Savitribai Phule Pune University
Faculty of Science & Technology

Curriculum

For

First Year
Bachelor of Engineering
(Choice Based Credit System)

(2019 Course)

(With Effect from Academic Year 2019-20)

TABLE -1 First Engineering _Structure for Semester-I

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
102003	Systems in Mechanical Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
111006	Workshop[@]	--	02	--	--	--	--	25	--	25	--	01	--	01
	Total	16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1[&]	02	Environmental Studies-I											

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

TABLE -2 First Engineering_ Structure for Semester-II

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107008	Engineering Mathematics-II	04	--	01	30	70	25	--	--	125	04	--	01	05
107002/ 107009	Engineering Physics/ Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
102012	Engineering Graphics [Ω]	01	02	01	--	50	25		--	75	01	01		02
110013	Project Based Learning[§]	--	04	--	--	--	25	50	--	75	--	02	--	02
	Total	15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2[&]	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											

6. Jensen, C., Helsel, J. D., Short, D. R., (2008), "Engineering Drawing and Design", McGraw-Hill International, Singapore

Guidelines for Laboratory Conduction

Tutorial Session

Can be utilized to teach the basic commands of any drafting package, by using this knowledge students shall be able to complete the five assignments on the CAD software. (Minimum 2 problems in each assignment)

Assignment 1: Construct any Engineering Curve using any method

Assignment 2: Orthographic view of any machine element along with sectional view.

Assignment 3: Draw Isometric view for given orthographic views.

Assignment4 :Draw the isometric or Orthographic view of a product/object (For example Workshop Job prepared during the workshop practice or any product developed during the first year session).

Assignment 5: Draw the development of lateral surface of a solid/ truncated solid.

Practical Session

Draw minimum two problems on each assignment on the A3 size drawing sheet.

Suggested List of Laboratory Experiments/Assignments

Assignment 1: Construct any Engineering Curve by any method

Assignment 2: Orthographic view of any machine element along with sectional view.

Assignment 3: Draw Isometric view for given orthographic views.

Assignment 4: Draw the development of lateral surface of a solid/ truncated solid

Assignment 5: Draw the isometric or Orthographic view of a product/object (For example Workshop Job prepared during the workshop practice or any product developed during the first year session.)

110013: Project Based Learning

Teaching Scheme:	**Credits**	**Examination Scheme:**
PR: 04 Hrs/Week	**02**	**PR : 50 Marks**

Preamble:

For better learning experience, along with traditional classroom teaching and laboratory learning; project based learning has been introduced with an objective to motivate students to learn by working in group cooperatively to solve a problem.

Project-based learning (PBL) is a student-centric pedagogy that involves a dynamic classroom approach in which it is believed that students acquire a deeper knowledge through active exploration of real-world challenges and problems. Students learn about a subject by working for an extended period of time to investigate and respond to a complex question, challenge, or problem. It is a style of active learning and inquiry-based learning. (Reference: Wikipedia). Problem based learning will also redefine the role of teacher as mentor in learning process. Along with communicating knowledge to students, often in a lecture setting, the teacher will also to act as an initiator and facilitator in the collaborative process of knowledge transfer and development.

Course Objectives:

1. To emphasizes learning activities that are long-term, interdisciplinary and student-centric.
2. To inculcate independent learning by problem solving with social context.
3. To engages students in rich and authentic learning experiences.
4. To provide every student the opportunity to get involved either individually or as a group so as to develop team skills and learn professionalism.

Course Outcomes:

CO1: Project based learning will increase their capacity and learning through shared cognition.
CO2: Students able to draw on lessons from several disciplines and apply them in practical way.
CO3: Learning by doing approach in PBL will promote long-term retention of material and replicable skill, as well as improve teachers' and students' attitudes towards learning.

Group Structure:

Working in supervisor/mentor –monitored groups. The students plan, manage and complete a task/project/activity which addresses the stated problem.

- There should be team/group of 5 -6 students
- A supervisor/mentor teacher assigned to individual groups

Selection of Project/Problem:

The problem-based project oriented model for learning is recommended. The model begins with the identifying of a problem, often growing out of a question or "wondering". This formulated problem then stands as the starting point for learning. Students design and analyze the problem within an articulated interdisciplinary or subject frame.

A problem can be theoretical, practical, social, technical, symbolic, cultural and/or scientific and grows out of students' wondering within different disciplines and professional environments. A chosen problem has to be **exemplary**. The problem may involve an interdisciplinary approach in both the analysis and solving phases.

By exemplarity, a problem needs to refer back to a particular practical, scientific, social and/or technical domain. The problem should stand as one specific example or manifestation of more general learning outcomes related to knowledge and/or modes of inquiry.

There are no commonly shared criteria for what constitutes an acceptable project. Projects vary greatly in the depth of the questions explored, the clarity of the learning goals, the content and structure of the activity.

- A few hands-on activities that may or may not be multidisciplinary
- Use of technology in meaningful ways to help them investigate, collaborate, analyze, synthesize and present their learning.
- Activities may include- Solving real life problem, investigation /study and Writing reports of in depth study, field work.

Assessment:

The institution/head/mentor is committed to assessing and evaluating both student performance and program effectiveness.

Progress of PBL is monitored regularly on weekly basis. Weekly review of the work is necessary. During process of monitoring and continuous assessment AND evaluation the individual and team performance is to be measured. PBL is monitored and continuous assessment is done by supervisor /mentor and authorities.

Students must maintain an institutional culture of authentic collaboration, self-motivation, peer-learning and personal responsibility. The institution/department should support students in this regard through guidance/orientation programs and the provision of appropriate resources and services. Supervisor/mentor and Students must actively participate in assessment and evaluation processes.

Group may demonstrate their knowledge and skills by developing a public product and/or report and/or presentation.

- Individual assessment for each student (Understanding individual capacity, role and involvement in the project)
- Group assessment (roles defined, distribution of work, intra-team communication and togetherness)
- Documentation and presentation

Evaluation and Continuous Assessment:

It is recommended that the all activities are to be record and regularly, regular assessment of work to be done and proper documents are to be maintained at college end by both students as well as mentor (you may call it PBL work book).

Continuous Assessment Sheet (CAS) is to be maintained by all mentors/department and institutes.

Recommended parameters for assessment, evaluation and weightage:

- Idea Inception **(5%)**
- Outcomes of PBL/ Problem Solving Skills/ Solution provided/ Final product **(50%)** (Individual assessment and team assessment)
- Documentation (Gathering requirements, design & modeling, implementation/execution, use of technology and final report, other documents) **(25%)**
- Demonstration (Presentation, User Interface, Usability etc) **(10%)**
- Contest Participation/ publication **(5%)**
- Awareness /Consideration of -Environment/ Social /Ethics/ Safety measures/Legal aspects **(5%)**

PBL workbook will serve the purpose and facilitate the job of students, mentorand project coordinator. This workbook will reflect accountability, punctuality, technical writing ability and work flow of the work undertaken.

References:

- Project-Based Learning, Edutopia, March 14, 2016.
- What is PBL? Buck Institute for Education.
- www.schoology.com
- www.wikipedia.org
- www.howstuffworks.com

101014: Environmental Studies-II

TH: 02 Hr/week **Mandatory Non-Credit Course**

Course Objectives:

1. To provide a comprehensive overview of environmental pollution and the science and technology associated with the monitoring and control.
2. To understand the evolution of environmental policies and laws.
3. To explain the concepts behind the interrelations between environment and the development.
4. To examine a range of environmental issues in the field, and relate these to scientific theory.

Course Outcomes: On completion of the course, learner will be able to–

CO1: Have an understanding of environmental pollution and the science behind those problems and potential solutions.

CO2: Have knowledge of various acts and laws and will be able to identify the industries that are violating these rules.

CO3: Assess the impact of ever increasing human population on the biosphere: social, economic issues and role of humans in conservation of natural resources.

CO4: Learn skills required to research and analyze environmental issues scientifically and learn how to use those skills in applied situations such as careers that may involve environmental problems and/or issues.

Course Contents

Unit V **Environmental Pollution** **(08 Hrs)**

Environmental pollution : types, causes, effects and controls; Air, water, soil, chemical and noise pollution

Nuclear hazards and human health risks

Solid waste management: Control measures of urban and industrial waste

Savitribai Phule Pune University

Syllabus for SE (Civil Engineering) 2019 course

(To be implemented from June 2020)

Board of Studies in Civil Engineering

Faculty of Science and Technology

SPPU June 2020

SE Civil

Savitribai Phule Pune University, Pune
SE (Civil Engineering) 2019 Course
(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
201001	Building Technology and Architectural Planning	03	-	-	30	70	--	-	-	100	03	-	-	03
201002	Mechanics of structure	03	-	-	30	70	-	-	-	100	03	-	-	03
201003	Fluid Mechanics	03	-	-	30	70	-	-	-	100	03	-	-	03
207001	Engineering Mathematics III	03	-	01	30	70	25	-	-	125	03	-	01	04
207009	Engineering Geology	03	-	-	30	70	-	-	-	100	03	-	-	03
201004	Building Technology and Architectural Planning **Lab**	-	04	-	-	-	50	-	-	50	-	02	-	02
201005	Mechanics of structure **Lab**	-	04	-	-	-	-	-	50	50	-	02	-	02
201006	Fluid Mechanics **Lab**	-	02	-	-	-	-	-	50	50	-	01	-	01
207010	Engineering Geology **Lab**	-	02	-	-	-	25	-	-	25	-	01	-	01
201007	**Audit Course 1 Awareness to civil Engineering Practices / Road Safety Management / Foreign Language**	-	01	-	-	Grade	-	-	-	Grade	-	-	-	-
Total		15	13	01	150	350	100	-	100	700	**15**	**06**	**01**	**22**

Abbreviations:
TH: Theory TW: Term Work PR : Practical OR: Oral TUT : Tutorial

Note: Interested students of S.E. (Civil) can opt any one of the audit courses from the list of audit coursesprescribed by BoS (Civil Engineering)

Note for all the courses: The Underlined portion of the syllabus will be covered by video lectures/ on-line lectures/ flip classroom, self-study, NPTEL course lecture and/or using relevant ICT technique

Semester-IV														
Course Code	**Course Name**	**Teaching Scheme (Hours/Week)**			**Examination Scheme and Marks**						**Credit**			
		Theory	**Practical**	**Tutorial**	**IN-Sem**	**End-Sem**	**TW**	**PR**	**OR**	**Total**	**TH**	**PR**	**TUT**	**Total**
201008	Geotechnical Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
201009	Survey	03	-	-	30	70	-	-	-	100	03	-	-	03
201010	Concrete Technology	03	-	-	30	70	-	-	-	100	03	-	-	03
201011	Structural Analysis	03	-	01	30	70	25	-	-	125	03	-	01	04
201012	Project management	03	-	-	30	70	-	-	-	100	03	-	-	03
201013	Geotechnical Engineering **Lab**	-	02	-	-	-	-	-	50	50	-	01	-	01
201014	Survey **Lab**	-	04	-	-	-	-	50	-	50	-	02	-	02
201015	Concrete Technology **Lab**	-	02	-	-	-	25	-	-	25	-	01	-	01
201017	Project Based Learning	-	04	-	-	-	50	-	-	50	-	02	-	02
201018	Audit Course II: Disaster Management	-	01	-	-	Grade	-	-	-	Grade	-	-	-	-
Total		15	13	01	150	350	100	50	50	700	**15**	**06**	**01**	**22**

Abbreviations:
TH: Theory TW: Term Work PR : Practical OR: Oral TUT : Tutorial

Note for all the courses: The Underlined portion of the syllabus will be covered by video lectures/ on-line lectures/ flip classroom, self-study, NPTEL course lectures and/or using relevant ICT technique

Savitribai Phule Pune University, Pune
Second Year Civil Engineering (2019 Course)
201017 Project Based Learning
Credits: 02

Teaching Scheme:
Practical : 04hrs/week

Examination Scheme:
Term Work: 50 Marks

Preamble:
Project Based Learning (PBL) was introduced in curriculum of First Year Engineering in Semester II (Course code- 110013) in 2019 course. In that course, students in group might have planned, managed and completed a task/ project/ activity which addressed the stated problem. In a continuation with this, PBL is introduced in core course of Civil Engineering. PBL demonstrates the power of student projects to develop college, community connections, applied research skills and higher levels of student thinking. PBL is a dynamic approach to teaching in which students explore real-world problems and challenges simultaneously developing 21st century Civil Engineering skills while working in collaborative groups. The aim of this course is to demonstrate the important attributes like communication, presentation, organization, time management, research, inquiry, self-assessment, group participation, leadership and critical thinking. Performance assessed on an individual basis and takes into account the quality of task/project/activity completed, the depth of content understanding demonstrated and the contributions made to the ongoing process of project realization. PBL allows students to reflect upon their own ideas and opinions and make decisions that affect project outcomes and the learning process in general.

Course Objectives:
1. To engage students in constructive learning environment and develop self-learning abilities.
2. To develop critical thinking and solving civil engineering problems by exploring and proposing sustainable solutions.
3. To integrate knowledge and skills from civil and other engineering areas.
4. To develop professional skills and project management.

Course Outcomes:
After completion of course the students will be able to
1. Identify the community/ practical/ societal needs and convert the idea into a product/ process/ service.
2. Analyse and design the physical/ mathematical/ ICT model in order to solve identified problem/project.
3. Create, work in team and applying the solution in practical way to specific problem.

Course Content
- Introduction to Project Based Learning, Traditional vs. Cognitive Learning, Why PBL? , Principles of Problem Design Seven Steps of Problem Design, Online PBL, Applications and Research Trends Case Studies in Civil Engineering.

Group Structure:

- Working in mentor – monitored groups. The students identify, plan, manage and complete a task/ project/ activity which address the stated problem related to civil engineering.
- There should be team/group of maximum four students.
- A supervisor / mentor faculty teacher assigned to individual groups.

Selection of Project/Problem:

At start of course revision of PBL, significance, guidelines and evaluation parameters should be discussed commonly at start of semester. In this session basics PBL, in brief research methodology points relevant to PBL, sample case studies related to civil engineering and brief information about patent, copy right and publications should be given.

Selection of project/problem related to any technical aspect of civil engineering is recommendedor if any project/problem selected in first year engineering related to civil engineering can be continued if enough potential is there. Give preference to select project/problem related to solving any problem/ issue for which suitable model can be developed or software can be used. The project/problem selected could have different alternative solutions which could be theoretical, practical, working model, demonstration or software analysis. The project/problem selected may have multi-disciplinary approach to get the solution. Problem needs to refer back to a particular practical, scientific, or technical domain. It is recommended to include hands-on activities, organizational and field visits, expert consultation to make students aware with current use of technologies. Proper representation of project/problem, course work and report on the results and conclusion is important for assessment of course.

Assessment:

The institution/head/mentor is committed to assessing and evaluating both students' performance and program effectiveness. Progress and review of PBL is monitored regularly on weekly basis. It is recommended to appoint one teaching faculty as a mentor per group/ batch and it will be duty of mentor to perform monitoring and continuous assessment of individual students as well as entire group for their performance. College/ Department is required to provide necessary assistance. It is the responsibility of students to follow guidelines of their group mentor, maintain self-discipline, authentic collaboration, peer learning and personal responsibility, motivation and adopt interactive learning environment. The institution/department should support students in this regard through guidance/orientation programs and the provision of appropriate resources and services. Supervisor/mentor and Students must actively participate in assessment and evaluation processes. Intermittent review and assessment of each group should be done after six weeks from the start of the semester. Each group has to submit their work at end of semester during the end review. Group may demonstrate their knowledge and skills through presentation by developing a model/product/poster and report. Individual assessment for each student (Understanding individual capacity, role and involvement in the project). Group assessment (roles defined, distribution of work, intra-team communication and togetherness).

Evaluation and Continuous Assessment:

Prepare "**PBL Log Book**" which includes record of activities performed and evaluation carried out with appropriate remarks. Maintain regular record on weekly basis. Records and documents must also be maintained at student level. Continuous assessment sheet must be prepared by each faculty

which consists assessment made on weekly basis also performance made during mid-review and end-review. PBL log book must be maintained as a record even after completion of semester. It will serve as document which will reflect the punctuality, accountability, technical writing ability and project workflow.

Recommended parameters for assessment, evaluation and weightage:

Evaluation criteria and respective percentage weightage for marks.

1. Idea Inception = 5%
2. Solution provided/ final product at end of course = 50% (Individual assessment and team assessment).
3. Documentation in the form of PBL report (typed, hard copy) = 15%
4. Presentation/ Demonstration of model/ PPT/ poster = 10%
5. Participation/ involvement in group activity =10%
6. Publication/ participation on technical platform = 10%

Course assessment rubrics can be prepared based on the given evaluation parameters for excellent, moderate, acceptable and not acceptable.

References:

1. M. Savin-Baden and C. Howell Major, Foundations of Problem-based Learning. McGraw-Hill Education, 2004
2. T. J. Newby, D. A. Stepich, J. D. Lehman and J. D. Russell, Instructional technology for teaching and learning: Designing instruction, integrating computers, and using media. Englewood Cliffs, NJ: Merrill/Prentice-Hall, 1996
3. S. N. Alessi and S. R. Trollip, Multimedia for learning: methods and development. Needham Heights, MA: Allyn& Bacon, 2001
4. Guerra, Aida, Ulseth, Ronald, Kolmos, Anette, PBL in Engineering Education: International Perspectives on Curriculum Change, Springer, 2017
5. MahnazMoallemWoei Hung Nada Dabbagh, The Wiley Handbook of Problem-Based Learning, Wiley, 2019
6. Jane I. Krauss, Suzanne K. Boss, Thinking Through Project-Based Learning: Guiding Deeper Inquiry.
7. John Larmer, David Ross, John R. Mergendollar, Project Based Learning (PBL) Starter Kit.
8. William N. Bender, Project-Based Learning: Differentiating Instruction for the 21st Century.
9. Bob Lenz, Justin Wells, Sally Kingston, Transforming Schools Using Project-Based Learning, Performance Assessment, and Common Core Standards.
10. Suzie Boss with John Larmer (ASCD/Buck Institute for Education), Implementing Project-Based Learning Solutions by Suzie Boss

Website for references

1. www.pblwork.org
2. www.my.pblworks.org
3. www.swayam.gov.in/nd2_ntr20_ed12/preview
4. www.schoology.com

Format of PBL report: Sequence of pages:

i) Front Cover Page ii) Certificate iii) Acknowledgement iv) Synopsis v) Contents vi) List of

Figures vii) List of Tables vii) Notations

Chapter 1 Introduction (This consists of: 1.1 Introduction of the Project Work; 1.2 Problem Statement, 1.3 Objectives and 1.4 Scope of the Project Works, 1.5 Research Methodology, 1.6 Limitations of study, 1.7 Expected outcome.

Chapter 2 Literature Review (It shall include theoretical support, details regarding work done by various persons, methods established, any new approach.

Chapter 3 Planning Schedule/ Flow Chart for Completion of Project

Chapter 4 Conclusion

References and Bibliography (The references and bibliography shall include name of author/code/manual/book, title of paper/code/manual/book, name of the journal, month & year of publication, volume number/ISBN number, page number x-y. The references and bibliography shall be as per universal standards as mentioned in any international journal of professional body).

Report Printing details:

1. Report shall be typed on A4 size Executive Bond paper with single spacing preferably on **Both** sides of paper.
2. Margins: Left Margin: 37.5 mm, Right Margin: 25 mm, Top Margin: 25 mm, Bottom Margin: 25 mm.
3. Give page number at bottom margin at center.
4. Size of Letters: Chapter Number: 16 font size, Times New Roman in Capital Bold Letters, Chapter Name: 12 Font size in Capital Bold Letters, Main Titles (1.1, 2.5 etc): 16 Font size in Bold Letters Sentence case, Sub Titles (1.1.5, 4.5.1 etc): 14 Font size in Bold Letters Sentence case. All other matter: 12 Font size sentence case.
5. No blank sheet be left in the report.
6. Figure name: 12 Font size in sentence case Bold- Below the figure.
7. Table title -12 font size in sentence case- Bold-Above the table.

SAVITRIBAI PHULE PUNE UNIVERSITY

Board of Studies in Civil Engineering

Structure and Syllabus for B.E. Civil 2015 Course (w. e. f. June, 2018)

SAVITRIBAI PHULE PUNE UNIVERSITY

Board of Studies in Civil Engineering

Structure for B.E. Civil 2015 Course (w. e. f. June 2018)

	Semester-I										
Subject code	**Subject**	**Teaching Scheme Hrs/Week**			**In-Semester Assessment**	**TW**	**Pract /Or**	**End-Semester Exam**	**Total**	**Credit**	
		Lect	**Tu**	**Pr**						**Th**	**Lab**
401 001	Environmental Engineering II	3	--	2	30	--	50	70	150	3	1
401002	Transportation Engineering	3	--	2	30	50	--	70	150	3	1
401 003	Structural Design and Drawing III	4	--	2	30	--	50	70	150	4	1
401 004	Elective I	3	--	2	30	50	--	70	150	3	1
401 005	Elective II	3	--	--	30	--	--	70	100	3	--
401 006	Project (Phase-I)	--	2	--	--	50	-	--	50	--	2
Total :		16	2	8	150	150	100	350	750	16	6
										22 Credits	

	Semester-II										
Subject code	**Subject**	**Teaching Scheme Hrs/Week**			**In-Semester Assessment**	**TW**	**Or**	**End-Semester Exam**	**Total**	**Credit**	
		Lect	**Tu**	**Pr**						**Th**	**Pr**
401 007	Dams and Hydraulic Structures	3	--	2	30	--	50	70	150	3	1
401008	Quantity Surveying, Contracts and tenders	3	--	2	30	--	50	70	150	3	1
401 009	Elective III	3	--	2	30	50	--	70	150	3	1
401 010	Elective IV	3	--	2	30	50	--	70	150	3	1
401 006	Project	--	6	--	--	50	100	--	150	--	6
Total :		12	6	8	120	150	200	280	750	12	10
										22 Credits	

Following will be the list of electives.

Semester I

Elective-I 401 004	Elective-II 401 005
1. Structural Design of Bridges	1. Matrix Methods of Structural Analysis
2. Systems Approach in Civil Engineering	2. Integrated Water Resources Planning and Management
3. Advanced Concrete Technology	3. TQM & MIS in Civil Engineering
4. Architecture and Town Planning	4. Earthquake Engineering
5. Advanced Engineering Geology with Rock Mechanics	5. Advanced Geotechnical Engineering

Semester-II

Elective-III 401 009	Elective-IV 401 010
1. Advanced Structural Design	1. Construction Management
2.Statistical Analysis and Computational Methods in Civil Engineering	2. Advanced Transportation Engineering
3. Hydropower Engineering	3. Advanced foundation Engineering.
4. Air Pollution and control	4. Coastal Engineering
5. Finite Element Method in Civil Engineering	**5. Open Elective**
6. Airport and Bridge Engineering	a) Plumbing Engineering
	b) Green Building Technology
	c) Ferrocement Technology
	d) Sub sea Engineering
	e) Geoinformatics

401006 Project Phase-I

Teaching Scheme: **Examination Scheme:**

Tutorial: 2 Hrs/week **TW: 50 Marks.**

Project phase I Term Work will be evaluated for an individual student based on the seminar presented on the work done in first semester and submission of the report. If the student fails to present the seminar and submit the report, he / she will be marked absent in project examination. The project work phase I shall be consist of any one of the following nature in Civil Engineering related subjects.

1. Experimental investigation.
2. Software development.
3. Benefits cost economic analysis.
4. Case study with own design.
5. Working model design and fabrication.
6. Case study with development of methodology using soft computing tools.

It is mandatory to present a seminar in presence of Internal and External Examiners and submit preliminary project report based on work done in first semester. The report shall contain finalization of topic, literature survey, planning schedule/ flow chart for completion of project. The report shall be typed or printed and hard/spiral bound. The project work to be taken up individually or in groups. The group shall not be of more than 4 students. References shall be mentioned at the end as per universal standards as mentioned in any international journal of professional body.

Format of project report: Sequence of pages:

i) Front Cover Page	ii) Certificate	iii) Acknowledgement	iv) Synopsis
v) Contents	vi) Notations	vii) List of Tables	viii) List of Figures
	ix) List of Graphs.		

Chapter 1 Introduction (This consists of: 1.1 Introduction of the Project Work; 1.2 Problem Statement, 1.3 Objectives and 1.4 Scope of the Project Works, 1.5 Research Methodology, 1.6 Limitations of study, 1.7 Expected outcome.

