC.Aggarwal, Springer

Reference Books:	
1.	Tools for Convolutional Neural Network (CNN), Dr. Mohamed Marzouk Sobaih

		July 2022	1.00	Applicable for AY 2022-23 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

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

B. Tech SoE and Syllabus 2021-22
(Scheme of Examination w.e.f. 2021-22 onward)
(Department of Computer Technology)

B.Tech in Computer Technology

SEMESTER VI

Code: CT2393 Subject Name: PE II: Machine Learning using Tensorflow Part-2

Course Outcomes :
Upon successful completion of the course the students will be able to
1. Demonstrate the foundational concepts of machine learning, including supervised and unsupervised learning, classification, regression, clustering, Neural Network, evaluation metrics, and machine learning tools 2. Apply machine learning algorithms to real-world problems using real-world datasets using open source TensorFlow's high-level APIs and provide an appropriate interpretation 3. Evaluate the implementation and performance of different machine techniques and neural networks using different methods of performance evaluation

Sr. No.	Practical based on
01	Tensor Refresher, Building Keras Model
02	Implementation of Neural Network Model using Tensorflow
03	Implementation of CNN model
04	Transfer Learning with pre-trained CNNs, Transfer Learning with TensorFlow hub
05	Implementation of RNN model
06	Implementation of a model for textual data
07	Implementation of Auto encoders
08	Implementation of LLM model

		July 2022	1.00	Applicable for
				AY 2022-23 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)

B. Tech SoE and Syllabus 2021-22

(Scheme of Examination w.e.f. 2021-22 onward)

(Department of Computer Technology)

B.Tech in Computer Technology

SEMESTER

Code CT2493: Subject Name: DOTNET Full Stack Development

Course Outcomes :
Upon successful completion of the course the students will be able to
1. Understand the concepts of C#, LINQ, ASP, MVC Controller using .NET Framework along with Coding Principle, DevOps, Docker
2. Apply the concepts of C#, LINQ, ASP, MVC Controller using .NET Framework for application development
3. Implement the concepts of C#, LINQ, ASP, MVC Controller using .NET Framework.
4. Design various applications using .NET framework

Unit I:	**(7 Hrs.)**
Introduction .NET, application and structure of application, Object Oriented Programming Concept in C#, Exceptional Handling, Delegates and Events	
Unit II:	**(6 Hrs.)**
LINQ, SQL Sever, Database Object introduction, SQL, Triggers	
Unit III:	**(7 Hrs.)**
Introduction to ADO.NET, HTML, CSS, UI and Front End, Java Script	
Unit IV:	**(6 Hrs.)**
What is MVC, components, Interaction among components, Program.cs and StartUp.cs file, Configure Services and Configure Methods, Middleware components, Model View Controllers, Creating first app in MVC	
Unit V:	**(7 Hrs.)**
Implementing data validation, annotations and Validation Summary and Exception handling mechanism in MVC, what is API, create project, test API, API Controllers, configure Web API, routing, parameter binding	
Unit VI:	**(7 Hrs.)**
Introduction to Coding Principle, DevOps, Docker	
Total Lecture	**40 Hours**

		July 2022	1.00	Applicable for
				AY 2022-23 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

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B. Tech SoE and Syllabus 2021-22
(Scheme of Examination w.e.f. 2021-22 onward)
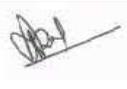(Department of Computer Technology)
B.Tech in Computer Technology

SEMESTER VI

Code CT 2491: Subject Name: Java Full Stack Development

Course Outcomes :

Upon successful completion of the course the students will be able to

1. Understand the process of deployment of application on cloud
2. Apply the concepts related to OOP, advance Java features and database connectivity
3. Apply the techniques to create the user interface for application
4. Apply the different tools to develop the software solution

Unit I:	**(8 Hrs.)**
OOP Concepts, Data Structures, Collection Framework, File handling, JDBC, Introduction to JUnit	
Unit II:	**(7 Hrs.)**
Introduction to Java 8 Features, Interface Enhancements, Functional Interfaces, Lambda Expression, ForEach, Method References, Streams API, JavaDocs	
Unit III:	**(7 Hrs.)**
Building Responsive Web Pages HTML5, CSS3 and JavaScript, Basic Single Page Applications Using Angular OR React	
Unit IV:	**(6 Hrs.)**
Working with Spring Core, Dependency Injection, Spring MVC,Spring Boot, Introduction to Hibernate and Spring Microservices	
Unit V:	**(7 Hrs.)**
Virtualization Basics, Introduction to Cloud, RDB Cloud Fundamentals (SaaS, Paas, IaaS), Introduction to AWS (S3 Buckets, RDS), AWS Cloudfront	
Unit VI:	**(6 Hrs.)**
Introduction to Maven,Jacoco, SonarLint,Jira, Swagger,Mockito,Docker, Gitrunner	
	Total Lecture **41 Hours**

Textbooks:	
1.	Java Complete Reference, Herbert Schildt, McGraw-Hill

Reference Books:	
1.	Thinking in Java, Bruce Eckel, Prentice Hall

		July 2022	1.00	Applicable for AY 2022-23 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

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B. Tech SoE and Syllabus 2021-22
(Scheme of Examination w.e.f. 2021-22 onward)
(Department of Computer Technology)

B.Tech in Computer Technology

SEMESTER VI

Code CT 2492: Subject Name: Lab Java Full Stack Development

Course Outcomes :
Upon successful completion of the course the students will be able to

1. Understand the process of deployment of application on cloud
2. Apply the concepts related to OOP, advance Java features and database connectivity
3. Apply the techniques to create the user interface for application
4. Apply the different tools to develop the software solution

Sr. No.	Practical based on
Sr. No.	Aim of Practical
1.	Practical based on Collection
2.	Practical based on File Handling
3.	Practical based on JDBC
4.	Practical based on Streams API
5.	Practical based on Java 8 features
6.	Practical based on User Interface Design
7.	Practical based on Maven
8.	Practical Based on Hibernet
9.	Practical based on Hibernet

		July 2022	1.00	Applicable for
				AY 2022-23 Onwards
Chairperson	Dean (Acad. Matters)	Date of Release	Version	

Computer Science and Engineering

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Department of Computer Science and Engineering

YCCE/CSE/FORMAT/BOS/MOM/6   15/01/2024

Minutes of BOS Meeting

Sixth Meeting of the Board of Studies in **Computer Science & Engineering** was held on Monday**,** 15/01/2024 at 11 am. in offline mode at Computer Science & Engineering 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. P.S.Deshpande	External Expert	

BoS Members:

Sr. No.	Name of Member	Sign	Sr. No.	Name of Member	Sign
1	Dr. Lalit Damahe		17	Ms. Renuka Kadu	
2	Dr. N.V.Thakur		18	Mrs. N.P. Giradkar	
3	Mrs. R.A.Fadnavis		19	Ms. Roshni Bhave	
4	Mr. Fazil Sheikh		20	Mr. Sachin J. Janbandhu	
5	Mr. Milind Tote		21	Mrs. Shraddha G.Vaidya	
6	Ms. Priyanka Pitale		22	Mrs. Tejaswini A Puranik	
7	Mrs. P.P. Wagale		23	Mrs. Aayushi Jain	
8	Mrs. Amita Meshram		22	Mrs. Priyanka Kandekar	
9	Mr. Jivan N. Dehankar				
10	Mr. Rushikesh M. Shete				
11	Mrs Bharati Karare				
12	Mrs. V.N. Bagade				
13	Mrs. C.A.Tripathi				
14	Mrs. A.T. Paul				
15	Mrs. Kavita A. Kathane				
16	Mrs. S. B. Meshram				

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Department of Computer Science and Engineering

Leave of Absence was granted to following members:

Sr. No.	Name of Member
1.	Dr. U. A. Deshpande, External Expert
2.	Dr. D.A Adane,RTMNU nominee
3	Mr.Swapnil Deshmukh, External Expert
4.	Dr.N.V.Thakur

Following are the minutes of the meeting:

Item No. 6.01

Welcome of new members

BoS Chairman Dr. Lalit Damahe introduced new faculty members joined in the deapartment.

Item No. 6.02

Installation of member Secretary

- no change

Item No. 6.03

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

ATR available in Annexure -I

Item No. 6.04

To discuss and suggest theaction 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.InSem,EndSem and Exitfeedback on Teaching Learning &curriculum

  i)   **CO/PO attainment of subjects taught in previous semester** .

- **Co/Po attainment of subjects taught in Odd semester 2023-24**
  Institution is shifting all its processes on a new Information System Software, due to which, we are experiencing slight delay in compilation of the information hence not able to complete the Co/Po attainment process. We have done the attainment of the internal exams but final analysis is still in process.

- **Result analysis of subjects taught in previous semester**
  Institution is shifting all its processes on a new Information System Software, due to which, we are experiencing slight delay in compilation of the information hence not able to present the result analysis.

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Department of Computer Science and Engineering

ii) Result analysis of subjects taught in previous semester.

The overall and subject wise result analysis of ODD Term 2022-23 has been shown to the BoS Experts. Experts appreciated the efforts taken by the faculty for good results.

S.N	Semester	Pass %
1	V CSE and CSE-AIML	Result Awaited
2	III CSE and CSE-AIML	Result Awaited
3	VII CSE	Result Awaited

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

S.N.	Stakeholder	Feedback	ActionTaken
1.	Parent	Motivate for Competitive Programming	Competitive programming is being added in the subjects- DataStructure, Object Oriented Programming, Professional Electives courses introduced in syllabus - Java FullStack, .Net FullStack
2	Faculty	In 7th semester CSE- professional elective course : Natural Language Processing- topics :Dependency Parsing, Distributional Semantics should be included in Syllabus	Proposed in BoS meeting and Approved

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

Feedback analysis report of Odd term 2023-24 has been discussed with BoS Experts. (Feedback below 3.25 (65%))

Sr. NO	III	V	VII
<65%	3	1	NIL

Action Taken: The concerned faculty members were called for counselling by a committee consisting of Principal, DAM and HoD and discussed the reasons behind less student feedback. Committee suggested the measures and necessary actions to improve the performance.

