



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

Ph.: 07104-242919, 242623, 242588

Website : www.ycce.edu E-mail : principal@ycce.edu

## Summary of 3.2.1


*Grants received from Government and non-governmental agencies for research projects, endowments, Chairs in the institution during the last five years (INR in Lakhs)*

Year	2020-21	2019-20	2018-19	2017-18	2016-17
INR in Lakhs	31.32	34.99	73.75	45.38	33.83

## Supporting Documents

1. E copies of sanction letters of Government and non-Governmental agencies
2. First page of research base project reports



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

## **Index-3.2.1**

**2019-20**

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**E copies of Sanction Letters of  
Government and Non-  
Governmental Agencies**



PRERANA - Sanction Letter

To  
The Drawing and Disbursing Officer,  
All India Council for Technical  
Education, Nelson Mandela Marg,  
Vasant Kunj,  
New Delhi - 110070

**Sub:** Release of a sum of **Rs. 999760/- (Rupees Nine Lakh NinetyNine Thousand Seven Hundred Sixty Only)** being the **Grant-in-Aid** under the scheme **Prerana** for the year **2018-19** payable during the current financial year **2019-20** reg.

Sir,  
With reference to the proposal submitted by the institute, this is to convey that the sanction of the Council for payment of **Rs. 999760/- (Rupees Nine Lakh NinetyNine Thousand Seven Hundred Sixty Only)** as 100% recurring grant Grant-in-Aid under the **PRERANA** scheme, as per details given below:

1.	Name and address of the Beneficiary Institution:	YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING, WANADONGRI, HINGNA ROAD, NAGPUR - 441 110, NAGPUR-441110, NAGPUR, Maharashtra
2.	Duration of the scheme:	2 Years
3.	Total Grant-in-aid Sanctioned:	Rs. 999760/-
4.	Amount to be released during the year 2019-20:	Rs. 999760/-
5.	Sanctioned grant-in-aid is debitable to:	Major Head 601.8(b) & (c)

- The amount of the Grant shall be drawn by the Drawing and Disbursing Officer, All India Council for Technical Education on the Grant-in-Aid bill and shall be disbursed to and credited to the account of Director/Principal/Registrar of the Institute through RTGS/PFMS.
- This Grant-in-Aid is being released in conformity with the terms & conditions as well as norms of the scheme as already communicated, and also being communicated in this letter.

The instructions/guidelines to be followed by University/Institution

**I. Release of funds**

- The Principal/ Director of the institute and the Coordinator of the project are hereby requested to verify the correctness of the under mentioned bank account/ RTGS details submitted by them along with the proposal, in which the grant is being released:

Institute PAN No.	Bank Name	Bank Branch Name	Bank Branch Address	Account Holder Name	Account Type	Account Number	IFSC Code
AAATN0914E	PUNJAB NATIONAL BANK	Khamla Branch	Opp, Gulmohar Hall, Khamla, Nagpur-440025	Yeshwantrao Chavan College of Engineering	Current Account	1472002100003909	PUNB0147200

In case of any omission the same should be reported to AICTE immediately.

- The sanction is issued in exercise of the powers delegated to the council and other terms & conditions laid down in the guidelines of the scheme.
- 100% Recurring amount as grant-in-aid is being released to AICTE approved institutions under the scheme. There is no non-recurring amount.

**II. Maintenance of accounts**

- The Institute shall strictly follow the provisions laid down in the scheme document and sanction order No.

F.No.72-19/RIFD/Prerana/Policy-1/2018-19 dated \_\_\_\_ 2019 issued by this office. All correspondences related to the scheme must contain this number along with year of sanction of the scheme; failing which correspondence will not be entertained.

- b. Funds covered by this grant shall be kept separately and would not be mixed up with other funds, so as to know the amount of interest accrued on the grant.
- c. The College/Institute shall maintain proper accounts of the expenditure out of the grants, which shall be utilized only on the scheme.
- d. The Council or its nominee shall have the right to check/verify the account to satisfy that the fund has been utilized for the purpose for it was sanctioned.
- e. The date of release of the grant by AICTE shall be taken as the date of commencement of the scheme. The Principal / Director / Registrar shall intimate about the receipt of the grant to AICTE. Any expenditure incurred prior to the issuance of the approval letter will not be allowed to be adjusted in the grant and if the Institution do not take the scheme work within six month of the receipt of the grant, the approval shall ipso facto lapse.
- f. The amount of interest accrued on the grant should be treated as part of the grant to be utilized for that particular scheme. However, the interest amount accrued along with grant disbursed should not exceed the total grant sanctioned for the scheme. The Institute receiving the grant should reflect the same in the audited statement of accounts/ utilization certificate and may either refund the interest amount to AICTE.
- g. After receipt of the grant from AICTE, the Institute shall send a confirmation to AICTE within 2 months of receipt of grant that the sanctioned scheme has been started/is in progress.
- h. The grant is intended to cover items of expenditure connected with the Prerana Scheme such as Honorarium to the eminent faculty members invited for conducting sessions @ Rs. 2000/- per class of minimum 2 Hours. No TA/DA will be paid. Students will be paid the application fee for such exams through this scheme.

### III. Instructions for Implementation of scheme

- a. The parent institution shall provide adequate space for conducting the classes for SC/ST students.
- b. For smooth functioning of scheme and to meet its objectives effectively, it is essential to assign an adequate man power in the form of dedicated faculty as Principal Coordinator and support staff.
- c. The Principal Coordinator shall devise a feed-back mechanism to assess the importance of the programme. The feedback shall be obtained after each programme from each of the SC/ST students. If need be, the centre can update its course curriculum of these programmes.
- d. Any extra money required to complete the programme must be borne by the institute from their own resources. But the quality of the activities should not be compromised.

### IV. Refund of grant (by way of a demand draft in favour of Member Secretary, AICTE, New Delhi)

- a. In any case, if the institute is required to refund the grant or interest accrued thereon or balance amount, the amount will be refunded to AICTE.
- b. If the college/institute does not have the Letter of Approval (LOA) or Extension of Approval issued by AICTE for the academic year 2019-20, the fund released should be immediately refunded to AICTE with interest accrued thereon.
- c. If scheme is not started within six months of the issuance of this Offer Letter, the released amount, along with interest accrued thereon, has to be necessarily returned to AICTE.
- d. It may be ensured that the scheme is completed within the stipulated time. If the scheme is not completed in time no further extension will be granted in any case and institute has to refund the entire amount to AICTE.
- e. As AICTE needs adequate time for depositing the Demand Draft in the bank, the same be immediately dispatched to avoid any lapse of the validity period.

### V. Submission of documents by college/institution after completion of Scheme/Subsequent years.

The following mandatory relevant documents are required to be submitted by the college/institution within one month of the completion of the scheme:-

- a. Feedback form in the prescribed proforma.
- b. Original Statement of actual expenditure in the prescribed proforma duly signed by the Head of the institution and countersigned by Registrar/Finance Officer/Govt. Auditor Note: The institution is not required to submit bills/ vouchers/ invoices etc for the expenditure incurred out of recurring grants. However, such copies of bills/

vouchers/ invoices shall be digitized by respective institutions receiving grant and uploaded scanned copies of such bills/vouchers/invoices etc on the portal for availability and view at any point of time.

- c. **The Utilization Certificate (UC)** supported by Audited Statement of Expenditure to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to the AICTE immediately after completion of the scheme. It should contain the head-wise break up of expenditure made from the grant-in-aid provided by the Council. Audited Statement of Expenditure indicating expenditure incurred in the total duration of the scheme in the prescribed format and GFR-19 shall be submitted to the Council.
- d. In case of self-financing/private institutions, Statement of actual Expenditure & Utilization Certificate are required to be audited & signed by a Chartered Accountant (with membership no., full address & stamp). Photocopies of formats are enclosed.
- e. **Program Evaluation Committee (PEC)** is required to be constituted at Institutional level. The constitution of the PEC shall be as under:
  - (i) Principal/Director/Registrar of the Institution (Chairperson)
  - (ii) Coordinator of the scheme (Member Secretary),
  - (iii) Two HODs and one subject expert (Members).

The members of the said PEC shall not be below the rank of Associate Professor. The minutes of the meetings are to be submitted to the Council at end of the scheme along with other mandatory documents.

- f. Project completion report indicating the activities undertaking, number of students benefited, photographs of students, together with their views is to be submitted.

#### V. General instructions

- a. The approved project under Prerana Scheme shall be started within six month from the date of release of funds.
- b. **If programme is not started in the period of six months of the issuance of this Sanction Order, the released amount, along with interest accrued thereon, has to be returned back to AICTE.** Kindly mention the File No. 72-19/RIFD/Prerana/Policy-1/2018-19 in your future correspondence.
- c. The grantee Institution shall observe all financial norms and guidelines as prescribed by the AICTE/ Government of India from time to time. GOI GFR rules (@<https://doe.gov.in/order-circular/general-financial-rules2017-0>) should be followed during utilization of grant.
- d. This Sanction Order may be treated as Offer Letter for all purposes.

Yours sincerely,



Dileep N. Malkhede  
Advisor (RIFD)

Copy forwarded for information and necessary action to:

#### 1. Name and Address of the Coordinator

Ms. BHARATI MASRAM,  
YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,  
WANADONGRI, HINGNA ROAD, NAGPUR - 441 110,  
NAGPUR-441110, NAGPUR,  
Maharashtra

#### 2. The Registrar / Director / Principal

YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,  
WANADONGRI, HINGNA ROAD, NAGPUR - 441 110,  
NAGPUR-441110, NAGPUR.  
Maharashtra

#### 3. Guard File



Date: 29.11.2019

F.No.9-201/RIFD/MOD/Policy-I/2018-19

All India Council for Technical Education  
(A Statutory Body under Ministry of HRD, Govt. of India)  
Nelson Mandela Marg, Vasant Kunj, New Delhi-110070 Website: [www.aicte-india.org](http://www.aicte-india.org)



**MODROB - Sanction Letter**

F.No.9-201/ RIFD/MOD/Policy-1/2018-19

Date: 04.12.2019

To,

The Drawing and Disbursing Officer,  
All India Council for Technical Education,  
Nelson Mandela Marg, Vasant Kunj,  
New Delhi- 110070.

**Sub:** Release of a sum of Rs.800000/- (Rupees Eight Lakh Only) being the Grant-in-Aid under the scheme Modernization and Removal of Obsolescence (MODROB) for the year 2018-19 payable during the current financial year 2019-20- reg.

Sir,

With reference to the proposal submitted by the institute, this is to convey that the sanction of the Council for payment of **Rs.1000000/- (Rupees Ten Lakh Only)** as Grant-in-Aid under the **Modernization and Removal of Obsolescence (MODROB)** scheme, as per details given below:

1.	Name and address of the Beneficiary Institution:	Director/ Principal/ Registrar, YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING, WANADONGRI, HINGNA ROAD, NAGPUR - 441 110 Maharashtra -441110		
2.	Title of Project:	Development of Internet of Things (IoT) laboratory		
3.	Name of Coordinator:	Dr. PRADEEP KARULE		
4.	Duration of the project:	2 Years		
4.	Total Grant-in-aid Sanctioned:	Total: Rs.1000000/-	Non-Recurring (85%): Rs.850000/-	Recurring (15%): Rs.150000/-
5.	Amount to be released during the year 2019-20:	1st Installment Rs.800000/-	Non-Recurring (85%): Rs.680000/-	Recurring (15%): Rs.120000/-
6.	Sanctioned grant-in-aid is debitable to:	Major Head 601.18(a) Gen. (Plan Head)		

- The amount of the Grant shall be drawn by the Drawing and Disbursing Officer, All India Council for Technical Education on the Grant-in-Aid bill and shall be disbursed to and credited to the account of Director/Principal/ Registrar of the Institute through RTGS/PFMS.
- This Grant-in-Aid is being released in conformity with the terms & conditions as well as norms of the scheme as already communicated, and also being communicated in this letter.

**THE INSTRUCTIONS/GUIDELINES TO BE FOLLOWED BY UNIVERSITY/INSTITUTION**

**I. Release of funds:**

- The Principal/ Director of the institute and the Coordinator of the project are hereby requested to verify the correctness of the under mentioned bank account/ RTGS details submitted by them along with the Proposal, in which the grant is being released:

Institute PAN No.	Bank Name	Bank Branch Name	Branch Address	Account Holder Name	Account Type	Account Number	IFSC
AAATN0914E	PUNJAB NATION AL BANK	Khamla Branch	Opp, Gulmohar Hall, Khamla, Nagpur-440025	Yeshwantrao Chavan College of Engineering	Current Account	1472002100003909	PUNB0147200

G5-13  
13.03.20  
AD

To  
~ Dr. P. Karule  
~ C A Madam



In case of any omission the same should be reported to AICTE immediately.

- b. The sanction is issued in exercise of the powers delegated to the council and other terms & conditions laid down in the guidelines of the scheme.
- c. 100% grant of the sanctioned amount is being released to Government/Govt. Aided institutions. Utilization Certificate (UC) and other requisite documents are to be submitted within one month of the completion of the project.
- d. To self-financed/Pvt. Institutions 80% of the sanctioned amount is being released as first installment followed by 20% as reimbursement after receipt of UC and other requisite documents as specified in terms & Conditions of MODROB Scheme.

## II. Maintenance of accounts:

- a) The Institute shall strictly follow the provisions laid down in the scheme document and sanction order No: F.No.9-201/RIFD/MOD/Policy-1/2018-19 Dated 15.11.2019 issued by this office. All correspondences related to the project must contain this number along with year of sanction of the project; failing which correspondence will not be entertained
- b) Funds covered by this grant shall be kept separately and would not be mixed up with other funds, so as to know the amount of interest accrued on the grant AICTE.
- c) The University/College/Institute shall maintain proper accounts of the expenditure out of the grants, which shall be utilized only on approved items of expenditure (list enclosed).
- d) The Council or its nominee shall have the right to check /verify the account to satisfy that the fund has been utilized for the purpose for it was sanctioned.
- e) The date of release of the grant by AICTE shall be taken as the date of commencement of the project. The Principal / Director / Registrar shall intimate about the receipt of the grant to AICTE. Any expenditure incurred prior to the issuance of the approval letter will not be allowed to be adjusted in the grant and if the Institution / University do not take the project work within one month of the receipt of the grant, the approval shall ipso facto lapse.
- f) After receipt of the grant from AICTE, the Institute shall send a confirmation to AICTE within 2 months of receipt of grant that the sanctioned project has been started/is in progress.

## III. Refund of grant by way of a demand draft in favour of Member Secretary, AICTE, New Delhi:

- a) If the college/institute does not have the Letter of Approval (LOA) or Extension of Approval issued by AICTE for the academic year 2019-20, the fund released should be immediately refunded to AICTE with interest accrued thereon.
- b) If project is not started within six months of the issuance of this Offer Letter, the released amount, along with interest accrued thereon, has to be necessarily returned to AICTE.
- c) In any case, if the institute is required to refund the grant or interest accrued thereon or balance amount, the amount will be refunded to AICTE.
- d) It may be ensured that the project is completed within the stipulated time. If the project is not completed in time, no further extension will be granted in any case and institute has to refund the entire amount to AICTE.
- e) As AICTE needs adequate time for depositing the Demand Draft in the bank, the same be immediately dispatched to avoid any lapse of the validity period.

## IV. Submission of documents by college/institution after completion of Project/Subsequent years:

The following mandatory relevant documents are required to be submitted by the college/institution within one month of the completion of the project: -

- a) Feedback form in the prescribed proforma.
- b) The Annual Progress Report (APR) in the prescribed format along with the original Statement of actual Expenditure in the prescribed proforma duly signed by the Head of the institution and shall be submitted to AICTE not later than one month after completion.
- c) The Utilization Certificate (UC) supported by Audited Statement of Expenditure to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to the AICTE immediately after completion of the project. It should contain the head-wise break up of expenditure made from the grant-in-aid provided by the Council. Audited Statement of



Expenditure indicating expenditure incurred in the total duration of the project in the prescribed format and GFR-19 shall be submitted to the Council.

- d) In case of self-financing/private institutions, Statement of actual Expenditure & Utilization Certificate are required to be audited & signed by a Chartered Accountant (with membership no., full address & stamp). Photocopies of formats are enclosed.
- e) Program Evaluation Committee (PEC) is required to be constituted at Institutional level. The constitution of the PEC shall be asunder:
  - i. Principal/Director/Registrar of the Institution (Chairperson)
  - ii. Coordinator of the project (Member Secretary),
  - iii. Two HODs and one subject expert (Members).
  - iv. The members of the said PEC shall not be below the rank of Associate Professor. The minutes of the meetings are to be submitted to the Council at end of the project along with other mandatory documents.
- f) Project completion report project indicating the activities undertaking, number of students benefited, laboratory works photographs of students, together with their views is to be submitted.
- g) Attested photocopies of supporting vouchers/bills of expenditure incurred for the completion of Project.
- h) Photographs of equipment's purchased.
- i) The balance amount of the grant will be reimbursed to the university/institution only on submission of the above documents. On receipt of these documents, the total amount of balance of financial assistance, admissible as per the norms, shall be worked out and grant-in-aid shall be released, as second installment, in favour of the beneficiary institution.

#### V. General instructions

- a) The amount of interest accrued on the grant should be treated as part of the grant to be utilized for that particular project. However, the interest amount accrued along with grant disbursed should not exceed the total grant sanctioned for the project. The Institute receiving the grant should reflect the same in the audited statement of accounts/ utilization certificate and may either refund the interest amount to AICTE or AICTE shall adjust the same in the next installment of grant before its release.
- b) Any unavoidable circumstantial change in the project with respect to name of Project Coordinator for the MODROB project would mandatorily require prior approval of the Council. All such requests should be addressed to AICTE, in advance, recording the specific reasons for proposed changes, failing which the offer for the grant already issued would be treated as automatically withdrawn and the financial assistance released in favour of the beneficiary institution shall be refunded immediately to the Council. Kindly mention the File No.9-201/RIFD/MOD/Policy-1/2018-19 in your future correspondence.
- c) The grantee shall maintain an audited record of assets acquired wholly or substantially out of the Grant-in-Aid and a register of assets shall be maintained by the Institute in the prescribed form i.e. GFR-19.
- d) The College / Institute receiving grant under MODROB is expected to put up a plaque at the main entrance of the Lab/Department, which has been modernized using the grant. All the equipment procured through the project should be super scribed with AICTE project file number.
- e) The assets acquired wholly or substantially out of grant shall not be disposed or encumbered or utilized for the purpose other than those for which the Grant was given without proper sanction of the AICTE and should at any time the institution cease to function, such assets shall revert to the AICTE.
- f) The grantee Institution shall observe all financial norms and guidelines as prescribed by the AICTE/ Government of India from time to time. GOI GFR rules (@<https://doe.gov.in/order-circular/general-financial-rules2017-0>) should be followed during utilization of grant.



Date:29.11.2019

F.No.9-<sup>20</sup>/RIFD/MOD/Policy-I/2018-19

List of Equipment's approved :

Name of Equipments
OpenScope MZ: Open-source All-in-one Instrumentation
Arty A7: Artix-7 FPGA Development
Peripheral Module Bundle (Wi-Fi, RF , Network, Bluetooth,
Intel i7, Server
BeagleBone Green Wireless Board and Accessories
Intel Genuino
Arduino IoT MKR1000 WiFi Bundle

Yours sincerely,



Prof. Dileep N. Malkhede  
Advisor-1 (RIFD)

16 DEC 2019

Copy forwarded for information and necessary action to:

- 1/ **Name and Address of the Coordinator,**  
**Dr. PRADEEP KARULE,**  
**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
**WANADONGRI, HINGNA ROAD, NAGPUR - 441 110 Maharashtra -441110**
2. **The Registrar / Director / Principal,**  
**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
**WANADONGRI, HINGNA ROAD, NAGPUR - 441 110 Maharashtra -441110**
3. **Guard File**

Prof. Dileep N. Malkhede  
Advisor-1 (RIFD)

29.11.2019

F.No.9-\_\_\_\_/RIFD/MOD/Policy-I/2018-19

All India Council for Technical Education  
(A Statutory Body under Ministry of HRD, Govt. of India)  
Nelson Mandela Marg, Vasant Kunj, New Delhi-110070 Website: [www.aicte-india.org](http://www.aicte-india.org)



### MODROB - Sanction Letter

F.No.9-210/ RIFD/MOD/Policy-1/2018-19

Date: 04.12.2019

To,  
The Drawing and Disbursing Officer,  
All India Council for Technical Education,  
Nelson Mandela Marg, Vasant Kunj,  
New Delhi- 110070:

**Sub:** Release of a sum of Rs.960000/- (Rupees Nine Lakh Sixty Thousand Only) being the Grant-in-Aid under the scheme Modernization and Removal of Obsolescence (MODROB) for the year 2018-19 payable during the current financial year 2019-20- reg.

Sir,  
With reference to the proposal submitted by the institute, this is to convey that the sanction of the Council for payment of Rs.1200000/- (Rupees Twelve Lakh Only) as Grant-in-Aid under the Modernization and Removal of Obsolescence (MODROB) scheme, as per details given below:

1.	Name and address of the Beneficiary Institution:	Director/ Principal/ Registrar, YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING, WANADONGRI, HINGNA ROAD, NAGPUR - 441 110 Maharashtra -441110		
2.	Title of Project:	Robotic Total Station		
3.	Name of Coordinator:	Dr. SHANTANU KHANDESHWAR		
4.	Duration of the project:	2 Years		
4.	Total Grant-in-aid Sanctioned:	Total: Rs.1200000/-	Non-Recurring (85%): Rs.1020000/-	Recurring (15%): Rs.180000/-
5.	Amount to be released during the year 2019-20:	1st Installment Rs.960000/-	Non-Recurring (85%): Rs.816000/-	Recurring (15%): Rs.144000/-
6.	Sanctioned grant-in-aid is debit to:	Major Head 601.18(a) Gen. (Plan Head)		

- The amount of the Grant shall be drawn by the Drawing and Disbursing Officer, All India Council for Technical Education on the Grant-in-Aid bill and shall be disbursed to and credited to the account of Director/Principal/ Registrar of the Institute through RTGS/PFMS.
- This Grant-in-Aid is being released in conformity with the terms & conditions as well as norms of the scheme as already communicated, and also being communicated in this letter.

### THE INSTRUCTIONS/GUIDELINES TO BE FOLLOWED BY UNIVERSITY/INSTITUTION

#### I. Release of funds:

- The Principal/ Director of the institute and the Coordinator of the project are hereby requested to verify the correctness of the under mentioned bank account/ RTGS details submitted by them along with the Proposal, in which the grant is being released:

Institute PAN No.	Bank Name	Bank Branch Name	Branch Address	Account Holder Name	Account Type	Account Number	IFSC
AAATN0914E	PUNJAB NATIONAL BANK	Khamla Branch	Opp. Gulmohar Hall, Khamla, Nagpur-440025	Principal, Yeshwantrao Chavan College of Engineering	Current Account	1472002100003909	PUNB0147200

In case of any omission the same should be reported to AICTE immediately.

- The sanction is issued in exercise of the powers delegated to the council and other terms &



conditions laid down in the guidelines of the scheme.

- c. 100% grant of the sanctioned amount is being released to Government/Govt. Aided institutions. Utilization Certificate (UC) and other requisite documents are to be submitted within one month of the completion of the project.
- d. To self-financed/Pvt. Institutions 80% of the sanctioned amount is being released as first installment followed by 20% as reimbursement after receipt of UC and other requisite documents as specified in terms & Conditions of MODROB Scheme.

## II. Maintenance of accounts:

- a) The Institute shall strictly follow the provisions laid down in the scheme document and sanction order No. F.No.9-210/RIFD/MOD/Policy-1/2018-19 Dated 15.11.2019 issued by this office. All correspondences related to the project must contain this number along with year of sanction of the project; failing which correspondence will not be entertained.
- b) Funds covered by this grant shall be kept separately and would not be mixed up with other funds, so as to know the amount of interest accrued on the grant AICTE.
- c) The University/College/Institute shall maintain proper accounts of the expenditure out of the grants, which shall be utilized only on approved items of expenditure (list enclosed).
- d) The Council or its nominee shall have the right to check /verify the account to satisfy that the fund has been utilized for the purpose for it was sanctioned.
- e) The date of release of the grant by AICTE shall be taken as the date of commencement of the project. The Principal / Director / Registrar shall intimate about the receipt of the grant to AICTE. Any expenditure incurred prior to the issuance of the approval letter will not be allowed to be adjusted in the grant and if the Institution / University do not take the project work within one month of the receipt of the grant, the approval shall ipso facto lapse.
- f) After receipt of the grant from AICTE, the Institute shall send a confirmation to AICTE within 2 months of receipt of grant that the sanctioned project has been started/is in progress.

## III. Refund of grant by way of a demand draft in favour of Member Secretary, AICTE, New Delhi:

- a) If the college/institute does not have the Letter of Approval (LOA) or Extension of Approval issued by AICTE for the academic year 2019-20, the fund released should be immediately refunded to AICTE with interest accrued thereon.
- b) If project is not started within six months of the issuance of this Offer Letter, the released amount, along with interest accrued thereon, has to be necessarily returned to AICTE.
- c) In any case, if the institute is required to refund the grant or interest accrued thereon or balance amount, the amount will be refunded to AICTE.
- d) It may be ensured that the project is completed within the stipulated time. If the project is not completed in time, no further extension will be granted in any case and institute has to refund the entire amount to AICTE.
- e) As AICTE needs adequate time for depositing the Demand Draft in the bank, the same be immediately dispatched to avoid any lapse of the validity period.

## IV. Submission of documents by college/institution after completion of Project/Subsequent years:

The following mandatory relevant documents are required to be submitted by the college/institution within one month of the completion of the project: -

- a) Feedback form in the prescribed proforma.
- b) The Annual Progress Report (APR) in the prescribed format along with the original Statement of actual Expenditure in the prescribed proforma duly signed by the Head of the institution and shall be submitted to AICTE not later than one month after completion.
- c) The Utilization Certificate (UC) supported by Audited Statement of Expenditure to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to the AICTE immediately after completion of the project. It should contain the head-wise break up of expenditure made from the grant-in-aid provided by the Council. Audited Statement of Expenditure indicating expenditure incurred in the total duration of the project in the prescribed format and GFR-19 shall be submitted to the Council.



- d) In case of self-financing/private institutions, Statement of actual Expenditure & Utilization Certificate are required to be audited & signed by a Chartered Accountant (with membership no., full address & stamp). Photocopies of formats are enclosed.
- e) Program Evaluation Committee (PEC) is required to be constituted at Institutional level. The constitution of the PEC shall be asunder:
  - i. Principal/Director/Registrar of the Institution(Chairperson)
  - ii. Coordinator of the project (Member Secretary),
  - iii. Two HODs and one subject expert(Members).
  - iv. The members of the said PEC shall not be below the rank of Associate Professor. The minutes of the meetings are to be submitted to the Council at end of the project along with other mandatory documents.
- f) Project completion report project indicating the activities undertaking, number of students benefited, laboratory works photographs of students, together with their views is to be submitted.
- g) Attested photocopies of supporting vouchers/bills of expenditure incurred for the completion of Project.
- h) Photographs of equipment's purchased.
- i) The balance amount of the grant will be reimbursed to the university/institution only on submission of the above documents. On receipt of these documents, the total amount of balance of financial assistance, admissible as per the norms, shall be worked out and grant-in-aid shall be released, as second installment, in favour of the beneficiary institution.