Chapter 2 Literature Review from minimum 10 articles (It shall include theoretical support, details regarding work done by various persons, methods established, any new approach. It should preferably highlight the development in the field of research chronologically as reflected from books, journals etc.).

Chapter 3 Planning Schedule/ Flow Chart For Completion of Project References and Bibliography (The references and bibliography shall include name of author/code/manual/book, title of paper/code/manual/book, name of the journal, month & year of publication, volume number/ISBN number, page number x-y. The references and bibliography shall be as per universal standards as mentioned in any international journal of professional body).

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5. No blank sheet be left in the report.
6. Figure name: 12 Font size in sentence case Bold- Below the figure.
7. Table title -12 font size in sentence case- Bold-Above the table.

401006 Project work

Teaching Scheme:
Tutorial: 6 Hrs/week

Examination Scheme:
TW : 50 Marks.
Oral : 100 Marks.

Project Work will be evaluated for an individual student based on the presentation of the work done in a year(I Sem + II Sem) and submission of the report .The student may work in a group during project work, if any.

The project work shall consist of any one of the following nature in Civil Engineering related subjects.

1. Experimental investigation.
2. Software development.
3. Benefit : Cost economic analysis.
4. Case study with own design.
5. Working model design and fabrication.
6. Case study with development of methodology using soft computing tools.

The details of report writing and preparation of report will be similar to that of as mentioned in syllabus of Project Phase I in first semester.

Evaluation of Project work in final exam. Will be done by the pair of internal guide having minimum 3 years approved experience as teacher and external guide.

It is recommended to promote the students to present a paper based on project work in appropriate conference / journal.

Faculty of Science and Technology
Savitribai Phule Pune University
Maharashtra, India

http://unipune.ac.in

Curriculum
for
Second Year of Computer Engineering
(2019 Course)
(With effect from 2020-21)

Savitribai Phule Pune University

Second Year of Computer Engineering (2019 Course)

(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
210241	Discrete Mathematics	03	-	-	30	70	-	-	-	100	03	--	-	03
210242	Fundamentals of Data Structures	03	-	-	30	70	-	-	-	100	03	-	-	03
210243	Object Oriented Programming (OOP)	03	-	-	30	70	-	-	-	100	03	-	-	03
210244	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
210245	Digital Electronics and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03
210246	Data Structures Laboratory	-	04	-	-	-	25	50	-	75	-	02	-	02
210247	OOP and Computer Graphics Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210248	Digital Electronics Laboratory	-	02	-	-	-	25	-	-	25	-	01	-	01
210249	Business Communication Skills	-	02	-	-	-	25	-	-	25	-	01	-	01
210250	Humanity and Social Science	-	-	01	-	-	25	-	-	25	-	-	01	01
210251	Audit Course 3													
										Total Credit	**15**	**06**	**01**	**22**
	Total	**15**	**12**	**01**	**150**	**350**	**125**	**75**	**-**	**700**	**-**	**-**	**-**	**-**

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
207003	Engineering Mathematics III	03	-	01	30	70	25	-	-	125	03	--	01	04
210252	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
210253	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
210254	Microprocessor	03	-	-	30	70	-	-	-	100	03	-	-	03
210255	Principles of Programming Languages	03	-	-	30	70	-	-	-	100	03	-	-	03
210256	Data Structures and Algorithms Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210257	Microprocessor Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
210258	Project Based Learning II	-	04	-	-	-	50	-	-	50	-	02	-	02
210259	Code of Conduct	-	-	01	-	-	25	-	-	25	-	-	01	01
210260	Audit Course 4													
										Total Credit	**15**	**05**	**02**	**22**
	Total	**15**	**10**	**02**	**150**	**350**	**150**	**25**	**25**	**700**	**-**	**-**	**-**	**-**

Savitribai Phule Pune University
Second Year of Computer Engineering (2019 Course)
210258: Project Based Learning II

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Teaching Scheme	Credit Scheme	Examination Scheme and Marks
Practical: 04 Hours/Week	02	Term Work: 50 Marks

Course Objectives:

- To develop critical thinking and problem solving ability by exploring and proposing solutions to realistic/social problem.
- To Evaluate alternative approaches, and justify the use of selected tools and methods.
- To emphasizes learning activities that are long-term, inter-disciplinary and student-centric.
- To engages students in rich and authentic learning experiences.
- To provide every student the opportunity to get involved either individually or as a group so as to develop team skills and learn professionalism.
- To develop an ecosystem that promotes entrepreneurship and research culture among the students.

Course Outcomes:

CO1: Identify the real life problem from societal need point of view
CO2: Choose and compare alternative approaches to select most feasible one
CO3: Analyze and synthesize the identified problem from technological perspective
CO4: Design the reliable and scalable solution to meet challenges
CO5: Evaluate the solution based on the criteria specified
CO6: Inculcate long life learning attitude towards the societal problems

Course Contents

Preamble:

Project-based learning is an instructional approach designed to give students the opportunity to develop knowledge and skills through engaging projects set around challenges and problems they may face in the real world. PBL, is more than just projects. With PBL students "investigate and respond to an authentic, engaging, and complex problem, or challenge" with deep and sustained attention. PBL is "learning by doing." The truth is, many in education are recognizing we live in a modern world sustained and advanced through the successful completion of projects. In short, If students are prepared for success in life, we need to prepare them for a project-based world. It is a style of active learning and inquiry-based learning. (Reference: Wikipedia). Project based learning will also redefine the role of teacher as mentor in learning process. Along with communicating knowledge to students, often in a lecture setting, the teacher will also to act as an initiator and facilitator in the collaborative process of knowledge transfer and development. The PBL model focuses the student on a big open-ended question, challenge, or problem to research and respond to and/or solve. It Brings what students should academically know, understand, and be able to do and requires students to present their problems, research process, methods, and results.[1]

Project based learning (PBL) requires regular mentoring by faculty throughout the semester for successful completion of the idea/project tasks selected by the students per batch. For the faculty involved in PBL , teaching workload of 4 Hrs/week/batch needs to be considered. The Batch should be divided into sub-groups of 4 to 5 students. Idea implementation /Real life problem/Complex assignments / activities / projects. under project based learning is to be carried throughout semester and Credit for PBL has to be awarded on the basis of internal continuous assessment and evaluation at the end of semester

Group Structure:

Working in supervisor/mentor monitored groups; the students plan, manage, and complete a task/project/activity which addresses the stated problem.

1. There should be team/group of 4-5 students
2. A supervisor/mentor teacher assigned to individual groups

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Selection of Project/Problem:

The problem-based project oriented model for learning is recommended. The model begins with the identifying of a problem, often growing out of a question or "wondering". This formulated problem then stands as the starting point for learning. Students design and analyze the problem/project within an articulated interdisciplinary or subject frame.

A problem can be theoretical, practical, social, technical, symbolic, cultural, and/or scientific and grows out of students' wondering within different disciplines and professional environments. A chosen problem has to be exemplary. The problem may involve an interdisciplinary approach in both the analysis and solving phases.

By exemplarity, a problem needs to refer back to a particular practical, scientific, social and/or technical domain. The problem should stand as one specific example or manifestation of more general learning outcomes related to knowledge and/or modes of inquiry.

There are no commonly shared criteria for what constitutes an acceptable project. Projects vary greatly in the depth of the questions explored, the clarity of the learning goals, the content, and structure of the activity.

A few hands-on activities that may or may not be multidisciplinary.

Use of technology in meaningful ways to help them investigate, collaborate, analyse, synthesize, and present their learning.

Activities may include- Solving real life problem, investigation, /study and Writing reports of in depth study, field work.

Assessment:

The institution/head/mentor is committed to assessing and evaluating both student performance and program effectiveness.

Progress of PBL is monitored regularly on weekly basis. Weekly review of the work is necessary. During process of monitoring and continuous assessment and evaluation of the individual and the team performance is to be measured. PBL is monitored and continuous assessment is done by supervisor /mentor and authorities.

Students must maintain an institutional culture of authentic collaboration, self-motivation, peer-learning and personal responsibility. The institution/department should support students in this regard through guidance/orientation programs and the provision of appropriate resources and services. Supervisor/mentor and Students must actively participate in assessment and evaluation processes.

Group may demonstrate their knowledge and skills by developing a public product and/or report and/or presentation.

1. Individual assessment for each student (Understanding individual capacity, role and involvement in the project)
2. Group assessment (roles defined, distribution of work, intra-team communication and togetherness)
3. Documentation and presentation

Evaluation and Continuous Assessment:

It is recommended that all activities should to be recorded regularly, regular assessment of work need to be done and proper documents need to be maintained at college end by both students as well as mentor (PBL work book).

Continuous Assessment Sheet (CAS) is to be maintained by all mentors/department and institutes.

Recommended parameters for assessment/evaluation and weightage:

1. Idea Inception and Awareness /Consideration of -Environment/ Social /Ethics/ Safety measures/Legal aspects (10%)
2. Outcomes of PBL/ Problem Solving Skills/ Solution provided/ Final product (Individual assessment and team assessment) (40%)
3. Documentation (Gathering requirements, design and modelling, implementation/execution, use of technology and final report, other documents) (15%)
4. Demonstration (Presentation, User Interface, Usability) (20%)

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5. Contest Participation/ publication (15%)

PBL workbook will serve the purpose and facilitate the job of students, mentor and project coordinator. It will reflect accountability, punctuality, technical writing ability and work flow of the work undertaken.

Note :

- While planning for the assessment, choose a valid method based on your context. It should be able to understand by both the students as well as the faculty.
- The student group must follow the principles of Software Engineering (Scoping out the problem, the solution implementation and related documentation).
- Researching the problem and outlining various approaches is key here and should be emphasized by the tutor and the mentor.
- Aspects of design thinking (from the point of view of the person facing the problem) are very important. Students should not jump into the technology aspects first.
- The team can follow the principles of Agile Software Development. The weekly meetings could be used as a Scrum meeting.
- The tutor and mentor should actively help the students to scope the work and the approach. They must validate the technology choices.
- If the implementation code is well documented, the project can be continued by subsequent batch – which will help solve a bigger problem.

Text Books:

1. A new model of problem based learning. By Terry Barrett. All Ireland Society for higher education (AISHE). ISBN:978-0-9935254-6-9; 2017
2. Problem Based Learning. By Mahnazmoallem, woei hung and Nada Dabbagh, Wiley Publishers. 2019.
3. Stem Project based learning and integrated science, Technology, Engineering and mathematics approach. By Robert Capraro, Mary Margaret Capraro

Reference Books:

1. De Graaff E, Kolmos A., red.: Management of change: Implementation of problem-based and project-based learning in engineering. Rotterdam: Sense Publishers. 2007.
2. Gopalan," Project management core text book", 2 Indian Edition
3. James Shore and Shane Warden, " The Art of Agile Development"

Tutors Role in Project Based Learning

- The fundamentals of problem based learning, lies with the Tutors role.
- Tutors are not the source of solutions rather they act as the facilitator and mentor.
- The facilitator skills of the Tutors / Teacher are central to the success of PBL.

Change of Mindset

- Students are not used to the constructivist approach to learning, it is important that they are carefully told what to expect in PBL.
- Tutors need to explain the differences between PBL and traditional learning.
- Tutors need to explain the principals involved and role of the students in PBL learning.

Designing Problem

- Considering the prior knowledge of the students, their ability and creativity, problem statement should be designed.
- For 2nd year PBL students the tutor should place more emphasis on getting the students to perform higher-level tasks.
- It is important for tutors to design problems that are anchored in authentic contexts only
- Students should take ownership of the problem.
- Problems should not be over simplified or well defiled
- Learning should not be the sequencing of instructional events, but the application of principles for responding to the needs of the situation.
- The problems given to students in PBL should be realistic, complex, and should reflect, as

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much as possible, the actual problems that students would encounter in real life.

Basic function of the tutor

- A good understanding of the overall curriculum the students have to study, the principles of problems solving, critical thinking and meta-cognitive skills.

Grouping

- Study the background and profile of each student.
- Make sure that students of different backgrounds and experience are assigned in a group
- It is useful to group students of different abilities, gender, and nationalities together.
- Tutors must have the commitment to devote the time to the tutorial process.
- A good tutor is always interested in helping students to learn better.
- Sufficient resources should be made available for students to take part the PBL tutorial.
- Time management is important.

Assessment of Learning

- It is important for tutors to make sure that assessment is consistent with learning objectives of the groups in PBL
- Assessment of students should not be focused only on the final leaning product.
- PBL tutors need to understand meaningful ways of assessing students' work to motivate learning.
- For assessment to be implemented properly there should be well designed and clearly defined goals and objectives and well thought out strategies, techniques, criteria, and marking schemes.

Student's Role in PBL

- Prepare students for PBL before starting the sessions.
- Students must have ability to initiate the task/idea .they should not be mere imitators.
- They must learn to think.
- Students working in PBL must be responsible for their own learning.
- Throughout the PBL process, students have to define and analyze the problem, generate learning issues and apply what they have learned to solve the problem and act for them-selves and be free.
- Students must quickly learn how to manage their own learning, Instead of passively receiving instruction.
- Students in PBL are actively constructing their knowledge and understanding of the situation in groups.
- Students in PBL are expected to work in groups.
- They have to develop interpersonal and group process skills, such as effective listening or coping creatively with conflicts.

Inquiry Skills

- Students in PBL are expected to develop critical thinking abilities by constantly relating:
- What they read to do?
- What they want to do with that information?
- They need to analyze information presented within the context of finding answers.
- Modeling is required so that the students can observe and build a conceptual model of the required processes.
- Formative and summative questions for evaluation:
- How effective is …….?
- How strong is the evidence for ……?
- How clear is ……?
- What are the justifications for thinking?
- Why is the method chosen?
- What is the evidence given to justify the solution?

Home

Information Literacy

- Information literacy is an integral part of self- directed learning

Information literacy involves the ability to:

- Know when there is a need for information
- Identify the information needed to solve a given problem or issue
- Be able to locate the needed information
- Use the information to solve the given problem effectively.
- Skills required by students in information literacy include:
- How to prepare the search , How to carry out the research,
- Sorting and assessing of information in general

Collaborative learning

- It is an educational approach to teaching and learning that involves
- groups of students working together to solve a problem or complete a project
- In collaborative learning, learners have the opportunity to talk with peers, exchange diverse beliefs present and defend ideas, as well as questioning other ideas.

Interpersonal Skills

- Interpersonal skills relating to group process are essential for effective problem solving and learning.
- It is important that students are made aware of these inter personal skills.
- Consensual decision making skills, Dialogue and discussion skills, Team maintenance skills
- Conflict management skills and Team leadership skills.
  Students who have these skills have a better opportunity to learn than students who do not have these skills and Time Management

Resources

- Students need to have the ability to evaluate the resources used

Students have to evaluate the source of the resources used by asking the following questions:

- How current is it?, Is there any reason to suspect bias in the source?
- How credible and accurate is it?

Meta-cognitive Skills

- Students need to reflect on the processes they are using during the learning process,
- Compare one strategy with another, and evaluate the effectiveness of the strategy used

Reflection Skills

- Reflection helps students refine and strengthen their high-level thinking skills and abilities through self-assessment.
- Reflection gives students opportunities to think about how they answered a question, made a decision, or solved a problem.
- What strategies were successful or unsuccessful? ,What issues need to be remembered for next time? , What could or should be done differently in the future?

Follow the practices learned in Software Engineering course- Requirement Analysis, Designing and Modeling.

@The CO-PO Mapping Matrix

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	-	-	-	-	-	-	-	-	-	-	-
CO2	-	2	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	3	-	-	-	-	-	-	-	-
CO4	-	-	-	-	2	-	-	-	-	-	-	-
CO5	-	-	-	-	-	3	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	2

Faculty of Engineering
Savitribai Phule Pune University, Pune

Maharashtra, India

Syllabus

for

Fourth Year of Computer Engineering
(2015 Course)

(with effect from 2018-19)

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2015 Course)
(with effect from 2018-19)

Semester I

Course Code	Course	Teaching Scheme Hours / Week		Examination Scheme and Marks						Credit	
		Theory	Practical	In-Sem	End-Sem	TW	PR	OR/ *PRE	Total	TH/ TUT	PR
410241	High Performance Computing	04	--	30	70	--	--	--	100	04	--
410242	Artificial Intelligence and Robotics	03	--	30	70	--	--	--	100	03	--
410243	Data Analytics	03	--	30	70	--	--	--	100	03	--
410244	Elective I	03	--	30	70	--	--	--	100	03	--
410245	Elective II	03	--	30	70	--	--	--	100	03	--
410246	Laboratory Practice I	--	04	--	--	50	50	--	100	--	02
410247	Laboratory Practice II	--	04	--	--	50	--	*50	100	--	02
410248	Project Work Stage I	--	02	--	--	--	--	*50	50	--	02
									Total Credit	16	06
Total		**16**	**10**	**150**	**350**	**100**	**50**	**100**	**750**	**22**	
410249	Audit Course 5									Grade	

Elective I	Elective II
410244 (A) Digital Signal Processing	**410245 (A)** Distributed Systems
410244 (B) Software Architecture and Design	**410245 (B)** Software Testing and Quality Assurance
410244 (C) Pervasive and Ubiquitous Computing	**410245 (C)** Operations Research
410244 (D) Data Mining and Warehousing	**410245 (D)** Mobile Communication

410249-Audit Course 5 (AC5) Options:

AC5-I Entrepreneurship Development

AC5-II: Botnet of Things

AC5-III: 3D Printing

AC5-IV: Industrial Safety and Environment Consciousness

AC5-V: Emotional Intelligence

AC5-VI: MOOC- Learn New Skills

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **PR:** Practical

Sem: Semester *__PRE__: Project/ Mini-Project Presentation

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2015 Course)
(with effect from 2018-19)

Semester II

Course Code	Course	Teaching Scheme Hours / Week		Examination Scheme and Marks						Credit	
		Theory	Practical	In-Sem	End-Sem	TW	PR	OR/ *PRE	Total	TH/ TUT	PR
410250	Machine Learning	03	--	30	70	--	--	--	100	03	--
410251	Information and Cyber Security	03	--	30	70	--	--	--	100	03	--
410252	Elective III	03	--	30	70	--	--	--	100	03	--
410253	Elective IV	03	--	30	70	--	--	--	100	03	--
410254	Laboratory Practice III	--	04	--	--	50	50	--	100	--	02
410255	Laboratory Practice IV	--	04	--	--	50	--	*50	100	--	02
410256	Project Work Stage II	--	06	--	--	100	--	*50	150	02	04
									Total Credit	12	10
Total		**12**	**14**	**120**	**280**	**200**	**50**	**100**	**750**	**22**	
410257	Audit Course 6									Grade	

Elective III	Elective IV
410252 (A) Advanced Digital Signal Processing	**410253 (A)** Software Defined Networks
410252 (B) Compilers	**410253 (B)** Human Computer Interface
410252 (C) Embedded and Real Time Operating Systems	**410253 (C)** Cloud Computing
410252 (D) Soft Computing and Optimization Algorithms	**410253 (D)** Open Elective

410259-Audit Course 6 (AC6) Options:

AC6-I: Business Intelligence
AC6-II: Gamification
AC6-III: Quantum Computing
AC6-IV: Usability Engineering
AC6-V: Conversational Interfaces
AC6-VI: MOOC- Learn New Skills

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **PR:** Practical
Sem: Semester *__PRE__: Project/ Mini-Project Presentation

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2015 Course)
410248:Project Work Stage I

Teaching Scheme:	Credit	Examination Scheme:
Practical : 02 Hours/Week	02	Presentation: 50 Marks

Course Objectives:

- To Apply the knowledge for solving realistic problem
- To develop problem solving ability
- To Organize, sustain and report on a substantial piece of team work over a period of several months
- To Evaluate alternative approaches, and justify the use of selected tools and methods,
- To Reflect upon the experience gained and lessons learned,
- To Consider relevant social, ethical and legal issues,
- To find information for yourself from appropriate sources such as manuals, books, research journals and from other sources, and in turn increase analytical skills.
- To Work in TEAM and learn professionalism.

Course Outcomes:

On completion of the course, student will be able to–

- Solve real life problems by applying knowledge.
- Analyze alternative approaches, apply and use most appropriate one for feasible solution.
- Write precise reports and technical documents in a nutshell.
- Participate effectively in multi-disciplinary and heterogeneous teams exhibiting team work, Inter-personal relationships, conflict management and leadership quality.

Guidelines

Project work Stage – I is an integral part of the Project work. In this, the student shall complete the partial work of the Project which will consist of problem statement, literature review, SRS, Model and Design. The student is expected to complete the project at least up to the design phase. As a part of the progress report of project work Stage-I, the candidate shall deliver a presentation on the advancement in Technology pertaining to the selected project topic. The student shall submit the duly certified progress report of Project work Stage-I in standard format for satisfactory completion of the work by the concerned guide and head of the Department/Institute.

The examinee will be assessed by a panel of examiners of which one is necessarily an external examiner. The assessment will be broadly based on work undergone, content delivery, presentation skills, documentation, question-answers and report.

Follow guidelines and formats as mentioned in Project Workbook recommended by Board of Studies.

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2015 Course)
410256:Project Work Stage II

Teaching Scheme:	Credit	Examination Scheme:
Practical : 06 Hours/Week	06	Term Work: 100 Marks Presentation: 50 Marks

Course Objectives:

- To follow SDLC meticulously and meet the objectives of proposed work
- To test rigorously before deployment of system
- To validate the work undertaken
- To consolidate the work as furnished report.

Course Outcomes:

On completion of the course, student will be able to–

- Show evidence of independent investigation
- Critically analyze the results and their interpretation.
- Report and present the original results in an orderly way and placing the open questions in the right perspective.
- Link techniques and results from literature as well as actual research and future research lines with the research.
- Appreciate practical implications and constraints of the specialist subject

Guidelines

In Project Work Stage–II, the student shall complete the remaining project work which consists of Selection of Technology and Tools, Installations, UML implementations, testing, Results, performance discussions using data tables per parameter considered for the improvement with existing/known algorithms/systems and comparative analysis and validation of results and conclusions. The student shall prepare and submit the report of Project work in standard format for satisfactory completion of the work that is the duly certified by the concerned guide and head of the Department/Institute.

Follow guidelines and formats as mentioned in Project Workbook recommended by Board of Studies.

Savitribai Phule Pune University, Pune

Faculty of Science and Technology

Board of Studies

Electrical Engineering

Syllabus

Second Year Electrical Engineering

(2019 Course)

(w.e.f. AY: 2020-21)

Savitribai Phule Pune University

Syllabus: Second Year (SE) Electrical Engineering (2019 Course) w.e.f. AY:2020-2021

SEMESTER-I

Course Code	Courses Name	Teaching Scheme			Examination Scheme and Marks						Credits			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
207006	Engineering Mathematics-III	03	--	--	30	70	--	--	--	**100**	03	--	--	**03**
203141	Power Generation Technologies	03	--	--	30	70	--	--	--	**100**	03	--	--	**03**
203142	Material Science	03	04#	--	30	70	25	--	25	**150**	03	02	--	**05**
203143	Analog and Digital Electronics	03	02	--	30	70	--	50	--	**150**	03	01	--	**04**
203144	Electrical Measurement & Instrumentation	03	04#	--	30	70	25	25	--	**150**	03	02	--	**05**
203150	Applications of Mathematics in Electrical Engineering	--	02*	--	--	--	25	--	--	**25**	--	01	--	**01**
203151	Soft Skill	--	02	--	--	--	25	--	--	**25**	--	01	--	**01**
203152	Audit Course-III	--	--	--	--	--	--	--	--	**--**	**Grade: PP/NP**			
Total		**15**	**14**	**--**	**150**	**350**	**100**	**75**	**25**	**700**	**15**	**07**	**--**	**22**

SEMESTER-II

Course Code	Courses Name	Teaching Scheme			Examination Scheme and Marks						Credits			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
203145	Power System-I	03	--	--	30	70	--	--	--	**100**	03	--	--	**03**
203146	Electrical Machines-I	03	02	--	30	70	--	50	--	**150**	03	01	--	**04**
203147	Network Analysis	03	02	--	30	70	25	--	--	**125**	03	01	--	**04**
203148	Numerical Methods & Computer Programming	03	02	--	30	70	--	25	--	**125**	03	01	--	**04**
203149	Fundamental of Microcontroller and Applications	03	04$	--	30	70	25	--	25	**150**	03	02	--	**05**
203152	Project Based Learning	--	04	--	--	--	50	--	--	**--**	--	02	--	**--**
203153	Audit Course-IV	--	--	--	--	--	--	--	--	**--**	**Grade: PP/NP**			
Total		**15**	**14**	**--**	**150**	**350**	**100**	**75**	**25**	**700**	**15**	**07**	**--**	**22**

* - Lab sessions on application of Mathematics in Electrical Engineering using professional software.