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Department of Computer Science and Engineering

Item No. 6.05

To discuss and finalize the Scheme of Examination SoE 2023 of CSE and CSE AIML, framed as per NEP 20 Guidelines, issued by Government of Maharashtra through GR No: NEP-2022/(67/23) / DTE-2 dated 04.07.2023 conducted under the respective boards Board.

SoE NEP 2023-24 of CSE and CSE- AIML has been shown to BoS members and approved. Suggestion was : Multidisciplinary minor course should be given to other branch students

1. **To approve SoE23 and all syllabi of B.Tech I Year.**
   NEP SoE 2023 and Syllabus of first year CSE and CSE AIML were shown to BoS Members and approved.

2. **To discuss and finalize the Scheme of Examination SoE 2022 framed AND to approve SoE22 and all syllabi upto B.Tech II Year.**
   NEP SoE 2022 and Syllabus of Second year CSE and CSE AIML were shown to BoS Members and approved.
   IN CSE- AIML- NEP SOE22: It is suggested to include compiler course as an professional elective course

Item No. 6.06
To discuss and suggest the minor changes in the syllabi of various courses in 7th semester courses in Autonomous 2020-21 Schemes of Undergraduate program conducted under the Board.
Minor changes in the syllabus of following VII Semester CSE subject are suggested by the expert members:

CSE- soe 20-21

semster	Course	Suggestions
VII	CSE2445- PE V: Big Data Analytics	Spark architecture , SparQL, Cassandra can be included in syllabus
VII	CSE-2423 Machine Learning Techniques	Optimization Techniques and Linear Programming should be included

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Minor changes in the syllabus of following VII Semester CSE and CSE-AIML subject are asuggested by the expert members:

Item No. 6.07

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

Semster	Course	Suggestions
VII	CSE-2423 Machine Learning Techniques	Pattern Recognition,4th edition, Sergios Theodoridis
VII	CSE2445- PE V: Big Data Analytics	Reference book to be added – seven databases in seven weeks

Item No. 6.08

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

Item No. 6.9

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

Item No. 6.10

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

Courseera Course can be given as one of the option in professional elective courses . The details of same is given below :Coursera

Semster	Course
VI Sem CSE (20-21SoE)	TH- Programming with Javascript(Meta) - 42hours PR- React Basics (Meta) 26 hours

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Item No. 6.11

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 2023-24.

The panel of paper setters, Moderators and Valuers for the various theory courses at Undergraduate programs for End Semester Examination(Y11) of EVEN Term 2023-24 was constituted.

Item No. 6.12

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 EVEN Term 2023-24- NA

Item No. 6.13

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 EVEN Term 2023-24

The panel of internal and external examiners for the various laboratory courses at UG level for End Semester Examination(Y12) of **EVEN Term 2023-24** was constituted.

Item No. 6.14

Preparation of Electronic question Bank for core UG courses.

List of Courses for which EQB is prepared :

SN	Semester	Course Name
1.	III	22CSE302: Computer Architecture and Organization
2.		22CSE303: Object Oriented Programming
3.		22CSE305: Data structure –I
4.	IV	CSE2255:Introduction to Data Analysis
5.		CSE2251: Operating System
6.		CSE2257: Theory Of Computation
7.		CSE2253: Data Structure 2
8.	V	CSE2301:Database Management Systems
9.		CSE2303:Design & Analysis of Algorithms
10.		CSE2311:Business Intelligence
11.		CSE2313:Web Technologies
12.		CSE2317:Mobile operating System
13	III (CSE	22AML302 : Formal Language & Automata

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		Theory
	AIML)	
14.		22AML304 :Data Structures
15.		22AML306 :Computer Architecture & Organization
16.	IV (CSE AIML)	AIML2252: Operating Systems
17.		AIML2254: Software Engineering
18.		AIML2256: Design & Analysis of Algorithms
19.		AIML2258 : Database Management Systems
20.	V- AIML	AIML2302:Foundation of Artificial Intelligence
21.		AIML2304:Machine Learning Essentials
22.	VII CSE	CSE2401: Artificial Intelligence
23.		CSE2403: Cryptography and Network Security
24.		CSE2411: Software Project Management
25.		CSE2413: Information Retrieval System
26.		CSE2413: Natural Language Processing
27.		CSE2423: Machine Learning Techniques
28.		CSE2429: Java FullStack
29.		CSE2431: .Net FullStack
30.		CSE2441: Cloud Computing

List of Courses for which EQB is to be prepared-

1.	VI CSE- AIML	AIML2351:Advanced Artificial Intelligence
2.		AIML2353:Computer Networks
3.		AIML2355:Digital Image Processing
4.		AIML2361: PE II: Blockchain Technology
5.		AIML2363: PE II: Internet of Things
6.		AIML2365: PE II: Cloud computing

Item No. 6.15

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

Item No. 6.16

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

2. To Discuss and propose Certificate courses and value-added courses in 2023-24.

List of Value Added Courses

Following is the list of Value-added courses conducted in 2023-24.

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Sr. No.	Name of the VAC	Date	Duration of course	Number of students enrolled	Resource Person
1	VAC on Introduction Ethical Hacking	Odd Sem 2023 (16/9/23 to 22/10/23)	30 hr	93	Mr. Rudram Wandalkar, Forensic Solutions
2	VAC on Introduction Digital Marketing	Odd Sem 2023 (4th,5th,18th,19th Nov 2023 to 3rd,9th,10th,16th Dec 2023	30 hr	172	Mrs. Shweta Pathak

Item No. 6.17

Any other matter with the permission of the Chair- Nil

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   **Prof. Rupa Fadnavis**

Chairman   Member Secretary

BoS in Computer Science & Engineering   BoS in ComputerScience&Engineering

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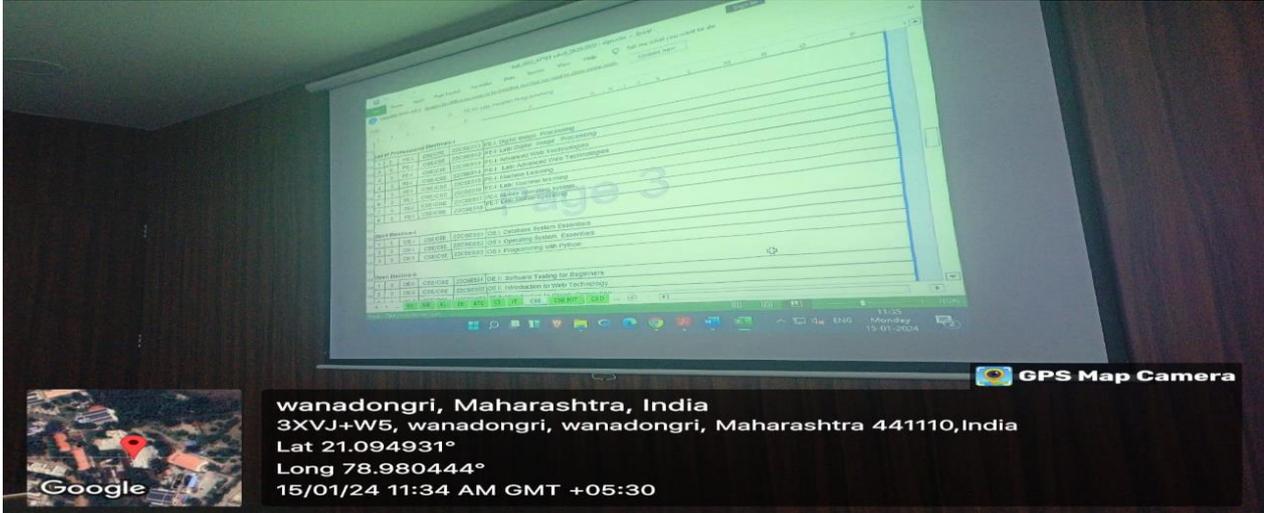(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
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(Scheme of Examination w.e.f. 2023-24 onward)
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B. Tech. in Computer Science & Engineering

SoE No.
23CSE-101

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
							Contact Hours					% Weightage			

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
FIRST SEMESTER (GROUP-A)
1	1	BS	GE	23GE1103	Differential Equation and Complex Analysis	T	3	0	0	3	3	30	20	50	3
2	1	BS	GE	23GE1110	Applied Physics	T	3	0	0	3	3	30	20	50	3
3	1	BS	GE	23GE1111	**Lab :** Applied Physics	P	0	0	2	2	1		60	40	
4	1	BES	ME	23ME1101	Engineering Graphics	T	1	0	0	1	1	30	20	50	3
5	1	BES	ME	23ME1102	**Lab :** Engineering Graphics	P	0	0	4	4	2		60	40	
6	1	BES	EL	23EL1101	Basic Electrical and Electronics Engineering	T	3	0	0	3	3	30	20	50	3
7	1	BES	CT	23CT1103	**Lab :** Computer WorkShop	P	0	0	2	2	1		60	40	
8	1	PC	CSE	23CSE1101	Object Oriented Programming using Python	T	3	0	0	3	3	30	20	50	3
9	1	PC	CSE	23CSE1102	**Lab :** Object Oriented Programming using Python	P	0	0	2	2	1		60	40	
10	1	VSEC	GE	23GE1117	**Get Set Go**	P	0	0	2	2	2		60	40	
11	1	CC2	GE		**Liberal Learning Course (LLC2)**	P	0	0	2	2	2		60	40	
colspan="6" **TOTAL FIRST SEM**		13	0	14	27	22				

MANDATORY LEARNING COURSES

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits				
1	1	HS		GE2131	Universal Human Values (UHV)	A	2	0	0	2	0				