#### V. General instructions

- a) The amount of interest accrued on the grant should be treated as part of the grant to be utilized for that particular project. However, the interest amount accrued along with grant disbursed should not exceed the total grant sanctioned for the project. The Institute receiving the grant should reflect the same in the audited statement of accounts/ utilization certificate and may either refund the interest amount to AICTE or AICTE shall adjust the same in the next installment of grant before its release.
- b) Any unavoidable circumstantial change in the project with respect to name of Project Coordinator for the MODROB project would mandatorily require prior approval of the Council. All such requests should be addressed to AICTE, in advance, recording the specific reasons for proposed changes, failing which the offer for the grant already issued would be treated as automatically withdrawn and the financial assistance released in favour of the beneficiary institution shall be refunded immediately to the Council. Kindly mention the File No.9-210/RIFD/MOD/Policy-1/2018-19 in your future correspondence.
- c) The grantee shall maintain an audited record of assets acquired wholly or substantially out of the Grant-in-Aid and a register of assets shall be maintained by the Institute in the prescribed form i.e.GFR-19.
- d) The College / Institute receiving grant under MODROB is expected to put up a plaque at the main entrance of the Lab/Department, which has been modernized using the grant. All the equipment procured through the project should be super scribed with AICTE project file number.
- e) The assets acquired wholly or substantially out of grant shall not be disposed or encumbered or utilized for the purpose other than those for which the Grant was given without proper sanction of the AICTE and should at any time the institution cease to function, such assets shall revert to the AICTE.
- f) The grantee Institution shall observe all financial norms and guidelines as prescribed by the AICTE/ Government of India from time to time. GOI GFR rules (@<https://doe.gov.in/order-circular/general-financial-rules2017-0>) should be followed during utilization of grant.


29.11.2019

F.No.9-\_\_\_\_/RIFD/MOD/Policy-I/2018-19

List of Equipment's approved :

Name of Equipments
Robotic Total Station

Yours sincerely,

  
Prof. Dileep N. Malkhede  
Advisor-1 (RIFD)

16 DEC 2019

Copy forwarded for information and necessary action to:

1. **Name and Address of the Coordinator,**  
**Dr. SHANTANU KHANDESHWAR,**  
**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
**WANADONGRI, HINGNA ROAD, NAGPUR - 441 110 Maharashtra -441110**
2. **The Registrar / Director / Principal,**  
**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
**WANADONGRI, HINGNA ROAD, NAGPUR - 441 110 Maharashtra -441110**
3. **Guard File**

Prof. Dileep N. Malkhede  
Advisor-1 (RIFD)



**STTP- Sanction Letter**

Ref. No. 34-65/349/RIFD/STTP/Policy-1/2018-19

Date \_\_\_\_\_

To

The Drawing and Disbursing Officer,  
All India Council for Technical Education,  
Nelson Mandela Marg,  
Vasant Kunj, New Delhi – 110070

**Sub:** Release of grant for conduct of Short Term Training Programme (STTP) under AQIS 2018-19 during the financial year 2019-20– reg.

Sir,

This is to convey the sanction of the Council for payment of **Rs. 300000 /- (Rupees Three Lakh Only)** for conduct of Short Term Training Program as per details given below:-

1.	Name and address of the beneficiary University / Institution	<b>YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING , WANADONGRI, HINGNA ROAD, NAGPUR - 441 110 NAGPUR- 441110 Maharashtra</b>
2.	Permanent ID of Institute	1-4736951
3.	Institute type	Unaided - Private
4.	Name of Coordinator	<b>Dr. JAYANT GIRI</b>
5.	<b>Amount sanctioned</b>	<b>Rs. 300000/-</b>
6.	Amount to be released	Rs.300000/- Full & final payment
7.	Head of account	<b>601.15(a) Gen. Short Term Training Programme (Plan)</b>
8.	The authorized officer in whose favour Cheque/ Demand Draft/ RTGS is to be made	REGISTRAR / DIRECTOR / PRINCIPAL
9.	Title of the programme	Advances in Additive Manufacturing

1. The amount of the grant shall be drawn by the Drawing and Disbursing Officer, All India Council for Technical Education on the grant-in-aid bill and shall be disbursed to and credited to the Registrar/ Director/Principal of the institute through RTGS.
2. This grant-in-aid is being released in conformity with the terms & conditions as well as norms of the scheme as already communicated, and also being communicated in this letter.



3. The Principal of the Institute and the Coordinator of the Program are requested to verify the correctness of the under-mentioned Bank Account / RTGS Details submitted by them alongwith the proposals, in which the grant is being released:-

Institute PAN No.	Bank Name	Bank Branch Name	Bank Branch Address	Account Holder Name	Account Type	Account Number	IFSC Code
AAATN0914E	PUNJAB NATIONAL BANK	Khamla Branch	Opp, Gulmohar Hall, Khamla, Nagpur-440025	Principal, Yeshwantrao Chavan College of Engineering	Current Account	1472002100003909	PUNB0147200

### **Instructions/Guidelines to be followed by the University/Institution**

#### **I. Disbursement of funds to University/Institutions**

- The full amount of the grant sanctioned is being released as advance to the University/Institute.
- The amount spent by the institute on the conduct of STTP shall be adjusted on the basis of utilization certificate and detailed expenditure statement submitted by the University/Institution on the prescribed format along with other mandatory documents viz feedback form, copy of proceedings and completion report etc.
- The above said amount of grant shall be refunded back to AICTE if the Letter of Approval (LOA) / Extension of Approval (EOA) is not issued by AICTE to the institute for the academic year 2019-20.

#### **II Maintenance of Accounts**

- The Institute shall strictly follow the provisions laid down in the scheme document as available on the portal.
- Funds covered by this grant shall be kept separately and would not be mixed up with other funds so as to know the amount of interest accrued on the grant.
- The University/College/Institute shall maintain proper accounts of the expenditure out of the grants, which shall be utilized only on approved items of expenditure.
- The grant is intended to cover items of expenditure connected with the Short Term Training Programme such as Boarding & Lodging to the participants, TA to outstation participants, Honorarium to Course Coordinator, reading material to participants, Honorarium to resource persons, TA/DA to resource persons including two outstations resource persons & working expenses (reprographic services, postage, transport, daily wages, tea/coffee etc.

#### **III. Conduct of test and issuance of certificate**

A test shall be conducted by Program Evaluation Committee (PEC) at the end of the program and the certificates shall be issued to those participants who have attended the program and have qualified in the test.

#### **IV. Submission of Documents by the University/Institutions to AICTE**



- a. The following mandatory relevant documents are required to be submitted by the University/Institution within one month of the completion of the program:-

- (i) Original Statement of actual expenditure & Utilization Certificate in the prescribed proforma duly signed by the Head of the institution and countersigned by Registrar/Finance Officer/Govt. Auditor. In case of self-financing/private institutions, Statement of actual Expenditure & Utilization Certificate are required to be audited & signed and sealed by a Chartered Accountant endorsing the membership number and complete postal address. Format for the same is available on AICTE web portal.

The University/Institution is not required to submit bills/vouchers/invoices etc for the expenditure incurred out of recurring grants. However, such copies of bills/vouchers/invoices shall be digitized by respective institutions receiving grant and uploaded scanned copies of such bills/vouchers/invoices etc on the portal for availability and view at any point of time.

- (ii) Feedback form in the prescribed proforma.  
(iii) Copy of the proceedings and completion report.  
(iv) List of candidates who have successfully completed the program on the basis of the test conducted by Program Evaluation Committee (PEC).  
(v) Report submitted by Program Evaluation Committee (PEC).
- b. The amount of the grant shall be adjusted on submission of utilization certificate & detailed expenditure statement by University/Institution. On receipt of these documents, the total amount of financial assistance, admissible as per the norms, shall be worked out and grant-in-aid adjusted.


## V. General instructions

- a. **Preferably 10% of the participants may be industry professionals deputed by industry. Further, not more than 2 participants shall be from the host institution/group of institutions.**
- b. **Money to be reimbursed on the grant (for any reasons to include unspent amount, interest , penalty if imposed) shall be refunded back to AICTE in the form of Demand Draft payable to Member Secretary, AICTE, New Delhi.**
- c. **As AICTE needs adequate time for depositing the Demand Draft in the bank, the same be immediately dispatched to avoid any lapse of the validity period.**
- d. **The STTP is a residential program of a duration of six days with minimum 40 participants.** The approved STTP shall be conducted within three months from the date of release of funds.
- e. **If programme is not conducted in the period of three months of the issuance of this Sanction Order, the released amount, alongwith interest accrued thereon, has to be necessarily returned back to AICTE within a month.**
- f. The expenditure under the Heads '**Honorarium to Course Coordinator**' and '**Honorarium to Resource Persons**' shall not exceed **1% & 20% respectively** of the total sanctioned grant for the Programme. However, overall expenditure shall not exceed the funds sanctioned for the Programme.

- g. Any extra money required to complete the programme must be borne by the institute from their own resources. But the quality of the activities should not be compromised.
- h. Any unavoidable circumstantial change in the program with respect to name of Project Coordinator, Venue and date for organizing STTP would mandatorily require prior approval of the Council. All such requests should be addressed to AICTE, in advance, recording the specific reasons for proposed changes, failing which the offer for the grant already issued would be treated as automatically withdrawn and the financial assistance released in favour of the beneficiary institution shall be refunded immediately to the Council. Kindly mention the File No. 34-65/349/RIFD/STTP/Policy-1/2018-19 in your future correspondence.
- i. **Program Evaluation Committee (PEC)** is required to be constituted at institutional level. The constitution of the PEC shall be as under:
- (i) Principal/Director/Registrar of the institution (Chairperson).
  - (ii) Coordinator of the program (Member Secretary).
  - (iii) Two HoDs and one subject expert (members).
- The members of the said PEC shall not be below the rank of Associate Professor. A test shall be conducted by Program Evaluation Committee (PEC) at the end of the program and the certificates shall be issued to those participants who have attended the program and have qualified in the test. The minutes of the meetings, along with PEC report, are to be submitted to the Council at end of the program along with other mandatory documents.
- j. **GoI GFR rules** (@<https://doe.gov.in/order-circular/general-financial-rules2017-0>) should be followed during utilization of grant.
- k. This Sanction Order may be treated as Offer Letter for all purposes.

**NOTE:- Any deviation from the above will invoke serious action against the Institute.**

Yours sincerely,

  
(Dileep N Malkhede)  
, Advisor-I (RIFD)

12 DEC 2019

Copy forwarded for information and necessary action to: -

1. **Name and Address of the Coordinator**  
Dr. JAYANT GIRI  
YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING  
WANADONGRI, HINGNA ROAD, NAGPUR - 441 110  
NAGPUR 441110 Maharashtra
2. **The Registrar / Director / Principal**  
YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING  
WANADONGRI, HINGNA ROAD, NAGPUR - 441 110  
NAGPUR 441110 Maharashtra
3. **Guard File**



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  
Ph.: 07104-237919, 234623, 329249, 329250 Fax: 07104-232376, Website: www.ycce.edu

## DEPARTMENT OF CIVIL ENGINEERING

No : - YCCE/CE//NOTICE/19-20/36

### NOTE

Date: 28<sup>th</sup> JULY 2020.

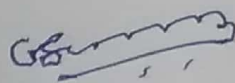
To,  
Principal,  
Yeshwantrao Chavan College of Engineering  
Wanadongiri, Nagpur

Subject: - Reimbursement of Project Bill of UG & PG Student 2019-20

Sr.No.	Name of Project	Name of Guide	Name of Student	Amount
1	Charactarization of automobile Industry wastewater.	Dr. S.V. Ambekar	Sakshi Mohapekar, Shubham Agrey, Sejal Gosulami, Sainath Darke, Gajendra Muhare,	571.00
2	Study of Pench (Totladog) Hydropower project including dam.	Dr.A.R.Gajbhiye	Mohini Jiutode, Rasika Shivankar, Shivani Azad, Naina Salame, Pratibha Wakudkar,	6660.00
3	Strength Inference of quaternary concrete by sugar cane bagase ash, copper slag & hatchery waste.	Dr.A.R.Gajbhiye	Apeksha Khorgade, Vanshree Dhapke, Devyani Nakade, Divya Awari, Smita pawar	2520.00
4	Performance evolution of DCSF using agriculture waste as filtering media.	MS. Charuta Waghmare,	Aditya Bokar, Ujwal Katre, Ashutosh Kamble, Kanchan Wakodikar, Jyoti Laudge	6546.00
5	Development of sustainable building block using agro Industrial waste .	Dr. S.P.Raut,	Ashitosh Misar, Omesh Hatwar, Saurabh Kumar Shrikhande, Chinmay Batra, Niraj Nagrale	4830.00
6	Effect of fire on concrete structure . ,	Mr. V.N.Mendhe	Himanshu Rathod, Ketan More, Shashwat Nibudey, Vedant Kohale, Yash Bhoyar	14862.00
7	Treatment of greywater by solar energy hybrid electrocoagulation and filtration prosess.	Mr. khalid S. Ansari,	Lokesh Tarak, Parakh Katre, Piyush Kshirsagar, vasundhara Jadhao, Nidhi Gosavi	9798.00



	Sugarcane"Bagasse ash as construction material.	Mr.H.R Nikhade,	Divya Labhane, Sakshi Lande, Sharvika Ashtaputrey, Faraz Baig	11340.00	19-20
9	Investigation of Rubberiodc conerete.	Mr.D.G.Agrawal	Harshit Miatle, Achal Raut, Samiksha Varulkar, Samiksha Salwathar, Sanyukta Sathawane	7870.00	19-20
10	Effect of curing method on to the mechanical properties on to concrete.	Mr. P.K.Hinge	Abhishek Khobragade, Suraj Ramteke, Vaibhav Nistane, Ullash Banerjee, Vivek Landge	2220.00	19-20
11	Experimental study of partial replacement of sand by copper slag.	Mr. A.A. Yadav,	Mangesh Pakhde, Kartik Irpate, Naveen bhandari, Nitin bhagat, Arpit Deshmukh	1400.00	19-20
12	Use of burnt residue to develop sustainaible burrier.	Mr. S.S. Meshram,	Prathamesh Giri, Vedanati Tidke, Sanajan Limje, Shivani Raut, Dushyant Deshmukh.	5535.00	19-20
13	Analiysis of Clayey sand using filter paper method.. ,	Mr. P.B. Pande	Rushikesh Borkar, Manish Mathurkar, Mintu Sarkar, Harshal mahasake, Irfanuiddin saiyed.	4472.00	19-20
14	Study on Self computing concreate using baggase Ash and glass fiber. .	M.R. Wagh,	Datta mote, Sanjay Tathe, Rakshi Mandavkar, Saurabh Komulwar,Sandeep Ramteke	11485.00	19-20
15	Removal of heavy metel from Industrial waste water.	Rajesh M. Bhagat	Pranali Gaigole, Devrat Brahmanekar, Lina katre, Darshan Gorantiwar, Angha Lambade	11758.00	19-20
16	Development of Quaternary bricks and paver using copper slag , eggshells power, sugercane baggage.	Mr. S.W. Dhengre,	Disha Bhoyar, Toshi Bezankiwar, Mahesh Parate, Parth Ambatkar	9152.00	
17	Study of diff. modes of failured in angle section.	Mr. V. D. Jayale,	Hitesh Walke, Raul Bhagat, kartik Ghorale, prajyot Selurkar, vivek jambhulkar.	1947.00	19-20
18	Study of Newly develop Material by using SCBA, BFS, GF .	H.R. Nikhade	Utkarsh Pratulla Bobde	15072.00	19-20
19	Biomethnation process of solid waste using pilot tube reactor.	H.M. Warade,	Akansha Sie, Meenal Ramteke, Monika Juwarl, Pratiksha Bhoyar, Payal Kumne,	3304.00	19-20
			<b>Total</b>	<b>131342.00</b>	



Dr. V.G.Meshram  
Head, CE, YCCE, Nagpur.

PRINCIPAL  
YCCE, NAGPUR

## **First Page of Research Base project reports**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "*Climate Classification using Geo-tagged Images*" has been successfully completed by Akanksha Nagdeote, Dnyanada Argulwar, Radhika Charnode, Samruddhi Urganlawar under the guidance of **Prof. P. V. Barekar** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Computer Technology, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)

Signature



**Prof. P. V. Barekar**

(Guide)

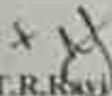
Signature



**Dr. G. M. Dhopavkar**

(HOD, C.tech. Dept.)

Signature



**Prof. T.R. Ravi**

(Coordinator)


Signature of External Examiner


Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "PLANT DISEASE DETECTION USING CONVOLUTIONAL NEURAL NETWORKS" has been successfully completed by Lokesh Sharma, Nishant Aochar, Rajat Gaidhane and Vikas Sawarkar under the guidance of **DR. A.R. BHAGAT PATIL** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Computer Technology, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

Signature   
Dr. A.R. Bhagat Patil  
(Guide)

  
Signature  
Dr G.M. Dhopavkar  
(HOD, CT Dept.)

Signature of External Examiner:

Name:

Date of Examination:



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "ORAL CANCER DETECTION AND LEVEL CLASSIFICATION THROUGH MACHINE LEARNING" has been successfully completed by JYOTI RATHOD, SHRADDHA SHERKAY, HARSHAL BONDRE, ROHIT SONEWANE under the guidance of **PROF. DEVIKA DESHMUKH** in recognition to the partial fulfillment for the award of the degree of Computer Technology, Yeshwantrao Chavan College of Engineering, Nagpur (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)

  
Prof. DEVIKA DESHMUKH

Signature

(Guide)

  
Signature

(Co-guide)

  
Prof. T. R. Ravi

Signature

(Co-Ordinator)

  
Dr. G. M. Dhopavkar

Signature

(HOD, CT Dept.)


Signature of External Examiner:

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "BURGLARY DISCLOSURE SYSTEM" has been successfully completed by Rishikesh Chamat, Rahul Waghdhare, Govind Sharma and Yash Moon under the guidance of **Mr. N.U. Sambhe** in recognition to the partial fulfillment for the award of the degree of Computer Technology, **Yeshwantrao Chavan College of Engineering, Nagpur** *(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)*

  
Signature  
Mr. N.U. Sambhe  
(Guide)

  
Signature  
Prof. T.R. Ravi  
(Co-Ordinator)

  
Signature  
Dr. G.M. Dhopavkar  
(HOD, CT Dept.)

Signature of External Examiner  
Name  
Date of Examination:

### CERTIFICATE OF APPROVAL

Certified that the project report entitled "*Accident Prevention System for Railway Using IoT*" has been successfully completed by Ayesha Ahmed, Aishwarya Kothe, Juhi Khante and Madhuri Dandhare under the guidance of **Prof. Supriya Thombre** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Computer Technology, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**



Signature

**Prof. Supriya Thombre**



Signature

**Prof. T. R. Ravi**  
(Coordinator)



Signature

**Dr. G. M. Dhopavkar**  
(HOD, C.Tech. Dept.)

Signature of External Examiner:

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "SOCIAL INTELLIGENCE MONITORING BASED ELECTION PREDICTION USING SENTIMENTAL ANALYSIS IN R FOR TWITTER" has been successfully completed by Ms. Aishwarya Wankhade, Ms. Disha Warkade, Ms. Sahitya Patole, Ms. Saloni Shirke under the guidance of Prof. Smita Kapse in recognition to the partial fulfillment for the award of the degree of Computer Technology, Yeshwantrao Chavan College of Engineering, Nagpur (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).

  
Prof. Smita Kapse


Signature

(Guide)

  
Prof. T.R. Ravi

Signature

(Co-ordinator)

  
Dr. G.M. Dhopavkar

Signature

(HOD, CT Dept.)

Signature of External Examiner:

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "*Digital Gramsabha*" has been successfully completed by Mohd. Amir Aziz, Aniket Patne, Gaurav Kherde, Hrishikesh Hemke and Om Borole under the guidance of **Dr. Gauri M. Dhopavkar** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Computer Technology, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).

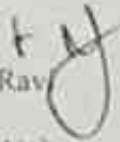
Signature



Dr. Gauri M. Dhopavkar

(Guide)

Signature



Prof. T. R. Rav

(Coordinator)



Signature

Dr. G.M. Dhopavkar

(HOD, C.T. Dept.)

Signature of External Examiner:

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "DIGITAL HOTEL ORDER PROCESSING SYSTEM" has been successfully completed by Drishti Bhojar, Mayuri Gawande, Prajakta Ghode, Ruchika Sheshkar under the guidance of Prof. Nilima Jichkar in recognition to the partial fulfillment for the award of the degree of Computer Technology, Yeshwantrao Chavan College of Engineering, Nagpur (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur).



Signature

Prof. Nilima Jichkar

(Guide)

Signature



Prof. T. R. Kavi

(Co-Ordinator)

Signature



Dr. G. M. Dhopavkar

(HOD, CT Dept.)


Signature of External Examiner

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certifies that the project entitled "*Engineering Branch Recommendation System*" has been successfully completed by Vaidehi Jirafe, Shrushti Chauhan, Mayuri Dhanjani, Mithilesh Barwat under the guidance of **Prof. Roshan S. Bhanuse** in recognition to the partial fulfillment for the award of degree of Computer Technology, **Yeshwantrao Chavan College of Engineering** (An autonomous Institution Affiliated to *Rashtrasant Tukadoji Maharaj Nagpur University*)



Prof. Roshan S. Bhanuse  
(Guide)



Mr. Pratik Tambekar

Co-guide

Software Engineer, simpleCRM



Prof. T. R. Rav  
(Co-Ordinator)



Dr. G. M. Dhopavkar  
(HOD, CT Dept.)

Signature of External Examiner:


Name:


Date of Examination:




## CERTIFICATE OF APPROVAL

Certified that the project report entitled "UI COMPONENT KIT FOR REACT NATIVE" has been successfully completed by Mr. Abhishek Rahangdale, Mr. Vedant Gawande, Mr. Yash Sethi, Mr. Vaishnav Kolte under the guidance of **Prof. S.D. Kamble** in recognition of the partial fulfillment for the award of the degree of Computer Technology, Yeshwantrao Chavan College of Engineering, Nagpur (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).

  
Mr. Nilesh U. Sambhe  
Signature  
(Co-ordinator)

  
Prof. S.D. Kamble  
Signature  
(Guide)

  
Dr. G. M. Dhopavkar  
Signature  
(HOD, CT Dept.)

Signature of External Examiner:

Name:


Date:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "OBJECT DETECTION FOR TRAFFIC SURVEILLANCE SYSTEM" has been successfully completed by Mr. Dushant Raut, Mr. Aishwarya Phatak, Ms. Apurva Kahu, Ms. Sakshi Dhakate under the guidance of Dr. Kavita Singh in recognition to the partial fulfillment for the award of the degree of Computer Technology, Yeshwantrao Chavan College of Engineering, Nagpur (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).

  
Dr. Kavita Singh  
Signature  
(Guide)

  
Mr. T. R. Ravi  
Signature  
(Co-ordinator)

  
Dr. G. M. Dhopavkar  
Signature  
(HOD, CT Dept.)

Signature of External Examiner  
Name:  
Date of Examination:

## CERTIFICATE OF APPROVAL

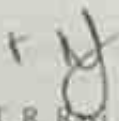
Certified that the project report entitled "VEHICLE CARE SYSTEM" has been successfully completed by Ms. Aishwarya Raut, Ms. Chanchal Madankar, Ms. Sneha Chide, Mr. Ankit Kesariwani under the guidance of Prof. Ganesh Yenurkar, recognition to the partial fulfillment for the award of the degree of Computer Technology, Yeshwantrao Chavan College of Engineering, Nagpur (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).



Prof. Ganesh Yenurkar

Signature

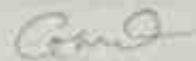
(Guide)



Prof. T. R. Ravi

Signature

(Co-ordinator)



Dr. G. M. Dhopavkar

Signature

(HOD, CT Dept.)

Signature of External Examiner:

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "DIGITAL HOTEL ORDER PROCESSING SYSTEM" has been successfully completed by Disha Bhoir, Mayuri Gawande, Pranjana Ghode, Ruchika Sheshkar under the guidance of Prof. Nilima Jichkar in recognition to the partial fulfillment for the award of the degree of Computer Technology, Yeshwantrao Chavan College of Engineering, Nagpur (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur).



Signature

Prof. Nilima Jichkar

(Guide)

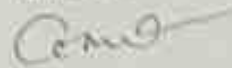
Signature



Prof. T. K. Ravi

(Co-Ordinator)

Signature



Dr. G. M. Dhokavkar

(HOD, CT Dept.)


Signature of External Examiner

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report, entitled "Automated soil testing using IoT" has been successfully completed by Samanta Kale, Sharanya Bhongade, Shivanl Sangamnerkar, Yashada Gotmare under the guidance of Prof. Smita Kapse in recognition to partial fulfillment for the award of the degree of Computer Technology, Yeshwantrao Chavan College of Engineering, Nagpur (An autonomous institution affiliated to Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur).

  
Mrs. Smita Kapse

Signature

(Guide)

  
Prof. T. R. Rav

Signature

(Co-ordinator)

  
Dr. G. M. Dhopavkar

Signature

(HOD, C.TECH Dept.)

Signature of External

Examiner Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "*Water Metering And Controlling System Using IOT*" has been successfully completed by Mohini Rokade, Nikita Kangali, Shraddha Patiye, Shruti Pande under the guidance of **Prof. Abhijit Pande** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Computer Technology, **Yeshwantrao Chavan College of Engineering** (An Autonomous Institution Affiliated to *Rashtrasant Tukadoji Maharaj Nagpur University*).



Signature

**Mr. A. B. Pande**

**(Guide)**



Signature

**Mr. Nilesh Sambhe**  
**(Coordinator)**



Signature

**Dr. G. M. Dhopavkar**  
**(HOD, C.Tech. Dept.)**

Signature of External Examiner:

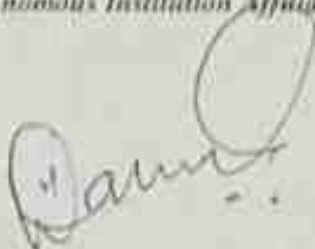
Name:

Date of Examination:



### CERTIFICATE OF APPROVAL

Certifies that the project entitled "*DETECTION OF ABNORMAL ACTIVITY ON YCC ENTRANCE GATE THROUGH VIDEO SURVEILLANCE*" has been successfully completed by Navanshu Dahikar, Saurabh Diwe, Tanisha Mahakalkar, Nikhil Waghmare under the guidance of **Dr. Lalit B. Damahe** in recognition to the partial fulfillment for the award of degree of Bachelor of Engineering in Computer Technology, Yeshwantrao Chavan College of Engineering (An autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).



Dr. Lalit B. Damahe  
(Guide)



Dr. Gauri M. Dhopavkar  
(HOD, CT)



Prof. T. R. Ravi  
(Coordinator)

Signature of External Examiner

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "SMART PROJECT HANDLER (PROJECT-HUB)" has been successfully completed by AYUSHI BOBDE, NILAY KOTHEKAR, SHUBHAM ZADE, VISHAL KATARIA under the guidance of **MS. ROSHNI KHEDGAONKAR** in recognition to the partial fulfillment for the award of the degree of Computer Technology, Yeshwantrao Chavan College of Engineering, Nagpur (*An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*)

  
Mrs. Roshni Khedgaonkar  
Signature  
(Guide)

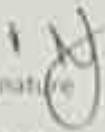
  
Prof. T. R. Ravi  
Signature  
(Co-Ordinator)

  
Dr. G. M. Dhopavkar  
Signature  
(HOD, CT Dept.)