- Practical section will comprises of two Part : a) PART A : 2 hours per week : Regular curriculum listed practical total 12 numbers out of which conduction of 8 numbers will be mandatory b) PART B : 2 Hours a week :Practical/case studies/assignments to enable active learning based on advances related to subject to bridge gap between curriculum and enhance practical knowledge required in field .

$ - Practical section will comprises of two Part : a) PART A : 2 hours per week : Regular curriculum listed practical total 12 numbers out of which conduction of 8 numbers will be mandatory b) PART B : 2 Hours a week : IOT application in Electrical Engineering using microcontroller and GSM module to bridge gap between curriculum and enhance application knowledge.

Abbreviation: TH: Theory, PR: Practical, TUT:Tutorial, ISE: Insem Exam, ESE: End Sem Exam, TW: Term Work, OR: Oral

207006: Engineering Mathematics-III

Teaching Scheme	Credits	Examination Scheme [Marks]
Lecture : 03 Hrs/ Week	**Th**: 03	**In Sem** : 30 Marks **End Sem** : 70 Marks

Prerequisites: - Differential & Integral calculus, Taylor series, Differential equations of first order and first degree, Fourier series, Collection, classification & representation of data, Vector algebra and Algebra of complex numbers.

Course Objectives:

To make the students familiarize with concepts and techniques in Ordinary differential equations, Laplace transform, Fourier transform & Z-transform, Statistics & Probability, Vector Calculus and functions of a Complex Variable. The aim is to equip them with the techniques to understand advanced level mathematics and its applications that would enhance analytical thinking power, useful in their disciplines.

Course Outcomes: At the end of this course, students will be able to:

CO1:Solve higher order linear differential equation using appropriate techniques to model and analyze electrical circuits.

CO2: Apply Integral transforms such as Laplace transform, Fourier transform and Z-Transform to solve problems related to signal processing and control systems.

CO3: Apply Statistical methods like correlation, regression and Probability theory as applicable to analyze and interpret experimental data related to energy management, power systems, testing and quality control.

CO4: Perform Vector differentiation and integration, analyze the vector fields and apply to wave theory and electro-magnetic fields.

CO5: Analyze Complex functions, conformal mappings, and perform contour integration in the study of electrostatics, signal and image processing.

Unit I: Linear Differential Equations (**LDE**) and Applications (08Hours)

LDE of n^{th} order with constant coefficients, Complementary Function, Particular Integral,General method, Short methods, Method of variation of parameters, Cauchy's and Legendre's DE, Simultaneous and Symmetric simultaneous DE. Modeling of Electrical circuits.

Unit II: Laplace Transform (**LT**) (07Hours)

Definition of LT, Inverse LT, Properties & theorems, LT of standard functions, LT of some special functions viz. Periodic, Unit Step, Unit Impulse. Applications of LT for solving Linear differential equations.

Unit III: Fourier and Z - transforms (08 Hours)

Fourier Transform (**FT**): Complex exponential form of Fourier series, Fourier integral theorem, Fourier Sine & Cosine integrals, Fourier transform, Fourier Sine & Cosine transforms and their inverses.

Z - Transform **(ZT):** Introduction, Definition, Standard properties, ZT of standard sequences and their inverses. Solution of difference equations.

Unit IV: Statistics and Probability (07 Hours)

Measures of central tendency, Measures of dispersion, Coefficient of variation, Moments, Skewness and Kurtosis, Correlation and Regression, Reliability of Regression estimates.

Probability, Probability density function, Probability distributions: Binomial, Poisson, Normal, Test of hypothesis: Chi-square test.

Unit V: Vector Calculus (08 Hours)

Vector differentiation, Gradient, Divergence and Curl, Directional derivative, Solenoidal and Irrotational fields, Vector identities. Line, Surface and Volume integrals, Green's Lemma, Gauss's Divergence theorem and Stoke's theorem.

Unit VI: Complex Variables (08 Hours)

Functions of a Complex variable, Analytic functions, Cauchy-Riemann equations, Conformal mapping, Bilinear transformation, Cauchy's integral theorem, Cauchy's integral formula and Residue theorem.

203152: Project Based Learning

Teaching Scheme	Credits	Examination Scheme [Marks]
Practical : 04 Hrs/ Week	**PR**:02	**Term Work**: 50 Marks

Preamble: For better learning experience, along with traditional classroom teaching and laboratory learning, project-based learning has been introduced to motivate students to learn by working in a group cooperatively to solve a problem. Project-Based Learning (PBL) is a student-centered and experimental approach to education promoting 'deeper learning' through active exploration of real-world problems and challenges. A central goal of PBL is to facilitate the deeper learning process and support students' acquisition of complex cognitive competencies, e.g., rigorous content knowledge and critical thinking skills. The PBL engages students in the problem definition, design process, contextual understanding, and systems thinking approaches. In the PBL approach, learning based on memorization is de-emphasized and more emphasis is given on understanding and application of engineering design principles. Because of frequent assessments throughout the course, plagiarism can be more easily controlled.

Course Objectives: Objectives of this course are to

1. Impart technical knowledge and skills, and develop deeper understanding to integrate knowledge and skills from various areas.
2. Build critical thinking, problem-solving, communication, collaboration and creativity, and innovation amongst students
3. Make students aware of their own academic, personal, and social developments.
4. Develop habits of self-evaluation and self-criticism, against self-competency and trying to see beyond own ideas and knowledge

Course Outcomes: At the end of this project-based learning, students will be able to

CO1: Identify, formulate, and analyze the simple project problem.

CO2: Apply knowledge of mathematics, basic sciences, and electrical engineering fundamentals to develop solutions for the project.

CO3: Learn to work in teams, and to plan and carry out different tasks that are required during a project.

CO4: Understand their own and their team-mate's strengths and skills.

CO5: Draw information from a variety of sources and be able to filter and summarize the relevant points.

CO6: Communicate to different audiences in oral, visual, and written forms.

Procedure: A group of 4-5 students will be assigned to a faculty member called a mentor. Based on the engineering knowledge of a group and societal and industry problems, the mentor has to guide a group to identify project problems and plan the work schedule. Here, the expected outcomes of the project must be noted. The complete work-plan should be divided in the form of the individual tasks to be accomplished with targets. Weekly review of the completed task should be taken and further guidelines are to be given to a group. The final activity will be presenting the work completed and submitting the report. A group should be promoted to participate in a competition or write a paper.

A problem needs to refer back to a particularly practical, scientific, social, and/or technical domain. The problem should stand as one specific example or manifestation of more general learning outcomes related to knowledge and/or modes of inquiry. There are no commonly shared criteria for what constitutes an acceptable project. Projects vary greatly in the depth of the questions explored, the clarity of the learning goals, the content, and the structure of the activity. It may have

- ✓ A few hands-on activities that may or may not be multidisciplinary.
- ✓ Use of technology in meaningful ways to help them investigate, collaborate, analyze, synthesize, and present their learning.
- ✓ Activities on solving real-life problems, investigation /study, and writing reports of in-depth study, fieldwork.

Assessment:

The department/mentor is committed to assess and evaluate both students' performance and course effectiveness. The progress of PBL is monitored regularly every week. During the process

of monitoring, continuous assessment and evaluation the individual and team performances are to be measured by supervisor /mentor and authorities.

Students must maintain an institutional culture of authentic collaboration, self-motivation, peer-learning, and personal responsibility. The institution/department should support students in this regard through guidance/orientation programs and the provision of appropriate resources and services. Supervisor/mentor and students must actively participate in the assessment and evaluation processes. Groups may demonstrate their knowledge and skills by developing a solution to the problem, public product, and/or report and/or presentation.

- ✓ Individual assessment for each student (Understanding individual capacity, role, and involvement in the project)
- ✓ Group assessment (roles defined, distribution of work, intra-team communication and togetherness)
- ✓ Documentation and presentation

Evaluation and Continuous Assessment:

It is recommended that all activities are to be recorded in a PBL workbook regularly, regular assessment of work to be done and proper documents are to be maintained at the department level by both students as well as a mentor. Continuous Assessment Sheet (CAS) is to be maintained by all mentors/department. Recommended parameters for assessment, evaluation, and weightage are as follows.

- ✓ Idea Inception **(5%)**
- ✓ Outcomes of PBL/ Problem Solving Skills/ Solution provided/ Final product **(50%)** (Individual assessment and team assessment)
- ✓ Documentation (Gathering requirements, design and modeling, implementation/execution, use of technology and final report, other documents) **(25%)**
- ✓ Demonstration (Presentation, User Interface, Usability, etc.) **(10%)**
- ✓ Contest Participation/ publication **(5%)**
- ✓ Awareness /Consideration of -Environment/ Social /Ethics/ Safety measures/Legal aspects **(5%)**
- ✓ PBL workbook will serve the purpose and facilitate the job of students, mentors, and project coordinator. This workbook will reflect accountability, punctuality, technical writing ability and work flow of the work undertaken

SAVITRIBAI PHULE PUNE UNIVERSITY

FACULTY OF ENGINEERING

SYLLABUS FOR

B.E. ELECTRICAL ENGINEERING

(2015 course)

WITH EFFECT FROM YEAR 2018-2019

Savitribai Phule Pune University

FACULTY OF ENGINEERING

B.E. Electrical Engineering (2015 Course)
(w.e.f. 2018-2019)

SEMESTER-I													
Sr No	Subject Code	Subject Title	Teaching Scheme (Hrs/Week)			Examination Scheme (Marks)					Total Marks	Credit	
						PP		TW	PR	OR			
			TH	PR	TU	In Sem	End Sem					TH / TU	PR + OR
1	403141	Power System Operation and Control	03	02	--	30	70	25	--	25	150	03	01
2	403142	PLC and SCADA Applications	04	02	--	30	70	25	50	--	175	04	01
3	403143	Elective I	03	02	--	30	70	25	--	--	125	03	01
4	403144	Elective II	03	--	--	30	70	--	--	--	100	03	--
5	403145	Control System II	03	02	--	30	70	25	--	25	150	03	01
6	403146	Project I	--	--	02	--	--	--	--	50	50	02	--
	403152	Audit Course V											
TOTAL			16	08	02	150	350	100	50	100	750	18	04

SEMESTER-II													
Sr No	Subject Code	Subject Title	Teaching Scheme (Hrs/Week)			Examination Scheme (Marks)					Total Marks	Credit	
						PP		TW	PR	OR			
			TH	PR	TU	In Sem	End Sem					TH / TU	PR + OR
1	403147	Switchgear and Protection	03	02	--	30	70	50	--	25	175	03	01
2	403148	Power Electronic Controlled Drives	04	02	--	30	70	25	50	--	175	04	01
3	403149	Elective III	03	02	--	30	70	25	--	25	150	03	01
4	403150	Elective IV	03	--	--	30	70	--	--	--	100	03	--
5	403151	Project II	--	--	06	--	--	50	--	100	150	06	--
	403153	Audit Course VI											
TOTAL			13	06	06	120	280	150	50	150	750	19	03

TH	**Theory lectures hours/week**	**TW**	**Term work**
PR	**Practical hours/week**	**OR**	**Oral**
TU	**Tutorial hours/week**	**PP**	**Paper- In semester and End Semester**

Elective I (403143) **A) Fundamentals of Microcontroller MSP430 and its Applications [Open Elective]** **B) Power Quality** **C) Renewable Energy Systems** **D) Digital Signal Processing**	**Elective II (403144)** **A) Restructuring and Deregulation** **B) Electromagnetic Fields** **C) EHVAC Transmission** **D) Electric and Hybrid Vehicles** **E) Special Purpose Machines**
Elective III (403149) **A) High Voltage Engineering** **B) HVDC and FACTS** **C) Digital Control System** **D) Intelligent Systems and Applications in Electrical Engineering** **E) Analog Electronics and Sensing Technology [Open Elective]**	**Elective IV (403150)** **A) Smart Grid** **B) Robotics and Automation** **C) Illumination Engineering** **D) VLSI Design[Open Elective]**

Audit Course

- Audit Course: Optional for 1st and 2nd term of BE Electrical Engineering
- 'Audit Courses' means a Course in which the student shall be awarded Pass or Fail only. It is left to the discretion of the respective affiliated institute to offer such courses to the students. Evaluation of audit course will be done at institute level itself.
- Teaching-learning process for these subjects is decided by concern faculty/industry experts appointed by the affiliated Engineering College based on the syllabus and guidelines given.
- Marks obtained by student for audit course will not be taken into consideration of SGPA or CGPA.

Audit Course V 403152	**(A) Hydro Energy Systems** **(B) Foreign Language – German**
Audit Course VI 403153	**Energy Storage Systems**

403146 : Project I

Teaching Scheme	Credits	Examination Scheme [50 Marks]
Tutorial : 02 Hr/Week	02	Oral : 50 Marks

The student shall take up a project in the field closely related to Electrical Engineering. Preferably, group of 3/4 students should be formed for project work.

The project work should be based on the knowledge acquired by the student during the graduation and preferably it should meet and contribute towards the needs of the society. The project aims to provide an opportunity of designing and building complete system or subsystems based on area where the student likes to acquire specialized skills.

Project work in this semester is an integral part of the complete project. In this, the student shall complete the partial work of the project which will consists of problem statement, literature review, project overview and scheme of implementation. As a part of the progress report of project work, the candidate shall deliver a presentation on the advancement in Technology pertaining to the selected project topic.

Guidelines for VIIth Semester for Project work:

1. To identify the problems in industry and society.
2. Perform Literature survey on the specific chosen topic through research papers, Journals, books etc. and market survey if required.
3. To narrow down the area taking into consideration his/her strength and interest. The nature of project can be analytical, simulation, experimentation, design and validation.
4. Define problem, objectives, scope and its outcomes.
5. Design scheme of implementation of project.
6. Data collection, simulation, design, hardware if any, needs to be completed.
7. Presentation based on partially completed work.
8. Submission of report based on the work carried out.
9. Student should maintain Project Work Book.

403151: Project II

Teaching Scheme	Credits	Examination Scheme [150 Marks]
Tutorial : 06 Hrs./Week	06	Oral : 50 Marks Term work : 100 Marks

Course Objectives:

- To explore and to acquire specified skill in areas related to Electrical Engineering
- To develop skills for carrying literature survey and organize the material in proper manner.
- To provide opportunity of designing and building complete system/subsystem based on their knowledge acquired during graduation.
- To understand the needs of society and based on it to contribute towards its betterment and to learn to work in a team.
- To ensure the completion of given project such as fabrication, conducting experimentation, analysis, validation with optimized cost.
- Present the data and results in report form
- Communicate findings of the completed work systematically.

Course outcomes: Students will be able to

- Work in team and ensure satisfactory completion of project in all respect.
- Handle different tools to complete the given task and to acquire specified knowledge in area of interest.
- Provide solution to the current issues faced by the society.
- Practice moral and ethical value while completing the given task.
- Communicate effectively findings in verbal and written forms.

Guidelines :

The student shall complete the remaining part of the project which is an extension of the work carried out in VIIth Semester. For exceptional cases, change of topic has to be approved by Internal Assessment Committee consisting of Guide, Project Coordinator and Head of Department.
Student should incorporate suggestions given by examiner in project I.
The student shall complete the remaining part of the project which consists of design, simulation, fabrication of set up required for the project, analysis and validation of results and conclusions.
The student shall prepare duly certified final report of the project work in the standard format in MS Word / LaTex.
Student should maintain Project Work Book.

Savitribai Phule Pune University

Faculty of Science and Technology

Syllabus for

S.E (Electronics / Electronics & Telecommunication Engineering)

(Course 2019)

(w.e.f. June 2020)

Savitribai Phule Pune University, Pune
S.E. (Electronics / E&TC Engineering) 2019 Course
(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
207005	Engineering Mathematics III	04	-	01	30	70	25	-	-	125	04	-	01	05
204181	Electronic Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204182	Digital Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204183	Electrical Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204184	Data structures	03	-	-	30	70	-	-	-	100	03	-	-	03
204185	Electronic Circuit Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
204186	Digital circuits Lab		02					50		50		01		01
204187	Electrical Circuit Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
204188	Data Structures Lab	-	02	-	-	-	-	-	25	25	-	01	-	01
204189	Electronic Skill Development	-	02	-	-	-	25	-	-	25	-	01	-	01
204190	Mandatory Audit Course 3 &	-	-	-					-	-	-	-	-	-
Total		**16**	**10**	**01**	**150**	**350**	**75**	**100**	**25**	**700**	**16**	**05**	**01**	**22**

Savitribai Phule Pune University, Pune
S.E. (Electronics / E&TC Engineering) 2019 Course
(With effect from Academic Year 2020-21)

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
204191	Signals & Systems	03	-	01	30	70	25	-	-	125	03	-	01	04
204192	Control Systems	03	-		30	70		-	-	100	03	-	-	03
204193	Principles of Communication Systems	03	-	-	30	70	-	-	-	100	03	-	-	03
204194	Object Oriented Programming	03	-	-	30	70	-	-	-	100	03	-	-	03
204195	Signals & Control System Lab		02				50			50		01		01
204196	Principle of Communication Systems Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
204197	Object Oriented Programming Lab	-	02	-	-	-	-	-	50	50	-	01	-	01
204198	Data Analytics Lab		02				-		25	25		01		01
204199	Employability Skill Development	02	02	-	-	-	50	-	-	50	02	01	-	03
204200	Project Based Learning ¶	-	04				50		-	50		02		02
204201	Mandatory Audit Course 4&	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		**14**	**14**	**01**	**120**	**280**	**175**	**50**	**75**	**700**	**14**	**07**	**01**	**22**

Abbreviations:
In-Sem: In semester End-sem: End semester TH : Theory TW : Term Work
PR : Practical OR : Oral TUT : Tutorial

Note: Interested students of S.E. (Electronics/E&TC) can opt any one of the audit course from the list of audit courses prescribed by BoS (Electronics & Telecommunications Engineering)

Savitribai Phule Pune University

Second Year of Electronics / E & Tc Engineering (2019 Course)

204200: Project Based Learning

Teaching Scheme:	Credit	Examination Scheme:
Practical: 04 hrs. / week	02	Term Work: 50 Marks

Preamble:

The main stream engineering education follows traditional classroom teaching, in which the major focus is mainly on the lecturer and the student has very little (if any) choice on the learning process. However rapid development in engineering and technology requires adopting a teaching approach that would assist students not only in developing a core set of industry relevant skills, but also enable them to adapt to changes in their professional career.

PBL is an approach to design Electronic Systems Curricula for making electronics more appealing to students. Since electronics is an important grounding for other disciplines (computer science, signal processing, and communications), this approach proposes the development of multidisciplinary projects using the PBL strategy for increasing the attractiveness of the curriculum. Promoting electronics as grounding for other disciplines can be done by defining a new curriculum that includes practical courses (laboratories) in which the students develop whole systems involving multidisciplinary knowledge.

Course Objectives: On completion of the course, learner will be able to -

- To emphasize project-based learning activities that are long-term, interdisciplinary and student-centric.
- To inculcate independent and group learning by solving real world problem with the help of available resources.
- To be able to develop application based on the fundamentals of electronics and communication engineering by possibly the integration of previously acquired knowledge.
- To get practical experience in all steps in the life cycle of the development of electronic systems: specification, design, implementation, and testing.
- To be able to select and utilize appropriate hardware and software tools to design and analyze the proposed system.
- To provide every student the opportunity to get involved either individually or as a group so as to develop team skills and learn professionalism.

Course Outcomes: On completion of the course, learner will be able to -

CO1: Identify the real-world problem (possibly of interdisciplinary nature) through a rigorous literature survey and formulate / set relevant aim and objectives.

CO2: Contribute to society through proposed solution by strictly following professional ethics and safety measures.

CO3: Propose a suitable solution based on the fundamentals of electronics and communication engineering by possibly the integration of previously acquired knowledge.

CO4: Analyze the results and arrive at valid conclusion.

CO5: Use of technology in proposed work and demonstrate learning in oral and written form.

CO6: Develop ability to work as an individual and as a team member.

Group Structure:

Working in supervisor/mentor –monitored groups. The students plan, manage and complete a task/project/activity which addresses the stated problem.

1. Create groups of 5 (five) to 6 (six) students in each class

Project Selection:

Survey through journals, patents or field visit (A problem can be theoretical, practical, social, technical, symbolic, cultural and/or scientific), check the physibility of solution, analyze the problem, design and find the values of components.

There are no commonly shared criteria for what constitutes an acceptable project. Projects vary greatly in the depth of the questions explored, the clarity of the learning goals, the content and structure of the activity.

The problem-based project-oriented model for learning is recommended. The model begins with the identifying of a problem, often growing out of a question or "wondering". This formulated problem then stands as the starting point for learning. A problem can be theoretical, practical, social, technical, symbolic, cultural and/or scientific and grows out of students' wondering within different disciplines and professional environments. As stated in the preamble as electronics is an important grounding for other disciplines (computer science, signal processing, and communications), the project topic can be Interdisciplinary in nature. However, the chosen problem must involve the application of electronics and communication engineering fundamentals. Out of the total developed system setup, the project based model/activity preferably involve electronic components/hardware/software. Although in a genuine case project idea/model/ simulation model may be allowed.

Ethical Practices, team work and project management:

Use IEEE standards for project manufacturing, respect the time of others, attend the reviews, poster presentation and model exhibitions, strictly follow the deadline of project completion, comply with all legislation requirements that govern workplace health and safety practices.

Effective Documentation:

In order to make our engineering graduates capable to prepare effective documentation, it is required for the students to learn the effective writing skills. The PBL final report is expected to consist of the Literature Survey, Problem Statement, Aim and Objectives, System Block Diagram, System Implementation Details, Discussion and Analysis of Results, Conclusion, System Limitations and Future Scope. Many freely available software tools (for instance Medley (Elsevier), Grammerly) are expected to be used during the preparation of PBL synopsis and final report. It is expected that the PBL guides/mentors shall teach students about utilizing valid sources of information (such as reference papers, books, magazines, etc) related to their PBL topic.

Evaluation & Continuous Assessment:

The institution/head/mentor is committed to assessing and evaluating both student performance and program effectiveness. Progress of PBL is monitored regularly on weekly basis. Weekly review of the work is necessary. During process of monitoring and continuous assessment and evaluation the individual and team performance is to be measured. PBL is monitored and continuous assessment is done by supervisor /mentor and authorities. Students must maintain an institutional culture of authentic collaboration, self-motivation, peer-learning and personal responsibility. The institution/department should support students in this regard through guidance/orientation programs and the provision of appropriate resources and services. Supervisor/mentor and Students must actively participate in assessment and evaluation processes.

It is recommended that the all activities are required to be recorded and regularly. A regular assessment of PBL work is required to be maintained at the department in PBL log book by students. It is expected that the PBL log book must include following:

1. Weekly monitoring by the PBL guide,
2. Assessment sheet for PBL work review by PBL guide and PBL Evaluation Committee (PEC).

The PEC structure shall consist of Head of the department, 1/2 senior faculties of the department and one industry expert (optional). Continuous Assessment Sheet (CAS) is to be maintained by the department.