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
SECOND SEMESTER (GROUP-A)
1	2	BS	GE	23GE1201	Calculus and Vector	T	3	0	0	3	3	30	20	50	3
2	2	BS	GE	23GE1206	Engineering Chemistry	T	3	0	0	3	3	30	20	50	3
3	2	BS	GE	23GE1207	**Lab:** Engineering Chemistry	P	0	0	2	2	1		60	40	
4	2	HS/AEC1	GE	23GE1212	Professional Communication	T	2	0	0	2	2	30	20	50	3
5	2	HS/IKS	GE	23GE1215	Indian Knowledge System	T	2	0	0	2	2	30	20	50	3
6	2	BES	CV	23CV1201	Engineering Mechanics	T	3	0	0	3	3	30	20	50	3
7	2	BES	CV	23CV1202	**Lab:** Engineering Mechanics	P	0	0	2	2	1		60	40	
8	2	BES	IT	23IT1203	Programming for Problem Solving	T	2	0	0	2	2	30	20	50	3
9	2	BES	IT	23IT1204	**Lab:** Programming for Problem Solving	P	0	0	2	2	1		60	40	
10	2	VSEC	GE	23GE1218	Functional English	P	0	0	2	2	2		60	40	
11	2	CC2	GE		**Liberal Learning Course (LLC1)**	P	0	0	2	2	2		60	40	
colspan="6" **TOTAL SECOND SEM**		15	0	10	25	22				

MSEs* = Two MSEs of 15 Marks each will conducted and marks of these 2 MSEs will be considered for Continuous Assessment

TA ** = for Theory : TA1-5 marks on Proctored Online Exam, TA2-12 marks on activitied decided by course teacher, TA3 - 3 marks on class attendance

TA** = for Practical : MSPA will be 15 marks each

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B.TECH SCHEME OF EXAMINATION 2023

(Scheme of Examination w.e.f. 2023-24 onward)

(Department of Computer Science & Engineering)

B. Tech. in Computer Science & Engineering

SoE No.
23CSE-101

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							L	T	P	Hrs		MSEs*	TA**	ESE	

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							L	T	P	Hrs		MSEs*	TA**	ESE	

Liberal Learning Course

SN	Sem	Type	BoS / Deptt	Sub. Code	Subject
1	2	CC2	GE	LLC1201	Music (Vocal)
2	2	CC2	GE	LLC1202	Music (Instrumental)
3	2	CC2	GE	LLC1203	Indian Classical Dance
4	2	CC2	GE	LLC1204	Folk Dances
5	2	CC2	GE	LLC1205	Painting
6	2	CC2	GE	LLC1206	Theatre and acting
7	2	CC2	GE	LLC1207	Photography
8	2	CC2	GE	LLC1208	Yoga
9	2	CC2	GE	LLC1209	Chess
10	2	CC2	GE	LLC1210	Athletics
11	2	CC2	GE	LLC1211	Basket Ball
12	2	CC2	GE	LLC1212	Judo
13	2	CC2	GE	LLC1213	Elements of Japanese Language
14	2	CC2	GE	LLC1214	Elements of German Language
15	2	CC2	GE	LLC1215	Elements of French Language
16	2	CC2	GE	LLC1216	Elements of Spanish Language
17	2	CC2	GE	LLC1217	Basics of Vedic Maths
18	2	CC2	GE	LLC1218	Skilling in Microsoft Visio and Inkscape
19	2	CC2	GE	LLC1219	Art of Public Speaking

Liberal Learning Course

SN	Sem	Type	BoS / Deptt	Sub. Code	Subject
1	1	CC1	GE	LLC1101	Music (Vocal)
2	1	CC1	GE	LLC1102	Music (Instrumental)
3	1	CC1	GE	LLC1103	Indian Classical Dance
4	1	CC1	GE	LLC1104	Folk Dances
5	1	CC1	GE	LLC1105	Painting
6	1	CC1	GE	LLC1106	Theatre and acting
7	1	CC1	GE	LLC1107	Photography
8	1	CC1	GE	LLC1108	Yoga
9	1	CC1	GE	LLC1109	Chess
10	1	CC1	GE	LLC1110	Athletics
11	1	CC1	GE	LLC1111	Basket Ball
12	1	CC1	GE	LLC1112	Judo
13	1	CC1	GE	LLC1113	Elements of Japanese Language
14	1	CC1	GE	LLC1114	Elements of German Language
15	1	CC1	GE	LLC1115	Elements of French Language
16	1	CC1	GE	LLC1116	Elements of Spanish Language
17	1	CC1	GE	LLC1117	Basics of Vedic Maths
18	1	CC1	GE	LLC1118	Skilling in Microsoft Visio and Inkscape
19	1	CC1	GE	LLC1119	Art of Public Speaking

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B.TECH SCHEME OF EXAMINATION 2023

(Scheme of Examination w.e.f. 2023-24 onward)

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23CSE-101

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							L	T	P	Hrs		MSEs*	TA**	ESE	

MSEs* = Two MSEs of 15 Marks each will conducted and marks of these 2 MSEs will be considered for Continuous Assessment

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TA** = for Practical : MSPA will be 15 marks each

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(Scheme of Examination w.e.f. 2023-24 onward)
(Department of Computer Science & Engineering)
B. Tech. in Computer Science & Engineering

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							L	T	P	Hrs		MSEs*	TA**	ESE	
THIRD SEMESTER															
1	3	HSSM-1	GE	23GE1301	Fundamentals of Management & Economics	T	2	0	0	2	2	30	20	50	3
2	3	BS	GE	23GE1303	Linear Algebra	T	3	0	0	3	3	30	20	50	3
3	3	PC	CSE	23CSE1301	Computer Architecture and Organization	T	3	0	0	3	3	30	20	50	3
4	3	PC	CSE	23CSE1302	Data structures	T	3	0	0	3	3	30	20	50	3
5	3	PC	CSE	23CSE1303	**Lab :** Data structures	P	0	0	2	2	1		60	40	
6	3	PC	CSE	23CSE1304	**Lab :** Programming with JAVA	P	0	0	2	2	1		60	40	
7	3	VEC-2	CSE	23CSE1305	Digital & Tecnological Solution / Understanding India-**Ethics in IT**	T	2	0	0	2	2	30	20	50	3
8	3	CEP	CSE	23CSE1306	**Lab :** Field Project-Computer Literacy	P	0	0	2	4	2		60	40	
9	3	OE-1	OE		**Open Elective - I**	T	2	0	0	2	2	30	20	50	3
10	3	MDM			**MD Minor Course - I**	T	2	0	0	2	2	30	20	50	3
						Total	**17**	**0**	**6**	**25**	**21**				

List of Mandatory Learning Course (MLC)															
1	3	HS	T&P	MLC2123	**YCAP3 :** YCCE Communication Aptitude Preparation	A	3	0	0	3	**0**				

Open Elective - I					
SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject
1	3	OE1	GE	23OE1301	OE-I : Combinatorics
2	3	OE1	GE	23OE1302	OE-I : Fuzzy Set Theory, Arithmetic And Logic
3	3	OE1	GE	23OE1303	OE-I : Green Chemistry & Sustainability
4	3	OE1	GE	23OE1304	OE-I : Hydrogen Fuel
5	3	OE1	GE	23OE1305	OE-I : Electronic Materials And Applications
6	3	OE1	GE	23OE1306	OE-I : Laser Technology And Applications
7	3	OE1	MGT	23OE1307	OE-I : Finance And Cost Management
8	3	OE1	MGT	23OE1308	OE-I : Operation Research Techniques
9	3	OE1	MGT	23OE1309	OE-I : Project Evaluation & Management
10	3	OE1	MGT	23OE1310	OE-I : Total Quality Management
11	3	OE1	MGT	23OE1311	OE-I : Value Engineering
12	3	OE1	MGT	23OE1312	OE-I : Maintenance Management
13	3	OE1	MGT	23OE1313	OE-I : Industrial Safety
14	3	OE1	MGT	23OE1314	OE-I : Industry 4.0
15	3	OE1	MGT	23OE1315	OE-I : Operation Management
16	3	OE1	MGT	23OE1316	OE-I : Material Management
17	3	OE1	MGT	23OE1317	OE-I : Hospitality Management
18	3	OE1	MGT	23OE1318	OE-I : Human Resource Management & Organizational Behaviour
19	3	OE1	MGT	23OE1319	OE-I : Agri-Business Management
20	3	OE1	MGT	23OE1320	OE-I : Rural Marketing
21	3	OE1	MGT	23OE1321	OE-I : Marketing Management
22	3	OE1	MGT	23OE1322	OE-I : Health Care Management
23	3	OE1	MGT	23OE1323	OE-I : Designated approved online NPTEL/KKSU Course

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B.TECH SCHEME OF EXAMINATION 2023

(Scheme of Examination w.e.f. 2023-24 onward)

(Department of Computer Science & Engineering)

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SoE No.
23CSE-101

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
							L	T	P	Hrs		MSEs*	TA**	ESE	
24	3	OE1	MGT	23OE1324	OE-I : Indian Archeology										
25	3	OE1	MGT	23OE1325	OE-I : Social & Positive Psychology										
26	3	OE1	MGT	23OE1326	OE-I : Seismology & Earthquake										

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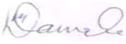**B.TECH SCHEME OF EXAMINATION 2023**
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**SoE No.
23CSE-101**