Signature of External Examiner  
Name  
Date of Examination:

## CERTIFICATE OF APPROVAL


Certified that the project report entitled "Traffic Analytics" has been successfully completed by Ms. Mrunmayi Saoji, Ms. Nikita Munje, Ms. Priya Vaidya, Ms. Samruddhi Padole, Ms. Shrawani Dabake under the guidance of in recognition to the partial fulfilment for the award of the degree of **Dr. Kavita Singh**, Computer Technology, Yeshwantrao Chavan College of Engineering, Nagpur (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

  
Signature  
Name

(Guide)

Signature of Co-guide (if applicable)

  
Prof. T. A. Kavi  
Signature  
(Co-Ordinator)

  
Dr. G. M. Dhopaskar  
Signature  
(HOD, CT Dept.)

Signature of External Examiner:

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Well Data retrieval from satellite Image Using Template Matching" has been successfully completed by Mr. Ameya Wagh, Ms. Yashaswi Kalambe, Mr. Kshitij Kuhikar, Ms. Utkarsha Deshkar, under the guidance of **Dr. T.R. Ravi** in recognition to the partial fulfillment for the award of the degree of Computer Technology, **Yeshwantrao Chavan College of Engineering, Nagpur (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**

Signature:

Name: Prof T.R.Ravi

(Guide)

Prof T.R. Ravi

Signature

(Co-ordinator)

Mr. Nilesh U. Sambre

Signature

(Co-ordinator)

Dr. G. M. Dhopavkar

Signature

(HOD, CT Dept.)

Signature of External Examiner

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "To Study Condition Assessment And Structural Audit of Fire Damaged Structure" has been successfully completed by Himanshu Rathod, Ketan Mase, Shashwat Nibudey, Vedant Kohale, Yash Bhoyar under the guidance of Prof. V.N.Mendhe and co-guidance of Dr. Dilip P. Mase in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



Prof. V.N.Mendhe.  
(Guide)



Dr. Dilip P. Mase  
(Co-guide)



Dr. S. R. Khandeshwar  
(H.O.D civil)

Signature of External Examiner

Name:

Date of Examination:

YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,  
NAGPUR

DEPARTMENT OF CIVIL ENGINEERING



2019-2020

## CERTIFICATE

This is to certify that the project report on

***STUDY OF PENCH(TOTLADOH) HYDRO POWER PROJECT  
INCLUDING DAM"***

Has been duly completed towards the partial fulfillment of requirement of the

Bachelor's degree in Civil Engineering,

R.T.M. Nagpur University, Nagpur

Submitted by

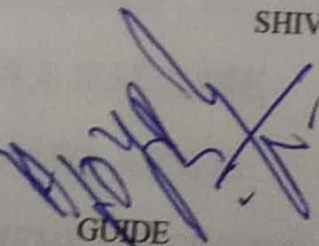
PRATIBHA WAKUDKAR.

NAINA SALAME

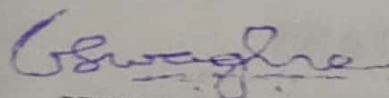
RASIKA SHIVANKAR.

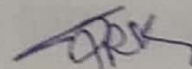
MOHINI JIWTODE

SHIVANI AZAD

  
GUIDE

(Prof. A.R. Gajbhiye)

  
PRINCIPAL  
(Dr. U. P. WAGHE)



HOD  
(Prof. S.R. Handeshwar)

C0-Guide  
(Er. Jayant Kathote)  
( Assistant engineer Irrigation department, Nagpur )



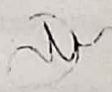
Date: 2<sup>nd</sup> December 2020

**TO WHOM SO EVER IT MAY CONCERN**

This is to certify that Mr. Saurabh Gulab Manwatkar has performed his project "QUALITY CONTROL AND EVALUATION OF MATERIALS IN HIGHWAY ROAD CONSTRUCTION" during his "Six Month Internship Program" in our organisation at "Mumbai Nagpur Samruddhi Expressway Project (3455)".

His duration of program was from 1<sup>st</sup> December 2019 to 30<sup>th</sup> April 2020.

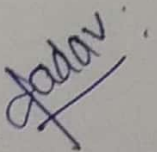
Under the guide **Prof. Sagar W. Dhengre** and Industrial guide-Er. Abhijeet chakraborty(DGM).

  
Authorised signature

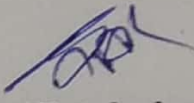
Afcons Infrastructure Limited  
Afcons House,  
16, Shah Industrial Estate,  
Veera Desai Road, Azadnagar,  
Andheri (West), Mumbai - 400053,  
India

## CERTIFICATE OF APPROVAL

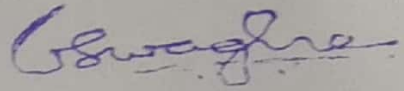
Certified that the project report entitled "EXPERIMENTAL STUDY OF PARTIAL REPLACEMENT OF SAND BY COPPER SLAG IN CONCRETE" has been successfully completed by **Mangesh Pakhale, Kartik Irpate, Naveen Bhandari, Nitin Bhagat, Arpit Deshmukh** under the guidance of **Ms. A. A. Yadav** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



Ms. A. A. Yadav.  
Guide, CE Dept.



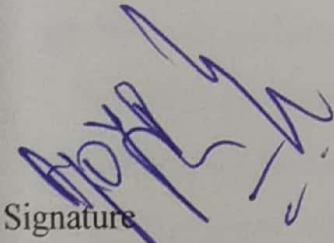
Dr S.R. Khandeshwar  
HOD, CE Dept.

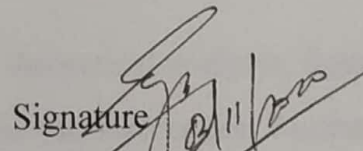


Dr. U.P Waghe  
Principal, YCCE

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**Strength Inference of Quaternary Concrete by Sugarcane Bagasse Ash, Copper Slag And Hatchery Waste**" has been successfully completed by Apeksha Khorgade, Devyani Nakade, Divya Awari, Smita Pawar, Vanashree Dhapke under the guidance of **Dr. A.R Gajbhiye** and Co-guide Prof. S.W. Dhengre in recognition to the partial fulfillment for the award of the degree of Master of Technology in Structural Engineering. Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated To Rashtrashant Tukdoji Maharaj Nagpur University*).

  
Signature  
Dr. A R. Gajbhiye  
(Guide)

  
Signature  
Prof. S W. Dhengare  
(Co- Guide )

Signature of External Examiner:-

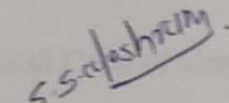
Name:- H.V. Hazare

Date of examination:- 22 Sept 2020



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "USE OF BURNT RESIDUE TO DEVELOP SUSTAINABLE BRICK" has been successfully completed by Sanjana Limje, Shivani Raut, Vedanti Tidke, Dushyant Deshmukh, Prathamesh Giri under the guidance of Prof. Sangita Meshram in recognition to the partial fulfillment for the award of the degree of Bachelors of Technology in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)

  
Signature

Prof. Sangita Meshram  
(Guide)



Signature  
Dr. S. R. Khandeshwar  
(HOD, Civil Dept.)



Signature  
Dr. U. P. Waghe  
(Principal)

Signature of External Examiner

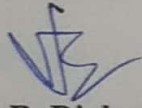
Name

Date of Examination:



## CERTIFICATE OF APPROVAL

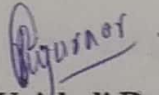
Certified that the project report entitled "OPTIMAL DESIGN OF AN IRRIGATION CANAL" has been successfully completed by , Riya Patil, Shiwani Wasu, Ajinkya Poyam, Akshay Chikhale & Homesh Brahmanekar under the guidance of Dr. R. R. Dighade and Prof. Vaishali Rajurkar in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University



Dr. R.R. Dighade

Associate Professor

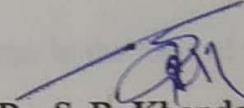
Guide



Prof. Vaishali Rajurkar

Asst. Prof. Ramdeobaba  
College of Engineering and  
Management, Nagpur

Co-Guide



Dr. S. R. Khandeshwar

HOD,

Civil Engineering  
Department

Signature of External Examiner

Name

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "REPLACEMENT OF FINE AGGREGATES IN MORTAR BY MANUFACTURED SAND" has been partly completed by Shubham Harde, Utkarsh Sonwane, Siddesh Bele, Saurabh Borkar, Aniket Shahane under the guidance of Dr.A.V.Patil in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



Signature

Dr. S.R. Khandeshwar

(HOD)



Signature

Dr. A.V. Patil

(Project Guide)

Signature of External Examiner

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "OPTIMAL DESIGN OF PRESSURIZED WATER TRANSMISSION MAIN FOR IRRIGATION " has been successfully completed by Arjun A. Gabale, Avinash C. Khadarkar, Nitin A. Rathod, Saurabh E. Madankar, Sidheshwar K. Lavhare under the guidance of **Dr. R. R. Dighade & Prof. A. B. Bhoyar** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Civil Engineering, Yeshwantrao Chavan College of Engineering( *An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*)



Signature

(Guide)

**DR. R. R. Dighade**  
**ASSOCIATE PROFESSOR,**  
**CIVIL DEPARTMENT**



Signature

(Co-Guide)

**Prof. A. B. Bhoyar**  
**ASSOCIATE PROFESSOR,**  
**MECHANICAL DEPARTMENT**



Signature

**Dr. S. R. Khandeshwar**  
**HEAD OF DEPARTMENT,**  
**CIVIL DEPARTMENT**

Signature of External Examiner:

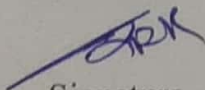
Name:

Date of Examination



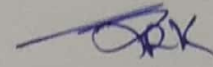
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**ASSESSMENT OF INDOOR AIR QUALITY BY USING SENSORS**" has been successfully completed by Mrudul Wairagade, Sachin Waghare, Anjali Dabhekar, Saurabh Menghare, Saquib Niyazi under the guidance of **Dr. S.R. Khandeshwar** in recognition to the partial fulfillment for the award of the degree of Bachelor Of Engineering in Civil Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**



Signature

Dr. S. R. Khandeshwar  
(HOD)



Signature

Dr. S. R. Khandeshwar  
(Project Guide)

Signature of External Examiner:

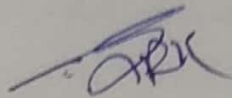
Name:

Date of Examination:



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "CHARACTERIZATION OF AUTOMOBILE INDUSTRY WASTEWATER" has been successfully completed by Shubham Agrey, Sakshi Mohapekar, Sainath Darku, Sajal Goswami, Gajendra Mahure under the guidance of Dr. S.V. Ambekar in recognition to the partial fulfillment for the award of the degree of Bachelor Of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



Signature

**Dr. S.R. Khandeshwar**

**(HOD, Civil Dept.)**



Signature

**Dr. S.V. Ambekar**

**(Project Guide)**

Signature of External Examiner:

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled **"INVESTIGATION ON RUBBERISED CONCRETE"** has been successfully completed by SAMIKSHA VERULKAR, SAMIKSHA SALWATKAR, ACHAL RAUT, SANYUKTA SATHAWANE, HARSHIT MATTE under the guidance of **Prof. D. G. Agrawal** in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



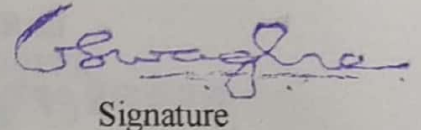
Signature

**Prof. D.G. Agrawal**  
(Guide)



Signature

**Dr. S.R. Khandeshwar**  
(HOD, CE Dept.)



Signature

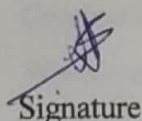
**Dr. U. P. Waghe**  
(Principal)

Signature of External Examiner  
Name

Date of Examination:

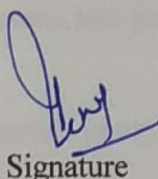
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**EXPERIMENTAL STUDY OF PARTIALLY REPLACEMENT OF CEMENT BY GLASS POWDER**" has been successfully completed by **Namdev Gadewar, Saurabh Meshram, Abhimanyu Ghuge, Siddhant Dongre, Neeraj Parmar, Pralay Potwar** under the guidance of **Prof. Ms. S.K.Kamble and Prof. Ms. P.S.Chakole** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, **Yeshwantrao Chavan College of Engineering( An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).**



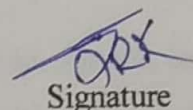
Signature

**Prof. MS. S. K. Kamble**  
(Project Guide)



Signature

**Prof. MS. P. S. Chakole**  
(Project Guide)



Signature

**Dr. S. R. Khandeshwar**  
(HOD, CE Dept.)

Signature of External Examiner:

Name:

Date of Examination:



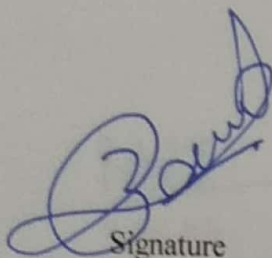
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "CALIBRATION OF BEARING CAPACITY EQUIPMENT FOR SOIL" has been successfully completed by RAHUL JAIN ,YASH MAHAJAN, TUSHAR AGRAWAL ,UTKARSH SHAMBARKAR, ABHISHEK PATIL under the guidance of **Proff.JAYANT RAUT in recognition** to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, **Yeshwantrao Chavan College of Engineering( An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**

Name

Signature

(Guide)



Signature

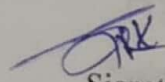
Prof. Jayant Raut

(Assit. Prof, CE Dept.)

Signature

Dr. Sandip Khedkar

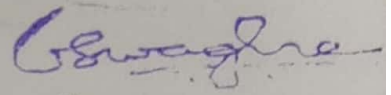
(Assit. Proff. ME Dept.)



Signature

Dr. Shantanu Khandeshwar

(HOD, CE Dept.)



Signature

Dr. U.P. Waghe

(Principal)

Signature of External Examiner


Name

Date of Examination:



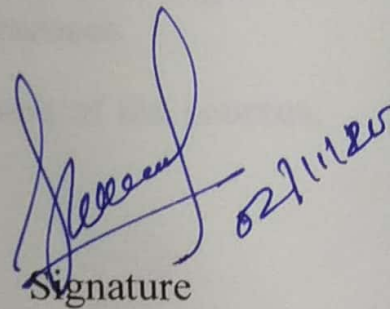
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**Biomethane Potential of Solid Waste through Pilot Scale Reactor**" has been successfully completed by Akanksha Ale, Meenal Ramteke, Monika Tiwari, Payal Kumre, Pratiksha Bhoyar under the guidance of **Harshal M. Warade** and Dr. S.P. Adhau in recognition to the partial fulfillment for the award of the degree of Bachelor Of Engineering in Civil Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**



Signature

Dr. S. R. Khandeshwar  
(HOD)



Signature

Prof. H. M. Warade  
(Project Guide)

Signature of External Examiner:

Name:

Date of Examination:

## CERTIFICATE

It is certified that the project report entitled "**ANALYSIS AND DESIGN OF G+2 BUILDING IN VARIOUS SEISMIC ZONES OF INDIA**" has been successfully completed by BRIJESH AMBADE, SHUBHAM A. CHAUDHARI, PUSHPAM PAGARIYA, TEJAS NANWATE under the guidance of **PROF.S.G.HIREKHAN** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Civil Engineering, **Yeshwantrao Chavan College of Engineering( An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**

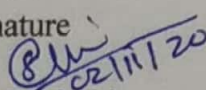
**BRIJESH AMBADE**

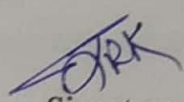
**SHUBHAM A. CHAUDHARI**

**PUSHPAM PAGARIYA**

**TEJAS NANWATE**

Signature

  
Prof.S.G.Hirekhan.  
Guide

  
Signature

Dr.S.R.Khandeshwar  
HOD, CE Dept.

Signature

External Examiner

Name

Date of Examination

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Performance Evaluation Of Drawer Compacted Sand Filter Using Agricultural Waste As A Filter Media" has been successfully completed by Ujjawal Katre, Asutosh Kamble, Aditya Bokade, Kanchan Wakodikar, Jyoti Landge under the guidance of Prof. Ms. Charuta S. Waghmare in recognition to the partial fulfillment for the award of the degree of Bachelor of Civil Engineering, YeshwantraoChavan College of Engineering, Nagpur. (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).



Prof. Ms. Charuta S. Waghmare  
(Guide)



Dr. S.R. Khandeshwar  
(HOD, CE Dept.)



Dr. U. P. Waghe  
(Principal)

Signature of External Examiner

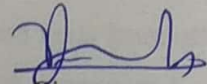
Name:

Date of Examination:



## CERTIFICATE OF APPROVAL

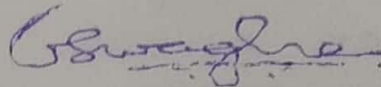
Certified that the project report entitled "STUDY OF GLASS FIBER AS REINFORCING MATERIAL IN REINFORCED CEMENT CONCRETE" has been successfully completed by AMEY KHOKLE, ARJUN HAWARE, ADITYA KACHORE, SHUBHAM GOTMARE, SHUBHAM GAWANDE under the guidance of **Dr. V.G MESHAM** in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



Name **Dr. V.G. Meshram**  
(Guide)



Signature  
Dr. S. R. Khandeswar  
(HOD, CE Dept.)



Signature  
Dr. U. P. Waghe  
(Principal)

Signature of External Examiner  
Name  
Date of Examination:

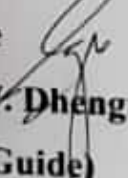


## CERTIFICATE OF APPROVAL

Certified that the project report entitled "DEVELOPMENT OF QUATERNARY BRICKS BY PARTIAL REPLACEMENT OF CEMENT AND PAVERS A BY EGGSHELL SUGARCANE BAGASSE ASH AND COPPER SLAG" has been successfully completed under the guidance of **Prof. S.P. Raut** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, **Yeshwantrao Chavan College of Engineering** (*An Autonomous Institution Affiliated of Rashtrasant Tukdoji Maharaj Nagpur University*) for the following Students:

**Disha Bhoyar**  
**Toshi Bezankiwar**

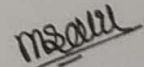
**Parth Ambatkar**  
**Mahesh Parate**

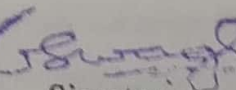
Signature   
**Prof. S.W. Dhengre**  
**(Project Guide)**


  
Signature  
**Dr. S.R. Khandeshwar**  
**(HOD Civil Dept)**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled **Experimental Investigation on Self Compacting Concrete using bagasse ash and glass fibre** has been successfully completed by **Datta L. Mote, Rakhi A. Mandavkar, Saurabh A. Komulwar, Sajay G. Tathe, Sandip N. Ramteke** under the guidance of **PROF. Monali Wagh** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, **Yeshwantrao Chavan College of Engineering( An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).**

  
Signature  
Prof. Monali Wagh  
(Project Guide)

  
Signature  
Dr. U. P. Waghe  
(Principal)

  
Signature  
Dr. S. R. Khandeshwar  
(HOD, Civil Dept)

Signature of External Examiner

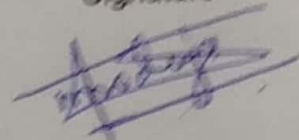
Name:

Date of Examination:

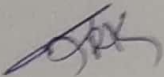
## CERTIFICATE

This is to certify that the project entitled, *Quantity Estimation Of Civil Structures Of Coal Handling Plant* submitted by Mr. Parth Benare [Id. no. 16010095] in partial fulfillment of the requirements for the *award of bachelor of engineering* degree in Civil Engineering at the Yeshwantrao Chavan College of Engineering Nagpur is an authentic work carried out by him under my supervision and guidance. To the best of my knowledge the matter embodied in the project has not been submitted to any other university/institute for the *award of any degree or diploma*.

Signature



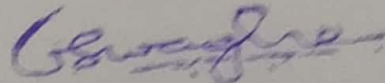
Prof. Sourabh Amroliya  
(Guide)



Signature

Dr.S.R.Khandeshwar  
(HOD,CE Dept.)

Signature



Dr.U.P.Waghe  
(Principal)

Signature of External  
Examiner Name

Date:



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "DEVELOPMENT OF QUATERNARY BRICKS BY PARTIAL REPLACEMENT OF CEMENT AND PAVERS A BY EGGSHELL SUGARCANE BAGASSE ASH AND COPPER SLAG" has been successfully completed under the guidance of **Prof. S.P. Raut** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, **Yeshwantrao Chavan College of Engineering** (*An Autonomous Institution Affiliated of Rashtrasant Tukdoji Maharaj Nagpur University*) for the following Students:

**Disha Bhoyar**

**Toshi Bezankiwar**

**Parth Ambatkar**

**Mahesh Parate**

Signature

**Prof. S.W. Dhengre**  
(Project Guide)

Signature

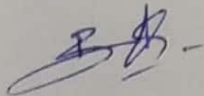
**Dr. S.R. khandeshwar**  
(HOD Civil Dept)



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "REMOVAL OF HEAVY METALS FROM INDUSTRIAL WASTE WATER USING WHEAT HUSK AND PIGEON PEA HUSK AS ADSORBENTS" has been successfully completed by Anagha Lambade, Leena Katre, Pranali Gaigole, Darshan Gorantiwar, Devvrat Bramhankar under the guidance of Prof. R.M. Bhagat in recognition to the partial fulfillment for the award of the degree of Bachelor of engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

Signature



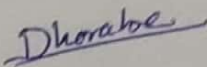
Prof. R.M. Bhagat  
(Guide)

Signature



Dr. S.R. Khandeshwar  
(H.O.D. Civil Engineering)

Signature of External Examiner:



Name: Dr. Prashant Dhotabe

Date of Examination: 21-09-2020

## CERTIFICATE OF APPROVAL

This is Certified that the project report entitled "Treatment of Greywater by Solar Energy Hybrid Electrocoagulation and Filtration Process" has been successfully completed by Nidhi Gosavi, Lokesh Tarak, Parakh Katre, Piyush Kshirsagar, Vasundhara Jadhao under the guidance of Prof. Khalid S. Ansari in recognition to the partial fulfilment for the award of the degree of Bachelor Of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).



Signature

Prof. Khalid S. Ansari  
(Project Guide)



Signature

Dr.S.R.Khandeshwar  
(HOD, C.E. DEPT.)



Signature

Dr.U.P.Waghe  
(Principal)

Signature of External Examiner:

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Comparative study and Structural evaluation of light gauge clod formed structure with RCS " has been successfully completed by Devendra Gaurkar, Dheer Batra, Hrushikesh Joshi, Nishit Lokhande, Pratik Chandankhede, Sanket Chaudhari under the guidance of Yogesh Kherde in recognition to the partial fulfillment for the award of the degree of Bachelor Of Engineering in Civil Engineering, YeshwantraoChavan College of Engineering(An Autonomous Institution Affiliated to RashtrasantTukdojiMaharaj Nagpur University)



Signature

Dr. S. R. Khandeshwar  
(HOD)



Signature

Prof. Yogesh Kherde  
(Project Guide)

Signature of External Examiner:

Name: Kamlesh Madurwar

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Sugarcane Bagasse Ash as Construction Material" has been successfully completed by Divya Labhane, Sakshi Lande, Sharvika Ashtaputrey, Faraz Baig, under the guidance of Harshal R. Nikhade in recognition to the partial fulfillment for the award of the degree of Bachelor Of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



Signature

Dr. S. R. Khandeshwar  
(HOD)



Signature

Prof. H. R. Nikhade  
(Project Guide)

Signature of External Examiner:

Name:

Date of Examination:

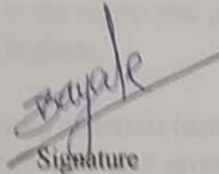


## CERTIFICATE OF APPROVAL

Certified that the project report entitled "STUDY OF TENSION MEMBER IN DIFFERENT MODES OF FAILURE FOR ANGLE SECTION" has been successfully completed by Kartik Gorle, Rahul Bhagat, Prajyot Selurkar, Vivek Jambhulkar, Hitesh Walke under the guidance of Prof. Vivek D. Jayale in recognition to the partial fulfillment for the award of the degree of Bachelor of engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)

VIVEK D. JAYALE

(Guide)

  
Signature



Signature  
Prof. S.R. Khandeshwar  
(HOD, CE Dept.)



Signature  
Dr. U.P. Waghe  
(Principal)

Name:

Date of Examination:

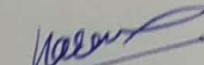
Signature of External Examiner

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Sugarcane Bagasse Ash as Construction Material" has been successfully completed by Divya Labhane, Sakshi Lande, Sharvika Ashtaputrey, Faraz Baig, under the guidance of Harshal R. Nikhade in recognition to the partial fulfillment for the award of the degree of Bachelor Of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)

  
Signature

Dr. S. R. Khandeshwar  
(HOD)

  
Signature

Prof. H. R. Nikhade  
(Project Guide)

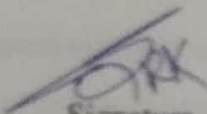
Signature of External Examiner:

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Comparative study and Structural evaluation of light gauge clod formed structure with RCS " has been successfully completed by Devendra Gaurkar, Dheer Batra, Hrushikesh Joshi, Nishit Lokhande, Pratik Chandankhede, Sanket Chaudhari under the guidance of **Yogesh Kherde** in recognition to the partial fulfillment for the award of the degree of Bachelor Of Engineering in Civil Engineering, YeshwantraoChavan College of Engineering(An Autonomous Institution Affiliated to RashtrasantukdojiMaharaj Nagpur University)



Signature

Dr. S. R. Khandeshwar  
(HOD)



Signature

Prof. Yogesh Kherde  
(Project Guide)

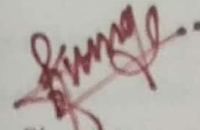
Signature of External Examiner:

Name: Kamlesh Madurwar

Date of Examination:

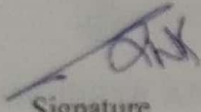
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "COMPARISION OF CURING METHODS IN DIFFERENT WEATHER CONDITIONS ON THE MECHANICAL PROPERTIES OF CONCRETE" has been successfully completed by **ABHISHEK KHOBRADE ,SURAJ RAMTEKE ,ULLASH BANERJEE ,VAIBHAV NISTANE ,VIVEK LANDGE** under the guidance of Prof. **P.K. HINGE** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).



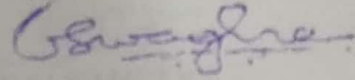
Signature

Prof. P.K. Hinge  
(Guide)



Signature

Dr. S.R. Khandeshwar  
(H.O.D. C.E. Dept.)



Signature

Dr. U. P. Waghe  
(Principal)

Signature of External Examiner:

Name: **Prof. Rahul Pichkar**

Date of Examination:



## CERTIFICATE OF APPROVAL

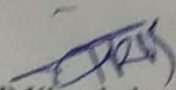
Certified that the project report entitled "DUCTILITY OF RUBBERISED CONCRETE " has been successfully completed by Abhimanyu Nawhate, Izhan Khan, Rupesh Solanki, Rohan Tadavi under the guidance of Prof. S. M. Amrodiya and Prof. S. G. Kalamkar in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



Signature

Prof. S.G. Kalamkar  
(guide)

Signature

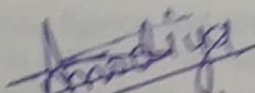


Dr. S.R. Khandeshwar  
(HOD, CE Dept.)