Recommended parameters for assessment, evaluation and weightage:

1. Idea Inception (kind of survey). (10%)
2. Outcome (Participation/ publication, copyright, patent, product in market). (50%)
3. Documentation (Gathering requirements, design & modeling, implementation/execution, use of technology and final report, other documents). (15%)
4. Attended reviews, poster presentation and model exhibition. (10%)
5. Demonstration (Poster Presentation, Model Exhibition etc). (10%).
6. Awareness /Consideration of - Environment/ Social /Ethics/ Safety measures/Legal aspects. (5%)

Learning Resources

Reference Books / Research Articles:

1. John Larmer, John R. Mergendoller, and Suzie Boss, “Setting the Standard for Project Based Learning”.
2. John Larmer and Suzie Boss, “Project Based Teaching: How to Create Rigorous and Engaging Learning Experiences”.
3. Erin M. Murphy and Ross Cooper, “Hacking Project Based Learning: 10 Easy Steps to PBL and Inquiry”. M. Krašna, "Project based learning (PBL) in the teachers' education,"39th International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO), Opatija, 2016, pp. 852-856, doi: 10.1109/MIPRO.2016.7522258.
4. J. Macias- Guarasa, J.M. Montero, R. San-Segundo, A. Araujo and O. Nieto-Taladriz, "A project based learning approach to design electronic systems curricula", IEEE transactions on Education, vol.49, no. 3, pp. 389-397, Aug. 2006, doi: 10.1109/TE.2006.879784

Web resources:

- Project-Based Learning, Edutopia, March 14, 2016.
- What is PBL? Buck Institute for Education.
- www.howstuffworks.com
- www.wikipedia.org

Savitribai Phule Pune University

Second Year of Electronics/E & Tc Engineering (2019 Course)

204201: Mandatory Audit Course - 4

Teaching Scheme:	Credit	Examination Scheme:
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FACULTY OF ENGINEERING

Savitribai Phule Pune University

Syllabus for the

T.E (Electronics & Telecommunications Engineering)

(2015 Course)

(w.e.f . June 2017)

Savitribai Phule University of Pune, Pune

Third Year E&TC Engineering (2015 Course)

(With effect from Academic Year 2017-18)

Semester I

Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credits	
		Theory	Tutorials	Practicals	In-Sem	End-Sem	TW	PR	OR	Total	Th+Tut	PR/OR/TW
304181	Digital Communication	3	--	--	30	70	--	--	--	100	3	--
304182	Digital Signal Processing	3	--	--	30	70	--	--	--	100	3	--
304183	Electromagnetics	3	1	--	30	70	--	--	--	100	4	--
304184	Microcontrollers	3	--	--	30	70	--	--	--	100	3	--
304185	Mechatronics	3	--	--	30	70	--	--	--	100	3	--
304191	Signal Processing and Communications Lab (DC/DSP)	--	--	4	--	--	50	50		100	--	2
304192	Microcontrollers and Mechatronics Lab	--	--	4	--	--	50	50		100	-	2
304193	Electronics System Design	2	--	2	--	--	-	--	50	50	2	1
	Audit Course 3	--	--	--	--	--	--	--	--	--	----	
	Total	17	01	10	150	350	100	100	50	750	18	5
										Total Credits	**23**	

Third Year E&TC Engineering (2015 Course)

(With effect from Academic Year 2017-18)

Semester II

Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorials	Practicals	In-Sem	End-Sem	TW	PR	OR	Total	Th+Tut	PR/OR/TW
304186	Power Electronics	3	--	--	30	70	--	--	--	100	3	--
304187	Information Theory, Coding and Communication Networks	4	--	--	30	70	--	--	--	100	4	--
304188	Business Management	3	--	--	30	70	--	--	--	100	3	--
306189	Advanced Processors	3	--	--	30	70	--	--	--	100	3	--
304190	System Programming and Operating Systems	3	--	--	30	70		--	--	100	3	--
304194	Power and ITCT Lab	--	--	4	--	--	50	50	--	100	--	2
304195	Advanced Processors and System Programming Lab	--	--	4	--	--	50	50	--	100	--	2
304196	Employability Skills and Mini Project	2	--	2	--	--	--	--	50	50	2	1
	Audit Course 4	--	--	--	--	--	--	--	--	--		
	Total	18	---	10	150	350	100	100	50	750	18	5
										Total Credits	**23**	

304196 Employability Skills and Mini Project

Credits: TH-02 PR-01

Teaching Scheme: **Examination Scheme:**

Lecture : 02 hr/week **Oral : 50 Marks**

Practical : 02 hr/week

Course Objectives:

- To understand the "Product Development Process" including budgeting through Mini Project.
- To plan for various activities of the project and distribute the work amongst team members.
- To inculcate electronic hardware implementation skills by -
- Learning PCB artwork design using an appropriate EDA tool.
- Imbibing good soldering and effective trouble-shooting practices.
- Following correct grounding and shielding practices.
- To develop student's abilities to transmit technical information clearly and test the same by delivery of Seminar based on the Mini Project.
- To understand the importance of document design by compiling Technical Report on the Mini Project work carried out.

Course Outcomes:

On completion of the course, student will be able to

1. Understand, plan and execute a Mini Project with team.
2. Implement electronic hardware by learning PCB artwork design, soldering techniques, testing and troubleshooting etc.
3. Prepare a technical report based on the Mini project.
4. Deliver technical seminar based on the Mini Project work carried out.

Course Contents

Execution of Mini Project

- Project group shall consist of **not more than 3** students per group.
- Mini Project Work should be carried out in the Design / Projects Laboratory.
- Project designs ideas can be necessarily adapted from recent issues of electronic design magazines Application notes from well known device manufacturers may also be referred.

- Use of Hardware devices/components is mandatory.
- Layout versus schematic verification is mandatory.
- Bare board test report shall be generated.
- Assembly of components and enclosure design is mandatory.

B: Selection: Domains for projects may be from the following, but not limited to:

- Instrumentation and Control Systems
- Electronic Communication Systems
- Biomedical Electronics
- Power Electronics
- Audio , Video Systems
- Embedded Systems
- Mechatronic Systems

- Microcontroller based projects should preferably use Microchip PIC controllers/ATmega controller/AVR microcontrollers.

C. Monitoring: (for students and teachers both)

Suggested Plan for various activities to be monitored by the teacher.

Week 1 & 2: Formation of groups, Finalization of Mini project & Distribution of work.

Week 3 & 4: PCB artwork design using an appropriate EDA tool, Simulation.

Week 5 to8:PCB manufacturing through vendor/at lab, Hardware assembly, programming (if required) Testing, Enclosure Design, Fabrication etc

Week 9 & 10: Testing of final product, Preparation, Checking & Correcting of the Draft Copy of Report

Week 11 & 12: Demonstration and Group presentations.

Log book for all these activities shall be maintained and shall be produced at the time of examination.

D. Report writing

- A project report with following contents shall be prepared:
    - Title
    - Specifications
    - Block diagram
    - Circuit diagram
    - Selection of components, calculations

- Simulation results
- PCB artwork
- Layout versus schematic verification report
- Testing procedures
- Enclosure design
- Test results

  Conclusion
- References

Text Books:

1. Thomas C Hayes, Paul Horowitz,, "The Art of Electronics",Newens Publication

2. Analog Circuit Design: Art, Science and Personalities, by Jim Williams (Editor) , EDN series for Design Engineers,

3. M Ashraf Rizvi," Effective Technical Communication", Tata McGraw Hill Education Pvt. Ltd.

Reference Books:

1. . Robert Boylested, " Essentials of Circuit Analysis", PHI Puublications
2. Meenakshi Raman, Sangeeta Sharma," Technical Communication, Principles and Practice", Oxford University Press
3. A.E. Ward, Angus, " Electronic Product Design", Stanley thornes Publishers, UK.
4. C Muralikrishna, Sunita Mishra," Communication Skills for Engineers", Pearson

Savitribai Phule Pune University

Faculty of Science &Technology

B.E. (Electronics & Telecommunication)
(2015 Pattern) Syllabus
(With effect from Academic Year 2018-19)

Savitribai PhulePune University
Final Year E&TC Engineering (2015 Course)
(With effect from Academic Year 2018-19)

Semester I												
Course Code	**Course**	**Teaching Scheme Hours / Week**			**Semester Examination Scheme of Marks**						**Credits**	
		Theory	**Tut**	**Pract**	**In-Sem**	**End-Sem**	**TW**	**PR**	**OR**	**Total**	**TH/TW**	**PR+OR**
404181	VLSI Design& Technology	3	--	--	30	70	--	--	--	100	3	--
404182	Computer Networks & Security	4	--	--	30	70	--	--	--	100	4	--
404183	Radiation & Microwave Techniques	3	--	--	30	70	--	--	--	100	3	--
404184	Elective I	3	--	--	30	70	--	--	--	100	3	--
404185	Elective II	3			30	70	--	--	--	100	3	--
404186	Lab Practice -I (CNS+ RMT)	--	--	4	--	--	50	--	50	100	--	TW 01 + OR 01
404187	Lab Practice -II (VLSI + Elective I)	--	--	4	--	--	50	50		100	--	TW01 + PR 01
404188	Project Stage I	-	2	--	--	--	-	--	50	50	--	2
	Audit Course 5	--	--	--	--	--	--	--	--	--	----	
	Total	16	2	8	150	350	100	50	100	750	16	6
Total Credits											**22**	

Elective I	**Elective II**	**Audit Course 5**
1 Digital Image and Video Processing	1. Wavelets	1. Green Energy
2. Industrial Drives and Control	2. Electronics Product Design	2. Human Behaviour
3. Embedded Systems & RTOS	3. Optimization Techniques	
4. Internet of Things	4. Artificial Intelligence	
	5. Electronics in agriculture	

Final Year E&TC Engineering (2015 Course)

(With effect from Academic Year 2018-19)

Semester II

Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tut	Pract	In-Sem	End-Sem	TW	PR	OR	Total	TH/TW	PR+OR
404189	Mobile Communication	3	--	--	30	70	--	--	--	100	3	--
404190	Broadband Communication Systems	4	--	--	30	70	--	--	--	100	4	--
404191	Elective III	3	--	--	30	70	--	--	--	100	3	--
404192	Elective IV	3	--	--	30	70	--	--	--	100	3	--
404193	Lab Practice –III (MC+BCS)	--	--	4	--	--	50	50	--	100	--	TW 01 + PR 01
404194	Lab Practice –IV (Elective III)	--	--	2	--	--	--	--	50	50	--	1
404195	Project Stage II	--	6	-	--	--		150	50	200	--	TW 04 + OR 02
	Audit Course 6	--	--	--	--	--	--	--	--	--		
Total		13	6	6	120	280	200	50	100	750	13	9
										Total Credits	**22**	

Elective III

1. Machine Learning
2. PLC s and Automation
3. Audio and Speech Processing
4. Software Defined Radio
5. Audio Video Engineering

Elective-IV

1. Robotics
2. Biomedical Electronics
3. Wireless Sensor Networks
4. Renewable Energy Systems
5. Open Elective*

Audit Course 6

1. Team Building, Leadership and Fitness
2. Environmental issues and Disaster Management

Raspberry Pi computer is developed. The connectivity is divided into server side software and client side software.

7.IoT based Web Controlled Home Automation using Raspberry Pi.

8. A Simple IoT Project with the ESP8266 WiFi module: Here is a simple project with ESP8266 wi-fimodule.This project collects the temperature and is displayed on the network.

9. Implement a RFID Based IoT Project

404188 Project Phase-I

Credits: 02

Teaching Scheme:		**Examination Scheme:**
Tutorial: 2 Hrs/week		OR :50Marks

Note:

1. Term work assessment is based on the project topic. It consists of Literature Survey and basic project work. The abstract of the project should be submitted before Term workassessment.
2. The report consists of the Literature Survey, basic project work and the size of the report should be maximum of 40pages.
3. The examination is conducted by two examiners (internal and external) appointed by the university. The examiners appointed must have minimum 5 years of experience with UG qualification or 2 years with PG qualification.
4. The assessment is based on Innovative Idea, Depth of understanding, Applications, Individual contributions, presentation, and the grade given by the internal guide based on the work carried out in a semester.
5. A log book of Work carried out during the semester will be maintained with monthly review remarks by the guide and HoD.
6. A certified copy of report is required to be presented to external examiner at the time of final examination.

Audit Course 5 (1):Green Energy

About the course

This course provides an introduction to energy systems and renewable energy resources, with a scientific examination of the energy field and an emphasis on alternate energy sources and their technology and application. The students will explore society's present needs and future energy demands, examine conventional energy sources and systems, including fossil fuels and nuclear energy, and then focus on alternate, renewable energy sources such as solar, biomass (conversions), wind power, geothermal, and hydro. Energy conservation methods will be emphasized

Course Objectives:

- To understand the conventional and non conventional energy sources
- To understand different renewable energy sources and their generation
- To understand the various applications & benefits of renewable energy sources
- To enable student to understand project management, energy audit and Installation

404195 Project Phase-II		
Credits:06		
Teaching Scheme:		**Examination Scheme:**
Tutorial: 6 Hrs/Week		**TW: 150 Mark** **OR: 50 Marks**

1. GroupSize

The student will carry the project work individually or by a group of students. Optimum group size is in 3 students. However, if project complexity demands a maximum group size of 4 students, the committee should be convinced about such complexity and scope of thework.

2. Selection and approval of topic

Topic should be related to real life application in the field of Electronics and Telecommunication

OR

Investigation of the latest development in a specific field of Electronics or Communication or Signal Processing

OR

The investigation of practical problem in manufacture and / or testing of electronics or communication equipment

OR

The Microprocessor / Microcontroller based applications project ispreferable.

OR

Software development project related to VHDL, Communication, Instrumentation, Signal Processing and Agriculture Engineering with the justification for techniques used / implemented is accepted.

OR

Interdisciplinary projects should be encouraged. The examination will be conducted independently in respective departments.

3. Note:

The group should maintain a logbook of activities. It should have entries related to the work done,problems faced, solution evolved etc., duly signed by internal and external guides.

Project report must be submitted in the prescribed format only. No variation in the format will be accepted. One guide will be assigned at the most 3 project groups.

Faculty of Science & Technology
Savitribai Phule Pune University, Pune
Maharashtra, India

Curriculum
for
Second Year of Information Technology
(2019 Course)
(With effect from AY 2020-21)

Home

Savitribai Phule Pune University
Second Year of Information Technology Engineering(2019 Course)
(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
214441	Discrete Mathematics	03	-	01	30	70	25	-	-	125	03	--	01	04
214442	Logic Design and Computer Organization	03	-	-	30	70	-	-	-	100	03	-	-	03
214443	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
214444	Object Oriented Programming	03	-	-	30	70	-	-	-	100	03	-	-	03
214445	Basics of Computer Network	03	-	-	30	70	-	-	-	100	03	-	-	03
214446	Logic Design Computer Organization Lab	-	02	-	-	-	25	25	-	50	-	01	-	01
214447	Data Structures and Algorithms Lab	-	04	-	-	-	25	25	-	50	-	02	-	02
214448	Object Oriented Programming Lab	-	04	-	-	-	25	25	-	50	-	02	-	02
214449	Soft Skill Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
214450	Mandatory Audit Course 3	-	-	-	-	-	-	-	-	-	Non Credit			-
Total		15	12	01	150	350	125	75	--	700	15	06	01	22

Abbreviations:
TH: Theory TW: Term Work PR: Practical
OR: Oral TUT: Tutorial

Note: Students of S.E. (Information Technology) can opt any one of the audit course from the list of audit courses prescribed by BoS (Information Technology)

#Mandatory Audit Course 3:

214450A- Ethics and values in IT
214450B - Quantitative Aptitude and Logical Reasoning
214450C- Language Study- Japanese- Module
214450D-Cyber Security and Law

Home

Savitribai Phule Pune University, Pune
Second Year of Information Technology Engineering (2019 Course)
(With effect from Academic Year 2020-21)

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
207003	Engineering Mathematics- III	03	-	01	30	70	25	-	-	125	03	--	01	04
214451	Processor Architecture	03	-	-	30	70	-	-	-	100	03	-	-	03
214452	Database Management System	03	-	-	30	70	-	-	-	100	03	-	-	03
214453	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
214454	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
214455	Programming Skill Development Lab	-	02	-	-	-	25	25	-	50	-	01	-	01
214456	Database Management System Lab	-	04	-	-	-	25	25		50	-	02	-	02
214457	Computer Graphics Lab	-	02	-	-	-	-	25	-	25	-	01	-	01
214458	Project Based Learning	-	04	-	-	-	50	-	-	50	-	02	-	02
214459	Mandatory Audit Course 4	-	-	-	-	-	-	-	-	-	Non Credit			-
Total		15	12	01	150	350	125	75	-	700	15	06	01	22

Abbreviations:

TH: Theory TW: Term Work PR: Practical

OR: Oral TUT: Tutorial

Note: Students of S.E. (Information Technology) can opt any one of the audit course from the list of audit courses prescribed by BoS (Information Technology)

#Mandatory Audit Course 4:

- **214459A - Water Supply and Treatment**
- **214459B - Language Study- Japanese- Module II**
- **214459C - Waste Management and Pollution Control**
- **214459D - Intellectual Property Rights**

Home

Savitribai Phule Pune University, Pune
Second Year Information Technology (2019 Course)
214458: Project Based Learning

Teaching Scheme:	Credit Scheme:	Examination Scheme:
Practical (PR): 04hrs/week	02	TW : 50 Marks

Prerequisite Courses, if any:

Preamble:

Project Based Learning (PBL) is an instructional approach that emphasizes critical-thinking, collaboration and personalized learning. In PBL, student groups engage in meaningful inquiry that is of personal interest to them. These projects are based on problems, which are real-life oriented, curriculum-based and often interdisciplinary. Students decide how to approach a problem and what activities or processes they will perform. They collect information from a variety of sources, analyze, synthesize and derive understanding from it. The real-world focus of PBL activities is central to the process because it motivates students and adds value to their work. Their learning is connected to something real and involves life skills such as collaboration and reflection. The faculty assigned to the group is referred as mentor. Technology enables students and Mentor in various phases of the PBL process. At the end of the PBL, students demonstrate their newly acquired knowledge and are evaluated by how much they have learned and how well they communicate it. Students also conduct self-evaluation to assess their own growth and learning. Throughout this process, the mentor's role is to guide and advise students, rather than to direct and manage student work.

Companion Course: Online courses relevant to the project, along with expert lecture on Intellectual property rights, patents and software engineering.

Course Objectives :

1. To learn the various processes involved in project based learning.
2. To develop critical thinking and engineering problem solving skills amongst the students.
3. To explain the roles and responsibilities of IT engineers to the solution of engineering problems within the social, environmental and economic context.
4. To equip the students with knowledge and skills require to develop solutions for the problems coming from various Hackathon.

Course Outcomes

On completion of the course, student will be able to --

CO1: Design solution to real life problems and analyze its concerns through shared cognition.

CO2: Apply learning by doing approach in PBL to promote lifelong learning.

CO3: Tackle technical challenges for solving real world problems with team efforts.

CO4: Collaborate and engage in multi-disciplinary learning environments.

COURSE CONTENTS

Group Structure

Group structure should enable students to work in mentor–monitored groups. The students plan, manage and complete a task/project / activity which addresses the stated problem.

1. There should be a team of 3 to 6 students who will work cohesively.
2. A Mentor should be assigned to individual groups who will help them with learning and development process.

Selection of Project/Problem

1. The project scope/topic can be from any field/area, but selection related to IT technical aspect is desirous.
2. The project/problem done in first year engineering could be extended further, based on its potential and significance analysis.
3. Project/problem requiring solutions through conceptual model development and use of software tools should be preferred.
4. Different alternate approaches such as theoretical, practical, working model, demonstration or software analysis should be used in solving/implementing of project/problem.
5. The project/problem requiring multi-disciplinary approach to solve it, should be preferred.
6. Problem may require in depth study of specific practical, scientific or technical domain.
7. Hands-on activities, organizational and field visits, interacting with research institutes and expert consultation should be included in the approach to make students aware of latest technologies.

Assessment

The department should be committed to assess and evaluate both student performance and solution impact.

Progress of PBL will be monitored regularly on weekly basis. Weekly review of the work is necessary. During process of monitoring and continuous assessment and evaluation the individual and team performance is to be measured by mentor.

Students must maintain an institutional culture of authentic collaboration, self- motivation, peer-learning and personal responsiveness. The institution/department should support students in this regard through guidance/orientation programs and the provision of appropriate resources and services. Supervisor/mentor and students must actively participate in assessment and evaluation processes. Group may demonstrate their knowledge and skills by developing a public product and/or report and/or presentation.

1. Individual assessment for each student (Understanding individual capacity, role and involvement in the project).

2. Group assessment (roles defined, distribution of work, intra-team communication and togetherness.

3. Documentation and presentation.

Evaluation and Continuous Assessment
It is recommended that the all activities are to be recorded in PBL workbook, regular assessment of work to be done and proper documents are to be maintained at college end by both students as well as mentor. The PBL workbook will reflect accountability, punctuality, technical writing ability and work flow of the task undertaken. Continuous Assessment Sheet (CAS) is to be maintained by all mentors/department. Recommended parameters for assessment, evaluation and weightage: 1. Idea Inception (5%) 2. Outcomes of PBL/Problem Solving Skills/Solution provided/Final product**(40%)** (Individual assessment and team assessment) 3. Documentation (Gathering requirements, design & modeling, implementation/execution, use of technology and final report, other documents **(25 %)** 4. Potential for the patent**(10%)** 5. Demonstration (Presentation, User Interface, Usability etc.) **(10%)** 6. Contest Participation/ publication **(5%)** 7. Awareness /Consideration of Environment/ Social /Ethics/ Safety measures/Legal aspects **(5%).** Design the rubrics based on the above parameters for evaluation of student performance
Faculty / Mentor is expected to perform following activities
Faculty/ Mentor is expected to perform following activities: Revision of PBL concepts Skill assessment of students Formation of diversified and balanced groups Share information about patent, copyright and publications to make students aware about it Discussion of sample case studies Design of the rubrics for evaluation of student performance Discussion of the rubrics with students Weekly Assessment of the deliverables such as Presentation, Report, Concept map, logbook Scaffolding of the students Summative and Formative assessment
Reference Books:
1. Project-Based Learning, Edutopia, March 14,2016. 2. What is PBL? Buck Institute forEducation. 3. www.schoology.com 4. www.wikipedia.org 5. www.howstuffworks.com

Faculty of Engineering

Syllabus

T.E. (Information Technology) 2015 Course

(With effect from Academic Year 2017 - 18)

SAVITRIBAI PHULE PUNE UNIVERSITY

The syllabus is prepared by

B.O.S. in Information Technology, Savitribai Phule Pune University

T.E. (Information Technology) 2015 Course to be implemented from June 2017

SYLLABUS STRUCTURE

SEMESTER – I

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Tutorial	Practical	In-Sem. Paper	End-Sem. Paper	TW	PR	OR		
314441	Theory of Computation	4	--	--	30	70	--	--	--	100	4
314442	Database Management Systems	4	--	--	30	70				100	4
314443	Software Engineering &Project Management	3	--	--	30	70	--	--	--	100	3
314444	Operating System	4	--	--	30	70	--	--	--	100	4
314445	Human-Computer Interaction	3	--	--	30	70	--	--	--	100	3
314446	Software Laboratory-I		--	4	--	--	25	50	50	125	2
314447	Software Laboratory-II	--	--	4	--	--	25	50	--	75	2
314448	Software Laboratory-III	--	--	2	--	--	50	--	--	50	1
314449	Audit Course 3	--	--		--	--	--	--	--	Grade	
	Total	**18**	**--**	**10**	**150**	**350**	**100**	**100**	**50**	**750**	**23**
	Total of Part-I	**28 Hours**				**750**					

SEMESTER – II

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Tutorial	Practical	In-Sem. Paper	End-Sem. Paper	TW	PR	OR		
314450	Computer Network Technology	3	-	--	30	70	--	--	--	100	3
314451	Systems Programming	4	-	--	30	70	--	--	--	100	4
314452	Design and Analysis of Algorithms	4	-	-	30	70	--	--	--	100	4
314453	Cloud Computing	3	-	-	30	70	--	--	--	100	3
314454	Data Science & Big Data Analytics	4	-	-	30	70	--	--	--	100	4
314455	Software Laboratory-IV	--	--	2	--	--	25	--	25	50	1
314456	Software Laboratory-V	--	--	4	--	--	50	50	--	100	2
314457	Software Laboratory-VI	--	--	2	--	--	25	25	--	50	1
314458	Project Based Seminar	--	01	--	--	--	--	--	50	50	1
314459	Audit Course 4	--	--	--	--	--	--	--	--	Grade	
	Total	**18**	**01**	**08**	**150**	**350**	**100**	**75**	**75**	**750**	**23**
	Total of Part-II	**27 Hours**				**750**					

314458 : PROJECT BASED SEMINAR

Teaching Scheme:	Credits	Examination Scheme:
Tutorial : 1 Hour/Week	01	Oral: 50 Marks

Introduction:

Graduates of final year IT program are supposed to design and implement projects through knowledge and skills acquired in previous semesters. Students should identify complex engineering problems and find effective, efficient and innovative ways of solving them through their projects.

In a technical seminar, students should aim to review literature in a focused way for identifying a complex problem to be attempted in their final year project. Seminar should make the student attain skills like (a) gathering of literature in specific area in a focused manner (b) effectively summarizing the literature to find state-of-the-art in proposed area (c) identifying scope for future work (d) presenting (arguing) the case for the intended work to be done as project (e) reporting literature review and proposed work in scientific way using good English.

Prerequisites:

1. Basic Communication, reading and writing skills.

Course Objectives :

1. To perform focused study of technical and research literature relevant to a specific topic.
2. To study, interpret and summarize literature scientifically.
3. To build independent thinking on complex problems.
4. To build collaborative work practices.
5. To communicate scientific information to a larger audience in oral and written form.
6. To use presentation standards and guidelines effectively.