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
							L	T	P	Hrs		MSEs*	TA**	ESE	
					FOURTH SEMESTER										
1	4	HSSM-2	GE	23GE1401	Entrepreneurship Development	T	2	0	0	2	2	30	20	50	3
2	4	**AEC-2**	GE	23GE1405 23GE1406	Marathi Language / Hindi Language	T	2	0	0	2	2	30	20	50	3
3	4	VEC-1	CV	23CV1411	Environmental Sustainability, Pollution and Management	T	2	0	0	2	2	30	20	50	3
4	4	PC	CSE	23CSE1401	Discrete Mathematics and Graph theory	T	3	0	0	3	3	30	20	50	3
5	4	PC	CSE	23CSE1402	Operating system	T	3	0	0	3	3	30	20	50	3
6	4	PC	CSE	23CSE1403	**Lab :** Operating system	P	0	0	2	2	1		60	40	
7	4	PC	CSE	23CSE1404	Introduction to data analysis	T	3	0	0	3	3	30	20	50	3
8	4	PC	CSE	23CSE1405	**Lab :** Introduction to data analysis	T	0	0	2	2	1		60	40	
9	4	VSEC-3	CSE	23CSE1406	**Lab :** Vocational & Skill Enhancement - Web Technology	P	0	0	2	4	2		60	40	
10	4	OE-2	OE		**Open Elective - II**	T	2	0	0	2	2	30	20	50	3
11	4	MDM	CSE		**MD Minor Course - II**	T	2	0	0	2	2	30	20	50	3
					TOTAL		**19**	**0**	**6**	**27**	**23**				

				List of Mandatory Learning Course (MLC)										
1	4	HS	T&P	MLC2124	**YCAP4 :** YCCE Communication Aptitude Preparation	A	3	0	0	3	**0**				

Open Elective - II

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject
1	4	OE2	GE	23OE2401	OE-II : Combinatorics
2	4	OE2	GE	23OE2402	OE-II : Fuzzy Set Theory, Arithmetic And Logic
3	4	OE2	GE	23OE2403	OE-II : Green Chem. & Sustainability
4	4	OE2	GE	23OE2404	OE-II : Hydrogen Fuel
5	4	OE2	GE	23OE2405	OE-II : Electronic Materials And Applications
6	4	OE2	GE	23OE2406	OE-II : Laser Technology And Applications
7	4	OE2	MGT	23OE2407	OE-II : Finance And Cost Management
8	4	OE2	MGT	23OE2408	OE-II : Operation Research Techniques
9	4	OE2	MGT	23OE2409	OE-II : Project Evaluation & Management
10	4	OE2	MGT	23OE2410	OE-II : Total Quality Management
11	4	OE2	MGT	23OE2411	OE-II : Value Engineering
12	4	OE2	MGT	23OE2412	OE-II : Maintenance Management
13	4	OE2	MGT	23OE2413	OE-II : Industrial Safety
14	4	OE2	MGT	23OE2414	OE-II : Industry 4.0
15	4	OE2	MGT	23OE2415	OE-II : Operation Management
16	4	OE2	MGT	23OE2416	OE-II : Material Management
17	4	OE2	MGT	23OE2417	OE-II : Hospitality Management
18	4	OE2	MGT	23OE2418	OE-II : Human Resource Management & Organizational Behaviour
19	4	OE2	MGT	23OE2419	OE-II : Agri-Business Management
20	4	OE2	MGT	23OE2420	OE-II : Rural Marketing
21	4	OE2	MGT	23OE2421	OE-II : Marketing Management

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
B.TECH SCHEME OF EXAMINATION 2023
(Scheme of Examination w.e.f. 2023-24 onward)
(Department of Computer Science & Engineering)
B. Tech. in Computer Science & Engineering

**SoE No.
23CSE-101**

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
							L	T	P	Hrs		MSEs*	TA**	ESE	
22	4	OE2	MGT	23OE2422	OE-II : Health Care Management										
23	4	OE2	MGT	23OE2423	OE-II : Designated approved online NPTEL/KKSU Course										
24	4	OE2	MGT	23OE2424	OE-II : Indian Archeology										
25	4	OE2	MGT	23OE2425	OE-II : Social & Positive Psychology										
26	4	OE2	MGT	23OE2426	OE-II : Seismology & Earthquake										

		July, 2023	1.00	Applicable for AY 2023-24 Onwards
Chairperson	**Dean (Acad. Matters)**	**Date of Release**	**Version**	

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SoE No.
23CSE-101

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
							L	T	P	Hrs		MSEs*	TA**	ESE	
FIFTH SEMESTER
1	5	PC	CSE	23CSE1501	Theory of computation	T	3	0	0	3	3	30	20	50	3
2	5	PC	CSE	23CSE1502	Database management systems	T	3	0	0	3	3	30	20	50	3
3	5	PC	CSE	23CSE1503	**Lab :** Database management systems	P	0	0	2	2	1		60	40	
4	5	PC	CSE	23CSE1504	Design and analysis of algorithms	T	3	0	0	3	3	30	20	50	3
5	5	PC	CSE	23CSE1505	**Lab :** Design and analysis of algorithms	P	0	0	2	2	1		60	40	
6	5	PE	CSE		**Professional Elective I**	T	3	0	0	3	3	30	20	50	3
7	5	PE	CSE		**Lab : Professional Elective I**	P	0	0	2	2	1		60	40	
8	5	STR	CSE	23CSE1506	Industrial training,Intership, Seminar and Report	P	0	0	2	2	1		60	40	
9	5	MDM	CSE		**MD Minor Course-III**	T	3	0	0	3	3	30	20	50	3
10	5	OE-3	OE		**Open Elective -III**	T	3	0	0	3	3	30	20	50	3
11	5	OE-3	OE		**Lab : Open Elective -III**	P	0	0	2	2	1		60	40	
colspan="6"	**TOTAL**		**18**	**0**	**10**	**28**	**23**				

List of Mandatory Learning Course (MLC)
1	5	HS	T&P	MLC2125	**YCAP5 :**	A	3	0	0	3	**0**				

Professional Elective - I
1	5	PE-I	CSE	23CSE1521	PE-I : Digital Image Processing
2	5	PE-I	CSE	23CSE1522	PE-I : **Lab :** Digital Image Processing
3	5	PE-I	CSE	23CSE1523	PE-I : Business Intelligence
4	5	PE-I	CSE	23CSE1524	PE-I : **Lab :** Business Intelligence
5	5	PE-I	CSE	23CSE1525	PE-I : Mobile Application Development
6	5	PE-I	CSE	23CSE1526	PE-I : **Lab :** Mobile Application Development
7	5	PE-I	CSE	23CSE1527	PE-I : Internet of Things
8	5	PE-I	CSE	23CSE1528	PE-I : **Lab :** Internet of Things
9	5	PE-I	CSE	23CSE1529	PE-I : Introduction to geographical information system
10	5	PE-I	CSE	23CSE1530	PE-I : **Lab :** Introduction to geographical information system
11	5	PE-I	CSE	23CSE1531	PE-I : Neural networks and applications
12	5	PE-I	CSE	23CSE1532	PE-I : **Lab :** Neural networks and applications
13	5	PE-I	CSE	23CSE1533	PE-I : Advanced web technology
14	5	PE-I	CSE	23CSE1534	PE-I : **Lab :** Advanced web technology Lab

Chairperson	**Dean (Acad. Matters)**	**July, 2023**	**1.00**	**Applicable for AY 2023-24 Onwards**
		Date of Release	Version	

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
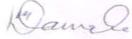**B.TECH SCHEME OF EXAMINATION 2023**
(Scheme of Examination w.e.f. 2023-24 onward)
(Department of Computer Science & Engineering)
B. Tech. in Computer Science & Engineering

SoE No.
23CSE-101

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	L	T	P	Hrs	Credits	MSEs*	TA**	ESE	ESE Duration Hours
							Contact Hours					% Weightage			
					SIXTH SEMESTER										
1	6	PC	CSE	23CSE1601	Machine Learning	T	3	0	0	3	3	30	20	50	3
2	6	PC	CSE	23CSE1602	**Lab :** Machine Learning	P	0	0	2	2	1		60	40	
3	6	PC	CSE	23CSE1603	Language processors	T	3	0	0	3	3	30	20	50	3
4	6	PC	CSE	23CSE1604	**Lab :** Language processors	P	0	0	2	2	1	60	40		
5	6	VSEC-4	CSE	23CSE1605	**Lab :** Vocational & Skill Enhancement - Linux Administration and shell programming	P	0	0	2	4	2		60	40	
6	6	STR	CSE	23CSE1606	Design Thinking and Research Methodology	T	2	0	0	2	2	30	20	50	3
7	6	STR	CSE	23CSE1607	Project Phase-I	P	0	0	4	4	2		60	40	
8	6	PE	CSE		**Professional elective - II**	T	3	0	0	3	3	30	20	50	3
9	6	PE	CSE		**Professional elective - III**	T	3	0	0	3	3	30	20	50	3
10	6	PE	CSE		**Professional elective - IV**	T	3	0	0	3	3	30	20	50	3
11	6	MDM	MDM		**MD Minor Course - IV**	T	3	0	0	3	3	30	20	50	3
					TOTAL		**20**	**0**	**10**	**32**	**26**				

				List of Mandatory Learning Course (MLC)											
1	6	HS	T&P	MLC126	**YCAP6 :**	A	3	0	0	3	**0**				

		Professional Elective - II				
1	6	PE-II	CSE	23CSE1621	PE-II : Big Data Analytics
2	6	PE-II	CSE	23CSE1622	PE-II : Computer Graphics
3	6	PE-II	CSE	23CSE1623	PE-II : Parallel computing
4	6	PE-II	CSE	23CSE1624	PE-II : Game Theory
5	6	PE-II	CSE	23CSE1625	PE-II : Real time system
6	6	PE-II	CSE	23CSE1626	PE-II : Edge computing
7	6	PE-II	CSE	23CSE1627	PE-II : Management Information system

		Professional Elective - III				
1	6	PE-III	CSE	23CSE1641	PE-III : Financial Data analysis
2	6	PE-III	CSE	23CSE1642	PE-III : Augmented Reality
3	6	PE-III	CSE	23CSE1643	PE-III : Information Retrieval System
4	6	PE-III	CSE	23CSE1644	PE-III : Optimization Techniques
5	6	PE-III	CSE	23CSE1645	PE-III : Human Computer interaction
6	6	PE-III	CSE	23CSE1646	PE-III : Blockchain Technology
7	6	PE-III	CSE	23CSE1647	PE-III : Bioinformatics