Signature of External

Examiner Name

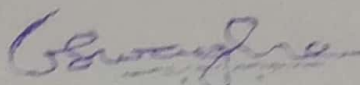
Date of Examination



Signature

Prof. S.M. Amrodiya  
(guide)

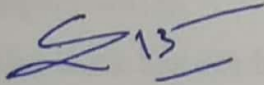
Signature



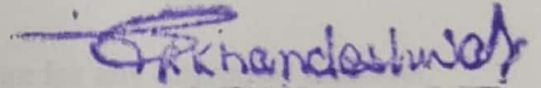
Dr. U.P. Waghe  
(Principal)

## CERTIFICATE OF APPROVAL

Certified that the project report entitled or "Development of Sustainable Building Blocks using Agro-Industrial Waste" has been successfully completed by Saurabh Kumar Shrikhande, Ashitosh Misar, Niraj Nagrale, Omesh Hatwar, Chinmay Batra under the guidance of **Dr.S.P Raut** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)



Dr. S. P. Raut  
(Project Guide)



Dr. S. R. Khandeshwar  
(HOD, CE Department)



Signature of External:

Name of External:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "PARTIAL REPLACEMENT OF COARSE AGGREGATE BY CRUSHED TILES AND FINE AGGREGATE BY CONSTRUCTION DEMOLISHED WASTE-" has been successfully completed by Siddhant chavhan, Rohit katariya , Nishant Tembhurne , Shantanu Sarkar , Ruchika talmale under the guidance of **ATUL KURZEKAR** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur)

Signature

Name : ATUL KURZEKAR

Signature

Prof. S.N. Harinkhede  
(Co-Guide)

Signature

Prof. S. Khandeshwar  
(HOD, CE Dept.)

Signature

Dr. U.P. Waghe  
(Principal)

Signature of External Examiner

Name

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**ANALYSIS OF CLAYEY SAND USING FILTER PAPER METHOD**" has been successfully completed by Rushikesh H. Borkar, Mintu M. Sarkar, Irfanuddin H. Sayyad, Harshal R. Mhasake, Manish V. Mathurkar under the guidance of **Prof. P. B. Pande** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*)



Signature

**Dr. S. R. Khandeshwar**  
(HOD, CE Dept.)



Signature

**Mr. P. B. Pande**  
(Project Guide)

Signature of External Examiner:

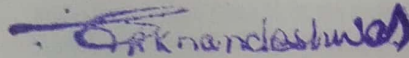
Name:

Date of Examination:



## CERTIFICATE OF APPROVAL

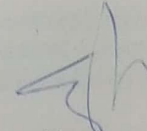
Certified that the project report entitled "TREATMENT OF GREY WATER USING VERTICAL GARDENING" has been successfully completed by Prashik Janbandhu, Raman Misar, Pavan Sontakke, Pranav Gawande and Saurabh Khadse under the guidance of Prof.S.M. Waghmare in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Civil Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



Signature

Dr. S.R. Khandeshwar

(HOD)



Signature

Prof. S.M. Waghmare

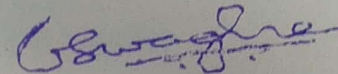
(Project Guide)



Signature of External Examiner

Name:

Date of Examination:



Signature

Dr. U.P. Waghe

(Principal)

# CERTIFICATE OF APPROVAL

Certified that the project entitled CASE STUDY ON CONCRETE:

Case 1: To find relationship between compressive strength of concrete by conventional and Non destructive testing (NDT) method .

Case 2: To check Quality of concrete using ultrasonic pulse velocity test.

Case 3 : To find flexural strength of beam and it's relation with compressive strength. has been successfully completed by Sushma Meshra, Ashish Lilahare, Gaurav Eppewar, Lokesh Bhuyar and Saurabh Kene Under The Guidance Of Pro. B.P. Nandurkar in recognition to partial fulfilment for the award of the degree of Bachelor of Technology in Civil Engineering, Yeshwantrao chavan college of Engineering (An Autonomous Institution Affiliated To Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur)

DATE: / /2020

Signature

(Pro. B.P.Nandurkar )

Signature

(HOD Dr. S. R. Khandeshwar)

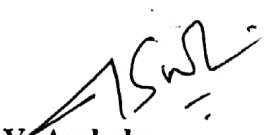
Signature of External Examiner:-


Name:-

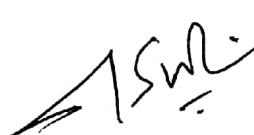
Date of Examination:-


## CERTIFICATE OF APPROVAL

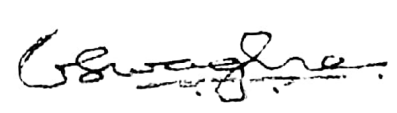
Certified that the project report entitled "Performance Evaluation of Effluent Treatment Plant of Automobile Wastewater" has been successfully completed by **Smita Singh** under the guidance of **Dr. S.V. Ambekar** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Environmental Engineering, **Yeshwantrao Chavan College of Engineering, Nagpur. (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).**

  
**Dr. S.V. Ambekar**  
(Guide)

  
**Er. Mahendra Singh**  
(Co-Guide)  
(Works Manager)  
(Ordnance Factory Chanda, Chandrapur)

  
**Dr. S.V. Ambekar**  
(Coordinator)

  
**Dr. S.R. Khandeshwar**  
(HOD, CE Dept.)

  
**Dr. U. P. Waghe**  
(Principal)

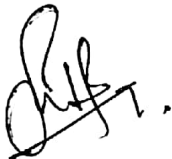
Signature of External Examiner

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled “**Fugitive emission and noise impact and mitigation measures during the construction of underground station and tunneling at Mumbai metro line -03**” has been successfully completed by **Chinmay V. Hardas** under the guidance of **Mr. Khalid S. Ansari and Mr. S. M. Waghmare** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Environmental Engineering, **Yeshwantrao Chavan College of Engineering, Nagpur. (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University**




Prof. Khalid S. Ansari  
(Guide)

Prof. S. M. Waghmare  
(Guide)


Er. Natthu Shrirame  
(Co-guide)  
(Environmental manager)

(L&T STEC JV UGC-07 Project, Mumbai)

Dr. S. V. Ambekar  
(Coordinator)



Dr. S. R. Khandeshwar  
(HOD, CE Dept.)



Dr. U. P. Waghe  
(Principal)

Signature of External Examiner:

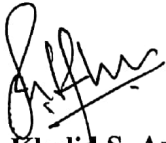
Name:

Date of Examination:



## CERTIFICATE OF APPROVAL


Certified that the project report entitled “**Design of Sewerage Network of Bhandara town using Sewer GEMS software**” has been successfully completed by **Rutusha G. Choudhary** under the guidance of **Mr. Khalid S. Ansari** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Environmental Engineering, **Yeshwantrao Chavan College of Engineering, Nagpur. (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).**



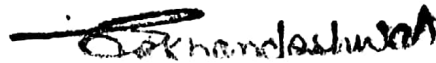
**Mr. Khalid S. Ansari**  
(Guide)

**Er. Umesh Modi**


(Co-Guide)  
(Sr. Manager)  
(Ceinsys Tech Pvt Ltd. Nagpur)



**Dr. S. V. Ambekar**  
(Coordinator)



**Dr. S. R. Khandeshwar**  
(HOD, CE Dept.)



**Dr. U. P. Waghe**  
(Principal)

Signature of External Examiner

Name:

Date of Examination:

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "CHANGES IN PHISICO-CHEMICAL CHARACTERSTICS OF WASTE WATER AFTER USING BY SBR TECHNOLOGY" has been successfully completed by Swati R. Dongre under the guidance of **Mr. Harshal Warade** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Environmental Engineering, Yeshwantrao Chavan College of Engineering, Nagpur. *(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).*



**Mr. Harshal Warade**

(Guide)

**Dr. Kishore Malviya**

(co-guide)

(Asso. VP of SMS Envocare Ltd)



**Dr. S. V. Ambekar**

(Coordinator)



**Dr. S.R. Khandeshwar**

(HOD, CE Dept.)



**Dr. U. P. Waghe**

(Principal)

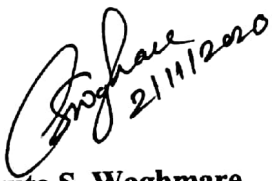
Signature of External Examiner

Name:

Date of Examination


## CERTIFICATE OF APPROVAL


Certified that the project report entitled "Efficacy of Sequential Batch Reactor over Conventional Activated Sludge Process for Treatment and Reuse of Sewage" has been successfully completed by **Pranjali M. Bawankar** under the guidance of Ms. **Charuta S. Waghmare** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Environmental Engineering, **Yeshwantrao Chavan College of Engineering, Nagpur.** (An Autonomous Institution Affiliated to *Rashtrasant Tukadoji Maharaj Nagpur University*).

  
**Ms. Charuta S. Waghmare**  
(Guide)  
(Asst. Prof, YCCE)

**Dr. Kishore Malviya**  
(Co-Guide)  
(Associate VP)  
(SMS Envocare Ltd. Nagpur)

  
**Dr. S. V. Ambekar**  
(Coordinator)

  
**Dr. S. R. Khandeshwar**  
(HOD, CE Dept.)

  
**Dr. U. P. Waghe**  
(Principal)

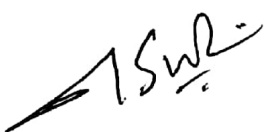
Signature of External Examiner

Name:

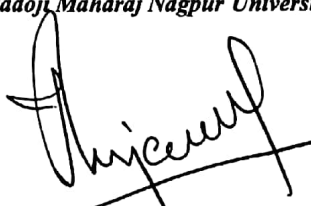
Date of Examination:

## CERTIFICATE OF APPROVAL

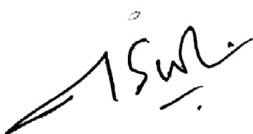
Certified that the project report entitled "**Comprehensive Design of Upflow Anaerobic Sludge Blanket (UASB) Reactor**" has been successfully completed by **Munira J. Khan** under the guidance of **Prof. S.V.Ambekar** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Environmental Engineering, **Yeshwantrao Chavan College of Engineering, Nagpur.**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).*




**Prof. S.V. Ambekar**  
(Guide)




**Er. Jagdish Lanjewar**  
(Co-Guide)  
(Director)  
(Sun Enviro Technologies Pvt. Ltd. Nagpur)



**Dr. S. V. Ambekar**  
(Coordinator)



**Dr. S.R. Khandeshwar**  
(HOD, CE Dept.)



**Dr. U. P. Waghe**  
(Principal)

Signature of External Examiner

Name:

Date of Examination:



## CERTIFICATE OF APPROVAL

Certified that the project report entitled “**Design And Analysis Of Group Water Supply Of Girodhuri Mela And 23 Villages Using Water Gems**” has been successfully completed by **Pranit S. Hunge** under the guidance of **Mr. Khalid S. Ansari** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Environmental Engineering, **Yeshwantrao Chavan College of Engineering, Nagpur. (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).**



Mr. Khalid S. Ansari  
(Guide)

Er. Rahul P. Date  
(Co-Guide)  
(Director)

(M/s Puranik Brothers ,Nagpur)

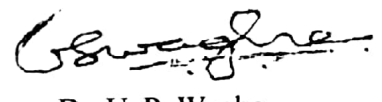
Dr. Tripti B. Gupta  
(Co-Guide)  
(Asst. Professor)  
(RCOEM, Nagpur)



Dr. S. V. Ambekar  
(Coordinator)



Dr. S.R. Khandeshwar  
(HOD, CE Dept.)



Dr. U. P. Waghe  
(Principal)

Signature of External Examiner:

Name:

Date of Examination :


## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**COMPREHENSIVE DESIGN OF SOLID WASTE DIGESTER**" has been successfully completed by **Ayushi S. Pannase** under the guidance of **Dr.S.R.Khandeshwar** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Environmental Engineering, Yashwantrao Chavan College of Engineering (An Autonomous institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).


**Dr.S.R.Khandeshwar**  
(Guide)  
(HOD,CE Dept.)



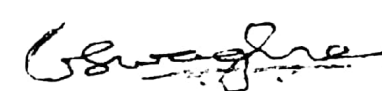
**Er. Jagdish Langewar**  
(Co-Guide)  
(Director)  
(Sun Enviro Technologies PVT.LTD.)



**Dr.S.V.Ambekar**  
(Coordinator)



**Dr.S.R.Khandeshwar**  
(HOD,CE Dept.)



**Dr.U.P.Waghe**  
(Principal)

Signature of External Examiner

Name

Date of Examine

Yeshwantrao Chavan College of Engineering, Nagpur

Department of Information Technology

Session: 2019-20



## Certificate

This is to certify that Mr./Ms. **Aditi Gupta, Samiksha Yede, Satish Gavhane, Sumit Mokde, Sumit Heliwal** has completed a **Mini Project** course titled "**Material Classification in Stone Crusher Industry using Image Processing**" towards the partial fulfillment of requirements for the B.E. sixth semester of Information Technology.

Submitted by

**Aditi Gupta**

**Samiksha Yede**

**Satish Gavhane**

**Sumit Mokde**

**Sumit Heliwal**

**Dr. K. K. Bhoyar**

Project Guide

**Mr. B. U. Bawankar**

Project Co-ordinator(IT)

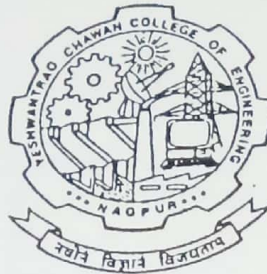
**Prof. R. C. Dharmik**

HOD (IT)

Yeshwantrao Chavan College of Engineering, Nagpur

Department of Information Technology

Session: 2019-20

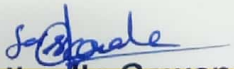


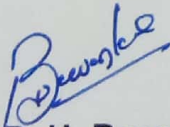
## Certificate


This is to certify that Mr. Sumedh Ghatwai, Mr. Pratyush Joshi, Mr. Shreyas Nemade, Mr. Soham Balkothe and Mr. Nishant Shrikhande has completed a **Mini Project** course titled "**Auto attendance marking based on Facial Recognition**" towards the partial fulfillment of requirements for the B.E. sixth semester of Information Technology.

Submitted by

Pratyush Joshi  
Sumedh Ghatwai  
Shreyas Nemade  
Soham Balkothe  
Nishant Shrikhande

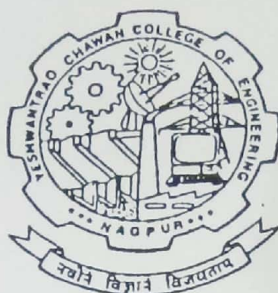
  
"Dr. Ujwala Gawande"  
Project Guide

  
Mr. B. U. Bawankar  
Project Co-Ordinator (IT)

  
Prof. R. C. Dharmik  
HOD (IT)



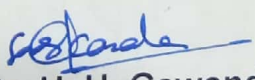
Session: 2019-20





## Certificate

This is to certify that Ms. Papiya Ramteke, Mr. Pritesh Kumare, Mr. Tanay Totade, Mr. Vaibhav Padole has completed a **Mini Project** course titled "**Real-time Yoga posture correction System using Image Processing**" towards the partial fulfillment of requirements for the B.E. sixth semester of Information Technology.

Submitted by  
Papiya Ramteke  
Pritesh Kumare  
Tanay Totade  
Vaibhav Padole

  
"Dr. U. H. Gawande"  
Project Guide

  
Mr. B. U. Bawankar  
Project Co-ordinator (IT)

  
Prof. R. C. Dharmik  
HOD (IT)

# **IOT BASED PORTABLE VACCINE COLD BOX FOR SMART HEALTHCARE**

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*  
*For the award of the degree*  
*Of*  
**Bachelor of Engineering in Electronics Engineering**  
*By*  
**Abhiram Mangde**

*Under the guidance of*

**Dr. Shilpa Gaidhane**

**Dr. Prachi Palsodkar**



**DEPARTMENT OF ELECTRONICS ENGINEERING**  
Nagar Yuwak Shikshan Sanstha's  
**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*  
**NAGPUR – 441 110**  
**2019-2020**



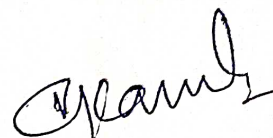
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "IOT BASED PORTABLE VACCINE COLD BOX FOR SMART HEALTHCARE" has been successfully completed by Abhiram Mangde under the guidance of **Dr. Prachi Palsodkar** and Dr. SHILPA GAIDHANE(DMIMS Wardha) in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering(*An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*) during session 2019-20.



Signature

**Dr. Prachi Palsodkar**  
(Guide)



Signature

**Dr. P.T. Karule**  
(HoD, EE)

# **Hemolysis Detection in Blood Samples**

**Project report submitted**

**For**

**Partial fulfillment for the award of  
Degree of Bachelor of Engineering in  
Electronics Engineering**

**Presented By**

**Ajinkya Yelne**

**Nikhil Joshi**

**Under the Guidance of**

**Prof. Dr. Prachi Palsodkar**



**Department of Electronics Engineering**

**Nagar YuwakShikshanSanstha's**

**YeshwantraoChavan College of Engineering**

**(An Autonomous institution affiliated to RashtrasantTukadojiMaharaj Nagpur University)**

**Wanadongri, Hingna Road, Nagpur – 441 110**

**2019 – 2020**



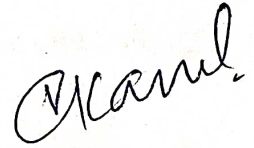
## CERTIFICATE OF APPROVAL

This is to Certify that the project report entitled “Hemolysis Detection In Blood Samples” has been successfully completed by **Nikhil Joshi, Ajinkya Yelne** under the guidance of **Dr. Prachi Palsodkar and Dr. Shilpa Gaidhani (DMIMS wardha)** in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Electronics Engineering, **YeshwantraoChavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)** during session 2019-20.



Signature

**Dr. Prachi Palsodkar**  
(Guide)



Signature

**Dr. P.T. Karule**  
(HoD, EE)

# **MAPPING OF UNDERWATER TOPOGRAPHY AND VOLUMETRIC ESTIMATION OF RESERVIOR USING ULTRASONIC AND IoT BASED SENSORS**

Undertaken at  
**REGIONAL REMOTE SENSING CENTER (CENTRAL), ISRO**

This project report is submitted to

**Yeshwantrao Chavan College of Engineering**

(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur  
University)

In partial fulfilment of the requirement for the award of the degree of  
**Bachelor of Engineering in Electronics Engineering**

By

**Gauri Hirwade**

**Vrushabh Fasge**

Under the guidance of

**Prof. Aniket Gokhale**

**Mr. Ashish Shrivastava**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

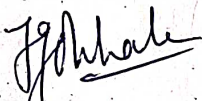
**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)**  
**NAGPUR – 441 110**

**2019-2020**



# CERTIFICATE OF APPROVAL

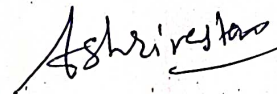
Certified that the project report entitled "MAPPING OF UNDERWATER TOPOGRAPHY AND VOLUMETRIC ESTIMATION OF RESERVIOR USING ULTRASONIC AND IoT BASED SENSORS" has been submitted by GAURI HIRWADE and VRUSHABH FASGE under the guidance of Prof. Aniket Gokhale and Mr. Ashish Shrivastava in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during academic session 2019-2020.



Signature

Prof. Aniket Gokhale

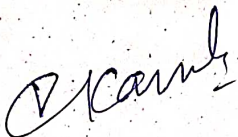
(Guide)



Signature

Mr. Ashish Shrivastava

(Co-guide)



Signature

Dr. P.T. Karule

(HoD, EE Dept.)

# SMART BUILDING MANAGEMENT SYSTEM USING LORA TECHNOLOGY

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

*Nitish Pardhi*

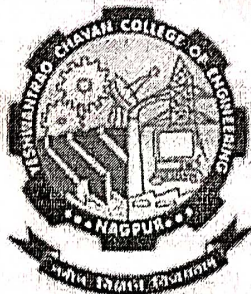
*Aditi Chitri*

*Under the guidance of*

**Prof. Aniket Gokhale (Associate Professor)**

*Industrial Guide*

**Mr. Sarang Thakre (Managing Director)**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur*

*University, Nagpur)*

**NAGPUR – 441 110**

**2019-2020**



## CERTIFICATE OF APPROVAL

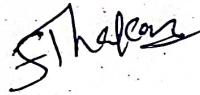
Certified that the project report entitled "SMART BUILDING MANAGEMENT SYSYEM USING LoRa TECHNOLOGY" has been successfully completed by NITISH PARDHI and ADITI CHITRIV under the guidance of **Prof. ANIKET GOKHALE, YCCE**, Nagpur and Mr. Sarang Thakre, Managing Director, Sacchhidanad U-Tech, Nagpur, in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University*), during academic session 2019-2020.



Signature

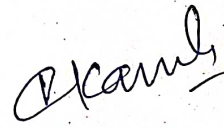
Guide

Prof. Aniket Gokhale  
(Associate Professor)



Signature

Industrial Guide  
Mr. Sarang Thakre  
(Managing Director)  
Sacchhidanad  
U-Tech, Nagpur



Signature

HOD  
Dr. P. T. Karule  
(EE)

# **SALESFORCE**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

**Mr. Kunal Sheshrao Takalkhede**

*Under the guidance of*

*Guide*

**Mr. Manglesh Pathekar**

*Guide (from College)*

**Prof: S Y Ambatkar**

*At*

**TATA CONSULTANCY SERVICES**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

Nagar Yuvak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)**

**NAGPUR – 441 110**

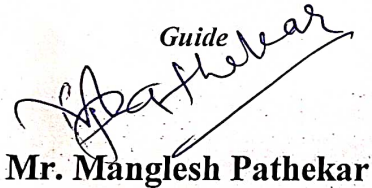
**2019-2020**



## CERTIFICATE OF APPROVAL

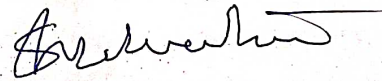
Certified that the project report entitled "SALESFORCE" has been successfully completed by KUNAL S. TAKALKHEDE under the guidance of MR. MANGLESH PATHEKAR and Prof. S. Y. AMBATKAR in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).

Guide



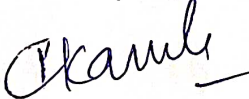
**Mr. Manglesh Pathekar**  
Delivery Manager  
Tata Consultancy Services  
Nagpur

Guide (from College)



**Prof. S. Y. Ambatkar**  
Department of Electronics  
Yeshwantrao Chavan College of Engineering  
Nagpur

Head of Department



**Dr. P. T. Karule**  
Department of Electronics  
Yeshwantrao Chavan College of Engineering  
Nagpur

External Examiner:

Name: P. V. Joshi

Date of Examination:

# **Crime Detecting Camera**

Project report submitted

For

Partial fulfillment for the award of  
Degree of Bachelor of Engineering in

Electronics Engineering

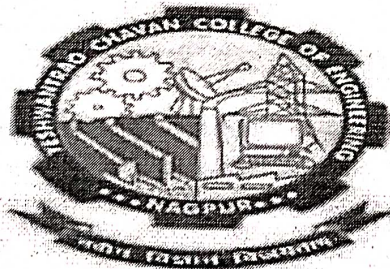
Presented By

Sarang H. Ghormade

Arnav A. Khamankar

Under the Guidance of

**Prof. Dr. Atish S. Khobragade**



Department of Electronics Engineering

Nagar Yuwak Shikshan Sanstha's

**Yeshwantrao Chavan College of Engineering**

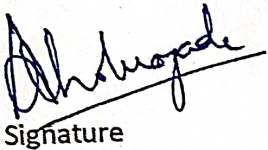
(An Autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University Wanadongri, Hingna Road, Nagpur-441110

2019 – 2020)



# CERTIFICATE OF APPROVAL

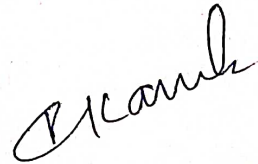
This is to Certify that the project report entitled "Crime Detection Camera" has been successfully completed by **Sarang H. Ghormade, Arnav A. Khamankar** under the guidance of **Prof. Dr. Atish S. Khobragade** in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University) during session 2019-2020



Signature

(Guide)

Prof. Dr Atish S. Khobragade



Signature

(HoD, EE Dept.)

Dr. P T Karule

# **“SAFER SMART SHOE”**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur  
University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*Of*

**Bachelor of Engineering in Electronics Engineering**

*By*

**Nanu Jagdamwar**

**Ashlesha Barapatre**

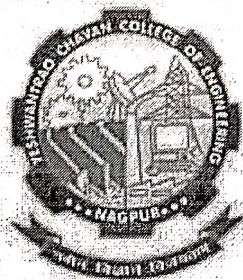
**Tejal Kubde**

**Shalaka Mallik**

**Chetna Gohokar**

*Under the guidance of*

**Dr. Prachi P. Palsodkar**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukdoji Maharaj Nagpur**

**University, Nagpur)**

**NAGPUR – 441 110**

**2019-2020**



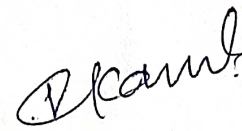
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "SAFER SMART SHOE" has been successfully completed by NANU JAGDAMWAR, ASHLESHA BARAPATRE, TEJAL KUBDE, SHALAKA MALLIK, CHETNA GOHOKAR under the guidance of **Dr. PRACHI P. PALSODKAR** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*) during session 2019-20.



Signature

**Dr. Prachi Palsodkar**  
(Guide)



Signature

**Dr. P.T. Karule**  
(HoD, EE)

# **Implementation of Barrel Shifter**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

*Adarsh Tabhane*

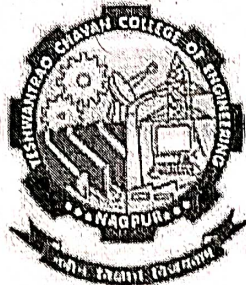
*Bhavesh Bagde*

*Karuna Sonawane*

*Rutuja Patil*

*Under the guidance of*

**Dr. Pravin P. Zode**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University, Nagpur)**


**NAGPUR - 441110**

**2019-2020**



## CERTIFICATE OF APPROVAL

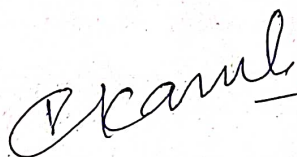
Certified that the project report entitled "Implementation of Low Power Barrel Shifter" has been successfully completed by Adarsh Tabhane, Bhavesh Bagde, Karuna Sonawane, and Rutuja Patil under the guidance of Dr. Pravin P. Zode in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during session 2019-20



Signature

**Dr. Pravin Zode**

**(Guide)**



Signature

**Dr. P. T. Karule**

**(HOD, EE)**

# COMPARATIVE STUDY AND IMPLEMENTATION OF 4- BIT FAST MULTIPLIERS

*This project report is submitted to*  
Yeshwantrao Chavan College of Engineering  
(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University)

*In partial fulfillment of the*  
*requirement for the award of the*  
*degree*  
*of*  
Bachelor of Engineering In Electronics Engineering

*By*  
Priyanka Tawari  
Dhanashree Choudhari  
Arpita Raut  
Himanshu Balpande

*Under the guidance of*  
Prof. Mahesh Pawar



DEPARTMENT OF ELECTRONICS ENGINEERING

Nagar YuvakShikshanSanstha's

YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur

University, Nagpur)

NAGPUR -441110

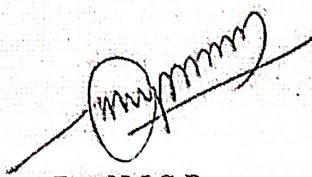
2019-2020



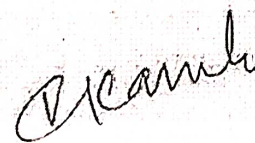
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "*COMPARATIVE STUDY AND IMPLEMENTATION OF 4-BIT FASTMULTIPLIERS*" has been successfully completed by PRIYANKA TAWARI, DHANASHREE CHOUDHARI, ARPITA RAUT, HIMANSHU BALPANDE.

Under the guidance of **Prof.M.S.Pawar** in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University*) during the session 2019-20.