Course Outcomes :

1. To Gather, organize, summarize and interpret technical literature with the purpose of formulating a project proposal.
2. To write a technical report summarizing state-of-the-art on an identified topic.
3. Present the study using graphics and multimedia presentations.
4. Define intended future work based on the technical review.
5. To explore and enhance the use of various presentation tools and techniques.
6. To understand scientific approach for literature survey and paper writing.

Guidelines for Project Based Seminars

1. A project group consisting of 3 to 4 students shall identify problem(s) in Computer Engineering / Information Technology referring to recent trends and developments in consultation with institute guide.
2. The group must review sufficient literature (reference books, journal articles, conference papers, white papers, magazines, web resources etc.) in relevant area on their project topic as decided by the guide.
3. Internal guide shall define a project statement based on the study by student group.
4. Students should identify individual seminar topic based on the project undertaken in consultation with guide.
5. Seminar topics should be based on project undertaken. Guide should thoughtfully allocate seminar topics on different techniques to solve the given problem (project statement), comparative analysis of the earlier algorithms used or specific tools used by various researchers.
6. Research articles could be referred from IEEE, ACM, Science direct, Springer, Elsevier, IETE,CSI or

from freely available digital libraries like Digital Library of India (dli.ernet.in), National Science Digital Library, JRD Tata Memorial Library, citeseerx.ist.psu.edu, getcited.org, arizona.openrepository.com, Open J-Gate, Research Gate, worldwidescience.org etc.

7. The group shall present the study as individual seminars in 20 – 25 minutes.

Guidelines for Seminar Report

1. Each student shall submit two copies of the seminar report in a prescribed format duly signed by the guide and Head of the department/Principal.
2. First chapter of a project group may talk about the project topic. At the end of the first chapter individual students should begin with introduction of seminar topic and its objectives.
3. Broad contents of review report (20-25 pages) shall be
   i. Introduction of Project Topic
   ii. Motivation, purpose and scope of project and seminar
   iii. Related work (of the seminar title) with citations
   iv. Discussion (your own reflections and analysis)
   v. Conclusions
   vi. Project definition. (Short version of RUP's vision document if possible).
   vii. References in IEEE Format
4. Students are expected to use open source tools for writing seminar report, citing the references and plagiarism detection. (Latex, Lex for report writing ; Mendeley, Zatero for collecting, organizing and citing the resources; DupliChecker , PaperRater, PlagiarismChecker and Viper for plagiarism detection)

Guidelines for Seminar Evaluation

1. A panel of examiners appointed by University will assess the seminar externally during the presentation.
2. Attendance for all seminars for all students is compulsory.
3. Criteria for evaluation
   i. Relevance of topic - 05 Marks
   ii. Relevance + depth of literature reviewed- 10 Marks
   iii. Seminar report (Technical Content) - 10 Marks
   iv. Seminar report (Language) - 05 Marks
   v. Presentation Slides - 05 Marks
   vi. Communication Skills - 05 Marks
   vii. Question and Answers - 10 Marks

Guidelines for Seminar Presentation

1) A panel of examiner will evaluate the viability of project scope and seminar delivery.
2) Oral examination in the form of presentation will be based on the project and seminar work completed by the candidates.
3) Seminar report must be presented during the oral examination.

References

1. Sharon J. Gerson, Steven M. Gerson, Technical Writing: Process and Product, Pearson Education Asia, ISBN :130981745, 4th Edition.
2. Andrea J. Rutherfoord, Basic Communication Skills for Technology, Pearson Education Asia, 2nd Edition.
3. Lesikar, Lesikar's Basic Business Communication, Tata McGraw, ISBN :256083274, 1st Edition.

FACULTY OF ENGINEERING

Syllabus

B.E. (Information Technology) 2015 Course

(With effect from Academic Year 2018-2019)

SAVITRIBAI PHULE PUNE UNIVERSITY

The syllabus is prepared by

B.O.S. in Information Technology, Savitribai Phule Pune University

B.E. (Information Technology) 2015 Course to be implemented from Academic Year 2018-19

SEMESTER-I

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Practical	Tutorial	In-Sem	TW	PR	OR	End-Sem		
414453	Information and Cyber Security	3	--	--	30	--	--	--	70	100	3
414454	Machine Learning and Applications	4	--	--	30	--	--	--	70	100	4
414455	Software Design and Modeling	3	--	--	30	--	--	--	70	100	3
414456	Elective-I	3	--	--	30	--	--	--	70	100	3
414457	Elective -II	3	--	--	30	--	--	--	70	100	3
414458	Computer Laboratory-VII	--	4	--	--	50	50	--	--	100	2
414459	Computer Laboratory-VIII	--	4	--	--	50	--	50	--	100	2
414460	Project Phase-I	--	--	2	--	--	--	50	--	50	2
414461	Audit Course-V	--	--	--	--	--	--	--	--	Grade	
Total		16	8	2	150	100	50	100	350	750	22
Total of Part-I		26				750					

Abbreviations: TW: Term Work **TH:** Theory **OR:** Oral **PR**: Practical **Sem**: Semester
Computer Laboratory-VII (Information and Cyber Security+ Machine Learning and Application)
Computer Laboratory-VIII (Software Design and Modeling)

Elective I		Elective II	
414456 A	1. Wireless Communications	414457A	1. Software Defined Networks
414456B	2. Natural Language Processing	414457B	2. Soft Computing
414456C	3. Usability Engineering	414457C	3. Software Testing and Quality Assurance
414456D	4. Multicore and Concurrent Systems	414457D	4. Compiler Construction
414456E	5. Business Analytics and Intelligence	414457E	5. Gamification

Audit Course-V	
414461A	1. Emotional Intelligence
414461B	2. Green Computing
414461C	3. Critical Thinking
414461D	4. Statistical Learning model using R.

SEMESTER –II

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Practical	Tutorial	In-Sem	TW	PR	OR	End-Sem		
414462	Distributed Computing System	3	--	--	30	--	--	--	70	100	3
414463	Ubiquitous Computing	3	--	--	30	--	--	--	70	100	3
414464	Elective-III	3	2	--	30	25	--	25	70	150	4
414465	Elective-IV	3	--	--	30	--	--	--	70	100	3
414466	Computer Laboratory-IX	--	4	--	--	50	50	--	--	100	2
414467	Computer Laboratory-X	--	2	--	--	25	--	25	--	50	1
414468	Project Work	--	--	6	--	50	--	100	--	150	6
414469	Audit Course-VI	--	--	--	--	--	--	--	--	Grade	
Total		12	8	6	120	150	50	150	280	750	22
Total of Part-II		26				750					

Abbreviations: TW: Term Work **TH:** Theory **OR:** Oral **PR**: Practical **Sem**: Semester
Computer Laboratory-IX (Distributed Computing System)
Computer Laboratory-X (Ubiquitous Computing)

Elective III		Elective IV	
414464A	1. Internet of Things (IoT)	414465A	1. Rural Technologies and Community Development
414464B	2. Information storage and retrieval	414465B	2. Parallel Computing
414464C	3. Multimedia Techniques	414465C	3. Computer Vision
414464D	4. Internet and Web Programming	414464D	4. Social Media Analytics
414464E	5. Computational Optimization	414465E	5. Open Elective

Audit Course-VI	
414469A	1. IoT – Application in Engineering field
414469B	2. Entrepreneurship
414469C	3. Cognitive Computing
414469D	4. AI and Robotics

Savitribai Phule Pune University
Fourth Year of Information Technology (2015 Course)
414460: Project Phase-I

Teaching Scheme:	Credits:02	Examination Scheme:
TUT:02 Hours/Week		OR:50 Marks

Prerequisites:

1. Project Based Seminar.

Course Objectives:

1. Student should be able implement their ideas/real time industrial problem/ current applications from their engineering domain.
2. Students should be able to develop plans with help of team members to achieve the project's goals.
3. Student should be able to break work down into tasks and determine appropriate procedures.
4. Student should be able to estimate and cost the human and physical resources required, and make plans to obtain the necessary resources.
5. Student should be able allocate roles with clear lines of responsibility and accountability and learn team work ethics.
6. Student should be able to apply communication skills to effectively promote ideas, goals or products.

Course Outcomes:

By the end of the course, students should be able to

1. To show preparedness to study independently in chosen domain of Information Technology and programming languages and apply their acquired knowledge to variety of real time problem scenarios.
2. To function effectively as a team to accomplish a desired goal.
3. An understanding of professional, ethical, legal, security and social issues and responsibilities related to Information Technology Project.

Contents

Project Based Seminar (PBS) helped students to gather, organize, summarize and interpret technical literature with the purpose of formulating a project proposal in third year. Students had also submitted a technical report summarizing state-of-the-art on an identified domain and topic in third year. B.E. Projects can be application oriented and/or will be based on some innovative/ theoretical work. In Project Phase-I the student will undertake project over the academic year, which will involve the analysis, design of a system or sub system in the area identified earlier in the field of Information Technology and Computer Science and Engineering. In some cases; if earlier identified project is not feasible; a new topic must be formulated in consultation with the guide and project coordinator. The project will be undertaken preferably by a group of 3-4 students who will jointly work and Implement the project. The group will select a project which is based on seminar delivered in relevant domain in Project based Seminar activity with approval from a committee formed by the department of senior faculty to check the feasibility and approve the topic.

Guidelines for Students and Faculty

- The Head of the department/Project coordinator shall constitute a review committee for project group; project guide would be one member of that committee by default.
- There shall be two reviews in Project phase –I in semester-I by the review committee.
- The Project Review committee will be responsible for evaluating the timely progress of the projects.
- As far as possible Students should finalize the same project title taken for Project Based Seminar (PBS).
- Student should Identify Project of enough complexity, which has at least 4-5 major functionalities
- Student should identify stakeholders, actors and write detail problem statement for system
- Review committee should revisit "Feasibility Review" conducted by Examiners during Oral examination in Third year in first week after commencement of the term.
- Review committee should finalize the scope of the project.
- If change in project topic is unavoidable then the students should complete the process of
- Project approval by submitting synopsis along with the review of important papers. This new
- Project topic should be approved by review committee.
- The students or project group shall make presentation on the progress made by them before the committee.
- The record of the remarks/suggestions of the review committee should be properly maintained and should be made available at the time of examination.
- Each student/group is required to give presentation as part of review for 10 to 15 minutes followed by a detailed discussion.
- Students should Revisit and Reassess the problem statement mentioned in the project-based seminar activity.

Review 1: Synopsis –

Deliverables:

1. The precise problem statement/title based on literature survey and feasibility study.
2. Purpose, objectives and scope of the project.
3. List of required hardware, software or other equipment for executing the project, test Environment/tools, cost and human efforts in hours.
4. System overview- proposed system and proposed outcomes.
5. Architecture and initial phase of design (DFD).
6. Project plan 1.0.

Review 2: SRS –

Deliverables:

1. SRS and High level design
2. Detail architecture/System design/algorithms/techniques
3. At least 30-40% coding documentation with at least 3 to 4 working modules
4. Test Results
5. Project plan 2.0

One paper should be published in reputed International conference/International journal based on project work done.

Project report contains the details as Follows:

Contents
List of Abbreviations
List of Figures
List of Graphs
List of Tables

1. Introduction and aims/motivation and objectives
2. Literature Survey
3. Problem Statement/definition
4. Project Requirement specification
5. Systems Proposed Architecture
6. High level design of the project(DFD/UML)
7. System implementation-code documentation-algorithm, methodologies, protocols used.
8. GUI/Working modules/Experimental Results
9. Project Plan
10. Conclusions
11. Bibliography in IEEE format

Appendices

A. Plagiarism Report of Paper and Project report from any open source tool
B. Base Paper(s)
C. Tools used
D. Papers Published/Certificates

- Use appropriate plagiarism tools, reference managers, Latex Lyx/latest Word for efficient and effective project writing.

Term Work:

- The term work will consist of a report and presentation prepared by the student on the project allotted to them.

Reference Books

1. UML2 Bible by Tom Pender, Wiley India Pvt. Limited 2011
2. Applying UML and Patterns Second Edition by Craig Larman, Pearson Education
3. UML 2 and the Unified Process, Second Edition, JIM Arlow, Ila Neustadt, Pearson
4. Design Patterns: Elements of Reusable Object Oriented Software, Erich Gamma, Pearson
5. Design Patterns in Java Second Edition by Steven John Metsker, Pearson

All the assignments should be conducted on Latest version of Open Source Operating Systems, tools and Multi-core CPU supporting Virtualization and Multi-Threading

Savitribai Phule Pune University
Fourth Year of Information Technology (2015 Course)
414468: Project Work

Teaching Scheme:	Credits:06	Examination Scheme:
TUT:06 Hours/Week		TW:50 Marks OR:100 Marks

Prerequisites:

1. BE-Project Phase I – Semester I.
2. Project Based Seminar.

Course Objectives:

1. The object of Project Work II & Dissertation is to enable the student to extend further the investigative study taken up under Project stage 1, either fully theoretical/practical or involving both theoretical and practical work, under the guidance of a Supervisor from the Department alone or jointly with a Supervisor drawn from R&D laboratory/Industry.
2. To expose students to product development cycle using industrial experience, use of state of art technologies.
3. To encourage and expose students for participation in National/International paper presentation activities and funding agency for sponsored projects.
4. Exposure to Learning and knowledge access techniques using Conferences, Journal papers and anticipation in research activities.
5. Evaluate the various validation and verification methods.
6. Analyzing professional issues, including ethical, legal and security issues, related to computing projects.

Course Outcomes:

By the end of the course, Students will be able to

1. Learn teamwork.
2. Be well aware about Implementation phase.
3. Get exposure of various types of testing methods and tools.
4. Understand the importance of documentation.

Contents

Review 3:

Based on Implementation (50% implementation expected)

Review 4:

Complete Project and Testing

All the groups should try to overcome all the lacunas identified by the external examiner during Project Phase I exam

The group will submit following at the end of semester II.

1. The Workable project.
2. Project report (in Latex/Lyx/latest Word) in the form of bound journal complete in all respect – 1 copy for the Institute, 1 copy for guide and 1 copy of each student in the group for certification.

The project report contains the details.

1. Problem definition
2. Requirement specification
3. System design details (UML diagrams)
4. System implementation – code documentation – dataflow diagrams/ algorithm, protocols used.
5. Test result and procedure – test report as per ATP.
6. Conclusions.
7. Appendix
   a. Tools used
   b. References
   c. Papers published/certificates
   d. Plagiarism Report of paper and project report from any open source tool

One paper should be published in reputed International conference/International.

Savitribai Phule Pune University
Faculty of Science & Technology

Curriculum/Syllabus
for
Second Year
Bachelor of Engineering
(Choice Based Credit System)
Mechanical Engineering and Automobile Engineering
(2019 Course)

Board of Studies - Automobile and Mechanical Engineering
(With Effect from Academic Year 2020-21)

Savitribai Phule Pune University

Board of Studies - Automobile and Mechanical Engineering

Undergraduate Program - Automobile Engineering & Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hours/ Week)			Examination Scheme and Marks						Credit			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
Semester-III														
202041	Solid Mechanics	4	2	-	30	70	-	50	-	150	4	1	-	5
202042	Solid Modeling and Drafting	3	2	-	30	70	-	50	-	150	3	1	-	4
202043	Engineering Thermodynamics	3	2	-	30	70	-	-	25	125	3	1	-	4
202044	Engineering Materials and Metallurgy	3	2	-	30	70	25	-	-	125	3	1	-	4
203156	Electrical and Electronics Engineering	3	2	-	30	70	25	-	-	125	3	1	-	4
202045	Geometric Dimensioning and Tolerancing Lab	-	2	-	-	-	25	-	-	25	-	1	-	1
202046	Audit Course - III	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**16**	**12**	**-**	**150**	**350**	**75**	**100**	**25**	**700**	**16**	**6**	**-**	**22**
Semester-IV														
207002	Engineering Mathematics - III	3	-	1	30	70	25	-	-	125	3	-	1	4
202047	Kinematics of Machinery	3	2	-	30	70	-	-	25	125	3	1	-	4
202048	Applied Thermodynamics	3	2	-	30	70	-	-	25	125	3	1	-	4
202049	Fluid Mechanics	3	2	-	30	70	-	-	25	125	3	1	-	4
202050	Manufacturing Processes	3	-	-	30	70	-	-	-	100	3	-	-	3
202051	Machine Shop	-	2	-	-	-	50	-	-	50	-	1	-	1
202052	Project Based Learning - II	-	4	-	-	-	50	-	-	50	-	2		2
202053	Audit Course - IV	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**15**	**12**	**1**	**150**	**350**	**125**	**-**	**75**	**700**	**15**	**6**	**1**	**22**

Abbreviations: TH: Theory, **PR**: Practical, **TUT**: Tutorial, **ISE**: In-Semester Exam, **ESE**: End-Semester Exam,**TW**: Term Work, OR: Oral

Note: Interested students of SE (Automobile Engineering and Mechanical Engineering) can opt for any one of the audit course from the list of audit courses prescribed by BoS (Automobile and Mechanical Engineering)

Instructions

- Practical/Tutorial must be conducted in three batches per division only.
- Minimum number of required Experiments/Assignments in PR/ Tutorial shall be carried out as mentioned in the syllabi of respective subjects.
- Assessment of tutorial work has to be carried out as a term-work examination. Term-work Examination at second year of engineering course shall be internal continuous assessment only.
- Project based learning (PBL) requires continuous mentoring by faculty throughout the semester for successful completion of the tasks selected by the students per batch. While assigning the teaching workload of 2 Hrs/week/batch needs to be considered for the faculty involved. The Batch needs to be divided into sub-groups of 5 to 6 students. Assignments / activities / models/ projects etc. under project based learning is carried throughout semester and Credit for PBL has to be awarded on the basis of internal continuous assessment and evaluation at the end of semester.
- Audit course is mandatory but non-credit course. Examination has to be conducted at the end of Semesters for award of grade at institute level. Grade awarded for audit course shall not be calculated for grade point & CGPA.

202052 - Project Based Learning - II		
Teaching Scheme	**Credits**	**Examination Scheme**
Practical : 04 Hr./Week	**02** Practical : 02	Term Work : 50 Marks

Preamble

Currently, engineering education is undergoing significant structural changes worldwide. The rapidly evolving technological landscape forces educators to constantly reassess the content of engineering curricula in the context of emerging fields and with a multidisciplinary focus. In this process, it is necessary to devise, implement and evaluate innovative pedagogical approaches for the incorporation of these novel subjects into the educational programs without compromising the cultivation of the traditional skills. In this context, the educational community is showing rapidly rising interest in project-based learning approaches.

The mainstream engineering education follows traditional classroom teaching, in which the major focus is mainly on the lecture and the student has very little (if any) choice on the learning process. However rapid development in engineering and technology requires adopting a teaching approach that would assist students not only in developing a core set of industry relevant skills, but also enable them to adapt to changes in their professional career.

Course Objectives

1. To emphasize project based learning activities that are long-term, interdisciplinary and student-centric.
2. To inculcate independent and group learning by solving real world problems with the help of available resources.
3. To be able to develop applications based on the fundamentals of mechanical engineering by possibly applying previously acquired knowledge.
4. To get practical experience in all steps in the life cycle of the development of mechanical systems: specification, design, implementation, and testing.
5. To be able to select and utilize appropriate concepts of mechanical engineering to design and analyze selected mechanical system.

Course Outcomes

On completion of the course, learner will be able to

CO1. IDENTIFY the real-world problem (possibly of interdisciplinary nature) through a rigorous literature survey and formulate / set relevant aims and objectives.
CO2. ANALYZE the results and arrive at valid conclusions.
CO3. PROPOSE a suitable solution based on the fundamentals of mechanical engineering by possibly integration of previously acquired knowledge.
CO4. CONTRIBUTE to society through proposed solutions by strictly following professional ethics and safety measures.
CO5. USE of technology in proposed work and demonstrate learning in oral and written form.
CO6. DEVELOP ability to work as an individual and as a team member.

Group Structure

Working in supervisor/mentor –monitored groups. The students plan, manage and complete a task/project/activity which addresses the stated problem.

1. Create groups of 5 (five) to 6 (six) students in each class
2. A supervisor/mentor teacher is assigned to 3-4 groups or one batch

Project Selection

The project can be selected by undertaking a survey of journal papers, patents or field visit (A problem can be theoretical, practical, social, technical, symbolic, cultural and/or scientific). The problem shall consist of following facets: feasibility of arriving at a solution, analyzing the problem, design and development of the system (hardware or virtual).

There are no commonly shared criteria/ guidelines for what constitutes an acceptable project. Projects vary greatly in the depth of the questions explored, the clarity of the learning goals, the

content and structure of the activity undertaken.

Solution to problem-based projects through ***"learning by doing"*** is recommended. The model begins with the identifying of a problem, often growing out of a question or "wondering". This formulated problem then stands as the starting point for learning. A problem can be theoretical, practical, social, technical, symbolic, cultural and/or scientific and grows out of students" wandering within different disciplines and professional environments. As stated in the preamble as the world has adapted and propagated multidisciplinary approach, hence the proposed project activity preferably should not be restricted to only mechanical domain specific projects rather should be Interdisciplinary in nature. However the chosen problem should be integration of other streams of engineering with Mechanical engineering.

Although in a genuine case 100% software/ virtual project topic may be allowed.

Ethical Practices, teamwork and project management:
Use Indian standards or any relevant standards for project manufacturing, respect the time of others, attend the reviews, poster presentation and model exhibitions, strictly follow the deadline of project completion, comply with all legislation requirements that govern workplace health and safety practices.

Effective Documentation
In order to make our engineering graduates capable of preparing effective documentation, it is required for the students to learn the effective writing skills. The PBL final report is expected to consist of the Literature Survey, Problem Statement, Aim and Objectives, System Block Diagram, System Implementation Details, Discussion and Analysis of Results, Conclusion, System Limitations and Future Scope. Many freely available software tools (for instance Mendley (Elsevier), Grammarly) are expected to be used during the preparation of PBL synopsis and final report. It is expected that the PBL guides/mentors shall teach students about utilizing valid sources of information (such as reference papers, books, magazines, etc) related to their PBL topic.

Evaluation & Continuous Assessment
The institution/head shall be committed to ensuring the effective and rigorous implementation of the idea of project based learning. Progress of PBL shall be monitored regularly on a weekly basis. Weekly review of the work shall be necessary. During the process of monitoring and continuous assessment and evaluation the individual and team performance is to be measured. PBL is monitored and continuous assessment is done by supervisor /mentor and authorities. Students must maintain an institutional culture of authentic collaboration, self-motivation, peer-learning and personal responsibility. The institution/department should support students in this regard through guidance/orientation programs and the provision of appropriate resources and services. Supervisor/mentor and Students must actively participate in assessment and evaluation processes.

The effectiveness of the concept PBL lies in rigorous and continuous assessment and evaluation of the student performance. It is recommended that all activities are required to be recorded regularly. A regular assessment of PBL work is required to be maintained at the department in PBL log book by students. It is expected that the PBL log book must include following:

1. Information of students and guide
2. Weekly monitoring by the PBL guide,
3. Assessment sheet for PBL work review by PBL guide and PBL Evaluation Committee (PEC).

The PEC structure shall consist of Head of the department, 1/2 senior faculties of the department and one industry expert (optional). Continuous Assessment Sheet (CAS) is to be maintained by the department.