		Professional Elective - IV				
1	6	PE-IV	CSE	23CSE1661	PE IV : GPU architecture and Programming
2	6	PE-IV	CSE	23CSE1662	PE IV : Quantum Computing

Nagar Yuwak Shikshan Sanstha's

Yeshwantrao Chavan College of Engineering

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

B.TECH SCHEME OF EXAMINATION 2023

(Scheme of Examination w.e.f. 2023-24 onward)

(Department of Computer Science & Engineering)
B. Tech. in Computer Science & Engineering

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SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
							L	T	P	Hrs		MSEs*	TA**	ESE	
3	6	PE-IV	CSE	23CSE1663	PE IV : Prompt Engineering										
4	6	PE-IV	CSE	23CSE1664	PE IV : Nature Inspired Computing										
5	6	PE-IV	CSE	23CSE1665	PE IV : Distributed algorithms										
6	6	PE-IV	CSE	23CSE1666	PE IV : Industry 4.0										
7	6	PE-IV	CSE	23CSE1667	PE IV : Embedded systems										

		July, 2023	1.00	Applicable for AY 2023-24 Onwards
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Nagar Yuwak Shikshan Sanstha's

Yeshwantrao Chavan College of Engineering

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

B.TECH SCHEME OF EXAMINATION 2023

(Scheme of Examination w.e.f. 2023-24 onward)

(Department of Computer Science & Engineering)
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23CSE-101

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
							L	T	P	Hrs		MSEs*	TA**	ESE	
SEVENTH SEMESTER
1	7	PC	CSE	23CSE1701	Computer system security	T	3	0	0	3	3	30	20	50	3
2	7	PC	CSE	23CSE1702	Artificial Intelligence	T	3	0	0	3	3	30	20	50	3
3	7	PC	CSE	23CSE1703	**Lab :** Artificial Intelligence	P	0	0	2	2	1		60	40	
4	7	PC	CSE	23CSE1704	Software Engineering	T	3	0	0	3	3	30	20	50	3
5	7	PC	CSE	23CSE1705	Computer Networks	T	3	0	0	3	3	30	20	50	3
6	7	PC	CSE	23CSE1706	**Lab :** Computer Networks	P	0	0	2	2	1		60	40	
7	7	PC	CSE	23CSE1707	Comprehensive Evaluation of Core Knowledge	P	0	0	2	2	1		60	40	
8	7	STR	CSE	23CSE1708	Project Phase -II	P	0	0	8	8	4		60	40	3
9	7	STR	CSE	23CSE1709	CRT	P	0	0	0	0	2			100	
10	7	PE	CSE		**Professional elective V**	T	3	0	0	3	3	30	20	50	3
11	7	PE	CSE		**Lab : Professional elective V**	P	0	0	2	2	1		60	40	
12	7	MDM	CSE		**MD Minor Course-V**	T	2	0	0	2	2	30	20	50	3
colspan=6	**TOTAL**		**17**	**0**	**16**	**33**	**27**				

					Professional Elective - V								
1	7	PE-V	CSE	23CSE1721	PE-V : Deep Learning
2	7	PE-V	CSE	23CSE1722	PE-V : **Lab :** Deep Learning Lab
3	7	PE-V	CSE	23CSE1723	PE-V : Cloud Computing
4	7	PE-V	CSE	23CSE1724	PE-V : **Lab :** Cloud Computing Lab
5	7	PE-V	CSE	23CSE1725	PE-V : Java Fullstack Development
6	7	PE-V	CSE	23CSE1726	PE-V : **Lab :** Java Fullstack Development
7	7	PE-V	CSE	23CSE1727	PE-V : Natural Language Processing
8	7	PE-V	CSE	23CSE1728	PE-V : **Lab :** Natural Language Processing
9	7	PE-V	CSE	23CSE1729	PE-V : NET fullstack development
10	7	PE-V	CSE	23CSE1730	PE-V : **Lab :** NETfullstack development
11	7	PE-V	CSE	23CSE1731	PE-V : MLOps
12	7	PE-V	CSE	23CSE1732	PE-V : **Lab :** MLOps
13	7	PE-V	CSE	23CSE1733	PE-V : DevOps
14	7	PE-V	CSE	23CSE1734	PE-V : **Lab :** DevOps

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
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B.TECH SCHEME OF EXAMINATION 2023
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B. Tech. in Computer Science & Engineering

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23CSE-101**

SN	Sem	Type	BoS/ Deptt	Sub. Code	Subject	T/P	Contact Hours				Credits	% Weightage			ESE Duration Hours
							L	T	P	Hrs		MSEs*	TA**	ESE	
					EIGHTH SEMESTER										
1	8	MDM	CSE		**MD Minor Course-VI**	T	2	0	0	2	2	30	20	50	3
2	8	STR	CSE	23CSE1801	Intership / On Job training	P	0	0	18	18	9			100	
3	8	PE	CSE		**Professional Elective-VI**	T	3	0	0	3	3	30	20	50	3
					TOTAL		**5**	**0**	**18**	**23**	**14**				

		GRAND TOTAL	124	0	90	220	178				

Professional Elective - VI				
1	8	PE-VI	CSE	23CSE1821	PE VI : Advanced AI
2	8	PE-VI	CSE	23CSE1822	PE VI : Virtual Reality
3	8	PE-VI	CSE	23CSE1823	PE VI : Health care Analytics
4	8	PE-VI	CSE	23CSE1824	PE VI : Reinforcement Learning
5	8	PE-VI	CSE	23CSE1825	PE VI : E- Commerce
6	8	PE-VI	CSE	23CSE1826	PE VI : Adhoc wirless networks
7	8	PE-VI	CSE	23CSE1827	PE VI : Multicore technologies

Multidisciplinary Minor Courses			
		Track 1	**Track 2**
Courses	Sem	**MDMT1CSE101 : Image processing and Computer Vision**	**MDMT2CSE201 : Cryptography and Digital Forensics**
MDM-I	3	(MDM1CSE101) Algorithms and Data Structure	(MDM1CSE201) Internet technologies and Cyber laws
MDM-II	4	(MDM2CSE102) Fundamentals of Digital Image Processing	(MDM2CSE202) Digital Forensic
MDM-III	5	(MDM3CSE103) Computer Vision Essentials	(MDM3CSE203) Ethical Hacking
MDM-IV	6	(MDM4CSE104) Programming Framework for Computer Vision	(MDM4CSE204) Cryptography
MDM-V	7	(MDM5CSE105) Basics of Artificial Neural Network	(MDM5CSE205) Cyber Audit
MDM-VI	8	(MDM6CSE106) Machine Learning fundamentals	(MDM6CSE206) IOT Security

		Track 3	
Courses	Sem	**MDMT3CSE301 : Software Systems**	
MDM-I	3	(MDM1CSE301) Data Structure Essentials	
MDM-II	4	(MDM2CSE302) Object Oriented Concepts using Java	
MDM-III	5	(MDM3CSE303) Software Engineering Concepts	
MDM-IV	6	(MDM4CSE304) Software Design Patterns	
MDM-V	7	(MDM5CSE305) Software Testing Essentials	
MDM-VI	8	(MDM6CSE306) Software Project Management in Practice	

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
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B.TECH SCHEME OF EXAMINATION 2023
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							L	T	P	Hrs		MSEs*	TA**	ESE	
							July, 2023				1.00	Applicable for AY 2023-24 Onwards			
	Chairperson				Dean (Acad. Matters)		Date of Release				Version				

First Year

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NOTICE
{BoS-GE}

</div>

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Date:- 02-01-2024

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The 28th meeting of Board of Studies, General Engineering, is scheduled on 5th Jan. 2024, Friday 11.00 in SC-201.

This is mandatory for all the Faculty members of Dept. of Applied Physics, Applied Chemistry, Applied Mathematics and Humanities,to attend the meeting. All are requested to be present in SC-201 at 10.40 a.m.

The BoS experts are

1	Dr. G.P.Singh, Department of Mathematics, VNIT, Nagpur
2	Dr. Anupama Kumar, Department of Chemistry, VNIT, Nagpur
3	University nominee Dr. Vijay Tangde, Assistant Professor, Dept of Chemistry, RTM Nagpur University, Nagpur
4	Dr. S.S. Bagchi, Dy. General Manager, Reliance Power, Butibori, Nagpur **Expert from Industry**

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 Members

Item No. 28.02
Confirmation of minutes of previous meeting and action taken report on decisions/suggestions of the previous meeting.

Item No. 28.03
To discuss and suggest the action taken on
- CO/PO attainment of courses taught in previous semester
- Result analysis of courses taught in previous semester
- Stake holders' feedback on review and design of curriculum
- In Sem, End Sem and Exit feedback on Teaching Learning & curriculum.

Item No. 28.04
To discuss and suggest the changes in the SoE-23 under the board of General Engineering of B. Tech., framed as per NEP 20 Guidelines, issued by Government of Maharashtra through GR No: NEP-2022/(67/23) /DTE-2 dated 04.07.2023.

Item No. 28.05
To discuss and suggest the minor changes in the syllabi of various courses (under the board of General Engineering) in SoE-23.

Item No. 28.06
To discuss and suggest the changes in the Books/Reference Books/Literature Sources published in the syllabi of various courses (under the board of General Engineering) in SoE-23.

Item No. 28.07
To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses (under the board of General Engineering) in SoE-23

Item No. 28.08
To discuss and suggest the changes in the Academic Regulations governing the Undergraduate 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, moderator and valuers for the various courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2023-24.

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 2023-24.