Prof.M.S.Pawar  
(Guide)

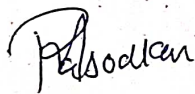


Dr.P.T.Karule  
(H.O.D, EE Dept)

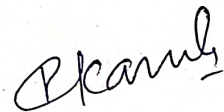


## CERTIFICATE OF APPROVAL

Certified that the project report entitled "AGRICULTURAL DRONE" has been successfully completed by ANURAG SANGAI, JATIN KODWANI, SHYAAM NAWALKAR, PRACHI POINKAR, PRIYA BONSULE under the guidance of Dr. PRASANNA PALSODKAR in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during session 2019-20.



Signature  
Dr. Prasanna Palsodkar  
(Guide)



Signature  
Dr. P. T. Karule  
(HoD, EE)

# **Rectangular Microstrip Antenna with DGS**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*Of*

**Bachelor of Engineering in Electronics Engineering**

*By*

**Mohit Tikariya(16010637)**

**Simran Vinod Hemnani (16010299)**

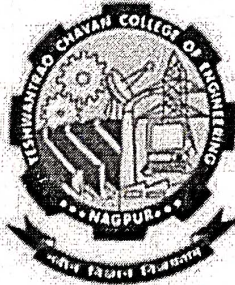
**Anmol Makhariya (16010950)**

**Sayali Umredkar (16010131)**

**Mrunal Gawande (16010537)**

*Under the guidance of*

**Prof A.B.Thatere**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur**

**University, Nagpur)**

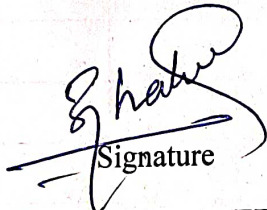
**NAGPUR – 441 110**

**2019-2020**

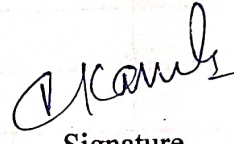


## CERTIFICATE OF APPROVAL

Certified that the project report entitled “Rectangular Microstrip Antenna with DGS” has been successfully completed by “ Mohit Tikariya, Simran Vinod Hemnani, Anmol Makhariya, Sayali Umredkar, Mrunal Gawande” under the guidance of **PROF A.B.THATERE** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University*) during session 2019-20.



Signature  
**Prof A.B. THATERE**  
(Guide)



Signature  
**Dr. P. T. Karule**  
(HoD, EE)



# **A DEFENDER FOR WOMEN SAFETY**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

**Utkarsha Mahajan**

**Surbhi Wasade**

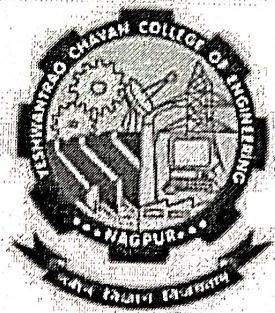
**Nupur Malokar**

**Vishakha Huddar**

**Roshni Thawse**

*Under the guidance of*

**Dr. P. T. Karule**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur*

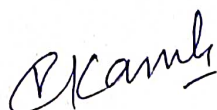
*University, Nagpur)*

**NAGPUR – 441110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled “ A DEFENDER FOR WOMEN SAFETY ” has been successfully completed by UTKARSHA MAHAJAN , SURBHI WASADE , NUPUR MALOKAR , VISHAKHA HUDDAR and ROSHNI THAWSE under the guidance of **Dr. P. T.KARULE** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University*). during session 2019-20



Signature:

**Dr.P.T.Karule**  
(Guide)



Signature:

**Mr .Prathamesh**  
**Kashelkar**  
(Co-guide)

**EMBEDDED SYSTEM FOR THE SMART CITY**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

**Ketan B. Kulkarni**

**Swanand D. Dhok**

**Ruta M. Moharil**

**Saish S. Dixit**

**Falguni S. Mohod**

*Under the guidance of*



**Dr. Shubhangi Ratkanthiwar**

**DEPARTMENT OF ELECTRONICS ENGINEERING**

*Nagar Vavak Shikshan Samstha's*

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur*

*University, Nagpur)*

**NAGPUR - 441 110**

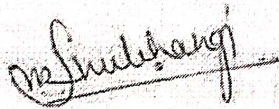
**2019-2020**



## CERTIFICATE OF APPROVAL

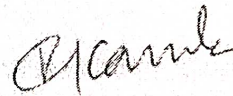
Certified that the project report entitled "SMART CITY" has been successfully completed by KETAN KULKARNI, SWANAND DHOK, RUTA MOHARIL, SAISH DIXIT and FALGUNI MOHOD under the guidance of **Dr. SHUBHANGI RATHKANTHIWAR** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University*), during academic session 2019-20.

Signature



**Dr. SHUBHANGI RATHKANTHIWAR**  
(Guide)

Signature



**Dr. P.T. KARULE**  
(HoD, EE)



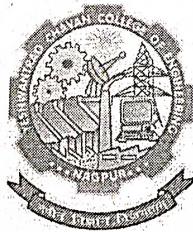
# OBJECT SORTING ROBOTIC ARM USING RPI & COLOR

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj*  
*Nagpur*  
*University)*

*In partial fulfillment of the requirement*  
*for the award of the degree*  
*of*  
**Bachelor of Engineering in Electronics Engineering**

*By*  
**Shivangi S. Deshpande**  
**Shreyas J. Bante**  
**Shruti J. Joshi**  
**Sanket A. Dhote**  
**Abhijeet S. Bhadbhade**

*Under the guidance of*  
**Dr. Mrs. T.G. Panse**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur**

**University, Nagpur)**

**NAGPUR – 441 110**


**2019-2020**



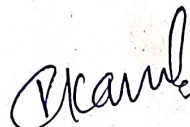
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "OBJECT SORTING ROBOTIC ARM USING RPI AND COLOR" has been successfully completed by SHIVANGI S. DESHPANDE, SHREYAS J. BANTE, SHRUTI J. JOSHI, SANKET A. DHOTE and ABHIJIT S.

BHADBHADE under the guidance of **Dr. Mrs. T.G. PANSE** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University*) during session 2019-20.

  
Signature

Dr. Mrs. T.G. Panse  
(Guide)

  
Signature

Dr. P. T. Karule  
(HoD, EE)



# IMPLEMENTATION OF LOW-COST PCB DESIGNING PROCESS

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur*  
*University)*

*In partial fulfillment of the requirement*  
*for the award of the degree*  
*of*  
**Bachelor of Engineering in Electronics Engineering**

*By*  
**Ninad M. Katole**  
**Payal V. Patle**  
**Nikhil V. Ingole**  
**Nikita Bhange**  
**Manisha R. Kshirsagar**

*Under the guidance of*  
**Dr. U. S. Ghodeswar**



**DEPARTMENT OF ELECTRONICS ENGINEERING**  
**Nagar Yuvak Shikshan Sanstha's**  
**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur)**  
**University, Nagpur)**  
**NAGPUR – 441 110**  
**2019-2020**

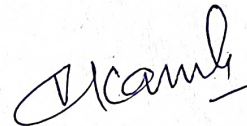
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "IMPLEMENTATION OF LOW-COST PCB DESIGNING PROCESS" has been successfully completed by NINAD KATOLE, PAYAL PATLE, NIKHIL INGOLE, NIKITA BHANGE and MANISHA KSHIRSAGAR under the guidance of Dr. U. S. GHODESWAR in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).  
during session 2019-20.



Signature

Dr. U.S. Ghodeswar  
(Guide)



Signature

Dr. P.T. Karule  
(HoD, EE)

Signature of External Examiner: Mohini Vyawahare  
Name:  
Date of Examination:



# SMARTFARMING

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj*

*Nagpur University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

*Devdatta Anjankar*

*Parth Tare*

*Harshit Mardikar*

*Apurva Pawar*

*Mayuri Mehere*

*Under the Guidance of*

**Prof. Vilas Alagdeve**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur**

**University, Nagpur)**

**NAGPUR – 441110**

**2019 - 2020**

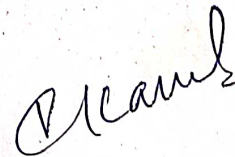


## CERTIFICATE OF APPROVAL

Certified that the project report entitled "SMART FARMING" has been successfully completed by DEVDATTA ANJANKAR, PARTH TARE, HARSHIT MARDIKAR, APURVA PAWAR and MAYURI MEHERE under the guidance of **Prof. Vilas Alagdeve** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during session 2019-20



Signature:  
**Prof. Vilas Alagdeve**  
( GUIDE )



Signature:  
**Dr. P. T. Karule**  
(HoD, EE)

# Exam Candidate's authentication system using Portable biometric device

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur  
University)*

*In partial fulfillment of the requirement for the award of the degree  
of*

**Bachelor of Engineering in Electronics Engineering**

*By*

**Mrunmay Nandanwar**

**Divyani Mehar**

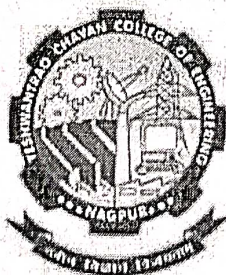
**Pratiksha Pangul**

**Ruchi Korde**

**Jay Mundle**

*Under the guidance of*

**Dr. Monica N. Kalbande**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

**NAGPUR - 441110**

**2019-2020**



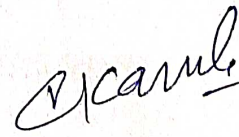
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "EXAM CANDIDATE'S AUTHENTICATION SYSTEM USING PORTABLE BIOMETRIC DEVICE" has been successfully completed by **MRUNMAY NANDANWAR, DIVYANI MEHAR, PRATIKSHA PANGUL, RUCHI KORDE, JAY MUNDLE** under the guidance of **Dr. MONICA KALBANDE** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in **Electronics Engineering**, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)** during session 2019-20.



Signature

**Dr. Monica N. Kalbande**  
(Guide)



Signature

**Dr. P.T. Karule**  
(HoD, EE)



**Implementation of Efficient Hospitality Management System**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

**Rohit Choudhari**

**Aditi Dhoke**

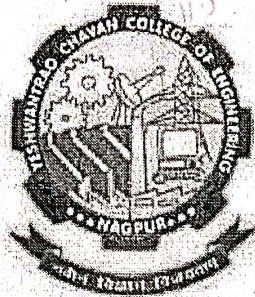
**Krutika Hatwar**

**Shubham Kanade**

**Kunal Takalkhede**

*Under the guidance of*

**S.Y. Ambatkar**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to*

**Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)**

**NAGPUR – 441110**

**2019-2020**

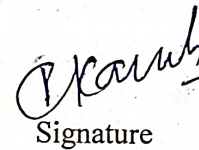


## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Implementation of Efficient Hospitality Management System" has been successfully completed by Rohit Choudhari, Aditi Dhoke, Krutika Hatwar, Shubham Kanade, Kunal Takalkhede under the guidance of S.Y. Ambatkar in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during session 2019-20

  
Signature

S.Y. Ambatkar  
(Guide)

  
Signature

Dr. P. T. Karule  
(HoD, EE)



## WIRELESS SALINE MONITORING

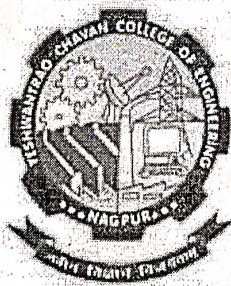
*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*  
*In partial fulfillment of the requirement*  
*for the award of the degree*  
*of*  
**Bachelor of Engineering in Electronics Engineering**

*By*

*Tushar A. Madewar*  
*Bhimrao B. Shende*  
*Ajinkya Andraskar*  
*Shrushti Gajbhiye*  
*Minakshi Harinkhede*

*Under the guidance of*

**Mrs. Pradnya Zode**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

Nagar Yuvak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur*

*University, Nagpur)*

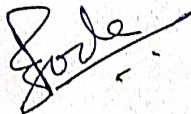
**NAGPUR – 441110**

**2019-2020**



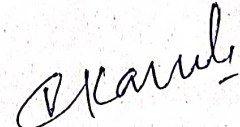
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "WIRELESS SALINE MONITORING" has been successfully completed by TUSHAR MADEWAR, BHIMRAO SHENDE, AJINKYA ANDRASKAR, SHRUSHTI GAJBHIYE, and MINAKSHI HARINKHEDE under the guidance of Mrs. PRADNYA ZODE in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during session 2019-20



Signature

Mrs. Pradnya Zode  
(Guide)



Signature

Dr. P. T. Karule  
(HoD, EE)



# **E - AGRICULTURE MONITORING SYSTEM**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University)*

*In partial fulfilment of the requirement*

*for the award of the degree of*

**Bachelor of Engineering in Electronics Engineering**

*By*

*Kapil Sharma*

*Mrunalini Lohi*

*Rahul Yadav*

*Sachin Yadav*

*Varun S. Saysardar*

*Under the guidance of*

**Prof. K. G. Pande**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur**

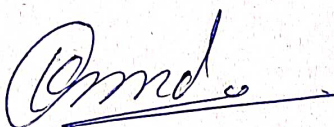
**University, Nagpur)**

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

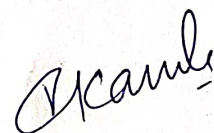
Certified that the project report entitled "E - AGRICULTURE MONITORING SYSTEM" has been successfully completed by KAPIL SHARMA, MRUNALINI LOHI, RAHUL YADAV, SACHIN YADAV, VARUN SAYSARDAR under the guidance of Prof. K. G. PANDE in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during session 2019-20.



Signature

Prof. K. G. PANDE

(Guide)



Signature

Dr. P. T. Karule

(HoD, EE)



# Life Saver Solar Fencing For Farm, Farmer And Animals

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

**By**

*Abhijeet Kale*

*Saurabh Urkude*

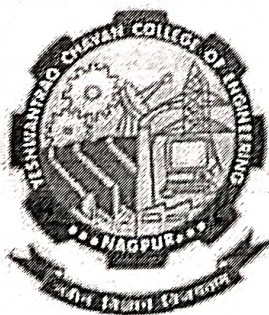
*Sahil Bankar*

*Amrutha Khedkar*

*Gaurav Deshmukh*

*Under the guidance of*

**Mrs. Ankita Tijare**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur**

**University, Nagpur)**

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Life saver Solar Fencing for farm, farmer and animals" has been successfully completed by ABHIJEET KALE, SAURABH URKUDE , SAHIL BANKAR , AMRUTHA KHEDKAR and GAURAV DESHMUKH under the guidance of **MS. ANKITA TIJARE** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during the session 2019-20.

Signature

Mrs. Ankita Tijare  
(Guide)

Signature

Dr. P.T. Karule  
(HoD, EE)

# DESIGN OF KNEE PHYSIOTHERAPY MACHINE

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

**Anagha Kasare**

**Pratik Selokar**

**Saurabh Kargoankar**

**Vaishnavi Sahu**

**Vidhi Doshi**

*Under the guidance of*

**Prof Pradnya Jadhav**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur*

*University, Nagpur)*

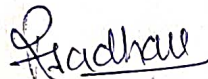
**NAGPUR - 441110**

**2019-2020**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "DESIGN OF KNEE PHYSIOTHERAPY MACHINE" has been successfully completed by Anagha Kasare, Pratik Selokar, Saurabh Karagaokar, Vaishnai Sahu, Vidhi Doshi under the guidance of Prof.P.A.Jadhav in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University) during session 2019-20.

  
Signature

Prof .P.A.Jadhav  
(Guide)

  
Signature

Dr. P.T.Karule  
(HoD, EE)

# SMART MOTION DETECTION AND SECURITY SYSTEM USING RASPBERRY PI

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

*Heena D. Amdare*

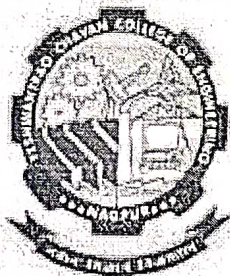
*Shubhangi Singh*

*Harsha S. Bokde*

*Mayuri S. Bhade*

*Under the guidance of*

**Prof. Rupali S. Balpande**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur*

*University, Nagpur)*

**NAGPUR – 441 110**

**2019-2020**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "SMART MOTION DETECTION AND SECURITY SYSTEM USING RASPBERRY PI" has been successfully completed by HEENA AMDARE, SHUBHANGI SINGH, HARSHA BOKDE, and MAYURI BHADE under the guidance of Prof. **RUPALI BHALPANDE** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during session 2019-20

Signature

Prof. Rupali Balpande  
(Guide)

Signature

Dr. P. T. Karule  
(HoD, EE)



# SMART SECURITY SYSTEM FOR THEFT PROTECTION USING FACE RECOGNITION

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

*Pranjali A. Asare*

*Komal D. Mohankar*

*Suchita C. Gondane*

*Lucky R. Rakhunde*

*Under the guidance of*

**Dr. Atish S. Khobragade**



**Department of Electronics Engineering**

**Nagar Yuvak Shikshan Sanstha's**

**Yeshwantrao Chavan College of Engineering**

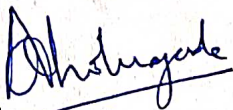
*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)*

**Nagpur-441110**

**2019-2020**

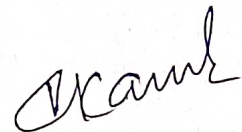
### CERTIFICATE OF APPROVAL

Certified that the project report entitled "SMART SECURITY SYSTEM FOR THEFT PROTECTION USING FACE RECOGNITION" has been successfully completed by KOMAL MOHANKAR, PRANJALI ASARE, SUCHITA GONDANE, LUCKY RAKHUNDE under the guidance of Dr. A.S.KHOBRADE in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during session 2019-20



Signature

Dr. A. S. Khobragade  
(Guide)



Signature

Dr. P.T. Karule  
(HOD, EE)



# ADAPTIVE COOLING SYSTEM

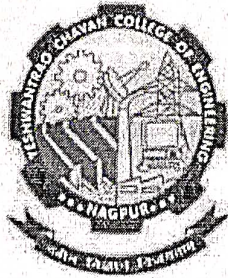
*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur*  
*University)*

*In partial fulfillment of the requirement*  
*for the award of the degree*  
*of*  
**Bachelor of Engineering in Electronics Engineering**

*By*  
**Mohit Nandanwar**  
**Shivam Menghare**  
**Mukul Dekate**  
**Vijay Sangewar**  
**Vishal Katre**

*Under the guidance of*

**Dr. Y. A. Gaidhani**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

Nagar Yuvak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur*

*University, Nagpur)*

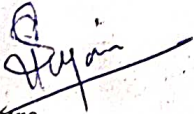
**NAGPUR – 441110**

**2019-2020**



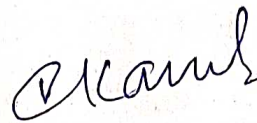
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "ADAPTIVE COOLING SYSTEM" has been successfully completed by MOHIT NANDANWAR, VISHAL KATRE, MUKUL DEKATE, VIJAY SANGEWAR and SHIVAM MENGHARE, under the guidance of Dr. Y. A. Gaidhani in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during session 2019-20.



Signature

Dr. Y. A. GAIDHANI  
(Guide)



Signature

Dr. P. T. KARULE  
(HoD, EE)

# **AUTOMATIC CYLINDER MONITORING AND BOOKING SYSTEM WITH LEAKAGE ALERT**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur  
University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

*Ashlesha Bende*

*Hrishikesh karmarkar*

*Roshani Bawane*

*Simran Bhute*

*Under the guidance of*

**Dr. Yogesh A. Suryawanshi**

**and**

**Prof. Bharat Sudame**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**


*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University, Nagpur)*

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "AUTOMATIC CYLINDER MONITORING AND BOOKING SYSTEM WITH LEAKAGE ALERT" has been successfully completed by ASHLESHA BENDE, HRISHIKESH KALMARKAR, ROSHANI BAWANE and SIMRAN BHUTE under the guidance of **Dr. Yogesh A. Suryawanshi** and Prof. Bharat Sudame in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University*) during Session 2019-2020



Signature

Dr. Y. A. Suryawanshi

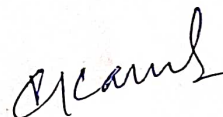
(Guide)



Signature

Prof. B. Sudame

(Co-Guide)



Signature

Dr. P. T. Karule

(HoD, EE)





# Face Detection and recognition System Using Raspberry Pi



Project report submitted in partial fulfillment of the requirement  
for the degree of Bachelor of Engineering

in

**Electronics Engineering**

By

**Ayush Patinge**

**Anurag Dokrimare**

**Abhishek Dafale**

**Ashwini Ingle**

**Divyensh Raut**

Under the supervision

of

**Dean A.V.Bapat**

**Prof. V.D.Alagdeve**

**Yeshwantrao Chavan College of Engineering.**

**Hingna Rd, Wanadongri ct,  
Nagpur, Maharashtra 441110.**

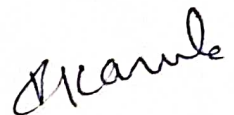


## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Face Detection and recognition System Using Raspberry Pi" has been successfully completed by AYUSH PATINGE, ANURAG DOKRIMARE, ABHISHEK DAFALE, ASHWINI INGLE AND DIVYENSH RAUT under the guidance of Prof. **Vilas Alagdeve** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University*) during session 2019-20



Signature:  
Prof. Vilas Alagdeve  
( GUIDE )



Signature:  
Dr. P. T. Karule  
(HoD, EE)

# **IOT Based Industrial DC motor speed control and monitoring parameter using Arduino**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

*Aparna A. Salpute*

*Juhi M. Istam*

*Tanushree S. Chowre*

*Dinesh S. Deogade*

*Shubhechchha Nikhare*

*Under the guidance of*

**Prof. Atish Peshattiwar**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuva Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur**

**University, Nagpur)**

**NAGPUR - 441110**

**2019-2020**



# **IOT Based Industrial DC motor speed control and monitoring parameter using Arduino**

*This project report is submitted to*

**YeshwantraoChavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

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*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

*Aparna A.Satpute*

*Juhi M. Istam*

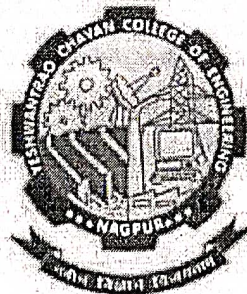
*Tanushree S. Chowre*

*Dinesh S.Deogade*

*Shubhechchha Nikhare*

*Under the guidance of*

**Prof. Atish Peshattiwar**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur**

**University, Nagpur)**

**NAGPUR – 441110**

**2019-2020**

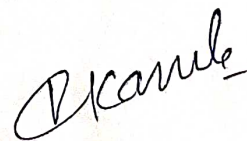


## CERTIFICATE OF APPROVAL

Certified that the project report entitled "IOT BASED INDUSTRIAL DC MOTOR SPEED CONTROL AND MONITORING PARAMETER USING ARDUINO" has been successfully completed by APARNA SATPUTE, JUHI ISTAM, TANUSHREE CHOWRE, DINESH DEOGADE and SHUBHECHCHHA NIKHARE under the guidance of **PROF. ATISH PESHATTIWAR** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University*). during session 2019-20.



Prof. Atish Peshattiwar  
(Guide)



Dr. P. T. Karule  
(HoD,EE)

# DROWSINESS DETECTION USING RASPBERRY PI

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfilment of the requirement  
for the award of the degree  
of*

**Bachelor of Engineering in Electronics Engineering**  
*By*

*Kanchan Dhete  
Pragati Meshram  
Sarmishtha Kothare  
Nikita Vaish  
Riya Vaidya*

*Under the guidance of*  
**Mrs. Shweta Dhondse**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

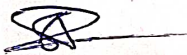
**Nagar Yuvak Shikshan Sanstha's  
YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

**NAGPUR – 441 110  
2019-2020**

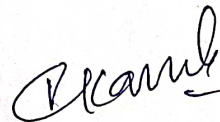


## CERTIFICATE OF APPROVAL

Certified that the project report entitled "DROWSINESS DETECTION USING RASPBERRY PI" has been successfully completed by KANCHAN DHETE, PRAGATI MESHRAM, SARMISHTHA KOTHARE, NIKITA VAISH, RIYA VAIDYA under the guidance of **PROF. SHWETA DHONDSE** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University) during session 2019-20.



Signature  
**PROF SHWETA DHONDSE**  
(Guide)



Signature  
**Dr. P.T. Karule (HoD, EE)**



# DESIGN OF EFFICIENT 4-BIT SIPO SHIFT REGISTER

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement  
for the award of the degree  
of*

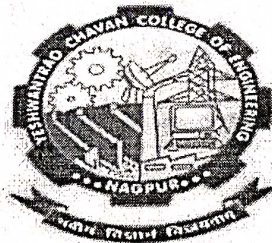
**Bachelor of Engineering in Electronics Engineering**

*By*

*Palash Thaokar  
Shrawan khobragade  
Anshul Chinchmalatpure  
Vaibhav Kherde  
Vaishnavi Madavi  
Trilok Sangode*

*Under the guidance of*

**Sandeep Kakde**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)**

**NAGPUR – 441 110**

**2019-2020**



## CERTIFICATE OF APPROVAL

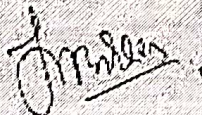
Certified that the project report entitled "DESIGN OF EFFICIENT 4-BIT SIPO SHIFT REGISTER " has been successfully completed by Palash Thaokar, Shrawan Khobragade, Anshul Chinchmalatpure, Valbhav Kherdw, Trilok Sangode, Valshnavi Madavi under the guidance of Sandeep Kakde in recognition to the partial fulfillment for the award of the degree of B.E. Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University), Nagpur during session 2019-20.



Signature

Sandeep Kakde

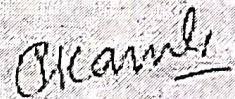
(Guide)



Signature

DR. P.P. PALSODKAR

(Project Coordinator)



Signature

DR. P.T. KARULE

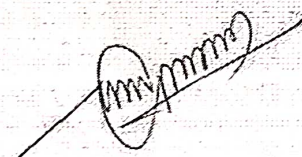
(HOD, EE Dept)



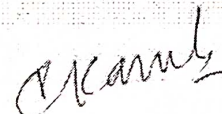
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "USB TO USB SERIAL SPLITTER" has been successfully completed by *FIZA RAHAT, DIMPLE KUNU, SAKSHI MAHAJAN&NIDHI MOTGHARE*.

Under the guidance of **Prof.M.S.Pawar** in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during the session 2019-20.



Prof.M.S.Pawar  
(Guide)



Dr.P.T.Karule  
(H.O.D, EE Dept)



**E-Farming**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*for the award of the degree*

*of*

**Bachelor of Engineering in Electronics Engineering**

*By*

**Madhuri Hajare**

**Jay Bahatkar**

**Gaurav Bhelkar**

**Mrunal Gajbhiye**

**Kalyani Bele**

*Under the guidance of*

**S.Y. Ambatkar**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuvak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to*

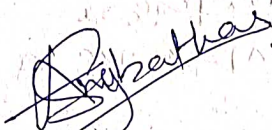
*Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

**NAGPUR - 441110**

**2019-2020**

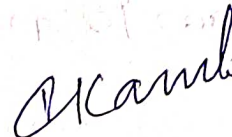
## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Implementation of Efficient Hospitality Management System" has been successfully completed by Rohit Choudhari, Aditi Dhoke, Krutika Hatwar, Shubham Kanade, Kunal Takalkhede under the guidance of **S.Y. Ambatkar** recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electronics Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) during session 2019-20



Signature

S.Y. Ambatkar  
(Guide)



Signature

Dr. P. T. Karule  
(HoD, EE)



# **INCREASING SYSTEM SECURITY WITH FULL HOMO-MORPHIC ENCRYPTION USING LAGRANGE'S FUNCTIONS**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*of*

**Master of Technology in Electronics**

*by*

**Miss. Sonali Gajanan Gaidhane**

*Under the guidance of*

**Dr. Shubhangi Rathkanthiwar**



**DEPARTMENT OF ELECTRONICS ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University,  
Nagpur)**

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "INCREASING SYSTEM SECURITY WITH FULL HOMO-MORPHIC ENCRYPTION USING LAGRANGE'S FUNCTIONS" has been successfully completed by Miss. Sonali Gajanan Gaidhane under the guidance of Dr. Shubhangi Rathkanthiwar in recognition to the partial fulfillment for the award of the degree of Master of Technology in Electronics, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University), Nagpur.