Recommended parameters for assessment, evaluation and weightage

1. Idea Inception (kind of survey). (10%)
2. Documentation (Gathering requirements, design & modeling, implementation/execution, use of technology and final report, other documents). (15%)
3. Attended reviews, poster presentation and model exhibition. (10%)

4. Demonstration (Poster Presentation, Model Exhibition etc). (10%).
5. Awareness /Consideration of - Environment/ Social /Ethics/ Safety measures/Legal aspects. (5%)
6. Outcome (physical model/prototype/ virtual model/ product development/ assembly & disassembly and analysis of standard mechanism or system, design and development of small applications using Arduino, design of control systems, development of various systems/ subsystems of BAJA/SUPRA/Robots/GoKart/ Sunrisers/Hackathon/ application development and similar activities/ System performance and analysis) (40%)
7. Participation in various competitions/ publication/ copyright/ patent) (10%)

Learning Resources

Reference Books / Research Articles

1. John Larmer, John R. Mergendoller, and Suzie Boss, "Setting the Standard for Project Based Learning"
2. John Larmer and Suzie Boss, "Project Based Teaching: How to Create Rigorous and Engaging Learning Experiences"
3. Erin M. Murphy and Ross Cooper, "Hacking Project Based Learning: 10 Easy Steps to PBL and Inquiry"

Web resources

1. https://www.edutopia.org/project-based-learning
2. www.howstuffworks.com
3. https://www.pblworks.org/
4. www.wikipedia.org

Savitribai Phule Pune University

Faculty of Science and Technology

Syllabus for Final Year of Mechanical Engineering

(Course 2015)

Savitribai Phule Pune University, Pune

BE (Mechanical Engineering) (2015 Course) Semester – VII

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits		
		Lect	Tut	Pract	In-Sem	End-Sem	TW	PR	OR		TH	TW	OR/PR
402041	Hydraulics and Pneumatics	3	-	2	30	70	25	-	25	150	3	-	1
402042	CAD CAM Automation	3	-	2	30	70	25	50	-	175	3	-	1
402043	Dynamics of Machinery	4	-	2	30	70	25	-	25	150	4	-	1
402044	Elective-I	3	-	2	30	70	25	-	-	125	3	1	-
402045	Elective-II	3	-	-	30	70	-	-	-	100	3	-	-
402046	Project Stage-I	-	-	4	-	-	25	-	25	50	-	1	1
Total		16	-	12	150	350	125	50	75	750	16	2	4
											22		

B. E. (Mechanical Engineering) (2015 Course) Semester – VIII

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits		
		Lect	Tut	Pract	In-Sem	End-Sem	TW	PR	OR		TH	TW	OR/PR
402047	Energy Engineering	3	-	2	30	70	25	-	25	150	3	-	1
402048	Mechanical System Design	4	-	2	30 (1.5 hrs)	70 (3 hrs)	25	-	50	175	4	-	1
402049	Elective-III	3		2	30	70	25	-	--	125	3	1	-
402050	Elective-IV	3	-	-	30	70	-	-	-	100	3	-	-
402051	Project Stage-II	-	-	12	-	-	100	-	100	200	-	3	3
Total		13	-	18	120	280	175	-	175	750	13	4	5
											22		

Elective – I		Elective – II	
Code	Subject	Code	Subject
402044 A	Finite Element Analysis	402045 A	Automobile Engineering
402044 B	Computational Fluid Dynamics	402045 B	Operation Research
402044 C	Heating Ventilation and Air Conditioning	402045 C	Energy Audit and Management
		402045 D	Open Elective**
Elective – III		Elective – IV	
402049 A	Tribology	402050 A	Advanced Manufacturing Processes
402049 B	Industrial Engineering	402050 B	Solar & Wind Energy
402049 C	Robotics	402050 C	Product Design and Development
		402050 D	Open Elective**

Savitribai Phule Pune University
Final Year of Mechanical Engineering (2015 Course)

Course Code : 402046 **Course Name : Project – I**

Teaching Scheme:		Credits		Examination Scheme:		
Theory	: --	TH	: --	Theory	In-Sem : --	PR : --
Practical	: 04 hrs per week	TW	: 02		End-Sem : --	OR : 25
						TW : 25

Course Objectives:

- To have ideology of the industrial project.
- Hands on working with tools, tackles and machines
- To carry out literature survey
- To do brain storming for mechanical engineering system

Course Outcomes:

On completion of the course, students will be able to -

- Find out the gap between existing mechanical systems and develop new creative new mechanical system.
- Learn about the literature review
- Get the experience to handle various tools, tackles and machines.

Course Contents

INSTRUCTIONS FOR PROJECT REPORT WRITING (Project Stage I)

It is important that the procedures listed below be carefully followed by all the students of B.E. (Mechanical Engineering).

1. Prepare ***Three Spiral Bound Copies*** of your manuscript.
2. Limit your Project Stage I to *25– 30* pages (preferably)
3. The *footer must include* the following:
   Institute Name, B.E. (Mechanical) Times New Roman 10 pt. and centrally aligned.
4. Page number as second line of footer, Times New Roman 10 pt. centrally aligned.
5. Print the manuscript using
   a) Letter quality computer printing.
   b) The main part of manuscript should be Times New Roman 12 pt. with alignment - justified.
   c) Use 1.5 line spacing.
   d) Entire report shall be of 5- 7 chapters
6. Use the paper size 8.5'' × 11'' or A4 (210 × 197 mm). Please follow the margins given below.

Margin Location	Paper 8.5'' × 11''	Paper A4 (210 × 197 mm)
Top	1''	25.4 mm
Left	1.5''	37 mm
Bottom	1.25''	32 mm
Right	1''	25.4 mm

7. All paragraphs will be *1.5 lines spaced with a one blank line between each paragraph*. Each paragraph will begin with *without any indentation*.
8. *Section titles* should be bold with *14 pt.* typed in all capital letters and should be left aligned.
9. *Sub-Section headings* should be aligning at the left with *12 pt.* bold and Title Case (the first letter of each word is to be capitalized).
10. Illustrations (charts, drawings, photographs, figures) are to be in the text. Use only illustrations really pertinent to the text. Illustrations must be sharp, clear, black and white. Illustrations downloaded from internet are not acceptable.
    a) Illustrations should not be more than two per page. One could be ideal
    b) Figure No. and Title at bottom with 12 pt.
    c) Table No. and Title at top with 12 pt.
    d) Legends below the title in 10 pt.
    e) Leave proper margin in all sides
    f) Illustrations as far as possible should not be photo copied.
11. Photographs if any should be of glossy prints
12. Please use SI system of units only.
13. Please number the pages on the front side, centrally below the footer
14. References should be either in order as they appear in the thesis or in alphabetical order by last name of first author
15. Symbols and notations if any should be included in nomenclature section only
16. Following will be the order of report
    i. Cover page and Front page (*as per the specimen on separate sheet*)
    ii. Certificate from the Institute (*as per the specimen on separate sheet*)
    iii. Acknowledgements
    iv. Contents
    v. List of Figures
    vi. List of Tables
    vii. Nomenclature
    viii. Abstract (A brief abstract of the report not more than 150 words. The heading of abstract i.e. word "Abstract" should be bold, Times New Roman, 12 pt. and should be typed at the center. The contents of abstract should be typed on new line without space between heading and contents. Try to include one or two sentences each on motive, method, key-results and conclusions in Abstract

    1. Introduction (2-3 pages) (TNR – 14 Bold)
        1.1 Problem statement (TNR – 12)
        1.2 Objectives
        1.3 Scope
        1.4 Methodology
        1.5 Organization of Dissertation

    2. Literature Review (12-16 pages)
    Discuss the work done so far by researchers in the domain area and their significant conclusions. No derivations, figures, tables, graphs are expected.

    3. This chapter shall be based on your own simulation work (Analytical/ Numerical/FEM/CFD) (8 - 12 pages)

    4. Experimental Validation - This chapter shall be based on your own experimental work

(2 - 3 pages)

5. Concluding Remarks and Scope for the Future Work (1 - 2 pages)
   (IF above Chapters 3, 4, 5 not completed please mention the plan for the same and time period for completion and detail activity chart).
   References ANNEXURE (if any) (Put all mathematical derivations, Simulation program as Annexure)

17. All section headings and subheadings should be numbered. For sections use numbers 1, 2, 3, …. and for subheadings 1.1, 1.2, …. etc and section subheadings 2.1.1, 2.1.2, …. etc.
18. References should be given in the body of the text and well spread. No verbatim copy or excessive text from only one or two references. If figures and tables are taken from any reference then indicate source / citatation of it. Please follow the following procedure for references

Reference Books :
Collier, G. J. and Thome, J. R., Convective boiling and condensation, 3rd ed., Oxford University Press, UK, 1996, pp. 110 – 112.

Papers from Journal or Transactions :
Jung, D. S. and Radermacher, R., Transport properties and surface tension of pure and mixed refrigerants, *ASHRAE Trans*, 1991, 97 (1), pp. 90 – 98.
Bansal, P. K., Rupasinghe, A. S. and Jain, A. S., An empirical correction for sizing capillary tubes, *Int. Journal of Refrigeration*, 1996, 19 (8), pp.497 – 505.

Papers from Conference Proceedings :
Colbourne, D. and Ritter, T. J., *Quantitative assessment of flammable refrigerants in room air conditioners*, Proc. of the Sixteenth International Compressor Engineering Conference and Ninth International Refrigeration and Air Conditioning Conference, Purdue University, West Lafayette, Indiana, USA, 2002, pp. 34 – 40.

Reports, Handbooks etc. :
United Nations Environmental Programme, Report of the Refrigeration, Air Conditioning and Heat Pumps, Technical Option Committee, 2002, Assessment - 2002.
ASHRAE Handbook: Refrigeration, 1994 (Chapter 44)

Patent :
Patent no, Country (in parenthesis), date of application, title, year.

Internet :
www.(Site) [Give full length URL] *accessed on date*

Savitribai Phule Pune University
Final Year of Mechanical Engineering (2015 Course)

Course Code : 402051 **Course Name : Project – II**

Teaching Scheme:		Credits		Examination Scheme:		
Theory	: --	TH	: --	Theory	In-Sem : --	PR : --
Practical	: 12 hrs per week	TW	: 06		End-Sem : --	OR : 100
						TW : 100

Course Contents

INSTRUCTIONS FOR PROJECT REPORT WRITING

It is important that the procedures listed below be carefully followed by all the students of B.E. (Mechanical Engineering).

1. Prepare ***Three Hard Bound Copies*** of your manuscript.
2. Limit your Dissertation report to *80– 120* pages (preferably)
3. The *footer must include* the following:
   Institute Name, B.E. (Mechanical) Times New Roman 10 pt. and centrally aligned.
4. Page number as second line of footer, Times New Roman 10 pt. centrally aligned.
5. Print the manuscript using
   a) Letter quality computer printing.
   b) The main part of manuscript should be Times New Roman 12 pt. with alignment - justified.
   c) Use 1.5 line spacing.
   d) Entire report shall be of 5- 7 chapters
6. Use the paper size 8.5'' × 11'' or A4 (210 × 197 mm). Please follow the margins given below.

Margin Location	Paper 8.5'' × 11''	Paper A4 (210 × 197 mm)
Top	1''	25.4 mm
Left	1.5''	37 mm
Bottom	1.25''	32 mm
Right	1''	25.4mm

7. All paragraphs will be 1.5 lines spaced with a one blank line between each paragraph. Each paragraph will begin with without any indentation.
8. Section titles should be bold with 14 pt. typed in all capital letters and should be left aligned.
9. Sub-Section headings should be aligning at the left with 12 pt. bold and Title Case (the first letter of each word is to be capitalized).
10. Illustrations (charts, drawings, photographs, figures) are to be in the text. Use only illustrations really pertinent to the text. Illustrations must be sharp, clear, black and white. Illustrations downloaded from internet are not acceptable.
    a) Illustrations should not be more than two per page. One could be ideal
    b) Figure No. and Title at bottom with 12 pt.
    c) Table No. and Title at top with 12 pt.
    d) Legends below the title in 10 pt.
    e) Leave proper margin in all sides

f) Illustrations as far as possible should not be photo copied.

11. Photographs if any should be of glossy prints
12. Please use SI system of units only.
13. Please number the pages on the front side, centrally below the footer
14. References should be either in order as they appear in the thesis or in alphabetical order by last name of first author
15. Symbols and notations if any should be included in nomenclature section only
16. Following will be the order of report
    i. Cover page and Front page (*as per the specimen on separate sheet*)
    ii. Certificate from the Institute (*as per the specimen on separate sheet*)
    iii. Acknowledgements
    iv. Contents
    v. List of Figures
    vi. List of Tables
    vii. Nomenclature
    viii. Abstract (A brief abstract of the report not more than 150 words. The heading of abstract i.e. word "Abstract" should be bold, Times New Roman, 12 pt and should be typed at the center. The contents of abstract should be typed on new line without space between heading and contents. Try to include one or two sentences each on motive, method, key-results and conclusions in Abstract

    1. Introduction (2-3 pages) (TNR – 14 Bold)
        1.1 Problem statement (TNR – 12)
        1.2 Objectives
        1.3 Scope
        1.4 Methodology
        1.5 Organization of Dissertation

    2. Literature Review (20-30 pages)
    Discuss the work done so far by researchers in the domain area and their significant conclusions. No derivations, figures, tables, graphs are expected.

    3. This chapter shall be based on your own simulation work (Analytical/ Numerical/FEM/CFD) (15- 20 pages)

    4. Experimental Validation - This chapter shall be based on your own experimental work (15-20 pages)

    5. Concluding Remarks and Scope for the Future Work (2-3 pages)
    References ANNEXURE (if any) (Put all mathematical derivations, Simulation program as Annexure)
17. All section headings and subheadings should be numbered. For sections use numbers 1, 2, 3, … and for subheadings 1.1, 1.2, …. etc and section subheadings 2.1.1, 2.1.2, …. etc.
18. References should be given in the body of the text and well spread. No verbatim copy or excessive text from only one or two references. If figures and tables are taken from any reference then indicate source / citation of it. Please follow the following procedure for references

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University Press, UK, 1996, pp. 110 – 112.

Papers from Journal or Transactions :
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Bansal, P. K., Rupasinghe, A. S. and Jain, A. S., An empirical correction for sizing capillary tubes, *Int. Journal of Refrigeration*, 1996, 19 (8), pp.497 – 505.

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DEPARTMENT OF ENGINEERING SCIENCES

Project Based Learning

Branch : Information Technology

Sr. No.	Name of the Project Topic	Project Group No	Name of the students
1	Blast Cloud Word Game Using Python	1201	BODKHE ANJALI ANAND
			CHAVAN JAYESH SHANKAR
			DANDWATE NISHANT RAHUL
			DAWALE PARTH GAJANAN
2	Face Detection using Python	1202	GADEKAR DHIRAJ VITTHAL
			KADAM RUTUJA ANIL
			KADAM SHIVAM BALKRISHNA
			KINJAL KANANI
3	To Compute the value of e to n number of decimal places by Python	1203	LONDHE OMKAR PRAKASH
			MOHITE PREM SUNIL
			PATEL DIXITA SHEETALKUMAR
			NIMSE SANIKA SANTOSH
4	Contact book in python	1204	THORAT SHUBHAM AJIT
			WADIBHASME SHUBHANGI DNYANESHWAR
			KALDHONE ADITYA JITENDRA
			MAGAR SOJWAL SAUDAGAR
5	Number guessing using python	1205	MARWADI KHUSH GUNVANTRAY
			AMRALE NAVNATH TUKARAM
			BHOI GAURAV NITIN
			BORHUDE ANJALI PANDURANG
6	Calculator using Java	1206	DARBASTWAR HRISHIKESH DAMODAR
			GAVATE ADITYA TUKARAM
			HUBALE AJINKYA SAMJIK
			JAGADALE SUPRIYA HANUMANT
7	Show Call Details	1207	KOKANE TUSHAR SANTOSH
			KULKARNI SHASHWAT SHRIPAD
			NIRALE PRAJAKTA MAHADEV
			PARDESHI VAISHNODEVI SANJIVSINGH
8	Virtual Assistant	1208	PATIL JANHAVI DEEPAK
			PAWAR ATHARV SUNIL
			PAWAR VEDANT DEWA
			PRATALE VAISHNAVI MADHUKAR
9	Dice Simulator	1209	RAKATE ADITYA SHRIKANT
			SAMGIR SARTHAK PRADIP
			SHINDE SAKSHI RAJESH
			ZINJE ARYA SHIVAJIRAO
10	Cricket alerts	1210	BACHHAV MAYUR PRAKASH
			BHAMARE MANGESH SHANTARAM
			GUPTA SUSHAIN RAJESH
			KADAM PRAJAKTA ANANDRAO
11	tic tac toe	1211	LOHAR RAHUL KANHAIYALAL
			MAPARI SAURABH NANDKUMAR
			NAIK PRIYANK BHIKAJI
			OMKAR ASHOK KOLATE
			SAVARDEKAR SAHIL RAVINDRA

12	Extract Text From PDF Using Python	1212	BHAGWANE AVESH SANJAY
			BHOSALE DNYANESHWAR BHAGWAN
			SHINDE UNNATI MANOJ
13	Guess a number that has randomly selected by Python	1213	HAPSE VAISHNAVI BALASAHEB
			HYALIJ SAGAR VILAS
			JIGAR SABLE
			MORE PRATIKSHA MOHAN
14	Steganography in python	1214	MULE AJAY VINOD
			NIKITA SANDIPAN SHINDE
			PARBAT SUNITA NARAYAN
			SHINDE SANSKRITI JITENDRA
15	Sudoku solver	1215	BHOSLE AJAY MAHADEV
			DHAMI VRUSHALI RAMAN
			DHINDLE SNEHAL SHIVAJI
			INGALE VIVEK APPASO
16	Implemetation of Binary search algorithm	1216	KALE PRATHAMESH SANDIP
			KENDRE VITHAL SIDHESHWAR
			KHOBRAGADE PRATHMESH SANJAY
			RATHOD DHIRAJ SACHIN
17	Trending Soogs Display using python	1217	SHELAR PRATHAMESH RAJU
			AMBEKAR ABHINANDAN ANIL
			BHANDWALKAR ANIKET BALASAHEB
			BOMBE SHRIKRUSHNA PANDURANG
18	Creating web browser using python	1218	INDURKAR ARPIT SURESH
			KSHIRSAGAR HARSH SANJAY
			MORE PRAJWAL NAVNATH
			PATIL SHEETAL BABRUWAN
19	Currency converter using python	1219	SHELKE ANIKET APPASAHEB
			TILEKAR PRATIK SHARAD
			BAGADE ABHISHEK BALASAHEB
			BHAGESHREE MONESH SUPEKAR
20	whatsapp APK for stickers using python	1220	CHAVAN OMKAR VIJAY
			GODASE GANESH SUBHASH
			JAYKARE NEHA DEVIDAS
			KUMBHAR PRATIK KERABA
21	Email Slicer Project	1221	PALKAR SANDIP SATISH
			WALSE TEJAS JITENDRA
			WARANG MAYURESH VISHWANATH
			KAKADE RHUTUJA MAHENDRA
22	Electric Door Lock using Ardino-Python	1222	MOHITE ABHIJEET RAMDAS
			PAWAR SURAJ PRADEEP
			SAWANT RUTUJA RAJESH
			SHAIKH MOHD SAJEED RAFIK
23	to get the current stock price of specified companies using Python	1223	THOMBRE MANOJ BABASAHEB
			ADSUL SHIVANJALI VILAS
			AGALAVE ATHARV MILIND
			AKLUJKAR PREM VIJAY
24	Quiz application using python	1224	ANIKET ASHOK VADAR
			ARGADE RUTUJA BALASAHEB
			BIND MRUNALI MILIND
			MANE PRANAV SACHIN
			MISHRA PIYUSH NITINCHANDRA

25	text based adventure game using python	1225	MULLA ZAHIR IMAMHUSEN SANJEEV KUMAR PANDEY SHELKE JANAKEE MAHESH
26	Calculator with python	1226	SHINDE RUSHIKESH BALASAHEB BHOPALE RUSHIKESH SURESH CHAVAN MANISH MANOJ DASADHIKARI NARAYAN SUKUMAR
27	Notepad application	1227	GAIKWAD TANUJA PARMESHVAR KADAM SIYA SUDHEER KARLAPUDI BHARGAV CHANDRASHEKHAR MAHADIK SANJANA SANTOSH
28	Creating What's App Emoji	1228	MARKAD VISHAL RAM PANDEY PUSHKAR PURUSHOTTAM PHULE VAISHNAVI SANJAY THAKARE ABHISHEK SHANKAR
29	Speed test typing with python	1229	TITKARE SAHIL SANJAY TIWARI ANKIT SHESHMANI YASH SUNIL PATIL BEG MISBA ARIF
30	selection sort algorithm using python	1230	GAIKWAD TEJAS RAJENDRA JADHAV ROSHAN ANAND JADHAV YASH RAVINDRA LONDHE SHUBHAM SATISH
31	Hangman game using python	1231	POONAWALA ALIAKBAR SIBTEN PRATHAMESH ANANT DHAPSE SHRUTI SALUNKHE TADKE SHUBHAM VIJAY
32	Diplay Time in ColoredText using python	1232	WADEKAR SNEHAL SUNIL BHOSALE DIPTI YUVRAJ CHIMBULKAR KAVYASHREE UMESH GHOTANE SHRUTI SANJAY
33	Alphabetical game using python	1233	JADHAV OMKAR RAMCHANDRA NEMANE TEJAS SOMNATH NIMAN ASHWINI VIJAYRAO PANDIT ADITYA SATISH
34	Mask Provider Website	1234	SHINDE SHIVAM DNYANESHWAR SINGH AANCHAL LALIT SONUNE SHANTANU BHASKAR SURYAPRATIM DAS
35	Employee record searching using cpp	1235	SUTHAR PRATIK DEVILAL THAZHATHETHIL ADARSH KALIDASAN
			FE Coordinator

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FE Coordinator
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of Engineering & Research
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DEPARTMENT OF ENGINEERING SCIENCES

Project Based Learning

Branch : Computer Engineering

Sr. No.	Name of the Project Topic	Project Group No	Name of the students
1	Wikipedia Search Using Python	1101	ANUSHKA ROY
			BASTAPURE OM SANTOSH
			BODAKE ATHARVA PRAMOD
			DESHMUKH ABHISHEK BABASAHEB
2	Virtual Assistant Using Python	1102	DONADKAR ABHINAV SHAM
			GOPAL DNYANESH ASHOK
			MANERIKAR MAHADEV ABHAY
			NARAYANKAR AKSHATA NAGENDRA
3	Generate QR Code Using Python	1103	AYUSH DILIP TILEKAR
			BHUMKAR PRATHAMESH RAJENDRA
			DHANGEKAR PRATIK RAJENDRA
			GAIKWAD SAYALI VILAS
4	Stopwatch Application	1104	KALE SHRIRAM KAKASAHEB
			MIRZA MUNWWAR BAIG
			SHELKE SAKSHI APPA
			SURVE INDRANEEL ARUN
5	Track Phone Number Location Using Python	1105	PABALE AKASH SHIVAJI
			PATHAK SOHAM MANOJ
			PATIL MAHESH SHARAD
			PATIL MONIKA BASWARAJ
6	Canteen Management System Using C++	1106	PAWAR SNEHAL SANTOSH
			PRERANA PRADEEP DIVEKAR
			KULKARNI SARTHAK NIRANJAN
			SHAH YASHSHREE ASHIK
			SOLUNKE PRACHI DATTATRAYA
7	YouTube Downloader Using Python	1107	ASSALKAR AADITYA GANESHRAO
			BABAR RUSHIKESH BALASAHEB
			BHANDAWALE SWAPNIL KISAN
			BHOSALE PAYAL SUNIL
8	Invoice Generator With Python	1108	GHATE VINAY SOPAN
			KAD VAISHNAVI SURESH
			KAMBLI PRATIK PANDURANG
			MASKI KISHOR MAHADEO
9	Image Translation	1109	MULAY GAURAV ANKUSH
			NIMBALKAR RHITIK VISHNU
			SHINDE SAI JAYWANT
			SHINDE SHUBHAM GAJANAN
10	Go Converter	1110	SHITOLE ADITYA SUNIL
			SURYAWANSHI PRUTHAVIRAJ KAILAS
			TANMAYI JAGDISH YERE
			TAWARE SHRUTI SHREE