Item No.28.12
Preparation of Electronic question Bank UG courses according to SoE-23. 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 courses/Mandatory learning Minor Program and its syllabus.
To Discuss and propose Certificate courses and value-added courses in 2024-25.

Item No. 28.15
Any other matter with the permission of the Chair.

Dr.Anushree A.Aserkar   Dr.Manjusha P.Gandhi
BoS Member Secretary   **Head and Chairman**
General Engineering Board   General Engineering Board

28th Meeting of Board of Studies(Friday 05/01/2024)

Members Board of Studies (General Engineering)

S.N.	Name	Signature	S.N.	Name	Signature
1	Dr.Malabika Adak	-----	16	Dr.Mrs. H.V. Ganvir	
2	Dr.A.J.Meshram		17	Dr. Vikrant Ganvir	
3	Prof.Asfar Siddiqui		18	Dr.Arsala Khan	
4	Dr. Monali G.Dhote		19	Dr. Swati A. Fartode	
5	Dr.Nitin Wange		20	Dr. Bharati Patil	
6	Prof.D.P.Bawane		21	Dr. Manisha Upasani	
7	Prof.M.N.Dandale		22	Dr.Deepti Jamkar	
8	Prof.N.A.Bhosale		23	Dr. P. U. Waghe	
9	Dr.M.R.Kale		24	Prof. Shruti Gomkale	
10	Prof. Nanda Thakre		25	Prof.S.S.Panditkar	
11	Dr.Arvinder Kour Mehta		26	Dr. M. S. Sawangikar	
12	Prof. Vishakha Bhandarkar		27	Prof. Pournima Pande	
13	Dr.A.D.Gedam		28	Dr. G.S. Deshmukh	
14	Prof. P.Dhenge		29	Prof.P.D.Trivedi	
15	Dr. Madhumita Dhote		30	Prof. M.A.Chilbule	

BoS Experts

Name	Signature	Name	Signature
Dr. G.P.Singh, Head, Department of Mathematics, VNIT, Nagpur		Dr. Vijay Tangde, University nominee RTMNU	
Dr. Anupama Kumar, Head, Department of Chemistry, VNIT, Nagpur		Dr. S.S. Bagchi, Expert from Industry	

Minutes of 28th BoS of general Engineering dated 5th Jan. 2023, Friday

The meeting was chaired by Dr. M. P. Gandhi, Chairperson BoS-GE. Following members were present.

S.N.	Name	S.N.	Name
1	Dr. Anushree A. Aserkar	16	Dr.Mrs. H.V. Ganvir
2	Dr.Malabika Adak	17	Dr. Vikrant Ganvir
3	Dr.A.J.Meshram	18	Dr.Arsala Khan
4	Prof.Asfar Siddiqui	19	Dr. Swati A. Fartode
5	Dr. Monali G.Dhote	20	Dr. Bharati Patil
6	Dr.Nitin Wange	21	Dr. Manisha Upasani
7	Prof.D.P.Bawane	22	Dr.Deepti Jamkar
8	Prof.N.A.Bhosale	23	Dr. P. U. Waghe
9	Dr.M.R.Kale	24	Prof.S.S.Panditkar
10	Prof. Nanda Thakre	25	Dr. M. S. Sawangikar
11	Dr.Arvinder Kour Mehta	26	Prof. Pournima Pande
12	Prof. Vishakha Bhandarkar	27	Dr. G.S. Deshmukh
13	Dr.A.D.Gedam	29	Prof.P.D.Trivedi
14	Prof. P.Dhenge	30	Prof. M.A.Chilbule
15	Dr. Madhumita Dhote		

Following members have been permitted leave of absence
1. Prof.M.N.Dandale
2. Prof. Shruti Gomkale

Minutes of Meetings 28th BoS Meeting

Agenda No. 28.01

Welcome of members

Dr Manjusha P. Gandhi and HoD's of Physics, Chemistry and Mathematics Departments, welcomed BoS expert and other members. Dr. Anushree A. Aserkar welcomed the new members Prof.P.D.Trivedi and Prof. M.A.Chilbule.

Item No. 28.02

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

The minutes of previous meeting no.27 held on Friday, 21st July 2023, were already circulated to all members. After confirmation, Chairperson asked to accept the minutes of 27th meeting.

Item No. 28.03

To discuss and suggest the action taken on
- **CO/PO attainment of courses taught in previous semester**
- **Result analysis of courses taught in previous semester**
- **Stake holders' feedback on review and design of curriculum**
- **In Sem, End Sem and Exit feedback on Teaching Learning & curriculum.**

- **CO/PO attainment of subjects taught in previous semester.**
    - **Co/Po attainment of subjects taught in odd semester 2023-24.**
      Institution is shifting all its processes on a new Information System Software, due to which, we are experiencing slight delay in compilation of the information hence not able to complete the Co/Po attainment process. We have done the attainment of the internal exams, but final analysis is still in process.
    - **Result analysis of subjects taught in previous semester.**
      Institution is shifting all its processes on a new Information System Software, due to which, we are experiencing slight delay in compilation of the information hence not able to present the result analysis.

- **Result analysis of Sem-I and Sem-II (Branch wise) in ODD Term**

  Institution is shifting all its processes on a new Information System Software, due to which, we are experiencing slight delay in compilation of the information hence not able to present the result analysis.

- **Stake holders' feedback on review and design of curriculum from Faculty**

S.N	Course Name	Suggestions
1	Applied Chemistry and Engineering Chemistry	Needs Revision – in the syllabus of Unit-2: Electrochemistry
2	Integral transform and partial differential equations	Course Name to be replaced by Integral transform
3	Combinatorics	3 credit syllabus should be converted to 2 cr,so topics-congruence theory and first order

			logic to be removed
4	Calculus and Vectors		Differentiation under the integral sign needs to be added in Unit-III in place of applications and applications on Area, Mass. Centre of Gravity, applications on Area, Mass Volume added to UNIT IV
5	Fuzzy Set Theory, Arithmetic and Logic		Fuzzy Set Theory, Arithmetic and Logic: 3 credit syllabus should be converted to 2 cr,so from Unit 1_ T- Norm and T-conorm are removed and fuzzy Relation and Projection added, Unit 2 Fuzzy relation and composition unit 3 Fuzzy Graph to be removed
6	Applied Physics and Engineering Physics		Applications of motion of charged particles in electric and magnetic field (Bainbridge mass spectrograph) should be added.

- **In Sem, Feedback of First semester Teaching Learning & Curriculum.**
  Feedback analysis report of Odd term 2023-24 has been discussed with BoS Experts. (Feedback below 3.25 (65%))

Sr. NO	I
<65%	1

Action Taken: The concerned faculty members were called for counselling by a committee consisting of Principal, DAM and HoD and discussed the reasons behind less student feedback. Committee suggested the measures and necessary actions to improve the performance.

Item No. 28.04
To discuss and suggest the changes in the SoE-23 under the board of General Engineering of B. Tech., framed as per NEP 20 Guidelines, issued by Government of Maharashtra through GR No: NEP-2022/(67/23) /DTE-2 dated 04.07.2023.

No corrections and amendments were proposed by any members for SoE 2023(FY).

Item No. 28.05
To discuss and suggest the minor changes in the syllabi of various courses (under the board of General Engineering) in SoE-23.

All members were asked if any further correction or amendment was required to be done in the syllabi of various courses in SoE B.Tech.2023.

1) Reshuffling in the syllabus of Calculus and Vector(23GE1101/23GE1201) and addition of topic Differentiation under the integral sign has done, as suggested by the faculties.

2) Reshuffling in the syllabus of Engineering Chemistry, Applied Chemistry has done as suggested by the faculties.

3) Course Name Integral transform and partial differential equations has changed to Integral transform All the changes were accepted by the experts.

4) Applications of motion of charged particles in electric and magnetic field
(Bainbridge mass spectrograph) has been added in courses Applied Physics and Engineering Physics

Item No. 28.06
To discuss and suggest the changes in the Books/Reference Books/Literature Sources published in the syllabi of various courses (under the board of General Engineering) in SoE-23.

The discussion was held on changes in the books/ Reference Books/ Literature Sources published in the syllabi of courses in various Schemes of Undergraduate Programs .The changes in books are not required in currently implemented courses. Experts suggested that latest editions of the books must be mentioned in the syllabus. Also update NPTEL links and book links.

Item No. 28.07
To discuss and approve the list of experiments, wherever there is a change, in the laboratory courses (under the board of General Engineering) in SoE-2

List of experiments were approved by experts and members in the meeting.

Item No. 28.08
To discuss and suggest the changes in the Academic Regulations governing the Undergraduate programs conducted under the Board.

The Academic Regulations were accepted by the members with no suggestions.

Item No. 28.09
To discuss and propose the new courses/MOOCS received from the faculty for inclusion in the curriculum.

Open Electives syllabus were discussed as below:
1) **Fundamentals of Hydrogen fuel** by Department of Applied Chemistry of 2 credits.
2) **Green Chemistry and Sustainability** by Department of Applied Chemistry of 2 credits.
3) **Fuzzy Set Theory, Arithmetic and Logic** by Department of Applied Mathematics & Humanities of 2 credits.
4) **Combinatorics** by Department of Applied Mathematics & Humanities of 2 credits.
5) **Laser Technology and Applications** by Department of Applied Physics of 2 credits.
6) Various NPTEL Courses (each of 2 credits) were brought into the notice of panel of experts.

Experts comment on **Fundamentals of Hydrogen fuel:** The topics mentioned in the syllabus of fundamentals of Hydrogen fuel do not seem to fit into Engineering Chemistry department. Lot of Chemical Engineering and Dynamics Expectations involved which needs to be taught by the expert of concerned fields.The subject will not be justified by the Chemistry faculty.

Item No. 28.10
To prepare and propose the panel of paper setters, moderator and valuers for the various courses at Undergraduate programs that will be examined in End Semester Examination of Even Term 2023-24.