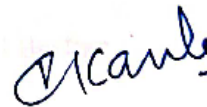
Signature

Dr. Shubhangi Rathkanthiwar  
(Guide)



Signature

Dr. U.S. Ghodeswar  
(Co-ordinator)



Signature

Dr. P.T. Karule  
(HoD, EE, Dept.)

# **"DESIGN AND FABRICATION OF BATTERY OPERATED POWER TILLER"**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering In**

**Mechanical Engineering**

*By*

**HIMANI DONADKAR**

**MAYANK RANGARI**

**NEHIT TIWARI**

**OM MANKAR**

**TUSHAR SHAHU**

*Under the guidance of*

**Dr. S. S. Khedkar**



**DEPARTMENT OF MECHANICAL ENGINEERING**

*Nagar Yuwak Shikshan Sanstha's*

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur)*

**NAGPUR - 441110**

**2019-2020**



## CERTIFICATE OF APPROVAL

This is to certify that the project report entitled "DESIGN AND FABRICATION OF BATTERY OPERATED POWER TILLER" has been successfully completed by MAYANK RANGARI, NEHIT TIWARI, OM MANKAR, TUSHAR SHAHU, HIMANI DONADKAR under the guidance of **DR. S. S. KHEDKAR** in the recognition to the partial fulfillment for the award of degree of Bachelor of Engineering in Mechanical Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Nagpur University)



Signature

(Dr. S. S. Khedkar)

Signature

**Prof. N. J. Giradkar**  
(coordinator)



Signature

**Dr. S. S. Chaudhary**  
(HOD, ME Dept.)

Signature of External Examiner:-

Name:-

Date of Examination:-

## DECLARATION


We certify that

- a. The work contained in this project has been done by me under the guidance of our supervisor(s).
- b. The work has not been submitted to any other Institute for any degree or diploma.
- c. We have followed the guidelines provided by the Institute in preparing the project report.
- d. We have conformed to the norms and guidelines given in Ethical Code of Conduct of the Institute.
- e. Whenever we used materials (data, theoretical analysis, figures and text) from other sources, we have given due credit to them by citing them in the text of the report and giving their details in the references. Further, we have taken permission from the copyright owners of the sources, whenever necessary.

Signature of students:

  
HIMANI DONADKAR

  
NEHIT TIWARI

  
TUSHAR SHAHU

  
MAYANK RANGARI

  
OM MANKAR

# **“DESIGN AND FABRICATION OF GRANULAR FERTILIZER INJECTOR”**

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement  
For the award of the degree*

*Of*

**Bachelor of Engineering in Mechanical Engineering**

*By*

**ARSHDEEP SINGH  
SANIDHYA KAPSE**

**PALLAV INDURKAR  
SHUBHANKAR DHONDSE**

*Under the guidance of*

**DR. S. S. KHEDKAR**



**DEPARTMENT OF MECHANICAL ENGINEERING**

**Nagar Yuwak Shikshan Santa's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University,*  
*Nagpur)*


**NAGPUR – 441 110**

**2019-2020**



## CERTIFICATE OF APPROVAL

This is Certified that the project report entitled "DESIGN AND FABRICATION OF FERTILIZER INJECTOR" has been successfully completed by ARSHDEEP SINGH, PALLAV INDURKAR, SANIDHYA KAPSE, SHUBHANKAR DHONDSE under the guidance of DR. S.S. KHEDKAR in recognition to the partial fulfillment for the award of the degree of Master of Technology in Mechanical Engineering, Yeshwantrao Chavan College of Engineering( An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)

  
Signature  
DR. S. S. KHEDKAR

Signature  
Prof.N.J.Giradkar  
(Coordinator)

Signature  
Dr. S.S.Chaudhari  
(HOD, ME Dept.)

Signature  
Dr. U.P.Waghe  
(Principal)

Signature of External Examiner

Name:

Date of Examination:

# **DESIGN AND FABRICATION OF DRAINAGE CLEANING SYSTEM**

**This project report is submitted to**

**Yeshwantrao Chavan College Of Engineering**

**(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**

**In partial fulfillment of the requirement**

**For the award of the degree**

**Of**

**Bachelor of Engineering in**

**Mechanical Engineering**

**By**

**ABHINAV KULLARKAR**

**PRATIK TALE**

**NIKHIL MOGRE**

**PRANAV AJMIRE**

**ABHISHEKSINGH**

**OMKAR GUTTE**

**Under the guidance of**

**Prof. DEV Y. SHAHARE**



**DEPARTMENT OF MECHANICAL ENGINEERING**

**Nagar Yuvak Shikshan Sanstha**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**


**(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**

**NAGPUR 441 110**




## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**DESIGN AND FABRICATION OF DRAINAGE CLEANING SYSTEM**" has been successfully completed by the students given below under the guidance of **Prof. Dev Y. Shahare** in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Mechanical Engineering, Yeshwantrao Chavan College Of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).

  
Prof. Dev Shahare  
(Project Guide)

Prof. N. J. Giradkar  
(Project Co-ordinator)

  
Dr. S. S. Chaudhari  
(HOD, ME Dept.)

Dr. U. P. Waghe  
(Principal)

(External Examiner)

Name:-

Date of Examination:-



# DESIGN AND FABRICATION OF WASTE COMPOSTER.

*This project report is submitted to*  
Yeshwantrao Chavan College of Engineering  
(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur  
University)

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Mechanical Engineering**

**By**

- |                        |                        |
|------------------------|------------------------|
| 1. Gunjan N. Gaurkhede | 5. Chandrakant S Dhote |
| 2. Atul B. Kulurkar    | 6. Bhushan B Ramdham   |
| 3. Rupesh S. Chaudhari | 7. Rahul R Sambare     |
| 4. Ankit D. Mundane    | 8. Nawaz N Zaliya      |

*Under the guidance of*

**Dr P.D. Kamble**



**DEPARTMENT OF MECHANICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji**

**Maharaj Nagpur University, Nagpur)**

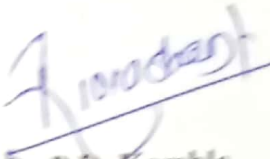
**NAGPUR – 441 110**

**2019-2020**

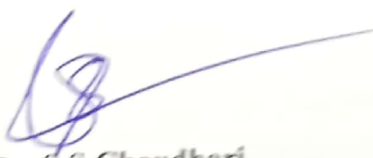
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## 1. CERTIFICATE OF APPROVAL

Certified that the project report entitled "DESIGN AND FABRICATION OF WASTE COMPOSTER" has been successfully completed by Gunjan Gaurkhede, Atul Kulurkar, Rupesh Chaudhari, Ankit Mundane, Chandrakant Dhote, Bhushan Ramdham, Rahul Sambare, Nawaz Zaliya under the guidance of Dr. P.D. Kamble in recognition to the partial fulfillment for the award of the degree of Master of Technology in Mechanical Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).

  
Dr. P.D. Kamble  
(Guide)

Prof. N. J. Giradkar  
(Co-ordinator)

  
Dr. S.S. Chaudhari  
(HOD, ME Dept.)

Dr. U. P. Waghe  
(Principal)

Signature of External Examiner:

Name:

Date of Examination:



# **A PRODUCTION ANALYSIS OF AN ENGINEERING INDUSRY – A CASE STUDY**

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur*  
*University)*

*In partial fulfillment of the requirement*  
*For the award of the degree*

*Of*  
**Bachelor of Engineering in Mechanical Engineering**  
*By*

- 1. Kalyani D. Sondawle**
- 2. Mayuri R. Atram**
- 3. Praful R. Saharkar**

**Under the guidance of**

**Prof. S. P. Kamble**



**DEPARTMENT OF MECHANICAL ENGINEERING**  
**Nagar Yuwak Shikshan Sanstha's**  
**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
**(An autonomous institution affiliated to Rashtrasant Tukadoji**  
**Maharaj Nagpur University, Nagpur)**


**NAGPUR – 441 110**

**2019-2020**

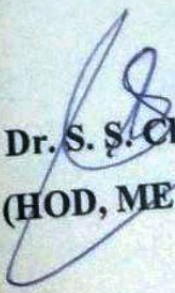


## 1. CERTIFICATE OF APPROVAL

Certified that the project report entitled "A PRODUCTION ANALYSIS OF AN ENGINEERING INDUSTRY – A CASE STUDY" has been successfully completed by **KALYANI SONDAWLE, MAYURI ATRAM, PRAFUL SAHARKAR** under the guidance of **Dr. S. S. CHAUDHARI** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Mechanical Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).

  
**Prof. S. P. Kamble**  
(Guide)

**Prof. N. J. Girar**  
(Coordinator)

  
**Dr. S. S. Chaudhari**  
(HOD, ME Dept.)

**Dr. U. P. Waghe**  
(Principal)

Signature of External Examiner:

Name:

Date of Examination:



# DESIGN AND FABRIATION OF CROP REAPER MACHINE

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Mechanical**

**Engineering**

*By*

1.Snehal Rade

2.Sumedh Khasnavis

3.Sahil Satdeve

4.Akash Sarpate

*Under the guidance of*

**Prof. P. N. Shende**



DEPARTMENT OF **MECHANICAL ENGINEERING**

Nagar Yuwak Shikshan Sansthas

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**  
,(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University,Nagpur)  
**NAGPUR-441110**

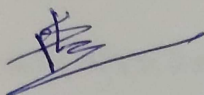
2019-2020

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Page 162 of 259

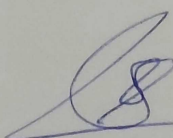
## CERTIFICATE OF APPROVAL

Certified that the project report entitled **“DESIGN AND FABRICATION OF CROP REAPER MACHINE”** has been successfully completed by **Snehal Rade, Sahil Satdeve, Sumedh Khasnavis, Akash Sarpate** under the guidance of **Prof. P. N. Shende** in recognition to the partial fulfillment for the award of the degree of **Bachelor of Engineering in Mechanical Engineering, Yeshwantrao Chavan College of Engineering** (An Autonomous Institution Affiliated to *Rashtrasant Tukdoji Maharaj Nagpur University*)



**Prof. P. N. Shende**  
(Guide)

**Prof. B.S. Sudhame**  
(Co-Guide)



**Prof. N.J. Giradkar**  
(Co-ordinator)

**Dr. S.S. Chaudhari**  
(HOD, ME Dept.)

**Dr. U.P. Waghe**  
(Principal)

Signature of External Examiner:

Name:

Date of Examination:



# **“ANALYSIS OF STATISTICAL PROCESS CONTROL ON METALLIC AEROSPACE COMPONENTS IN TAL NAGPUR”**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement For the award of  
the degree*

*Of*

**Bachelors of Engineering in Mechanical  
Engineering**

*By*

**ANKIT KORDE**

**AKSHAY PAWASHE**

*Under the guidance of*

**Prof. AJINKYA EDLABADKAR**



**DEPARTMENT OF MECHANICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)**

**NAGPUR- 441110**

**2019 -2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled “ANALYSIS OF STATISTICAL PROCESS CONTROL ON METALLIC AEROSPACE COMPONENTS IN TAL NAGPUR” has been successfully completed by ANKIT S. KORDE, AKSHAY PAWASHE under the guidance of **PROF. AJINKY EDLABADKAR** in recognition to the partial fulfilment for the award of the degree B. TECH in Mechanical Engineering, YESHWANTRAO CHAHAN COLLEGE OF ENGINEERING NAGPUR (*Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*)

  
Signature

**PROF. AJINKY EDLABADKAR**

(Guide)

Signature

**Prof. N. J. Giradkar**  
(Coordinator)

  
Signature

**PROF. S.S. CHOUDHARI**  
(HOD, Mech. Dept.)

Signature

**Dr. U.P. WAGHE**  
(Principal)

Signature of External Examiner

Name

Date of Examination:



# **PARAMETER OPTIMIZATION OF ELECTRO DISCHARGE MACHINING OF H-16 MATERIAL USING DESIGN OF EXPERIMENTS**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)*

*In partial fulfilment of the requirement*

*For the award of the degree*

*of*

**Bachelor of Engineering in Mechanical Engineering**

*By*

**Sushant Pawar**

**Pooja Chaukone**

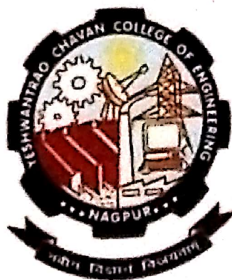
**Mrunal Dhruve**

**Vaishnavi Moon**

**Koushik Muddu**

*Under the Guidance of*

**Dr. S.R Jachak**



**DEPARTMENT OF MECHANICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)**

**NAGPUR – 441110**

**2019-2020**



### CERTIFICATE OF APPROVAL

Certified that the project report entitled "PARAMETER OPTIMIZATION OF ELECTRO DISCHARGE MACHINING OF H-16 MATERIAL USING DESIGN OF EXPERIMENTS" has been successfully completed by Sushant Pawar, Pooja Chaukone, Mrunal Dhurve, Vaishnavi Moon, and Koushik Muddu under the guidance of Dr S.R Jachak in recognition to the partial fulfilment for the award of the degree of Bachelor of Technology in Mechanical Engineering, Yeshwantrao Chavan College of

Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



Dr. S.R Jachak

(Project Guide)

Dr S.S Choudhari

(H.O.D M.E Dept)

Signature of External Examiner:

Name:

Date of Examination:

# **"DESIGN AND FABRICATION OF MANUAL TRANSPLANTER MACHINE"**

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement  
For the award of the degree*

*Of*

**Bachelor of Engineering in  
Mechanical Engineering**

*By*

**VRUDDHI DHOTRE      DEEPESH MANIKPURE  
ANURAG NAIR          PRATIK JAMBULKAR  
RUSHIKESH KOKADWAR**

*Under the Guidance of*  
**PROF. R.V. ADAKANE**



**DEPARTMENT OF MECHANICAL ENGINEERING**  
**Nagar Yuwak Shikshan Sanstha's**  
**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*  
**NAGPUR – 441 110**

**2019-2020**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**DESIGN AND FABRICATION OF MANUAL TRANSPLANTER MACHINE**" has been successfully completed by VRUDDHI DHOTRE, DEEPESH MANIKPURE, ANURAG NAIR, PRATIK JAMBULKAR, RUSHIKESH KOKADWAR under the guidance of PROF. **R.V.ADAKANE** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Mechanical Engineering, **Yeshwantrao Chavan College of Engineering( An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**



Signature

(Prof. R.V. ADAKANE)

Signature

**Prof. N. J. Giradkar**

**(Coordinator)**

Signature

**Dr. S. S. Chaudhari**

**(HOD, ME Dept.)**

Signature

**Dr.U.P.Waghe**

**(Principle)**

Signature of External Examiner

Name

Date of Examination:



# ***“Automation of Sundry Board Machine in Paper Mill Industry.”***

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfilment of the requirement  
For the award of the degree  
of*

**Bachelors of Engineering in Mechanical Engineering**  
*By*

**Yaseer Phyrose**

**Abhijeet Bulbule**

*Under the guidance of*

**Prof. D.N. Kashyap**



**DEPARTMENT OF MECHANICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF  
ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**

**NAGPUR – 441110**

**2019-2020**

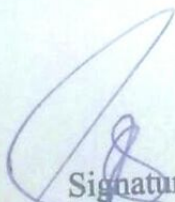


## CERTIFICATE OF APPROVAL

Certified that the project report entitled "*AUTOMATION OF SUNDRY BOARD MACHINE IN PAPER MILL INDUSTRY*" has been successfully completed by **YASEER PHYROSE & ABHIJEET BULBULE** under the guidance of **PROF. D. N. KASHYAP** in recognition to the partial fulfillment for the award of the degree of Bachelors of Engineering in Mechanical Engineering, **Yeshwantrao Chavan College of Engineering** (*An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*)



Signature  
**Prof. Ms. D. N. Kashyap**  
( Guide )



Signature  
**Dr. S. S. Chaudhari**  
(HOD, ME Dept.)

Signature  
**Prof. N. J. Giradkar**  
(Coordinator)

Signature  
**Dr. U. P. Waghe**  
(Principal)

Signature of External Examiner:

Name:

Date of Examination:

**Design And Development of "Smart And Intelligent Road  
Assisting Mechanism (S.A.I.R.A.M).**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Mechanical Engineering**

*By*

**Abhishek Kumar Singh**

**Mrunal Waddelwar**

**Sushil Thorve**

**Sharad Sharma**

**Parimal Borkar**

**Vivek Tawade**

**Tejas Salwe**

*Under the guidance of*

**Dr. S. S. Chaudhari**



**DEPARTMENT OF MECHANICAL ENGINEERING**

**Nagar Yuwak Shikshan Santa's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)  
**NAGPUR – 441 110**

**2019-2020**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Design And Development of Smart And Intelligent Road Assisting Mechanism (S.A.I.R.A.M.)" has been successfully completed by Abhishek Kumar Singh, Mrunal Waddelwar, Sushil Thorve, Sharad Sharma, Parimal Borkar, Vivek Tawade and Tejas Salwe under the guidance of Dr. S. S. Chaudhari in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Mechanical Engineering, Yeshwantrao Chavan College of Engineering/ An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)

Signature  
Dr. S. S. Chaudhari

Signature  
Prof. N. J. Giradkar  
(Coordinator)

Signature  
Dr. S. S. Chaudhari  
(HOD, ME Dept.)

Signature  
Dr. U. P. Waghe  
(Principal)

Signature of External Examiner  
Examiner Name:  
Date of Examination:

# **IOT BASED PORTABLE VACCINE COLD BOX FOR SMART HEALTHCARE**

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*  
*For the award of the degree*  
*Of*  
**Bachelor of Engineering in Mechanical Engineering**

*By*  
**Amit Kumbhare**

*Under the guidance of*  
**Prof. Alok Narkhede**  
**Dr. Shilpa Gaidhane**



**DEPARTMENT OF MECHANICAL ENGINEERING**

Nagar Yuwak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

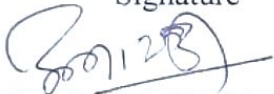
**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled “**IOT BASED PORTABLE VACCINE COLD BOX FOR SMART HEALTHCARE**” has been successfully completed by **AMIT KUMBHARE** under the guidance of **DR. SHILPA GAIDHANE** and **PROF. ALOK NARKHEDE** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Mechanical Engineering, **Yeshwantrao Chavan College of Engineering** (*An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*)

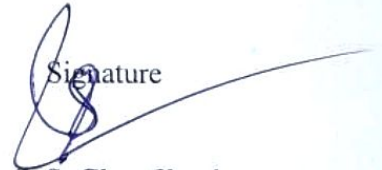
Signature



**Prof. Alok Narkhede**

**(Project Guide)**

Signature



**Dr. S. S. Chaudhari**

**(HOD, ME Dept.)**

Signature of External Examiner:

Name:

Date of Examination:



# **DEVELOPMENT OF JAVA PLUM PLANTING ROBOT**

*This project report is submitted to*

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfilment of the requirement*

*For the award of the degree*

*Of*

**BACHELOR OF ENGINEERING IN MECHANICAL  
ENGINEERING**

*By*

**Atharva Junde**

**Nikhil Talhar**

**Asad Ahmed Khan**

**Rishikesh Turkar**

**Nimish Nanotkar**

**Yogesh Lambat**

**Shriya Dandekar**

*Under the guidance of*

**Prof. M.S. Tufail**



**DEPARTMENT OF MECHANICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

**NAGPUR – 441 110**

**2019-2020**

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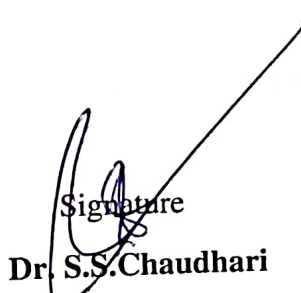
## CERTIFICATE OF APPROVAL

Certified that the project report entitled “**Design and development of Java Plum Planting Robot**” has been successfully completed by **Atharva Jumde, Asad Ahmed Khan, Nimish Nanotkar, Nikhli Talhar, Shriya Dandekar, Yogesh Lambat, Rishikesh Turkar** under the guidance of **Prof. M.S. Tufail** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Mechanical Engineering. **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**



Signature  
**Prof. M.S. Tufail**  
(Project Guide)

Signature  
**Prof.N.J.Giradkar**  
(Coordinator)



Signature  
**Dr. S.S. Chaudhari**  
(HOD, ME Dept.)

Signature  
**Dr. U.P. Waghe**  
(Principal)

Signature of External Examiner

Name

Date of Examination:

# **Design and Development of Solar Powered Seed Sowing Machine**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering, Nagpur**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the  
requirement for the award of the degree*

*Of*

**Bachelor of Engineering in Mechanical Engineering**

*By*

**Balaji Rathod**

**Pranay Bhagat**

**Rohan Todase**

*Under the guidance of*

**Prof. D.I. Sangotra**



**DEPARTMENT OF MECHANICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING, NAGPUR**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

**NAGPUR-441110**

**2019-2020**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Design and Development of Solar Powered Seed Sowing Machine" has been successfully completed by

Balaji Rathod

Pranay Bhagat

Rohan Todase

under the guidance of Prof. D.I. Sangotra in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Mechanical Engineering.

**Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**



Signature

Prof. D.I. Sangotra

(Guide)

Signature

Prof. N. J. Giradkar

(Coordinator)

Signature

Dr. S. S. Chaudhari

(HOD, Mechanical Dept.)

Signature of External

Examiner Name:

Date of Examination:

# **"PROCESS ENHANCEMENT BY FAIL SAFING METHOD AT SMALL SCALE INDUSTRY"**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering In**

**Mechanical Engineering**

*By*

**CHIAITANAY GOTMARE**

**DARSHAN CHORE**

**PRAMOD SHEP**

**YUGAL UMREDKAR**

*Under the guidance of*

**Prof A.S.BONDE**



**DEPARTMENT OF MECHANICAL ENGINEERING**

*Nagar Yuwak Shikshan Sanstha's*

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur)*

**NAGPUR - 441110**

**2019-2020**



## CERTIFICATE OF APPROVAL

This is to certify that the project report entitled "PROCESS ENHANCEMENT BY FAIR SAFING MEYHOD AT SMALL SCALE INDUSTRY" has been successfully completed by CHAITANYA GOTMARE, DARSHAN CHORE, PRAMOD SHEP, YUGAL UMREDKAR under the guidance of Prof. A.S. BONDE in the recognition to the partial fulfillment for the award of degree of Bachelor of Engineering in Mechanical Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Nagpur University)

Signature  
Prof. N. J. Giradkar  
(coordinator)

Signature  
(Prof. A.S. BONDE)

Signature  
Dr. S. S. Chaudhary  
(HOD, ME Dept.)

Signature of External Examiner:-

Name:-

Date of Examination:-



**DESIGN AND FABRICATION OF PNEUMATIC TRAINER KIT  
INTEGRATED WITH  
SIMULATION AND MODELLING ON FESTO FLUIDSIM  
SOFTWARE**

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement  
For the award of the degree*

*Of*  
**Bachelor of Engineering in Mechanical Engineering**

*By*  
**Neha Vijay Ingale**  
**Harshada Rajeshwar Yerande**  
**Nehal Vijay Uikey**  
**Suyog Rajesh Wagde**  
**Uday Anil Bagade**

*Under the guidance of*  
**Prof. V.M Korde**



**DEPARTMENT OF MECHANICAL ENGINEERING**

**Nagar Yuwak Shikshan Santa's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*  
**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

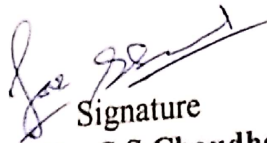
Certified that the project report entitled "**DESIGN AND FABRICATION OF PNEUMATIC TRAINER KIT INTEGRATED WITH SIMULATION AND MODELLING ON FESTO FLUIDSIM SOFTWARE**" has been successfully completed by **Neha Vijay Ingale, Harshada Rajeshwar Yerande, Nehal Vijay Uikey, Suyog Rajesh Wagde, Uday Anil Bagade** Under the guidance of **Prof. V.M Korde** in recognition to the partial fulfillment of requirement for the award of degree of Bachelor of Mechanical Engineering awarded by **Yeshwantrao Chavan College of Engineering, Nagpur (An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**



Signature  
**Prof. V.M. Korde**  
(Project Guide)



Signature  
**Prof.N.J.Giradkar**  
(Coordinator)



Signature  
**Dr. S.S.Chaudhari**  
(HOD, ME Dept.)

Signature  
**Dr. U.P.Waghe**  
(Principal)

Signature of External Examiner  
Name  
Date of Examination:

**DESIGN AND FABRICATION OF HYDRAULIC TRAINER  
KIT  
INTEGRATED WITH  
SIMULATION AND MODELLING OF AUTOMATION  
STUDIO 5.0 SOFTWARE**

*This project report is submitted to  
Yeshwantrao Chavan College of Engineering, Nagpur  
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University)*

*In partial fulfillment of the requirement  
For the award of the degree*

*Of*

**Bachelor of Engineering in Mechanical Engineering**

*By*

**Vaishnavi Bramhe**

**Kartik Ghaturlle**

**Shubham Choudhari**

**Paresh Bobde**

*Under the guidance of*

**Prof. N.J.Giradkar**



**DEPARTMENT OF MECHANICAL ENGINEERING**

*Nagar Yuwak Shikshan Sanstha's*

**YESHWANTRAO CHAVAN COLLEGE OF  
ENGINEERING,**

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

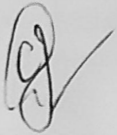
**NAGPUR-44111**



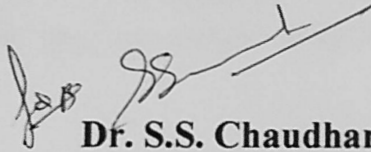


## CERTIFICATION OF APPROVAL

Certified that the project report entitled "DESIGN AND FABRICATION OF HYDRAULIC TRAINER KIT INTEGRATED WITH SIMULATION AND MODELLING ON AUTOMATION STUDIO 5.0 SOFTWARE" has been successfully completed by Vaishnavi Bramhe, Kartik Ghaturlle, Shubham Choudhari, Paresh Bobde Under the guidance of Prof.N.J.Giradkar in recognition to the partial fulfilment of requirement for the award of degree of Bachelor of Mechanical Engineering awarded by Yeshwantrao Chavan College of Engineering, Nagpur (An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)



**Prof. N.J. Giradkar**  
(Project Guide)



**Dr. S.S. Chaudhari**  
(HOD, M.E Dept)

**Dr. U.P. Waghe**  
(Principal)

**Signature of External Examiner**

**Name-**

**Date of Examination**

*For the award of the degree*  
*Of*  
**Bachelor of Engineering in Electrical Engineering**  
*By*

**Niharika Marde**  
**Shivani Hadke**  
**Nayan Shewatkar**  
**Suyash Aglawe**  
**Piyush Pande**

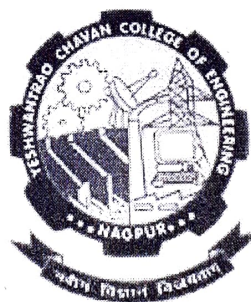
**Palash Khaire**  
**Rohit Harne**  
**Sumit Ghormade**  
**Aditya Mundre**  
**Sourabh Purohit**

**Shreyas Dhone**

*Under the guidance of*

**Prof. P. S. Shete**  
(Guide EL Dept.)

**Prof. B. Y. Masram**  
(Guide ETC Dept.)



**DEPARTMENT OF ELECTRICAL ENGINEERING**

Nagar Yuwak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)  
**NAGPUR – 441 110**

**2019-2020**


## CERTIFICATE OF APPROVAL


Certified that the project report entitled "ENERGY MONITORING SYSTEM FOR SMART HOME" has been successfully completed by


**NIHARIKA MARDE**  
**SHIVANI HADKE**  
**NAYAN SHEWATKAR**  
**SUYASH AGLAWE**  
**PIYUSH PANDE**  
**SHREYAS DHONE**


**PALASH KHAIRE**  
**ROHIT HARNE**  
**SUMIT GHORMADE**  
**ADITYA MUNDRE**  
**SAURABH PUROHIT**

under the guidance of **PROF. P. S. SHETE** & PROF. B. Y. MASRAM in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electrical Engineering, **Yeshwantrao Chavan College of Engineering** (*An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*)

  
Signature  
**Prof. P. S. Shete**  
(Guide, EL Dept.)