Department of Engineering Sciences

11	Clock Application Using Python	1111	THUBE ANIMESH BALASAHEB
			VHANKADE VAIBHAV SUNIL
			VISHWAKARMA RAHUL SUNIL
			YASH RAKESH CHAVAN
12	Message Encode Decode in Python Project	1112	BOROLE PRATHAMESH PANKAJ
			DONGARE SUDARSHAN GAHININATH
			GADHAVE UTKARSH SATISH
			GAT PRERNA BAPU
13	Flaffy Bird Game	1113	GAWAI ANURUDDHA JAGANNATH
			GOME SAKSHI MILIND
			JADHAV TRUPTI BALAJI
			KHADA BHOOPESH SITARAM
14	Online Exam Portal	1114	KHUSHI PANDEY
			MAHADIK GITESH SURESH
			PAWAR OMKAR SADASHIV
			PHAPALE KARISHMA PANDURANG
15	Student Management System	1115	SHETTY PRANEETH PRASAD
			SHIGWAN MAYURI MANGESH
			SHRUTI RAJESH SHINDE
			THORAT SHRUTI SANDEEP
16	Covid Vaccine Slot Finder	1116	ADHE AKHILESH MOHAN
			DUBBALWAR YASH RAJESH
			GURAV SURAJ BALASAHEB
			HARSH KUMAR
17	Automate WhatsApp Message Trick Using Paython	1117	JADHAV NIKITA SANTOSH
			JAGATAP PRANJAL DATTATRAYA
			KAPASE EKTA DATTATRAY
			MAHAJAN VISHAL DATTA
18	Desktop Assistant	1118	OM TUSHAR PAWAR
			PRANAV RAJESH MOHITE
			SHEGUKAR CHI SURAJ SANDIP
			TAMBE PRANJAL VIJAYKUMAR
19	Digital Clock Using Python	1119	BHOSALE PARTH RAJIV
			BHOSLE ABHISHEK SOMINATH
			BOBDE ANURAG PRAFULLA
			DHAWALE YOGESH NAGORAO
20	Image Converter Using Python	1120	GOKHALE CHINMAY AMOD
			JAGTAP AVIRAJ SATISH
			JAISWAL RAUNAK SANJAY
			MANE HARSHADA BABAN
21	Geometry Application for Ease of Study	1121	MORE SAYALI SANTOSH
			NIKAM PRAJWAL ANNASO
			OZA RAKESH CHAMPALAL
			PAWAR HEMSRUSHTI GANESH
22	E-Commerce Website for Selling Fruits and Vegetables	1122	SACHIN SHANKAR GHADAGE
			SHERIGAR AYUSH VASANT
			SHINDE SANKET SANTOSH
23	Study and Implementation of Mobile Security Functions Using Python	1123	SHIRODKAR DEVANG AJITKUMAR
			SOMAWANSHI AJINKYA SHIVRAJ
			YELE AMAR ANANDRAV

24	SIM Locator	1124	BADHE MANISHA NANDU
			BOBADE TEJAS PRAKASH
			DALAVI NEELANJAN NANDKUMAR
			DHANDE ABHISHEK DADASAHEB
25	Yoga Centre Website Using HTML & CSS	1125	DHENGLE OM PRAMOD
			FARDE SANSKRUTI PRADIP
			GANDHI DEEP SUSHIL
			GANESHKAR SUYASH SHIVAJI
26	Web Crawler using Python	1126	GEETESH SOMNATH BARBARE
			GUNJAL ANUSHKA VAIBHAV
			KEDARI NIKITA KISHOR
			MAKHARE SHASHANK PARAJI
27	Email Slicer Using Python	1127	MONDAL SUDIPTA JAYANTA
			MOTE ANEESH NIKHIL
			PADGHAN KSHITIJ ARVIND
			PURI PRANOTI SURESH
28	Iron Man Jarvis AI Desktop Using HTML, CSS,JS	1128	RAJESHIRKE RAJNANDINI SHASHIKANT
			RISHABH PARMAR
			SAPKAL SAURABH PANDURANG
			SAWARKAR JAYANT SANJAY
			SHETKAR MITESH RAMCHANDRA
29	Restuarant Website Using HTML and CSS	1129	ALANGE RUTWIK MANIKRAO
			ANDHALE ABHISHEK BALASAHEB
			BAWANKAR MOHIT MEGHRAJ
			JADHAV SHIVANI VILAS
30	Notepad Using Java	1130	JOSHI PRIYANKA PRASAD
			KALE PRADYUMN MADAN
			KAPLE PRANAV RAJESH
			NANAWARE VISHAL PANDIT
31	Event Handling Using Java	1131	PRASHIK BHOWATE
			SAWANT NIDHI KRISHNAKANT
			SONAWANE PRANIL BALASAHEB
			SONKAMBALE ASHISH LAXMAN
32	Animation Using Java	1132	DHANAVE SARANG SANJAY
			DHOBE JAYESH NARENDRA
			HARANE VAIBHAV UMESH
			JADHAV MONALI LAXMAN
33	Virus Creation Using Java	1133	KAMLEKAR SHRADDHA RAMESH
			KESKAR SANIKA DEEPAK
			LOKHANDE PRANAY DHONDIRAM
			MALUSARE VIRAJ VIJAY
34	Calculate Electricity Bill Using Python	1134	MANE APEKSHA SANJAY
			MRUGNAYANEE SANJAY AHIRE
			PAGARE VAIBHAV SADASHIV
			PATIL SHREYAS GHANSHYAM
35	Random Password Genretor	1135	ROKADE SRUSHTI GANESH
			RUMAN NARENDRA RAUT
			SARUK SURAJ SHIVAJI
			SAYED HISHAMUDDIN JAGIRDAR
			SHAIKH MOHD ASIF AHEMAD HUSSAIN

36	Website of Cowin Info	1136	SHRAWGI PARNAVI PRASHANT
			SONSALE PRASENJIT SAHEBRAO
			TALE CHINMAYEE SHARADKUMAR
			TANAYA VIKAS DESHMUKH
			THAKUR ANSHU SATISH
37	Spelling Corrector Using Python	1137	CHICHKAR KHADIJA IQBAL
			DALAWAT YASHPALSINGH KARANSINGH
			FALE MANISH DINKAR
			KAMBLE SAHIL RAJU
38	Scientific Calculator using Python	1138	KONDEKAR JYOTI ANANDA
			MEHVISH NAZIR SHAIKH
			MHATRE SANIKA NITYANATH
			MUNDE SHWETA HARIDAS
39	Aircraft Game Using Python	1139	NIMBALKAR DNYANESH VIJAYKUMAR
			PUKALE PRASHANT GUNDA
			RATHOD CHETAN RAJU
			SAWANT SHEJAL PANDURANG
40	Alumni Interaction Website	1140	SHELKE RUSHIKESH SHAHURAJ
			TAWRI KRUSHNA JASRAJ
			WANI SIDDHATA AAKASH
41	Customer Registration form Using Client Side Validation	1141	BHOSALE SHEJAL NATHA
			BOCHARE PRANAV SUNIL
			DHAYGUDE HANUMANT GOPAL
			GHORPADE YASH ARUN
42	Covid Patients Count Calulator Software Using Python	1142	HULAWALE HARSHADA ANIL
			JAGADALE RITESH DNYANDEV
			KEDARI VAIBHAV SURYKANT
			KOTASTHANE VANSHIKA ANIROUDDH
43	Story Writing Using Python	1143	MANKAR GANESH NANDKUMAR
			MAYUR YOGESH BAGADE
			MOHITE PRAJAKTA VISHNU
			MUSALE NILESH SANTOSH
44	Java Script Form Validation Using Sample Registration Form	1144	SASANE YASH SANJAY
			SHENDGE BHARGAV SHIVAJIRAO
			VISHWAKARMA SHIVAM RAKESH
45	Get Trending News Using Python	1145	AUTI PRATHAMESH SAMPAT
			GAIKWAD ROHAN MAHESH
			GHADGE SHUBHAM JALINDAR
			GUJAR SMRUTI RAVINDRA
46	Graphics Using Python Turtle	1146	JADHAV AJAY SANDEEP
			KADAM SWAMI PRADEEP
			KASHID SHON RAJENDRA
			KHARAT PRADNYA SANDEEP
47	Digital Profile Cards Using HTML and CSS	1147	LANDGE VAIBHAVI VITTHAL
			MORE ISHA PRADEEP
			MUNDHE ASHUTOSH BALASAHEB
			SHINDE AYUSHI AVINASH
48	Health Monitoring System Using Python	1148	SONAWANE PRANAV BALASAHEB
			SUDARSHAN GUNDU SUTAR
			VALA TUSHAR DHIRUBHAI

49	Jarvis 2.0 -An AI System Personal Assistance	1149	ADMANE ADINATH RAM
			CHAUDHARI UJWAL SANJIV
			GUNJAL SANKET SHRAVAN
			HIREKURBARU YASH SUBHASH
50	Zodiac Sign Calculator Using Python	1150	KAZI SOHEL NAJIR
			KHAJURE NIKHIL DEVANAND
			MORE ABHIJIT CHINTAMAN
			NIMBALKAR PRATIKSHA ASHOK
51	Bakery shop chabot simulation using Python	1151	PANDHARE PRATHMESH TULSHIDAS
			PHAPALE NIKITA DIPAK
			PREM MANISH BHANDARI
			SHAIKH AYESHA ILAHI
52	Sending Email Using Python	1152	SURYAWANSHI OM SHAM
			TAPKIR VIRAJ VILAS
			YADAV VINAYAK RADHESHYAM
			FE Coordinator

ZES's Zeal College of Engineering & Research
Department of Engineering Sciences
Narhe, Pune-41

FE Coordinator
Department of
Engineering Sciences
ZES's Zeal College
of Engineering & Research
Narhe, Pune-411 041.

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Project Based Learning

Branch : Electronics and Telecommunication Engineering

Sr. No.	Name of the Project Topic	Project Group No	Name of the students
1	WIRELESS AC POWER DETECTOR	1	ANIKET PAUL
			BHONGALE SHIVANI RAJENDRA
			BHOSALE ROHAN ABHAY
			CHAUHAN RAJ NARENDRASINGH
2	STUDY OF BRIDGE RECTIFIER	2	CHAVAN MANOHAR VIJAY
			CHAVHAN SHRIKANT SHESHRAO
			DAL DIVYA SANJAY
			DANGARE ABHISHEK ANIL
3	FIRE DETECTOR ALARM	3	DHAGE SHREERAJ PRASHANT
			DHANGAR SACHIN GAJANAN
			DHANGAR VINAY NATHUPAL
			GAIKWAD AVINASH VINAYAK
4	MOBILE DETECTOR WITH ALARM	4	GUND SAKSHI SANTOSH
			GUPTA ABHISHEK PREMKUMAR
			GUPTA VISHAL RAMASHRAY
			GURAV ROHIT JOTIRAM
5	WIRELESS POWER TRANSFER SYSTEM	5	HATTE ANIKET SHIVAJI
			JADHAV JAY VILAS
			JADHAV OM VILAS
			JADHAV PANKAJ BALU
6	CLAP CONTROL HOME AUTOMATION	6	JAGADALE CHINMAY ANIL
			KADAM MAHESH SUBHASH
			KAKANI SIYA ANAND
			KALAMKAR SHUBHAM VITTHAL
7	SPEED CONTROL OF DC MOTOR USING PWM	7	KAMBLE CHIKAYYA RUDRAPPA
			KHAN SANIYA RAEISH
			KONDHALKAR YASH BABAN
			KURHADE SAHIL SHAILENDRA
8	FIRE ALARM CIRCUIT USING SENSORS	8	LONDHE NEHA SANTARAM
			MAYUR SURESH SURYAWANSHI
			MOGHE SHREYA SHISHIR
			MORE PRAJWAL NAVNATH
9	FRIDGE DOOR ALARM SYSTEM	9	MORE SAKSHI GAJENDRA
			NANAWARE SHUBHAM SANJAY
			NIPHADE ADITI RAJU
			PATHAK VAISHNAVI MANISH

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10	SHORT DISTANCE ALARM	10	PATIL ABHAY MADAN
			PATIL KUNAL PRADIP
			PATIL SHRAVANI ARVIND
			PATIL VAISHNAVI RAVINDRA
11	FULL ADDER CIRCUIT	11	PAWAR SIDDESH RAJESH
			PAWAR TANMAY VILAS
			PRATYUSH SHARMA
			RUTUJA VIJAYKUMAR PATIL
12	PASSWORD BASED DOOR LOCK SYSTEM USING 8051	12	SALUNKE TANVI ABHIMANYU
			SANAP PRADIP AJINATH
			SAPKAL NITESH SHIVAJI
			SHELAR SAKSHI ANAND
13	WATER LEVEL INDICATOR	13	SHINDE NEHA SANJAY
			SHINDE RUSHIKESH BAPUSHAEB
			SHINDE SAHIL GANESH
			SHINDE SANKET KISAN
14	TOUCH DOOR BELL	14	SHINDE TEJAS JITENDRA
			SHRADDHA KUMAR
			SHRIRAM KESHAV BALASAHEB
			SHRUTI NANDKUMAR LOHAR
15	HOME AUTOMATION	15	SINGH ABHISHEK MITHILESH
			SURYAWANSHI PRATHAM CHANDAN
			SUTAR ANIKET NARAYAN
			TATHE PRERANA SHIVAJI
16	HALF ADDER CIRCUIT	16	THAKARE KUNAL NANA
			THORAT AJAY ASHOK
			UPADE SOHAN ASHOK
			VEER SAKSHI SUNIL
17	DESIGNING OF DIODE IN REVERSE BIASED CONDITION	17	VISHWANATH
			WANKHEDE SHRUTI DHANRAJ
			WARTIKAR SUMITRA PRASAD
			YADAV OMKAR SANTOSH

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Project Based Learning

Branch : Robotics and Automation Engineering

Sr. No.	Name of the Project Topic	Project Group No	Name of the students
1	*Working Model of Steam Engine*	G1	MALWADKAR ABHISHEK YASHWANT
			SABLE TUSHAR DAYANAND
			RANGREJ MUZAFFAR YUNUSALI
			JAGTAP PRATHAM GOPINATH
2	*Working Model Two Wheeler of Disc Brake*	G2	RUSHIKESH NAMDEV PUDALE
			PATIL YASH PRABHAKAR
			BAKARE AUM SHAILENDRA
			MORE PRAJWAL SHAMRAO
3	*Portable mobile charger*	G3	KALE SHRINIVAS SANTOSH
			RANDIVE VYANKTESH MAHESH
			SHEIKH LAYBA MAHIN KANIJA PARVIN
			AFAAN KHALID SHAIKH
4	*Ocean Power Plant*	G4	THORAT SRUSHTI SADANAND
			KOLHE ROHAN LAXMAN
			SURAJ DHANAJI GAIKWAD
			NAIK KHUSHI BHASKAR
5	*Electric Vehical System(ABS)*	G5	NAWAL SHIVAM DILIP
			MATE ADITI PANDURANG
			TUKARAL ASHISH SURYAKANT
			NIKURE PRAJWAL DEVIDAS
6	*Laser Based Security System*	G6	VASVE KAUSHAL SOMNATH
			KADAM AKASH ARVIND
			SHINDE ANISHA MARUTI
			WAMAN YASH SHANKAR
7	*Silent air purifier and humidifier*	G7	YASH AJAY SALUNKHE
			SALUNKHE VIKEE ASHOK
			CHAVAN ANIKET BHUSHAN
			PATIL BHAVIKA TARUNKUMAR
8	*Cycloidal Speed Reducer Mechanism*	G8	PRAJAPATI NILESH KAMLESH
			YADAV SAHIL POPAT
			PADAWAL KEDAR D
			JAGTAP ABHISHEK SUDHAKAR
9	*DC Generator*	G9	MAHENDRE VINAY GANESH
			KSHIRSAGAR AVANTI MAHESH
			ALAM RISHAD MAHTAB
			SRUSHTI C BAGAWE
10	*Ardino Based Smart dust bin*	G10	SHARMA PRERNA YOGESH
			DEVAKAR SHRIDATTA MADHUKAR
			ROKADE PRANALI RAJENDRA
			SHAIKH MOHAMMED ZAIN ABDUL

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11	*Single Axis Solar tracker*	**G11**	NACHAN GOKUL NIVRUTTI
			WAGHMARE LAMBODAR VIJAY
			RASAL VAIBHAV SANJAY
			LAHAMAGE TEJAS KIRAN
12	*Hydraulic powered robotic arm*	**G12**	SURYAWANSHI SURAJ MALHARI
			PORE AJIT PANDURANG
			WADHWA PAWAN ANIL
			RAUT PRATIKSHA DINESH
13	*Home Automation for Lightning Using Aurdino*	**G13**	CHAUDHARI LALIT VINOD
			CHOWDHARY PANKAJ V
			CHAVAN PRATHAMESH JITENDRA
			SHAH NIKUNJ CHANDRESH
14	*Contactless Tube light on/off function by using IOT*	**G14**	PAWAR VRUSHAB VISHNU
			KUTE CHAITANYA VITTHAL
			DESHMUKH AACHAL RAJESH
			JADHAV RAHUL AJIT
15	*Gripper*	**G15**	RANGATE YASH PANDURANG
			DHAMNE MIHIR GANESH
			BAGADE SAKSHI LAXMAN
			DHUMAL ROHAN VINAYAK
16	*Automatic Street Light*	**G16**	PARDESHI SOURABH JAYDEEP
			BHOSLE SAMRUDDHI SHEKHAR
			CHAUHAN YASH NARENDRASINGH
17	*Vertical axis Wind Turbine*	**G17**	KADU OM SANDEEP
			SANDUPATLA ANIKET DEEPAK
			THORAT VAISHNAVI DADASAHEB

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Project Based Learning

Branch : Civil Engineering

Sr. No.	Name of the Project Topic	Project Group No	Name of the students
1	BUILDING PLANNING	1601	SHIRKE ATHARVA DATTATRAY
2			KHANVILKAR ADITYA VIJAY
3			WADIKAR OMKAR NARSING
4			SAPKAL ADITYA GANESH
5	CONSTRUCTION MANAGEMENT ON SITE	1602	YOUSUF ATTHAR
6			RAJ VAZE
7			YOGESH RATHOD
8			JIVAN CHAVAN
9	ADVANCED TRENDS IN STRUCTURAL ENGINEERING	1603	RAJRATAN INGOLE
10			AKSHAY BARMDE
11			BAJAD ABHISHEK RAMKISAN
12			MORE PANKAJ MACHINDRA
13	ROAD CONSTRUCTION EQUIPMENT	1604	ANURADHA WAGHMARE
14			GOURAV PRAKASH KORE
15			GOPAL INGALE
16			PATIL SHYAM ANANDA
17	BIOMEDICAL WASTE MANAGEMENT	1605	PARMAR ANKIT PRAKASH
18			LAVUDYA GANESH
19			SHIVAM MISAL
20			KAMBLE JATIN DILIP
21	PREPARE LINE PLAN FOR OWN/1BHK HOUSE	1606	BHAGAT SURAJ DATTATRAY
22			BHALERAO SOURABH RAVINDRA
23			BICHAKULE HRITHIK NAVNATH
24			MHASKE VISHAL VIKRAM
25	DIFFERENT TYPES OF FORCES & SUPPORTS WITH PRATICAL EXAMPLE	1607	KAMBLE POOJA SHRIRAM
26			MANE SHUBHAM CHANDRAKANT
27			PAWAR SAHIL YASHWANT
28			RATHOD ABHIJEET ANIL
29	STUDY OF BASIC SURVEYING OPERATIONS ON SITE	1608	RUTIKA BAJARE
30			RUTUJA MHETTRE
31			NIMBALKAR SUBODH BHALCHANDRA
32			Janvi Chavan
33			SHILIMKAR ABHINAY SATISH
34	STUDY ON VARIOUS WASTE MATERIAL FOR PARTIAL REPLACEMENT OF CEMENT	1609	YOGESH GAIKWAD
35			DIGVIJAY ASHOK JADHAV
36			ROHAN SALUNKE
37			ATHARVA KHAIRE
38	WATER ABSORBING ROAD	1610	VEKHANDE SANJAY NAGNATH
39			PAWAR GANESH BALIRAM
40			PATIL KULDEEP PRADEEP
41			PATIL YASH ANIL

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Sr. No.	Roll No.	Name of Student	Group No.	Guide	Project Titles
1	S111001	AKHADE ATHARVARAJ NARESH	1	Prof. S. D. Redekar (9405841974)	Block Blasting War with Crushed sand as a Weapon
2	S111002	BELURE RUSHIKESH KASHINATH			
3	S111003	BORSE SUYASH YASHWANT			
4	S111004	CHAVAN MAHESH NAMDEO			
5	S111005	CHAVAN SANGRAM RAJARAM	2	Prof. S. D. Redekar (9405841974)	Block Blasting War with Iron slag sand as a Weapon
6	S111006	DALVI RUSHIKESH INDRAJEET			
7	S111007	DEVKATE ABHISHEK TANAJI			
8	S111009	GAVIT PUJA NAMVANT			
9	S111010	GAWADE ROHIT ZUNJAR	3	Prof. S. D. Redekar ((9405841974))	Block Blasting War with fiber as a Weapon
10	S111011	GHONE GITANJALI MAHESH			
11	S111012	HODLURKAR VALLABH UMESHRAO			
12	S111013	KADAM ASMIT ANAND			
13	S111014	KAKDE SHIVAM SHAHADEV	4	Prof. M. M. Jadhav (7887907649)	Block Blasting War with steel fiber as a Weapon
14	S111015	KALE ANIKET RAMCHANDRA			
15	S111016	KARLE RUSHIKESH VILAS			
16	S111017	KENDRE PRASHANT DAYANAND			
17	S111018	KHAIRMODE ABHISHEK BHANUDAS	5	Prof. M. M. Jadhav (7887907649)	Block Blasting War with brick pieces as a Weapon
18	S111019	KOLEKAR SOURABH SHAHAJI			
19	S111020	LOKARE TUSHAR BABAN			
20	S111021	MASCARENHAS MELROY RUJAY			

Sr. No.	Roll No.	Name of Student	Group No.	Guide	Project Titles
21	S111022	NACHAN DIVYA SATISH	6	Prof. M. M. Jadhav (7887907649)	Block Blasting War with rice husk as a Weapon
22	S111023	PATIL MAHADEV NIVRUTTI			
23	S111024	PATIL NALIN SURESH			
24	S111025	PATIL RUTIK ANIL			
25	S111026	PATIL SATISH	7	Prof. M. M. Jadhav (7887907649)	Block Blasting War with coconut shell as a Weapon
26	S111027	PATIL VISHAL RAM			
27	S111029	RASKAR DIPALI DILIP			
28	S111030	RUSHIKESH RAJENDRA JAGTAP			
29	S111031	SABLE BHUPESH KANHAIYALAL	8	Prof. A. S. Ingale (9112059373)	Block Blasting War with ceramic waste as a Weapon
30	S111034	SHINDE SANDEEP CHANDRAKANT			
31	S111035	SINGH PRASHANT NARENDRA			
32	S111036	TAPASE VINAY ANAND			
33	S111037	TATHE VIRAJ VAIBHAV	9	Prof. A. S. Ingale (9112059373)	Block Blasting War with recycled aggregate as a Weapon
34	S111038	VATARI KAUSHAL NANDKUMAR			
35	S111039	VISHWAS OMKAR MOHAN			
36	S111040	VYAVAHARE VISHAL ARUN			
37	S111041	WAGHAMARE SANKET DHANANJAY	10	Prof. A. S. Ingale (9112059373)	Block Blasting War with tire & rubber waste as a Weapon
38	S111042	WAN EBOR HYNNIEWTA			
39	S111043	LADKE DARSHANKUMAR SANJAY			
40	S111046	GHUGE SAURABH PANJABRAO			
41	S111047	VAKHARIYA DARSHAN SATISHKUMAR			
42	S111048	MAIDEO KEDAR RANGANATH	11	Prof. S. D. Redekar (9405841974)	Block Blasting War with Coair Fire as a Weapon
43	S111049	SURAVASE SURAJ RAJENDRA			
44	S111050	SANTDARSHAN SURESH GURAV			
45	S111051	GHUDE PRAJAKTA MANOJ			

Sr. No.	Roll No.	Name of Student	Group No.	Guide	Project Titles
46	S111052	KARALE MOHAN SHIVAJI	12	Prof. S. D. Redekar (9405841974)	Block Blasting War with Fly Ash as a Weapon
47	S111053	MORE TANESH KASHINATH			
48	S111054	VEER ASHISH PANDURANG			
49	S111055	NEVE NANDINI SUNIL			
50	S111056	PARAB NAVIN NARESH	13	Prof. S. D. Redekar ((9405841974))	Block Blasting War with Twine Threads as a Weapon
51	S111057	LOKARE SNEHA KERABA			
52	S111058	GONDAL VIKRAM VINOD			
53	S111059	DESHMUKH TEJRAJ BHOLANATH			
54	S111060	DARKUNDE GAURAV UDDHAV	14	Prof. M. M. Jadhav (7887907649)	Block Blasting War with Foundary Sand as a Weapon
55	S111061	SHINDE SOHAM AJAY			
56	S111062	RAVINDRA MARUTI KHEMNAR			
57	S111063	GHATULE AKASH EKNATH			
58	S111064	POTE ABHIJEET RAMESH	15	Prof. M. M. Jadhav (7887907649)	Block Blasting War with Glass Particles as a Weapon
59	S111065	RATHOD SAURABH RAJKUMAR			
60	S111066	SHINDE SURAJ ANANDA			
61	S111067	SHIVAM SATISH SHENDGE			
62	S111068	BATHE PRASAD NANA	16	Prof. M. M. Jadhav (7887907649)	Block Blasting War with Plastic Wrappers as a Weapon
63	S111069	LONDHE POOJA NAGESH			
64	S111070	JAYBHAYE PRACHI VITTHAL			
65	S111071	RAKESH RAJENDRA LAD			
66	S111072	BODAKE RUSHIKESH VISHNU	17	Prof. M. M. Jadhav (7887907649)	Block Blasting War with Rubber Tude as a Weapon
67	S111073	KHAN NOMAN KADIR			
68	S111074	GONGE GAURAV SHANKAR			
69	S111075	WAGHMARE SARVADEEP SANJAY			