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 2023-24 will be decided after the notification received from CoE.

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 2023-24.

The panel of internal and external examiners for the various laboratory courses at UG level in End Semester Examination Even 2023-24 will be decided after the notification received from CoE.

Item No.28.12
Preparation of Electronic question Bank UG courses according to SoE-23. To review solutions to all questions of Electronic Question Banks for all courses

The unit wise EQA banks as per SoE-22 are prepared and validated by senior faculty.
The EQA banks modification is under process as per SoE-23.

Item No. 28.13
To discuss and suggest the changes/additions/deletions/alterations in the existing Evaluation process for theory and other courses.
The suggestions from members received as below:
- The online proctored quiz of 2.5 marks after each MSE is not very effective because complete study material is already available with students in their mobile.
- Experts suggested that offline quiz examination should be conducted. Also instead of 2 online proctored quizzes(each 2.5 marks), 1 offline quiz(5 marks) may be conducted.
- Few questions must be set from outside EQ bank, to test the brilliance of the students.

Item No. 27.14
To discuss and propose scheme for Minor and Honor course and its syllabus.
To Discuss and propose Certificate courses and value-added courses in 2022-23.

Two value added Course proposed by Department of Applied Mathematics and Humanities
1. Quantitative Aptitude
2. Creative Writing & Oral Skills
The above syllabi are approved by all members

Combined minor program in coordination with Department of Physics, Chemistry and Mathematics in collaboration with industry may be planned.

Item No. 27.15
Any other matter with the permission of the Chair.

The meeting ended with the vote of thanks to all experts and members by BoS secretary Dr. Anushree A. Aserkar.

Dr. Anushree A. Aserkar   **Dr. Manjusha P. Gandhi**
BoS, Member Secretary   **Chairperson**
General Engineering   **General Engineering**

Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
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B.Tech SoE and Syllabus 2022
(Scheme of Examination w.e.f. 2022-23 onward)
CIVIL ENGINEERING

III SEMESTER

GE BOARD__OE-1 /2 : Seismology & Earthquakes
(Course under GE Board, shall be taught by CE Deptt)

Course Outcomes :
Upon successful completion of the course the students will be able to
1. Understand Seismological Fundamentals and Earthquake Mechanics
2. Explain the provisions of IS codes used for the design of structures.
3. Prepare the methods for retrofitting earthquake-damaged structures.
4. Implement Earthquake Disaster Management Strategies and mitigation techniques for the damages caused due to earthquakes.

Unit:1	Basics of Seismology	8 Hours
Geology of earth, earthquake and their types, causes of an earthquake, plate tectonics, the configuration of tectonic plates in a globe, elastic rebound theory, Faults and types of faults, Basic terminologies, measurement of earthquake – magnitudes & intensity scales.		
Unit:2	**Interpretation of Earthquake Data & Seismicity of Globe**	**7 Hours**
Seismic waves, strong ground motion, recording of earthquakes, analysis and interpretation of earthquake data, ground motion parameters, Determination of magnitude, epicentral distance, focal depth, etc. Seismicity of the world, History of Earthquakes in India & abroad. Contemporary Issues related to Topic: Generation of Response Spectra in Microsoft Excel		
Unit:3	**Earthquakes and Buildings**	**8 Hours**
Non-engineered earthquake resistant structures, load bearing structures, masonry structures, seismic zoning of India (IS 1893:2016 Part I), seismic coefficients for different zones, definitions, irregularities in buildings, consequences of irregularities.		
Unit:4	**Earthquake Disaster Management**	**7 Hours**
Earthquake disaster management, mitigation and social aspects, lessons from past earthquake. Strengthening, rehabilitation and retrofitting of earthquake damaged structures		
	Total Lecture	**30 Hrs**

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B.Tech SoE and Syllabus 2022
(Scheme of Examination w.e.f. 2022-23 onward)
CIVIL ENGINEERING

Text Books	
1	Agrawal &Shrikhande, Design of Earthquake Resistant Structures, 3 rd 2006, Prentice – Hall of India Pvt. Ltd
2	Paulay, T. & Prestiley M.J.N., Seismic design of R C & Masonry Buildings, 2nd 1999, John Willey & Sons
3	Asadour H. Hadjian, Basic Elements of Earthquake Engineering, 2015, Wiley
Reference Books	
1	C.V.R. Murty, Earthquake Tips, 2005, NICEE, IITK
2	Robin K. McGuire, Seismic Hazard and Risk Analysis, 2004, Earthquake Engineering Research Institute; First edition.
3	Roberto Villaverde, Fundamental Concepts of Earthquake Engineering, 2009, CRC Press
4	Guidelines for Earthquake Resistant Non- Engineered Construction, Anand S.Arya Teddy BOEN ,Yuji ISHIYAMA ,UNESCO, Published in 2014
YCCE e - library book links [ACCESSIBLE FROM COLLEGE CAMPUS]	
1	http://link.springer.com/openurl?genre=book&isbn=978-3-540-93817-0
2	http://103.152.199.179/YCCE/Suported%20file/Supprted%20file/e copies%20of%20books/Civil%20Engineering/75.%20EARTHQUAKE%20RESISTANT%20DESIGN%20_%20Pankaj%20Agrawal.pdf
3	http://103.152.199.179/YCCE/Suported%20file/Supprted%20file/e-copies%20of%20books/Civil%20Engineering/76.%20FUNDAMENTALS%20OF%20EARTHQUAKE%20ENGINEERING_ELANSHAI_&_SARNO.pdf
4	http://103.152.199.179/YCCE/Suported%20file/Supprted%20file/e-copies%20of%20books/Civil%20Engineering/77.%20INTRODUCTION_TO_SEISMOLOGY_PETER_M_SHEARER.pdf
5	http://103.152.199.179/YCCE/Suported%20file/Supprted%20file/e-copies%20of%20books/Civil%20Engineering/80.%20Basics%20of%20structural%20dynamics%20and%20seismic%20design.pdf
MOOCs Links and additional reading, learning, video material	
1	https://www.traditional-is-modern.net/LIBRARY/GUIDELINES/1986IAEE-Non-EngBldgs/1986GuidelinesNon-Eng(ALL).pdf

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B.Tech SoE and Syllabus 2022
(Scheme of Examination w.e.f. 2022-23 onward)
CIVIL ENGINEERING

2	https://www.nicee.org/EQTips.php
3	https://archive.nptel.ac.in/courses/105/104/105104200/
4	https://archive.nptel.ac.in/courses/105/101/105101004/
5	https://archive.nptel.ac.in/courses/105/102/105102016/
6	https://archive.nptel.ac.in/courses/105/101/105101209/

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B.TechSoE and Syllabus 2022
(Scheme of Examination w.e.f. 2022-23 onward)

III SEMESTER

GE BOARD__OE-1 /2 :
(Course under GE Board
Subject : Indian Archeology

Course Outcomes :

1. To meet the basic requirements pertaining to awareness of Indian Archaeology.
2. To bring awareness of socio-culture activities to enhance engineering skills.
3. To bring awareness of, human activities and consequences of art and craft during socio-political India.
4. To bring awareness of ancient Science and technology of India.

Upon successful completion of the course the students will be able to

CO1: Apply primary requirements pertaining towards awareness of Indian Archeology.

CO2: Analyze various ancient Indian societies, culture and their art, Skill to enhance their traditions.

CO3: Evaluate structure of ancient Indian inscriptions and currency.

CO4: Understand Indian science and technology.

Unit:1	**Basic Concept of Archaeology**	**8 Hours**
	Prehistory, Introduction of Indian Archaeology, Fundamental and Types of archaeology. Principles and Methods of archaeology.	
Unit:2	**Indian Art & Architecture**	**7 Hours**
	Ancient Indian Architecture, Rock Art, Art Style, Gandhara and Mathura School of Art.	
Unit:3	**Numismatic & Epigraphy**	**8 Hours**
	Study of Ancient Indian Numismatics, Origin and antiquity of writing in India, Indus Valley and Brahmi Script.	
Unit:4	**Ancient Indian Technology**	**7 Hours**
	Harappan Civilization, Early iron age in India, Science and Technology, Dissertation	
	Total Lecture	**30 Hours**

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B.TechSoE and Syllabus 2022
(Scheme of Examination w.e.f. 2022-23 onward)

Text Books	
1	F. R. Allchin A source Book of indian Archaeology, Settlements, Technology and Trade', Vishwam Books.
2	Michel Lorblanchet, 'Rock Art in the Old World' IGNCA, Series in India.
3	Reader Digest, 'Vanished Civilization' Reader Digest Association Ltd. Landon.
4	NCERT Books.

Reference Books	
1	Dr Govindu Surendra, 'Principal and Methods of Archaeology, AGPH, Books.
2	Percy Brown, ' Indian Architecture' Bombay 1959.
3	Devendra Handa, Indian Numismatics: It Bearing on History, Culture, Art and Iconography' Sunrise book Store.
4	Sircar D. C. 'Indian Epigraphy'
5	Dr Arjak Bhattacharjee, 'Ancient Indian Science,Technologies and Culture'Garuda Prakashan.

BoS Experts

Name	Signature	Name	Signature
Dr. G.P. Singh Professor Department of Mathematics VNIT, Nagpur		Dr. Rupesh S. GedamProfessor, Department of Physics VNIT, Nagpur	
Dr. Nitin Labhsetwar, Chief Scientistn and Chair CSUR-NEERI, Nagpur			

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B.Tech SoE and Syllabus 2022
(Scheme of Examination w.e.f. 2022-23 onward)

III SEMESTER

GE BOARD__OE-1/2:

(Course under GE Board)

Social and Positive Psychology

Course Outcomes:
Upon successful completion of the course the students will be able to
• Demonstrate the concepts of positive psychology and importance in happiness.   • Practice peak performance that can be enhanced to do well in life.   • Interpret social perception and person perception   • Relate to the phenomenon of how people think about other people.