  
Signature  
**Prof. B. Y. Masram**  
(Guide, ETC Dept.)

  
Signature  
**Prof. U. V. Waghmare**  
(Project Coordinator)

  
Signature  
**Dr. S. P. Adhau**  
(HOD, EL Dept.)

Signature of External Examiner

Name

Date of Examination:



# **WIRELESS POWER TRANSFER THROUGH CONTACTLESS TRANSFORMER AND ITS REGULATION USING ELECTRIC SPRING**

This project report is submitted to

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj  
Nagpur University)*

In partial fulfillment of the requirement for the award of the degree

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Abhishek Karangale**

**Mandar Ghulaxe**

**Sakshi Kale**

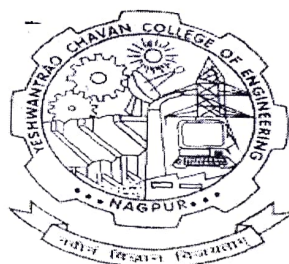
**Kasturi Umbarkar**

**Pranjali Nipane**

**Smrutee Kasturiwale**

*Under the guidance of*

**Dr. S. P. Gawande**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

Nagar Yuwak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF  
ENGINEERING**

*(An autonomous institution affiliated to Rashtrasant Tukadoji  
Maharaj Nagpur University, Nagpur)*

**NAGPUR – 441 110**

**2019-2020**

i


## CERTIFICATE OF APPROVAL

Certified that the project report entitled "WIRELESS POWER TRANSFER USING CONTACTLESS TRANSFORMER AND ITS REGULATION USING ELECTRIC SPRING" has been successfully completed by,


**Abhishek Karangale**  
**Mandar Ghulaxe**  
**Sakshi Kale**

**Kasturi Umbarkar**  
**Pranjali Nipane**  
**Smrutee Kasturiwale**


in recognition to the partial fulfillment for the award of the degree of Bachelor in Electrical Engineering, Yeshwantrao Chavan College of Engineering (*An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University*), Nagpur.



**Dr. S. P. Gawande**  
(Project Guide)



**Prof. U.V. Waghmare**  
(Project Coordinator)



**Dr. S.P. Adhau**  
(HOD, EL Dept.)

**Dr. U. P. Waghe**  
Principal

Signature of External  
Examiner: Name:  
Date of Examination:

# HEAT-ELECTRICITY MODULE FROM DOMESTIC COOKING SYSTEM

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Bhargav Awadhut**

**Chetan Kose**

**Himanshi Kharalkar**

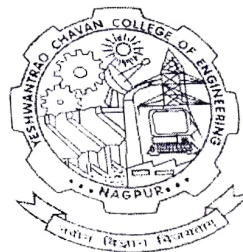
**Mrunali Raut**

**Saloni Anturkar**

**Suraj Kohad**

*Under the guidance of*

**Dr. R. M. Moharil**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

**NAGPUR – 441 110**

**2019-2020**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**HEAT- ELECTRICITY MODULE FROM DOMESTIC COOKING SYSTEM**" has been successfully completed by,

**Bhargav Awadhut**

**Chetan Kose**

**Himanshi Kharalkar**

**Mrunali Raut**

**Saloni Anturkar**

**Suraj Kohad**

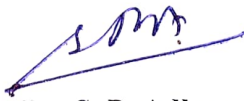
in recognition to the partial fulfillment for the award of the degree of Bachelor in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University), Nagpur.**



**Dr. R. M. Moharil**  
(Project Guide)



**Prof. U. G. Waghmare**  
(Project Coordinator)



**Dr. S. P. Adhau**  
(HOD, EL Dept.)

**Dr. U. P. Waghe**  
Principal

Signature of External Examiner:

Name:

Date of Examination:

# CNC PROTOTYPING MACHINE FOR PCB MILLING

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

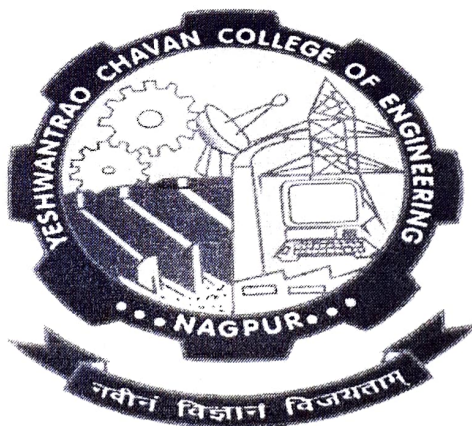
**Bachelor of Engineering in Electrical Engineering**

*By*

**Namesh A. Kale**

*Under the guidance of*

**Dr. S. G. Kadwane**




**DEPARTMENT OF ELECTRICAL ENGINEERING**

Nagar Yuwak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University,  
Nagpur)

**NAGPUR – 441 110**

**2019-2020**



Signature  
Dr. S. G. Kadwane  
(Guide)



Signature  
Prof. U. Waghmare  
(Project Coordinator)



Signature  
Dr. S.S. Chaudhari  
(Co-Guide, UG Course)



Signature  
Dr. S. P. Adhau  
(H.O.D., EE Dept.)

Signature of External Examiner  
Name  
Date of Examination:



# Extraction of Pure Methane, Its Analysis and Its Applications

*This project report is submitted to  
Yeshwantrao Chavan College of Engineering  
(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)  
In partial fulfillment of the requirement  
For the award of the degree*

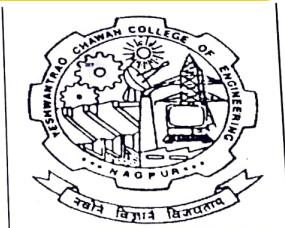
## **Bachelor of Engineering in Electrical Engineering**

*by*

Mayuri Dahare (EL)      Sakshi Kale (EL)      Sanjivaneerathod (EL)      Shital Kakde  
(EL)      Hitesh Tiwari (EL)      Sachin Murkute (EL)      Shailesh Dhawad (EL)

*Under the guidance of*

**Dr. Mrs. S. P. Adhau**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)

**NAGPUR – 441110**

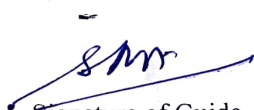
**2018-2019**


**CERTIFICATE OF APPROVAL**

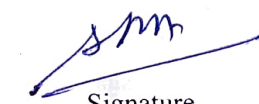
Certified that the project report entitled “**EXTRACTION OF PURE METHANE, ITS ANALYSIS AND ITS APPLICATIONS**” has been successfully completed by

**Mayuri Dahare (EL)      Sakshi Kale (EL)      Sanjivaneerathod (EL)      Shital Kakde (EL)**  
**Hitesh Tiwari (EL)      Sachin Murkute (EL)      Shailesh Dhawad (EL)**

under the guidance of **Dr. Mrs. S. P. Adhau** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**

  
Signature of Guide  
**Dr. Mrs. S. P. Adhau**  
(HOD, EL Dept.)

  
Signature  
**Prof. U. Waghmare**  
(Coordinator)

  
Signature  
**Dr. Mrs. S. P. Adhau**  
(HOD, EL Dept.)

Signature  
**Dr. U. P. Waghe**  
(Principal)

Signature of External Examiner

Name

Date of Examination:

# **SOLAR POWER MONITORING AND CONTROLLING USING MICROCONTROLLER**

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

*In partial fulfillment of the requirement*  
*For the award of the degree*  
*of*  
**Bachelor of Engineering in Electrical Engineering**  
*By*

**Puja Chopade**

**Rajani Yadav**

**Sanskriti Kasarlewar**

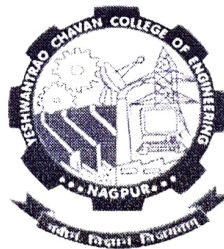
**Akanksha Dhabale**

**Harshad Pahune**

**Nikhil Mohale**

**Rajat Rokade**  
under the guidance of

**Prof. Mrs. Xma R. Pote**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

Nagar Yuwak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

**NAGPUR – 441110**

**2019-2020**

i



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "SOLAR POWER MONITORING AND CONTROLLING USING MICROCONTROLLER" has been successfully completed by

Puja Chopade

Rajani Yadav

Sanskriti Kasarlewar

Akanksha Dhabale


Harshad Pahune


Nikhil Mohale

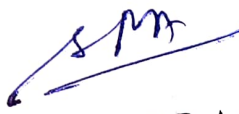
Rajat Rokade  
under the guidance of

**Prof. Mrs. Xma R. Pote**

In recognition to the partial fulfillment for the award of the degree of Bachelor in Electrical Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).

  
Prof. Mrs. Xma R. Pote  
(Project Guide)

  
Prof. Mrs. U. V. Waghmare (Umare)  
(Project Coordinator)

  
Dr. Mrs. S. P. Adhau  
(HoD, EL Dept.)

Signature of External Examiner:

Name:

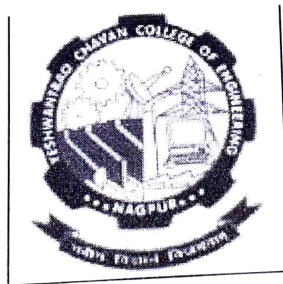
Date of Examination :

*Submitted by*

ANJALI KAMBLE	SHRUTIKA CHAFLE
ANKITA VAIRAGADE	AMIT CHAPLE
RUPAL BHALAVI	SWAPNIL SONEWANE

*Under the guidance of*

**Prof. Atul Lilhare**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

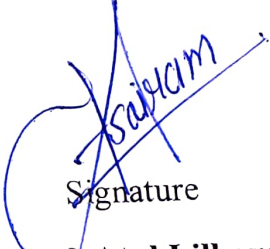
Nagar Yuwak Shikshan Sanstha's


**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

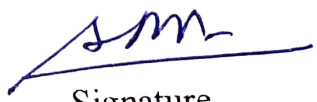
(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)

**2019-2020**

for the award of the degree of Bachelor of Engineering in Electrical Engineering,  
**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING** (An Autonomous  
Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).

  
Signature  
**Prof. Atul Lilhare**  
(Project Guide)

Signature   
**Prof. Ujwala Waghmare**  
(Project Coordinator)

  
Signature  
**Dr. S. P. Adhau**  
(Head of Department,  
Electrical Engineering)

Signature of External Examiner

Name:

Date of Examination:



Project Report  
On

**“CARRIER BASED DISCONTINUOUS PWM METHODS FOR VIENNA RECTIFIER”**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*Submitted By*

*Manish N. Kale*

*Sahil R. Umare*

*Nikhil S. Rathod*

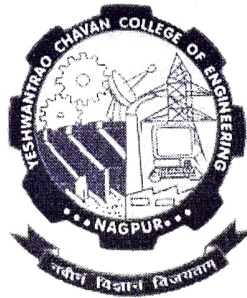
*Prashant N. Katre*

*Kshitij P. Sonkusare*

*Suraj S. Kasare*

*Under the guidance of*

**Dr. P. M. Meshram**



Department Of Electrical Engineering  
Nagar Yuwak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur**  
**University, Nagpur)**  
**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "CARRIER BASED DISCONTINUOUS PWM METHODS FOR VIENNA RECTIFIER" has been successfully completed by **Manish N. Kale ,Sahil R. Umare , Nikhil S. Rathod, Kshitij P. Sonkusare ,Suraj S. Kasare Prashant N. Katre** under the guidance of Dr. P. M. Meshram in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur-University)**

Name Signature

Dr. P. M. Meshram

  
Signature

(Project Coordinator)

  
Signature

(Guide, UG Course)

  
Signature

(HOD, EL Dept.)

Signature of External Examiner

Name

Date of Examination:

# DUAL MODE BATTERY CHARGER FOR FAST CHARGING

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement  
for the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Amit Fulzele**

**Bhavin Nakhale**

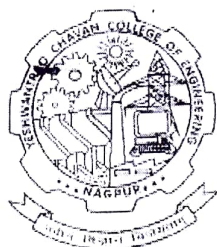
**Kartik Awandkar**

**Shivani Chopde**

**Shweta Bhajikhaye**

*Under the guidance of*

**Dr. B. Y. Bagde**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

Nagar Yuwak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

**NAGPUR – 441 110**

**2019-2020**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**DUAL MODE BATTERY CHARGER FOR FAST CHARGING**" has been successfully completed by,

**Amit Fulzele**

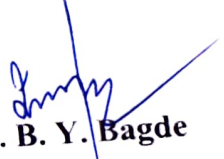
**Bhavin Nakhale**


**Kartik Awandkar**


**Shivani Chopde**

**Shweta Bhajikhaye**

in recognition to the partial fulfillment for the award of the degree of Bachelor in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University), Nagpur.**

  
**Dr. B. Y. Bagde**  
(Project Guide)

  
**Prof. U.V. Waghmare**  
(Project Coordinator)

  
**Dr. S.P. Adhau**  
(HOD, EL Dept.)

**Dr. U. P. Waghe**  
Principal

Signature of External Examiner:

Name:

Date of Examination:

# PLC BASED ENERGY MONITORING SYSTEM

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement  
For the award of the degree  
Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Vipul Kanjewar  
Sagar Kale  
Kameshkumar Ramteke  
Sumit Chavhan  
Sandesh Rathod**

*Under the guidance of*

**Prof. P.B. Joshi (Guide)**

**Prof. P.S. Shete (Co-Guide)**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)**

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

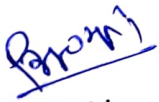
Certified that the project report entitled "PLC BASED ENERGY MONITORING SYSTEM" has been successfully completed by


VIPUL LANJEWAR  
KAMESHKUMAR RAMTEKE


SAGAR KALE  
SUMIT CHAVAN

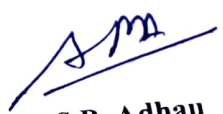
SANDESH RATHOD

in recognition to the partial fulfillment for the award of the degree of Bachelor in Electrical Engineering.  
Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant  
Tukadoji Maharaj Nagpur University), Nagpur.

  
Prof. P.B. Joshi  
(Project Guide)

  
Prof. P.S. Shete  
(Project Co-Guide)

  
Prof. U.V. Waghmare  
(Project Coordinator)

  
Dr. S.P. Adhau  
(HOD, EL Dept.)

Signature of External Examiner:

Name:

Date of Examination:



# **DESIGN OF THREE PHASE SMART ENERGY METER USING OVERLOAD TRIP FACILITIES**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Bhagyashri Admane**

**Nikita Dadmal**

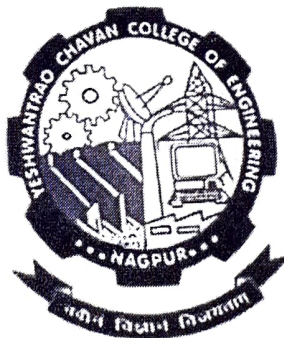
**Rasika Bharsakale**

**Sneha Solanke**

**Snehal Patil**

*Under the guidance of*

**Prof. B. S. Sudame**



**DEPARTMENT OF ELECTRICAL ENGINEERING**


Nagar Yuwak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)  
**NAGPUR – 441 110**

**2019-2020**


## CERTIFICATE OF APPROVAL

Certified that the project report entitled **"DESIGN OF SMART ENERGY METER USING OVERLOAD TRIP FACILITIES"** has been successfully completed by BHAGYASHRI ADMANE, NIKITA DADMAL, SNEHA SOLANKE, RASIKA BHARSAKALE, SNEHAL PATIL under the guidance of PROF. B. S. SUDAME in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**



Signature

Prof.B.S.Sudame  
(Guide)



Signature

Prof.U.V.Waghmare  
(Co-Guide)



Signature

Prof.S.Adhau  
(HOD,EL Dept.)

Signature of External Examiner:

Name:

Date of Examination:

*University)*

*In partial fulfilment of the requirement*

*For the award of degreeOf*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Purva K. Deshbhratar**

**Ankita R. Satardey**

**Ruchika D. Rewatkar**

**Manish M. Mahule**

**Pritam K. Mahajan**

**Ashwini D. Banewar**

**Mehul A. Kunte**

*Under the guidance of*

**Mrs. S. S. Kewte**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YASHWANTRAO CHAVAN COLLEGE OF ENGINEERING,  
NAGPUR(An Autonomous Institution Affiliated to Rashtrasant Tukdoji  
Maharaj Nagpur University)**

**Nagpur-441110**

**2019-2020**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Hybrid Automatic Water Pumping System" has been successfully completed by

**Purva K. Deshbhratar**

**Ruchika D. Rewatkar**

**Pritam K. Mahajan**

**Ankita R. Satardey**

**Manish M. Mahule**

**Ashwini D. Banewar**

**Mehul A. Kunte**

under the guidance of **Mrs. S. S. Kewte** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Mechanical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**

**Mrs. S. S. Kewte**

**(Project Guide)**

**Mrs. U. V. Waghmare**

**(Project Coordinator)**

**Dr. S. P. Adhau**

**(HoD EL Department)**

Signature of External Examiner

Name:

Date of Examination:

# **FUTURE OF ELECTRIC VEHICLE: UNLIMITED ROAD TRAVEL**

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*  
*For the award of the degree*  
*of*  
**Bachelor of Engineering in Electrical Engineering**  
*By*

**Ananya Kalbande**  
**Akash Padole**  
**Aditya Amrute**  
**Nikhil Chatur**

**Nikita Kopulwar**  
**Ankush Jawle**  
**Ishan Charde**

*Under the guidance of*

**Prof. T.D.Tembhekar**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University Nagpur)**

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "FUTURE OF ELECTRIC VEHICLE:  
UNLIMITED ROAD TRAVEL" has been successfully completed by

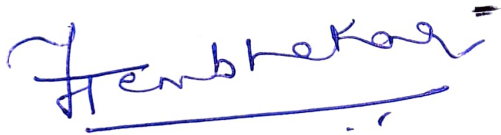
Ananya Kalbande  
Akash Padole  
Aditya Amrute  
Nikhil Chatur

Nikita Kopulwar  
Ankush Jawle  
Ishan Charde

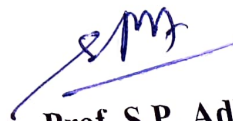
under the guidance of

**Prof. T.D.Tembhekar**

In recognition to the partial fulfillment for the award of the degree of Bachelor in  
Electrical Engineering, Yeshwantrao Chavan College of Engineering (An  
Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University), Nagpur.



Prof. T.D. Tembhekar  
(Guide EL Dept.)



Prof. S.P. Adhau  
(HoD EL Dept.)

Signature of External Examiner

Name:-

Date of Examination



# **AUTOMATED WASTE SEGREGATOR USING ARDUINO**

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement  
for the award of the degree*

*Of*  
**Bachelor of Engineering in Electrical Engineering**

*By*

**Mohanish B. Makde**

*Under the guidance of*

**PROF. RAVINDRA M. GIMONKAR.**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

Nagar Yuwak Shikshan Sanstha's

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*  
**NAGPUR – 441 110**

**2019-2020**

of Engineering in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**

Signature

**PROF. RAVINDRA M. GIMONKAR.**  
(Guide)



Signature  
**Prof. U. V. Waghmare**  
(Project Coordinator)



Signature  
**Dr. S. S. Chaudhari**  
(Co-Guide, UG Course)



Signature  
**Dr. S. P. Adhau**  
(HOD, EL Dept.)

# 3 PHASE FAULT ANALYSIS WITH AUTORECLOSING MECHANISM

This project report is submitted to

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Aishwarya Nimje**

**Pallavi Thakre**

**Ruchita Randive**

**Shraddha Patekar**

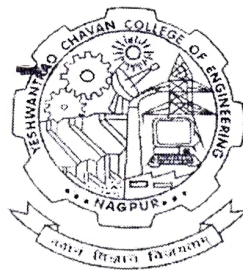
**Vaidehi Nande**

**Ankush Manapure**

**Sumedh Gedam**

*Under the guidance of*

**Prof. S.L.Tiwari**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

**NAGPUR – 441 110**

**2019-2020**



Certified that the project report entitled "**3 PHASE FAULT ANALYSIS WITH AUTORECLOSING MECHANISM**" has been successfully completed by,

**Aishwarya Nimje**

**Pallavi Thakre**

**Ruchita Randive**

**Shraddha Patekar**

**Vaidehi Nande**

**Ankush Manapure**

**Sumedh Gedam**

in recognition to the partial fulfillment for the award of the degree of Bachelor in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University), Nagpur.**



**Prof. S.L. Tiwari**

**(Project Guide)**



**Prof. U. V. Waghmare**  
**(Project Coordinator)**



**Dr. S. P. Adhau**  
**(HOD, EL Dept.)**

**Dr. U. P. Waghe**  
**Principal**

Signature of External Examiner:

Name:

A  
Project Report  
On  
**"MICROCONTROLLER BASED SOLAR POWERED GRASS CUTTER"**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous institution affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)*

*In partial fulfillment of requirement*

*For the award of degree Of*

**Bachelor of Engineering in Electrical Engineering**

*Submitted By*

**Nayan D. Mohare**

**Prajwal S. Perke**

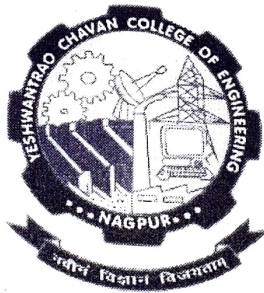
**Palash Bhute**

**Somesh V. Kamdi**

**Sanket R. Ingole**

*Under the guidance of*

**Prof. N.T. Sahu**



Department Of Electrical Engineering  
Nagar Yuwak Shikshan Sanstha's  
**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
*(An autonomous institution affiliated to Rashtrasant Tukadoji  
MaharajNagpur University,Nagpur)*

**NAGPUR – 441110**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**MICROCONTROLLER BASED SOLAR POWERED GRASS CUTTER**" Has been successfully completed by **Nayan D. Mohare** under the guidance of **prof. N.T. Sahu** ( Assistant professor, Electrical Department, YCCE ) in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University )**

Signature

Mrs. N.T.Sahu



Signature

**Mrs. U.V. Waghmare**  
**(Project Coordinator)**



Signature

**Mrs. N.T.Sahu**  
**(Guide, UG Course)**



Signature

**Dr. S.P. Adhau**  
**(HOD, EL Dept.)**



# **SUSTAINABLE DEVELOPMENT IN WASTE MANAGEMENT USING INTELLIGENT DUSTBINS**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Yash Ghutake  
Suresh Naredla  
Yash Narkhede  
Ashutosh Raut**

**Prachi Mohril  
Sushil Thool  
Ruchika Meshram**

*Under the guidance of*

**Mr. Gaurav C. Gondhalekar**



**DEPARTMENT OF ELECTRICAL ENGINEERING  
Nagar Yuwak Shikshan Sanstha's  
YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,  
(An Autonomous Institution to Rashtrasant Tukadoji Maharaj Nagpur University)**

**NAGPUR-441110**

**2019-2020**


## CERTIFICATE OF APPROVAL


Certified that the project report entitled "Sustainable Development in Waste management Using Intelligent Dustbins" has been successfully completed by


**Prachi Mohril**  
**Yash Narkhede**  
**Suresh Naredla**  
**Yash Ghutake**

**Ruchika Meshram**  
**Ashutosh Raut**  
**Sushil Thool**

Under the guidance of **Mr. Gaurav C. Gondhalekar** in recognition to the  
Partial fulfillment for the award of the degree of Bachelor of Engineering in Electrical Engineering,  
**Yeshwantrao Chavan College of Engineering (An**  
**Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University), Nagpur**

  
**Prof. G.C. Gondhalekar**  
(Project Guide)

  
**Prof. U.V. Waghmare (Umre)**  
(Project Coordinator)

  
**Prof. S.P. Adhau**  
(HOD, EL Dept.)

**Signature of External Examiner**

**Name:**

**Date of Examination:**

# HYBRID POWER GENERATION USING SOLAR PANEL AND WIND TURBINE

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

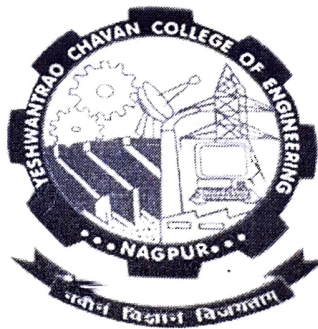
*By*

**Anant Mahajan  
Chetan Mahulkar  
Namrata Maske**

**Avesh Bawla  
Donal Rathod  
Shivalee Deshpande**

Under the guidance of

**Prof. N. P. Wasnik**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

**NAGPUR – 441 110**

**2019-2020**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled  
"HARVESTING ENERGY FROM OMNIDIRECTIONAL WINDS"  
has been successfully completed by

**Anant Mahajan  
Chetan Mahulkar  
Namrata Maske**

**Avesh Bawla  
Donal Rathod  
Shivalee Deshpande**


Under the guidance of

**Prof. N. P. Wasnik**

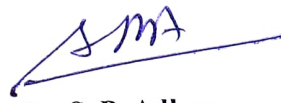
In recognition to the partial fulfillment for the award of the degree of Bachelor in  
Electrical Engineering, **YeshwantraoChavan College of Engineering**(An Autonomous  
Institution Affiliated to **Rashtrasant Tukadoji Maharaj Nagpur University**)



**Prof. N. P. Wasnik**  
(Project Guide)



**Prof. U. V. Waghmare(Umare)**  
(Project Coordinator)



**Dr. S. P. Adhau**  
(HOD, EL Dept.)

**Dr.U.P.Waghe**  
(Principal)

Signature of External Examiner

Name

Date of Examination:

# **Hybrid Piezo Electric Solar Based Power Generation System for Lightning Load of Railway Station**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University)*

*in partial fulfillment of the*

*requirement for the award*

*of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Rajas Itankar**

**Kiran Gadekar**

**Sushant Deulkar**

**Chinmay Naidu**

**Mohini Pode**

**Shantanu Suryawanshi**

**Prathamesh Chamat**

*Under the guidance of*

**Prof. R. S. Khonde**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

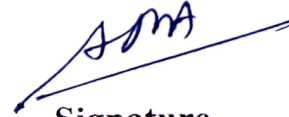
**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)**

**NAGPUR – 441 110**

award of the degree of Bachelor of Engineering in Electrical Engineering, **Yeshwantrao Chavan College of Engineering** (*An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*)



**Signature**  
**Prof. R. S. Khonde**  
**(Project Guide)**



**Signature**  
**Prof. S Adhau**  
**(HOD EL Dept.)**

Signature of External Examiner

Name

Date of Examination:



# SMART ENERGY METER AS POWER THEFT PREVENTER.

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Vivek Ladke**

**Ritu Nagrale**

**Viraji Niwal**

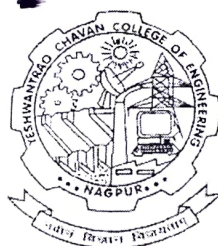
**Vidhi Chothe**

**Abhijeet Jaiswal**

**Prathamesh Bhaik**

*Under the guidance of*

**Prof. S. R. Gaigowal**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar YuwakShikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "SMART ENERGY METER AS POWER THEFT PREVENTER" has been successfully completed by,

**Vivek Ladke**

**Viraji Niwal**

**Abhijeet Jaiswal**

**Ritu Nagrale**

**Vidhi Chothe**

**Prathamesh Bhaik**

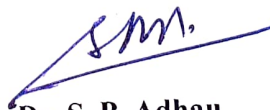
in recognition to the partial fulfillment for the award of the degree of Bachelor in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University), Nagpur.**



**Prof. S. R. Gaigowal**  
(Project Guide)



**U. V. Waghmare**  
(Project Coordinator)



**Dr. S. P. Adhau**  
(HOD, EL Dept.)

**Dr. U. P. Waghe**  
Principal

# **Photovoltaic Based Irrigation System to Improve Field Productivity Using BLDC Motor**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Apoorva Waghmare**

**Aditi Bundhade**

**Nikita Dadmal**

**Sagar Khorgade**

**Payal Kude**

**Payal Wadichar**

**Leema Patel**

**Under the Guidance of**

**Professor A.Y Fadnis**

**(Professor ,YCCE)**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*  
**NAGPUR – 441 110**

**2019-2020**

|



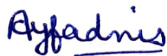
has been successfully completed by

**Apoorva Waghmare**  
**Aditi Bundhade**  
**Nikita Dadmal**

**Payal Kude**  
**Sagar Khorgade**  
**Payal Wadichar**

**Leema Patel**

under the guidance of **Prof A .Y .Fadnis** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Electrical Engineering, **Yeshwantrao Chavan College of Engineering** (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



**Prof.A.Y.Fadnis**  
(Project Guide)



**Dr.S.P Adhau**  
(HOD, EL Dept.)

Signature of External Examiner

Name

Date of Examination:

# **TRANSFORMER PROTECTION USING MICROCONTROLLER BASED RELAY AND MONITORING USING IOT AND GSM**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**  
(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Aditi Agarwal**

**Radhika Rusia**

**Anav Wankar**

**Prajwal Atkari**

**Mukesh Kumare**

*Under the guidance of*

**Prof. U. V. Waghmare**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)

**NAGPUR – 441 110**

**2019-20**

# TRANSFORMER PROTECTION USING MICROCONTROLLER BASED RELAY AND MONITORING USING IOT AND GSM

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Aditi Agarwal**

**Radhika Rusia**

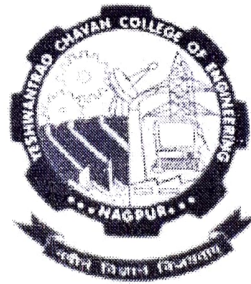
**Anav Wankar**

**Prajwal Atkari**

**Mukesh Kumare**

*Under the guidance of*

**Prof. U. V. Waghmare**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)**

**NAGPUR – 441 110**

**2019-20**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled **TRANSFORMER PROTECTION USING MICROCONTROLLER BASED RELAY AND MONITORING USING IOT AND GSM** has been successfully completed by

**Aditi Agarwal**

**Radhika Rusia**

**Anav Wankar**

**Prajwal Atkari**

**Mukesh Kumare**

under the guidance of **Prof. U. V. WAGHMARE** in recognition to the partial fulfillment for the award of the degree of Bachelor of Technology in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)**

Signature



**Prof. U. V. Waghmare**  
(Guide)

Signature



**Prof. U. V. Waghmare**  
(Co-ordinator)

Signature



**Dr. S. P. Adhau**  
(HOD, EL Dept.)

Signature of External Examiner:

Name:

Date of Examination:

# **SOLAR VEHICLE WITH REMOTE SPEED CONTROL**

*THIS PROJECT REPORT IS SUBMITTED TO*

**Yeshwantrao Chavan College of Engineering Nagpur**

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

**In partial fulfillment of the requirement**

**For the award of degree**

**Of**

**Bachelor of engineering in Electrical Engineering**

**Ashrut Bondade**

**Prajwal Akuj**

**Priyanka Bajare**

**Vaidik Pimplapure**

**Under the guidance of**

**Dr. S S GOKHALE.**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**Yeshwantrao chavan college of engineering Nagpur**

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University) NAGPUR -441 110

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report titled **"SOLAR VEHICLE WITH REMOTE SPEED CONTROL"** has been successfully completed by

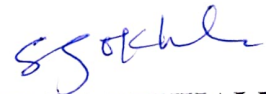
**Ashrut Bondade**

**Prajwal Akuj**

**Priyanka Bajare**

**Vaidik Pimplapure**

in recognition to the partial fulfilment for the award of the degree of Bachelor of engineering in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University).**



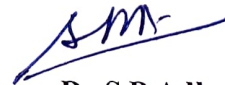
**DR.S.S.GOKHALE**

**(Project guide)**



**Prof. U.V Waghmare (Umre)**

**(Project Coordinator)**



**Dr.S.P Adhau**

**(HOD, Electrical Dept.)**



# **SMART ENERGY METER AS POWER THEFT PREVENTER.**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Vivek Ladke**

**Viraji Niwal**

**Abhijeet Jaiswal**

**Ritu Nagrale**

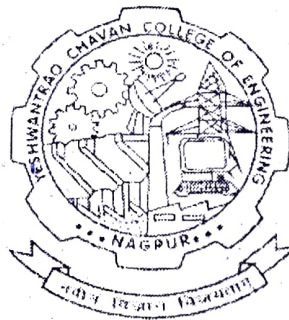
**Vidhi Chothe**

**Prathamesh Bhaik**

*Under the guidance of*

**Prof. S. R. Gaigowal**

**(Coguide-Mr.Manish Wakde)**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar YuwakShikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

**(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)**

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled“ SMART ENERGY METER AS POWER THEFT PREVENTER” has been successfully completedby,

**Vivek Ladke**

**Ritu Nagrale**

**Viraji Niwal**

**Vidhi Chothe**

**Abhijeet Jaiswal**

**Prathamesh Bhaik**

in recognition to the partial fulfillment for the award of the degree of Bachelor in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**, Nagpur.



**Mr. Manish Wakde**

**AE,MSEDCL,Nagpur**

**(Project Coguide)**



**Prof.S.R.Gaigowal**

**(Project Guide)**



**U. V. Waghmare**

**(Project Coordinator)**



**Dr. S. P. Adhau**

**(HOD, EL Dept.)**

**Dr. U. P. Waghe**

**Principal**

**A CASE STUDY ON CAPTIVE POWER PLANT  
SITUATED AT INDORAMA SYNTHETICS PVT. LTD.**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering, Nagpur**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

**Of**

**Bachelor of Engineering in Electrical Engineering**

*By*

**Chaitali Wagh**

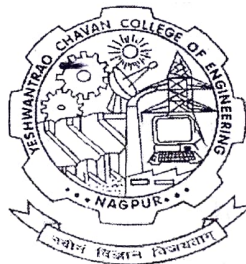
**Ashish Deshpande**

**Rupam Wasekar**

**Pallavi Chivhane**

*Under the guidance of*

**Prof. B. Sudame**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

**(An Autonomous Institution Affiliated To Rashtrasant Tukadoji Maharaj Nagpur University)**

**NAGPUR – 441 110**

**2019-2020**



# CERTIFICATE OF APPROVAL

Certified that the project report entitled "A CASE STUDY ON CAPTIVE POWER PLANT SITUATED AT INDORAMA SYNTHETICS PVT. LTD." has been successfully completed by

Chaitali Wagh

Rupam Wasekar

Ashish Deshpande

Pallavi Chivhane

*Under the guidance of*

**Prof. B. Sudame**

in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Electrical Engineering, **Yeshwantrao Chavan College of Engineering** (*An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*).



**Prof. B. Sudame**  
(Guide)



**Mr. Atul Jain**  
(Co-Guide)



**Prof. U. V. Waghmare**  
(Project Co-ordinator)



**Prof. P. B. Joshi**  
(Internship In-charge)



**Dr. S. P. Adhau**  
(HoD, EL, Dept)

**Dr. U. P. Waghe**  
(Principal)

Signature of External Examiner

Name:

Date of Examination:

**Analyzing the conversion of hot rolled coil to cold rolled coil  
with anti-rust coating and painting at JSW, Kalmeshwar,  
Nagpur.**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

1. Tejas V. Borkar

2. Shubham S. Chopade

3. Pundlik B. Bansod

4. Purva S. Thombre

*Under the guidance of*

**Prof. G.C. Gondhalekar**

*(Assistant Professor, YCCE)*

*&*

Mr. Jagdeep Nigam

*(HOD, Electrical Department)*

*Shubham S. Chopade*  
Ms Sanjana Ghorpade

*(Junior Manager)*



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

*(An autonomous institution affiliated to Rashtrasant Tukdoji Maharaj*


*University, Nagpur)*


**NAGPUR – 441 110**


**2019-2020**


## CERTIFICATE OF APPROVAL

Certified that the project report entitled **“Analyzing the conversion of hot rolled coil to cold rolled coil with anti rust coating and painting at JSW, Kalmeshwar, Nagpur.”** has been successfully completed by **Tejas V. Borkar, Shubham S. Chopade, Pundlik B. Bansod and Purva S. Thombre** under the guidance of **Prof. G. C. Gondhalekar** in recognition to the partial fulfillment for the award of the degree of Bachelor of Engineering in **Electrical Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).**

  
Prof. G. C. Gondhalekar  
(Project Guide)

  
Prof. U. V. Waghmare  
(Coordinator)

  
Prof. P. B. Joshi  
(Internship in-charge)

  
Dr. S. P. Adhau  
(HOD, EL, Dept)

Dr. U. P. Waghe  
(Principal)

Signature of External Examiner

Name

Date of Examination:



# MANUFACTURING, PROCESSING AND TESTING OF LUMINARIES

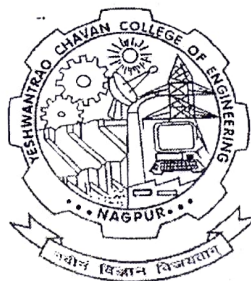
*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering, Nagpur**  
(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

*in partial fulfillment of the requirement*  
*for the award of the degree*  
*of*  
**Bachelor of Engineering in Electrical Engineering**  
*by*

**SANDESH N. CHANDEKAR**  
**MANSI R. NAXINE**  
**SHIVANI M. PETHKAR**

**HARSHA P. KAWALE**  
**BADAL O. SONI**

*under the guidance of*  
**Prof. S. L. Tiwari**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

(An Autonomous Institution Affiliated To Rashtrasant Tukadoji Maharaj Nagpur University)

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**MANUFACTURING, PROCESSING AND TESTING OF LUMINARIES**" has been successfully completed by

**SANDESH N. CHANDEKAR**

**HARSHA P. KAWALE**

**MANSI R. NAXINE**

**BADAL O. SONI**

**SHIVANI M. PETHKAR**

under the guidance of **Prof. S.L.Tiwari** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Mechanical Engineering, **Yeshwantrao Chavan College of Engineering** (*An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*)



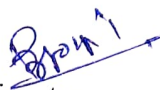
Signature  
Prof. S. L. Tiwari  
(Guide)



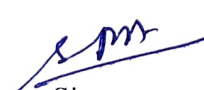
Signature  
Nikhil Kare  
(Co-Guide)



Signature  
Prof. U. V. Waghmare  
(Coordinator)



Signature  
Prof. P. B. Joshi  
(Internship in-charge)



Signature  
Dr. S. P. Adhau  
(HOD, EL, Dept)

Signature  
Dr. U. P. Waghe  
(Principal)

Signature of External Examiner  
Name  
Date of Examination

# CASE STUDY OF BUSBAR SLEEVE SHRINKING TUNNEL

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

**Bachelor of Engineering in Electrical Engineering**

*By*

**Agraja Deshpande**

**Apurva Lakhe**

**Nikhil Chichkhede**

**Sagar Nagose**

**Pooja Nagpure**

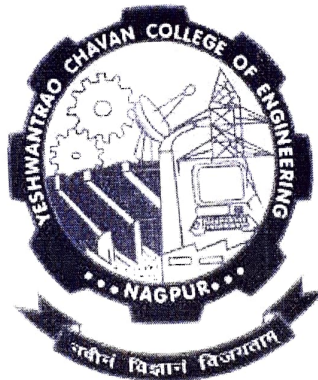
**Pawan Deshmukh**

**Prachi Kadu**

**Nikhil Dhole**

*Under the guidance of*

**Prof. U. V. Waghmare**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
*(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)*  
**NAGPUR – 441 110**

**2019-2020**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "CASE STUDY OF BUSBAR SLEEVE SHRINKING TUNNEL" has been successfully completed by

AGRAJA DESHPANDE

POOJA NAGPURE

APURVA LAKHE

PRACHI KADU

NIKHIL CHICKHEDE

PAWAN DESHMUKH

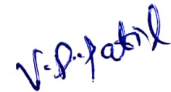
SAGAR NAGOSE

NIKHIL DHOLE

under the guidance of **Prof. U. V. WAGHMARE** in recognition to the partial fulfillment for the award of the degree of Bachelors of Technology in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**



Signature  
Prof. U. V. Waghmare  
(Guide)



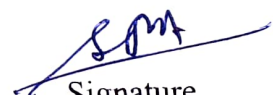
Signature  
Mr. V. D. Patil  
(Co-Guide)



Signature  
Prof. U. V. Waghmare  
(Co-ordinator)



Signature  
Prof. P. B. Joshi  
(Internship in-  
Charge)



Signature  
Dr. S. P. Adhau  
(HOD, EL Dept)

Signature of External Examiner  
Name  
Date of Examination

# STUDY OF INJECTION MOLD MACHINE

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering, Nagpur**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

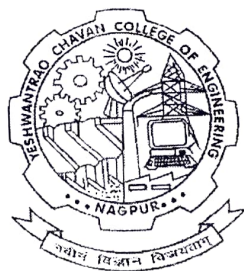
**Bachelor of Engineering in Electrical Engineering**

*By*

**Swamini Prashant Ektate**

*Under the guidance of*

**Prof. J. M. Kumbhare**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

**(An Autonomous Institution Affiliated To Rashtrasant Tukadoji Maharaj Nagpur University)**

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "STUDY OF INJECTION MOULD MACHINE SITUATED AT CHANVIM PLASTICS PVT. LTD." has been successfully completed by


**Swamini Prashant Ektate**


*Under the guidance of*


**Prof. J. M. Kumbhare**


in recognition to the partial fulfilment for the award of the degree of Bachelor of Engineering in Electrical Engineering, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).**

**Prof. J. M. Kumbhare**  
(Guide)

  
**Mr. Kailash M. Karpe**  
(Co-Guide)

  
**Prof. U. V. Waghmare**  
(Project Co-ordinator)

  
**Prof. P. B. Joshi**  
(Internship In-charge)

  
**Dr. S. P. Adhau**  
(HoD, EL, Dept)

**Dr. U. P. Waghe**  
(Principal)

Signature of External Examiner

Name:

Date of Examination:



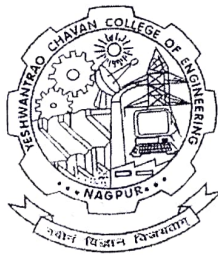
# **EMIRATES STEEL PLANT POWER DISTRIBUTION SYSTEM**

*This project report is submitted to*  
**Yeshwantrao Chavan College of Engineering, Nagpur**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*in partial fulfillment of the requirement*  
*for the award of the degree*  
*of*  
**Bachelor of Engineering in Electrical Engineering**  
*by*

**SAGAR VILAS TIGHARE**

*under the guidance of*  
**Prof. Prasad B. Joshi**



**DEPARTMENT OF ELECTRICAL ENGINEERING**  
**Nagar Yuwak Shikshan Sanstha's**  
**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**  
*(An Autonomous Institution Affiliated To Rashtrasant Tukadoji Maharaj Nagpur University)*  
**NAGPUR – 441 110**  
**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled **"EMIRATES STEEL PLANT POWER DISTRIBUTION SYSTEM"** has been successfully completed by

**SAGAR VILAS TIGHARE**

under the guidance of **Prof. Prasad B. Joshi** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Electrical Engineering, **Yeshwantrao Chavan College of Engineering** (*An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University*)



Signature  
Prof. P. B. Joshi  
(Guide)



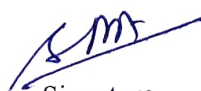
Signature  
Paramu Krishnan  
(Co-Guide)



Signature  
Prof. U. V. Waghmare  
(Coordinator)



Signature  
Prof. P. B. Joshi  
(Internship in-charge)



Signature  
Dr. S. P. Adhau  
(HOD, EL, Dept)

Signature  
Dr. U. P. Waghe  
(Principal)

Signature of External Examiner  
Name  
Date of Examination

# **DETAILED ELECTRICAL ENERGY AUDIT OF PROCESS INDUSTRY**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*Of*

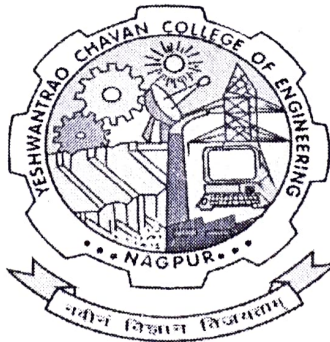
**Master of Technology in Integrated Power System**

*By*

**Ms. Pranjali S. Kawale**

*Under the guidance of*

**Prof. P. B. Joshi**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

**(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University,  
Nagpur)**

**NAGPUR – 441 110**

**2019-2020**



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "**DETAILED ELECTRICAL ENERGY AUDIT OF PROCESS INDUSTRY**" has been successfully completed by **Pranjali S. Kawale** under the guidance of **Prof. P. B. Joshi** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Integrated Power System, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**, Nagpur.



Co-Ordinator

Ms. Milind Chittambar



Signature

**Prof. P. B. Joshi**

(Project Guide)

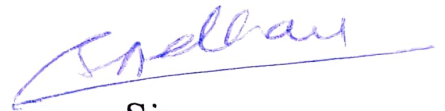


Signature

**Mrs. A. Y. Fadnis**

(Project Co-ordinator)





Signature

**Dr. S. P. Adhau**

(HOD, Electrical Dept.)

Signature of External Examiner:

Name:

Date of Examination:

# **“DESIGN OF AUTOMATIC POWER FACTOR CORRECTION PANEL FOR MCB MANUFACTURING COMPANY”**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*of*

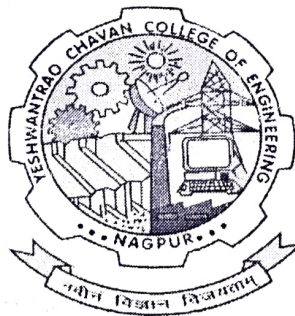
**Master of Technology in Integrated Power System**

*by*

**Saurabh P. Pingale**

*Under the guidance of*

**Dr. S.G. Kadwane and Mr. Nitin M. Joshi**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**

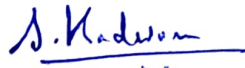
**(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)**

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled **“DESIGN OF AUTOMATIC POWER FACTOR CORRECTION PANEL FOR MCB MANUFACTURING COMPANY”** has been successfully completed by **Saurabh P. Pingale** under the guidance of **Dr. S.G.Kadwane** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Integrated Power System, **YeshwantraoChavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**, Nagpur.



Signature

**Dr. S.G.Kadwane**

(Project Guide)

*N. Joshi*  
*Co-Guide*  
*Mr. Nirmal Joshi*



Signature

**Dr.S.P.Adhau**

Electrical Dept.)

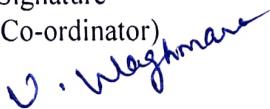


Signature

(Project Co-ordinator)

**Mrs.A.Y.Fadnis**

(HOD,



Signature of External Examiner:

Name:

Date of Examination:

## DECLARATION



# **SAVING IN AUTOMATIC LIGHTING SYSTEM AND ENERGY ANALYSIS OF POWER DISTRIBUTION BOARD**

*This project report is submitted to*

*Yeshwantrao Chavan College of Engineering*

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*of*

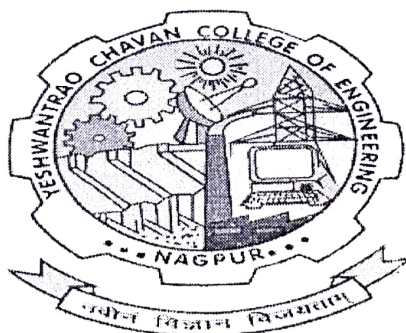
**Master of Technology in Integrated Power System**

*by*

**Ms. Nikita V. Kamble**

*Under the guidance of*

**Dr. R. M. Moharil**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

Nagar Yuwak Shikshan Sanstha's


**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING**

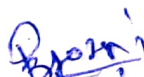
**(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**


**NAGPUR-441110**


**2019-2020**

**OF ENERGY SAVING IN AUTOMATIC LIGHTING SYSTEM AND ENERGY CONSUMPTION OF ENERGY METERS BY PDB ANALYSIS"** has been successfully completed by **Nikita V. Kamble** under the guidance of **Dr. R. M. Moharil** in recognition of the partial fulfillment for the award of the degree of **Master of Technology in Intelligent Power System**, **Yeshwantrao Chavan College Of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**, Nagpur.

  
Co-Guide  
Ms. Kiran Shirsat

  
**Prof. P. B. Joshi**  
(Project Co-ordinator)

  
Project Coordinator  
U. Waghmare  
**Dr. Mrs. A. Y. Fadnis**  
(M. Tech Co-ordinator)

  
**Dr. R. M. Moharil**  
(Project Guide)  
**Dr. Mrs. S. P. ...**  
(HOD, Electric

Signature of External Examiner:

Name:

Date of Examination:

# **Comprehensive energy audit of chilling plant in automobile parts manufacturing industry**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*of*

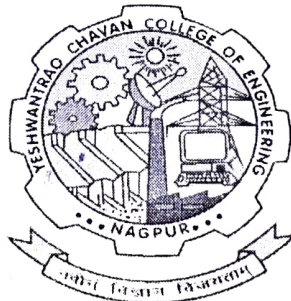
**Master of Technology in Integrated Power System**

*by*

**Swati N. Chalkhure**

*Under the guidance of*

**Prof. P.S. Shete**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University,*  
*Nagpur)*

**NAGPUR – 441 110**

**2019-2020**




## CERTIFICATE OF APPROVAL

Certified that the project report entitled “**COMPREHENSIVE ENERGY AUDIT OF CHILLING PLANT IN AUTOMOBILE PARTS MANUFACTURING INDUSTRY**” has been successfully completed by **Swati N. Chalkhure** under the guidance of **Prof. P.S. Shete** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Integrated Power System, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**, Nagpur.

Signature

  
**Prof. P. S. Shete**

(Project  
Guide)

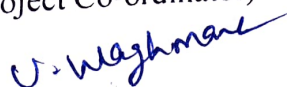
  
Co-Guide  
**Kisan Shirsat**

  
Signature

**Dr S.P. Adhau**

Dept.)

  
Signature  
(Project Co-ordinator)



**Prof. A.Y. Fadnis**  
(HOD, Electrical

Signature of External Examiner:

Name:

Date of Examination

# **ENERGY MONITORING AND ANALYSIS OF SOFTWARE INDUSTRY**

*This project report is submitted to*

**Yeshwantrao Chavan College of Engineering**

*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur  
University)*

*In partial fulfillment of the requirement*

*For the award of the degree*

*of*

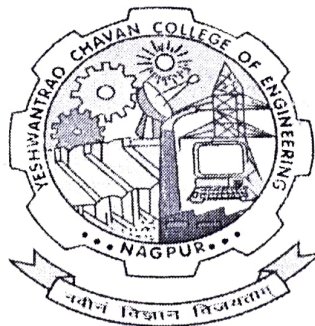
**Master of Technology in Integrated Power System**

*by*

**Ms. Pranali R. Selurkar**

*Under the guidance of*

**Prof. V. R. Doifode**



**DEPARTMENT OF ELECTRICAL ENGINEERING**

**Nagar Yuwak Shikshan Sanstha's**

**YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING,**  
*(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University,  
Nagpur)*

**NAGPUR – 441 110**

**2019-2020**

## CERTIFICATE OF APPROVAL

Certified that the project report entitled "ENERGY MONITORING AND ANALYSIS OF SOFTWARE INDUSTRY" has been successfully completed by **Pranali R. Selurkar** under the guidance of **Prof. V. R. Doifode** in recognition to the partial fulfillment for the award of the degree of Master of Technology in Integrated Power System, **Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)**, Nagpur.

*Chittamma*

*Co-Guide  
Mr. Nishant Chittamma*



Signature

**Prof. V. R. Doifode**

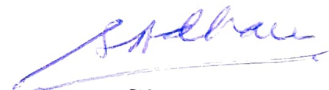
(Project Guide)



Signature

**Mrs. A. Y. Fadnis**

(Project Co-ordinator)



Signature

**Dr. S. P. Adhau**

(HOD, Electrical Dept.)

Signature of External Examiner:

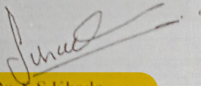
Name:

Date of Examination:



## CERTIFICATE OF APPROVAL

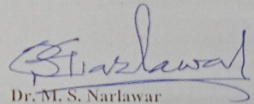
Certified that the project report entitled "Design of MIMO antenna with UWB sensing antenna" has been successfully completed by Alisha A. Shahare under the guidance of Dr. S.S. Khade in recognition to the partial fulfilment for the award of the degree of Master of Technology in Communication Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)



Dr. S.S. Khade  
(Guide)



Prof. S.A. Desai  
(PG-Coordinator)



Dr. M. S. Narlawar  
(H.O.D ET Department)

## CERTIFICATE OF APPROVAL

Certified that the project report entitled “Detection and Prevention of Wormhole Attack in Wireless Sensor Network” has been successfully completed by Ashwini V. Mathurkar under the guidance of Dr. P D. Dorge and in recognition to the partial fulfilment for the award of the degree of Master of Technology in Communication Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University).



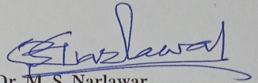
Dr. P. D. Dorge

Project Guide



Prof. S. A. Desai

M.Tech Coordinator



Dr. M. S. Narlawar

HoD ET

Signature of External Examiner:

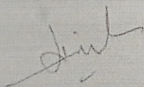
Name:

Date of Examination:



## CERTIFICATE OF APPROVAL

Certified that the project report entitled "Detection and Classification of plant Diseases using Digital Image Processing" has been successfully completed by Ms. Utkarsha M. Gedam under the guidance of Dr. Nita Rehpade of in recognition to the partial fulfillment for the award of the degree of Master of Technology in Communication Engineering, Yeshwantrao Chavan College of Engineering (An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University), Nagpur.



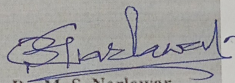
Dr. Nita Rehpade

(Guide)



(S. A. Desai )

( M. Tech. Co-ordinator )



Dr. M. S. Narlawar

(HOD, ET Dept.)





# 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**

Ph.: 07104-242919, 242623, 242588

Website : [www.ycce.edu](http://www.ycce.edu) E-mail : [principal@ycce.edu](mailto:principal@ycce.edu)

## Declaration by Head of Institute

I hereby declared that the data, information and support documents attached herewith are genuine and correct to my knowledge.



Dr. U. P. Waghe  
(Principal)

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