Upon successful completion of the course the students will be able to
CO1: Understand the Social Perception and attitude.   **CO2**: Understand Social behaviors and how people think   **CO3**: Understand the concept and Importance of positive Psychology   **CO4**: Apply positive Psychology to enhance professional and personal life

Unit:1	**Social and Person Perception**	8 Hours
	• Social Cognition, Social perception • Mechanism of social perception, Attributions • Impression formation • Person Perception	
Unit:2	**Cooperation, Competition, Conflicts and Prosocial Behaviour**	8 Hours
	• Social Interaction and social process • Cooperation, Competition, Conflicts • Prosocial behavior and altruism, Prosocial behavior in emergency situation • Factors affecting helping behavior • Empathy-altruism hypothesis	
Unit:3	**An Introduction to Positive Psychology**	8 Hours
	• The Dimensions of Positive Psychology, Scope of positive psychology, Basic Themes of Positive Psychology • The Good Life, Importance of positive and negative emotions, The science of well-being • Emotions and components of emotion, Moods and well-being • Well-being and positive emotions, Definitions of happiness and well-being	

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B.Tech SoE and Syllabus 2022
(Scheme of Examination w.e.f. 2022-23 onward)

Unit:4	Positive Health	7 Hours

- Wellness, Positive health, Psychological Factors Important to Health
- Hardiness and Mindfulness Meditation, Positive Aging
- Positive Coping, Adjusting to Difficult Life Events

Reference Books

1	Baumgardner, S.R. Crothers M.K. (2010). Positive psychology. Upper Saddle River, N.J.: Prentice Hall.
2	Carr, A. (2004). Positive Psychology: The science of happiness and human strength.UK: Routledge. Peterson, C. (2006). A Primer in Positive Psychology. New York: Oxford University Press.
3	Seligman, M.E.P. (2002). Authentic Happiness: Using the New Positive Psychology to Realize Your Potential for Lasting Fulfilment. New York: Free Press/Simon and Schuster.
4	Snyder, C.R., & Lopez,S.J.(2007). Positive psychology: The scientific and practical explorations of human strengths. Thousand Oaks, CA: Sage.
5	Snyder, C. R., & Lopez, S. (Eds.). (2002). Handbook of positive psychology. New York: Oxford University Press
6	Baron, R.A., Byrne, D. & Bhardwaj. G (2010).Social Psychology (12th Ed).New Delhi: Pearson.
7	Chadha, N.K. (2012). Social Psychology. MacMillan: New Delhi
8	Deaux.K & Wrightsman, L. (2001). Social Psychology. California: Cole Publishing
9	Kassin,S., Fein, S., & Markus,H.R. (2008). Social psychology. New York: Houghton Miffin.
10	Misra, G. (2009). Psychology in India, Volume 4: Theoretical and Methodological Developments (ICSSR survey of advances in research). New Delhi: Pearson. Myers, D.G. (2008). Social psychology New Delhi: Tata McGraw-Hill.
11	Taylor,S.E., Peplau,L.A. & Sears,D.O. (2006). Social Psychology (12th Ed). New Delhi: Pearson.

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BoS Experts

Name	Signature	Name	Signature
Dr. G.P. Singh Professor Department of Mathematics VNIT, Nagpur		Dr. Rupesh S. GedamProfessor, Department of Physics VNIT, Nagpur	
Dr. Nitin Labhsetwar, Chief Scientistn and Chair CSUR-NEERI, Nagpur			

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B. Tech SoE and Syllabus 2024
(Scheme of Examination w.e.f. 2024-25 onward)
B.Tech Open Elective

SoE No.
24FY-101

Semester-II/ Semester-IV

23OE	**Marathi**					L= 2	T=0	P=0	Credits = 2
Evaluation Scheme	MSE 1	MSE 2	TA	ESE	Total				
	15	15	20	50	100				

Course Objectives

1. मराठी भाषेच्या समृद्धीची जाणीव करून देणे.
2. विद्यार्थ्यांमध्ये भाषा कौशल्याचा विकास करणे आणि त्यातून रोजगाराच्या संधींचा शोध घेणे.

Course Outcomes

3. भाषेचा जीवन व्यवहारात योग्य पद्धतीने वापर करण्याचा प्रयत्न करणे.
4. संत साहित्याच्या शिकवणुकीमुळे मानवता आणि मानवी व्यवहाराची सांगड घालणे, नैतिक मूल्ये रुजविणे.
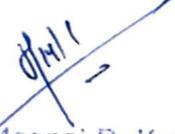5. विद्यार्थ्यांना रोजगाराभिमुख बनविणे.

Unit:1	गद्य विभाग	8 Hours

१.	पाखाला बाळक पांगुरवणे	- म्हाइंभट
२.	शिक्षण	- ज्योतिराव फुले
३.	तरुणांनो! निर्भय बना, शूर बना	- स्वामी विवेकानंद
४.	नववर्षाच्या उदयाचलावर उद्योगांचे धारोपण	- राष्ट्रसंत तुकडोजी महाराज
५.	कोकरांची कथा	- अरविंद गोखले

Unit:2	व्यावहारिक मराठी	7 Hours

१. व्यावहारिक मराठी : स्वरूप आणि भूमिका
२. भाषिक संवाद व्यवहाराची मूलतत्त्वे

Unit:3	पद्य विभाग	8 Hours

१.	माय मराठी	- मुकुंदराज
२.	ज्ञानेश्वरांचे अभंग	- संत ज्ञानेश्वर
३.	दवांचे थेंब	- केशवसुत
४.	भंगु दे काठीन्य माझे	- बा. सी. मर्ढेकर
५.	चार शब्द	- नारायण सुर्वे

Unit:4	रोजगाराभिमुख मराठी व्यावहारिक कौशल्ये	7 Hours

१. प्रत्यक्ष मुलाखत कौशल्य
२. वाचन कौशल्य - (अ) बातमी वाचन (ब) कथा वाचन
३. ऑनलाईन कौशल्य - (अ) ग्राहक सेवा केंद्राशी संवाद, (ब) ऑनलाईन अर्ज करणे

Reference Books

1. पाठ्यपुस्तक : **साहित्यरंग : भाग १**
2. रोजगाराभिमुख मराठी व्यावहारिक कौशल्ये

		July 2023	1.00	Applicable for AY 2023-24 Onwards
Chairperson, GE Board	Dean (Acad. Matters)	Date of Release	Version	

YCCE -1

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B. Tech SoE and Syllabus 2024

(Scheme of Examination w.e.f. 2024-25 onward)

B.Tech Open Elective

| SoE No. 24FY-101 |

Semester-II/ Semester-IV

23OE	**Hindi**					L= 3	T=0	P=0	Credits = 2
Evaluation Scheme	MSE 1	MSE 2	TA	ESE	Total				
	15	15	20	50	100				

Course Objectives

1. विद्यार्थियों में देशभक्तिपरक एवं पारिवारिक मूल्यों का विकास।
2. विद्यार्थियों पर्यावरण-संरक्षण के प्रति सजग करना।
3. एकांकी, कहानी, निबंध आदि विधाओं के मध्य का अंतर अवगत कराना।
4. हिंदी के प्रयोजनमूलक स्वरूप से परिचित कराना।
5. विद्यार्थियों को आधुनिक प्रौद्योगिकी (तकनीक) का प्रयोग करने में सक्षम बनाना।

Course Outcomes

1. पौराणिक अथवा ऐतिहासिक घटनाओं को तार्किक आधार पर स्वीकार करेंगे। अपने परिवेश के उचित और अनुचित व्यवहारों के प्रति आकलन शक्ति बढ़ेगी।
2. एकांकी, कहानी, निबंध आदि विधाओं के मध्य का अंतर बताने में सक्षम होंगे।
3. कविता का रसास्वादन करने में समर्थ होंगे।
4. 'अनुवाद' के स्वरूप एवं प्रक्रिया से अवगत होंगे।
5. 'मार्गिक नक़्शे' का दैनिक जीवन में उपयोग करने में सक्षम होंगे।

Unit:1	गद्य विभाग	8 Hours

१. भाईसाहब (कहानी)   - प्रेमचंद
२. स्मृति (निबंध)   - श्रीराम शर्मा
३. गिल्लू (रेखाचित्र)   - महादेवी वर्मा
४. अभाव (कहानी)   - विष्णु प्रभाकर
५. महाभारत की साँझ (एकांकी) - भारतभूषण
६. उखड़े खंबे (व्यंग्य)।   - हरिशंकर परसाई

Unit:2	पद्य विभाग	8 Hours

१. मुहावरे और लोकोक्तियाँ: पाठ्यपुस्तक में मुहावरे और लोकोक्तियाँ का अर्थ एवं वाक्य प्रयोग

२. विज्ञापन कला : अर्थ, परिभाषा, प्रकार, शीर्षक का महत्त्व, विज्ञापन के प्रयोजन, सत्य, लक्ष्य, विज्ञापन की भाषा, अच्छे विज्ञापन के गुण इत्यादि।

Unit:3	अन्य पाठ्य सामग्री	7 Hours

१. कबीर के दोहे   - कबीरदास
२. ले चल यहाँ भुलावा देकर - जयशंकर प्रसाद
३. स्नेह-निर्झर बह गया   - हैसूर्यकांत त्रिपाठी "निराला"
४. प्रथम रश्मि   - सुमित्रानंदन पंत
५. जीवन का झरना   - आरसीप्रसाद सिंह
६. कविता के साथ   - दामोदर खड़से

Unit:4	कौशल्य आधारित घटक	7 Hours

१. वाचन कौशल्य (समाचार-वाचन, कहानी-वाचन)

२. सोशल मीडिया के शिष्टाचार

३. ऑनलाइन आवेदन, ग्राहक-सेवा केंद्र से संवाद

Reference Books

1. पाठ्यपुस्तक : "पलाश"

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