Sr. No.	Roll No.	Name of Student	Group No.	Guide	Project Titles
70	S111076	SHIKHARE GEETA LAXMAN	18	Prof. A. S. Ingale (9112059373)	Block Blasting War with Human Hair as a Weapon
71	S111077	WARE SHUBHAM BABURAO			
72	S111078	GHIGE JIVAN SHRIPATI			
73	S111079	PAWAR SHRENIK BAPU			
74	S111080	KAMBLE PRANALI MARUTI	19	Prof. A. S. Ingale (9112059373)	Block Blasting War with Polythene Bags as a Weapon
75	S111081	PATIL HARSHADA VINOD			
76	S111082	DIVEKAR HRISHIKESH PRAKASH			
77	S111083	MOTE PRANAV KISAN			
78	S111084	BANARASE SHUBHAM ARVIND	20	Prof. A. S. Ingale (9112059373)	Block Blasting War with Alumina & Iron Crushed Power as a Weapon
79	S111085	TADAVI AFRIN RASHID			
80	S111086	INGALE POONAM MARUTI			
81	S111087	PATIL TANMAY HANUMANT			
82	S111088	PATIL BHAGYASHRI VIJAY	21	Prof. A. S. Ingale (9112059373)	Block Blasting War with Iron Crushed Power as a Weapon
83	S111089	LOHOKARE ABHISHEK SANJAY			
84	S111090	NADGE ATHARVA RAHUL			
85	S111091	CHARWAD SARTHAK KULDEEP			

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(Academic Year 2020 - 21)
Project Details

Group Number	Name of Group Members	Project	Name of Guide
CE- 01	**Akshta Wagh**	IoT Based Leakage detection system for water supply scheme	Prof G S Anaokar
	Nitin Mandare		
	Lavanya Gurav		
	Vishal Wagh		
CE- 02	**Kunal Garje**	Structural Audit and Retrofitting of RCC Structures	Prof A V Wakchaure
	Digvijay Jadhav		
	Akash Rasal		
	Omkar Jagtap		
CE- 03	**Prathamesh Pote**	Study of Landslides arround dam site: A Case study of Malin Village	Prof G S Anaokar
	Swapnil Kamthe		
	Jeevan Khedekar		
	Swapnil Gaikwad		
CE- 04	**Malavade Shriram**	Seismic Analysis of RCC Structures with Various Type of Bracing System using ETAB	Prof A V Wakchaure
	Khochare Nikhil		
	Tekale Kalyani		
	Sneha Talkokul		
CE- 05	**Akshay Bagmode**	EFFECTIVE REPLACEMENT OF CEMENT BY GGBS & CERAMIC WASTE FOR ESTABLISHING SUSTAINABLE	Prof A K Chorage
	Ansarwadkar Kumbhar Akash		
	Andhare Supriya		
	Patkar Prajakta		
CE- 06	**Pooja Pisal**	STEEL INTENSIVE BUILDING FOR RURAL APPLICATION	Prof A V Wakchaure
	Varsha Rane		
	Nidhi Borkar		
	Ketan Tambat		
CE- 07	**Sandesh Ghodke**	Prediction of Pan Evaporation by Artifical Neural Network	Prof A R Bansode
	Pornima Hadap		
	Yash Pawar		
	Rohitkumar Mate		
CE- 08	**Yash Inamke**	Experimental study of SBR using Moving Beds	Prof A R Bansode
	Sarang Joshi		
	Onkar Karad		
	Shreyash Orse		
CE- 09	**Shrishail Khirapate**	Jambhulwadi Lake water remediation	Dr J S Lalwani
	Shubham Chalagire		
	Pragati Rathod		
	Yogesh Sapakale		
CE- 10	**Santosh Jori**	Soil stabilization by using spent wash	Dr J S Lalwani
	Santosh Khetawat		
	Nikhil Kale		
	Shubham Ekal		
CE- 11	**Rakshit Nalla**	Effect of polypropylene fibre reinforcement on concrete as compared to normal concrete	Prof A K Chorage
	Sumit Chavale		
	Manoj Nila		
	Saichintan Pawar		

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Project Details

Group Number	Name of Group Members	Project	Name of Guide
CE- 12	**Madhuri Vitekar**	FERROCEMENT TECHNOLOGY	Prof P W Jamoh
	Prajakta Gaikwad		
	Priya Bavskar		
	Choure Krishna Baban		
CE- 13	**Tejas Vambere**	Identification of accidental black spots from new katraj tunnel to sarola and remedial measures	Dr. P P Walvekar
	Kapil Raykar		
	Shardul Vivek		
	Suraj Patait		
CE- 14	**Shubham Dhotre**	Soil Stabilization by using Construction Demolition waste	Prof S D Redekar
	Shubham Dhayerkar		
	Shivam Mohite		
	Abhijeet Gole		
CE- 15	**Amit Hajare**	Analysis of non-linear loads acting on an offshore superstructure	Prof A S Ingale
	Aniket Patil		
	Pradhumn kulkarni		
	Azroddin Shaikh		
CE- 16	**Pradip Waghmare**	Use of Offshore Sand as fine aggregate in concrete	Prof M M Jadhav
	Aman Shaikh		
	Vaibhav Shelke		
	Abhishek Sangale		
CE- 17	**Mandar Danavale**	Quantification Health Risk Associated with Air pollution	Dr. P P Walvekar
	Shubham Mali		
	Vikrant Pansare		
	Shubham Konde		
CE - 18	Pratik Basate	Soil Stabilization by using Eco Friendly Materials	Prof S D Redekar
	Balaji Rathod		
	Jadhav Krushna		
	Kanai Sandeep Savalekar		

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210258 : Project Based Learning-2
SE

Sr No	Roll No	Student Name	Group No	Guide Name	Shortlisted Project By Coordinator
1	S211001	ADHE AKHILESH MOHAN	G1	Mr. Sachin Patil (9405284189)	Student Submission Report Management System
2	S211002	ADMANE ADINATH RAM			
3	S211003	ALANGE RUTWIK MANIKRAO			
4	S211004	ANDHALE ABHISHEK BALASAHEB			
5	S211005	ASSALKAR AADITYA GANESHRAO	G2	Mr. Sachin Patil (9405284189)	Egg Catcher Game using python
6	S211006	AUTI PRATHAMESH SAMPAT			
7	S211007	BADHE MANISHA NANDU			
8	S211008	BAGADE MAYUR YOGESH			
9	S211009	BARBARE GEETESH SOMNATH	G3	Ms. Pushpmala V. Shinde (Nawghare) (8888073842)	MORSE CODE CONVERETER USING PYTHON
10	S211010	BASTAPURE OM SANTOSH			
11	S211011	BAWANKAR MOHIT MEGHRAJ			
12	S211012	PREM MANISH BHANDARI			
13	S211013	BHOSALE PARTH RAJIV	G4	Ms. Pushpmala V. Shinde(Nawghare) (8888073842)	SIMPLE ANIMATION TO RACE A DRUNK MAN FROM START TO FINISH
14	S211014	BHOSALE PAYAL SUNIL			
15	S211015	BHOSLE ABHISHEK SOMINATH			
16	S211016	BHUMKAR PRATHAMESH RAJENDRA			
17	S211017	BOCHARE PRANAV SUNIL	G5	Ms. Pushpmala V. Shinde(Nawghare) (8888073842)	ELECTRICITY BILLING SYS IN C++
18	S211018	BODAKE ATHARVA PRAMOD			
19	S211019	BORULE PRATHAMESH PANKAJ			
20	S211020	CHAUDHARI UJWAL SANJIV			
21	S211021	CHAVAN YASH RAKESH	G6	Mr.Gopal R.Chandangole (7709649747)	Automated whatsapp
22	S211022	DALAVI NEELANJAN NANDKUMAR			
23	S211023	DALAWAT YASHPALSINGH KARANSINGH			
24	S211024	DESHMUKH ABHISHEK BABASAHEB			
25	S211025	DHANAVE SARANG SANJAY	G7	Mr.Gopal R.Chandangole (7709649747)	Currency Convertor
26	S211026	DHANGEKAR PRATIK RAJENDRA			
27	S211027	DHAWALE YOGESH NAGORAO			
28	S211028	DHOBE JAYESH NARENDRA			
29	S211029	DIVEKAR PRERANA PRADEEP	G8	Mr.Gopal R.Chandangole (7709649747)	Password Generator
30	S211030	DUBBALWAR YASH RAJESH			
31	S211031	FALE MANISH DINKAR			
32	S211032	FARDE SANSKRUTI PRADIP			
33	S211033	GADHAVE UTKARSH SATISH	G9	Dr.Sunil M. Sangve (9763722208)	Color Detection
34	S211034	GAIKWAD ROHAN MAHESH			
35	S211035	GANDHI DEEP SUSHIL			
36	S211036	GANESHKAR SUYASH SHIVAJI			

37	S211037	GAT PRERNA BAPU	G10	Dr.Sunil M. Sangve (9763722208)	1. Drumkit sound maker web app
38	S211038	GAWAI ANURUDDHA JAGANNATH			
39	S211039	GHADAGE SACHIN SHANKAR			
40	S211040	GHORPADE YASH ARUN			
41	S211041	GOKHALE CHINMAY AMOD	G11	Dr.Sunil M. Sangve (9763722208)	fortune predictor
42	S211042	GOME SAKSHI MILIND			
43	S211043	GOPAL DNYANESH ASHOK			
44	S211044	GUNJAL ANUSHKA VAIBHAV			
45	S211045	HARANE VAIBHAV UMESH	G12	Mr.Prakash D.Kshirsagar (8888086686)	Stock Price Pridector
46	S211046	HARSH KUMAR			
47	S211047	HIREKURBARU YASH SUBHASH			
48	S211048	HULAWALE HARSHADA ANIL			
49	S211049	JADHAV MONALI LAXMAN	G13	Mr.Prakash D.Kshirsagar (8888086686)	Sending Emails using Python
50	S211050	JADHAV TRUPTI BALAJI			
51	S211051	JAGADALE RITESH DNYANDEV			
52	S211052	JAGTAP AVIRAJ SATISH			
53	S211053	JAISWAL RAUNAK SANJAY	G14	Mr.Prakash D.Kshirsagar (8888086686)	URL Shortan Using Paython
54	S211054	JOSHI PRIYANKA PRASAD			
55	S211055	KADAM SWAMI PRADEEP			
56	S211056	KALE PRADYUMN MADAN			
57	S211057	KAMBLI PRATIK PANDURANG	G15	Mr.Sachin M.Kolekar (9665026413)	weather app using Pytnhon
58	S211058	KAPASE EKTA DATTATRAY			
59	S211059	KAPLE PRANAV RAJESH			
60	S211060	KASHID SHON RAJENDRA			
61	S211061	KAZI SOHEL NAJIR	G16	Mr.Sachin M.Kolekar (9665026413)	Number guessing name using python
62	S211062	KEDARI NIKITA KISHOR			
63	S211063	KEDARI VAIBHAV SURYKANT			
64	S211064	KESKAR SANIKA DEEPAK			
65	S211065	KHADA BHOOPESH SITARAM	G17	Mr. Prasad Kulkarni	Student Feedback System
66	S211066	KHAJURE NIKHIL DEVANAND			
67	S211067	KHARAT PRADNYA SANDEEP			
68	S211068	KONDEKAR JYOTI ANANDA			
69	S211069	SARTHAK KULKARNI			
70	S212001	LANDGE VAIBHAVI VITTHAL	G18	Mr.Sachin M.Kolekar (9665026413)	hotel's kitchen management system
71	S212002	MAKHARE SHASHANK PARAJI			
72	S212003	MANE APEKSHA SANJAY			
73	S212004	MANE HARSHADA BABAN			
74	S212005	MANERIKAR MAHADEV ABHAY	G19	Mr. D. R. Naik (9021290200)	using online python compiler for sending mail
75	S212006	MANKAR GANESH NANDKUMAR			
76	S212007	MASKI KISHOR MAHADEO			
77	S212008	MEHVISH NAZIR SHAIKH			
78	S212009	MHATRE SANIKA NITYANATH	G20	Ms. Amruta Kapre (8766986359)	computer graphics and data structure in python
79	S212010	MIRZA MUNWWAR BAIG			
80	S212011	MOHITE PRAJAKTA VISHNU			
81	S212012	MOHITE PRANAV RAJESH			
82	S212013	MONDAL SUDIPTA JAYANTA	G21	Ms. Amruta Kapre (8766986359)	Emojify using ML
83	S212014	MORE ABHIJIT CHINTAMAN			
84	S212015	MORE ISHA PRADEEP			
85	S212016	MUNDE SHWETA HARIDAS			

86	S212017	MUNDHE ASHUTOSH BALASAHEB	G22	Ms. Amruta Kapre (8766986359)	Drawing graphics Using turtle library in Python
87	S212018	MUSALE NILESH SANTOSH			
88	S212019	NANAWARE VISHAL PANDIT			
89	S212020	NARAYANKAR AKSHATA NAGENDRA			
90	S212021	NIMBALKAR DNYANESH VIJAYKUMAR	G23	Mr. Prasad Kulkarni	Pong Game using python
91	S212022	NIMBALKAR RHITIK VISHNU			
92	S212023	OZA RAKESH CHAMPALAL			
93	S212024	PABALE AKASH SHIVAJI			
94	S212025	PADGHAN KSHITIJ ARVIND	G24	Mrs.Suchita V. Jadhav (8275933902/9637985828)	Git hub installation and linux command execution
95	S212026	PANDEY KHUSHI			
96	S212027	PANDHARE PRATHMESH TULSHIDAS			
97	S212028	PATHAK SOHAM MANOJ			
98	S212029	PAWAR HEMSRUSHTI GANESH	G25	Mrs.Suchita V. Jadhav (8275933902/9637985828)	Tkinter wikipedia search app
99	S212030	PAWAR OMKAR SADASHIV			
100	S212031	PHAPALE KARISHMA PANDURANG			
101	S212032	PUKALE PRASHANT GUNDA			
102	S212033	RAJESHIRKE RAJNANDINI SHASHIKANT	G26	Mr.Balaji A.Chaugule (8766855706)	Scientific Calculator for Engineers
103	S212034	RATHOD CHETAN RAJU			
104	S212035	RAUT RUMAN NARENDRA			
105	S212036	ROKADE SRUSHTI GANESH			
106	S212037	SAPKAL SAURABH PANDURANG	G27	Mr.Balaji A.Chaugule (8766855706)	AIR BOMB GAME
107	S212038	SARUK SURAJ SHIVAJI			
108	S212039	SASANE YASH SANJAY			
109	S212040	SAWANT NIDHI KRISHNAKANT			
110	S212041	SAWARKAR JAYANT SANJAY	G28	Mr.Balaji A.Chaugule (8766855706)	AI Bot
111	S212042	SHEGUKAR CHI SURAJ SANDIP			
112	S212043	SHENDGE BHARGAV SHIVAJIRAO			
113	S212044	SHERIGAR AYUSH VASANT			
114	S212045	SHETKAR MITESH RAMCHANDRA	G29	Mr. D. R. Naik (9021290200)	Make a Covid 19 Tracker using python
115	S212046	SHIGWAN MAYURI MANGESH			
116	S212047	SHINDE SAI JAYWANT			
117	S212048	SHINDE SHUBHAM GAJANAN			
118	S212049	SHIROOKAR DEVANG AJITKUMAR	G30	Mr. Sachin Patil (9405284189)	Star Leaf Design using Python
119	S212050	SHRAWGI PARNAVI PRASHANT			
120	S212051	SOMAWANSHI AJINKYA SHIVRAJ			
121	S212052	SONAWANE PRANAV BALASAHEB			
122	S212053	SONAWANE PRANIL BALASAHEB	G31	Ms. Vaishali Khadekar (7558633928)	Take screenshot using python
123	S212054	SONKAMBALE ASHISH LAXMAN			
124	S212055	SONSALE PRASENJIT SAHEBRAO			
125	S212056	SURVE INDRANEEL ARUN			

126	S212057	SURYAWANSHI OM SHAM	G32	Ms. Vaishali Khadekar (7558633928)	Convert images into pencil sketch
127	S212058	SUTAR SUDARSHAN GUNDU			
128	S212059	TALE CHINMAYEE SHARADKUMAR			
129	S212060	TAMBE PRANJAL VIJAYKUMAR			
130	S212061	TAPKIR VIRAJ VILAS	G33	Ms. Vaishali Khadekar (7558633928)	3D graphs with matplotib
131	S212062	TAWRI KRUSHNA JASRAJ			
132	S212063	TILEKAR AYUSH DILIP			
133	S212064	VALA TUSHAR DHIRUBHAI			
134	S212065	VHANKADE VAIBHAV SUNIL	G34	Mr. Azhar Inamdar (9730110786)	Flappy Bird game using Python
135	S212066	VISHWAKARMA RAHUL SUNIL			
136	S212067	WANI SIDDHATA AAKASH			
137	S212068	YADAV VINAYAK RADHESHYAM			
138	S212069	YERE TANMAYI JAGDISH			
139	S223001	BABAR RUSHIKESH BALASAHEB	G35	Ms.Rupali T.Waghmode (9960579132)	Student registration form Javascript Client side validation
140	S223002	BHANDAWALE SWAPNIL KISAN			
141	S223003	BHOSALE SHEJAL NATHA			
142	S223004	BHOWATE PRASHIK			
143	S223005	BOBADE TEJAS PRAKASH	G36	Ms.Rupali T.Waghmode (9960579132)	Track phone number location
144	S223006	BOBDE ANURAG PRAFULLA			
145	S223007	CHICHKAR KHADIJA IQBAL			
146	S223008	DESHMUKH TANAYA VIKAS			
147	S223009	DHANDE ABHISHEK DADASAHEB	G37	Ms.Rupali T.Waghmode (9960579132)	Customer Registration form using Javascript Client side validation
148	S223010	DHAYGUDE HANUMANT GOPAL			
149	S223011	DHENGLE OM PRAMOD			
150	S223012	DONADKAR ABHINAV SHAM			
151	S223013	DONGARE SUDARSHAN GAHININATH	G38	Mr. D. R. Naik (9021290200)	GUI to extract lyrics from song using python
152	S223014	GAIKWAD SAYALI VILAS			
153	S223015	GHADGE SHUBHAM JALINDAR			
154	S223016	GHATE VINAY SOPAN			
155	S223017	GUJAR SMRUTI RAVINDRA	G39	Mr.Rahul P.More (9503556374)	Banking Management System using C++
156	S223018	GUNJAL SANKET SHRAVAN			
157	S223019	GURAV SURAJ BALASAHEB			
158	S223020	JADHAV AJAY SANDEEP			
159	S223021	JADHAV NIKITA SANTOSH	G40	Mr.Rahul P.More (9503556374)	Meme Generator using Python
160	S223022	JADHAV SHIVANI VILAS			
161	S223023	JAGATAP PRANJAL DATTATRAYA			
162	S223024	JAGIRDAR SAYED HISHAMUDDIN			
163	S223025	KAD VAISHNAVI SURESH	G41	Mr.Rahul P.More (9503556374)	Image convertor through OpenGL Library
164	S223026	KALE SHRIRAM KAKASAHEB			
165	S223027	KAMBLE SAHIL RAJU			
166	S223028	KAMLEKAR SHRADDHA RAMESH			
167	S223029	KOTASTHANE VANSHIKA ANIROUDDHA	G42	Ms. Vaishali Khadekar (7558633928)	Time table generator using C++
168	S223030	LOKHANDE PRANAY DHONDIRAM			
169	S223031	MAHADIK GITESH SURESH			
170	S223032	MAHAJAN VISHAL DATTA			

171	S223033	MALUSARE VIRAJ VIJAY	G43	Ms. Ashvini Kagne (9834267320)	Web design of Railway Reservation System using C++
172	S223034	MORE SAYALI SANTOSH			
173	S223035	MOTE ANEESH NIKHIL			
174	S223036	MRUGNAYANEE SANJAY AHIRE			
175	S223037	MULAY GAURAV ANKUSH	G44	Ms.Nilima Deore	Car game using c++
176	S223038	NIKAM PRAJWAL ANNASO			
177	S223039	NIMBALKAR PRATIKSHA ASHOK			
178	S223040	PAGARE VAIBHAV SADASHIV			
179	S223041	PARMAR RISHABH	G45	Mr. Azhar Inamdar (9730110786)	Solve Quadratic equation using Python
180	S223042	PATIL MAHESH SHARAD			
181	S223043	PATIL MONIKA BASWARAJ			
182	S223044	PATIL SHREYAS GHANSHYAM			
183	S223045	PAWAR OM TUSHAR (ABSENT)	G46	Mr. Azhar Inamdar (9730110786)	Mad libs Generator
184	S223046	PAWAR SNEHAL SANTOSH			
185	S223047	PHAPALE NIKITA DIPAK			
186	S223048	PURI PRANOTI SURESH			
187	S223049	ROY ANUSHKA	G47	Mr. Mahesh Pokharkar (9890018802)	Cipher Text Generation
188	S223050	SAWANT SHEJAL PANDURANG			
189	S223051	SHAH YASHSHREE ASHIK			
190	S223052	SHAIKH AYESHA ILAHI			
191	S223053	SHAIKH MOHD ASIF AHEMAD HUSSAIN	G48	Mr. Mahesh Pokharkar (9890018802)	2D object transformation using Hand Gestures
192	S223054	SHELKE RUSHIKESH SHAHURAJ			
193	S223055	SHELKE SAKSHI APPA			
194	S223056	SHETTY PRANEETH PRASAD			
195	S223057	SHINDE AYUSHI AVINASH	G49	Mr. Mahesh Pokharkar (9890018802)	Random Wikipedia Article Using Python
196	S223058	SHINDE SANKET SANTOSH			
197	S223059	SHINDE SHRUTI RAJESH			
198	S223060	SHITOLE ADITYA SUNIL			
199	S223061	SOLUNKE PRACHI DATTATRAYA	G50	Ms. Ashvini Kagne (9834267320)	3.Helicopter game
200	S223062	SURYAWANSHI PRUTHAVIRAJ KAILAS			
201	S223063	TAWARE SHRUTI SHREE			
202	S223064	THAKUR ANSHU SATISH			
203	S223065	THORAT SHRUTI SANDEEP	G51	Ms. Ashvini Kagne (9834267320)	1.Drink water notification reminder
204	S223066	THUBE ANIMESH BALASAHEB			
205	S223067	VISHWAKARMA SHIVAM RAKESH			
206	S223068	YELE AMAR ANANDRAV			

Prof. S. V. Jadhav
PBL Coordinator

Prof. A. V. Mote
HOD , Computer Engineering

ZES's Zeal College of Engineering and Research Narhe, Pune\
Deaprtment of Computer Engineering
BE Project Guide Allocation Academic Year 2020-21

Sr. No.	Group No.	Name of the Student	Division	Domain	Project	Name Of Guide
1	1	Ritvij Naram	A	Artificial Intelligence	Simulation of root of trust for Web Applications	Prof. Y. B. Hembade
2		Aslesha Kumbhar	A			
3		Sakshi Patil	A			
4	2	Vishal Satpute	B	Internet of Things	Countenance Recognition System for Attendance Management	Prof. Y. B. Hembade
5		Gayatri Puri	C			
		Amreen Sayyad	B			
7	3	Vedang Dongre	A	Machine Learning	Social distancing system in elevator	Dr.Sunil M.Sangve
8		Prajakta Joshi	A			
9		Shubham Pakhare	A			
10		Kshitij Shelke	A			
11	4	Jay Agrawal	A	Machine Learning, Natural Language	Processing cryptographic messages using Natural Language Processing and various Machine Learning	Dr.Sunil M.Sangve
12		Omkar Bhujbal	A			
13		Chinmay Kumbhare	A			
14	5	Niket Jadhav	C	Android and web application	temporary occupation exploration software	Prof. Atul Baliram Kathole
15		Damodar Dikonda	C			
16		Devendra Ghadge	C			
17		Aditya Mali	C			
18	6	Shreyash Pawar	B	Internet Of Things	Document Digitalization using RFID card	Prof. Atul Baliram Kathole
19		Pratik Pokale	B			
20		Bhushan Dhankawade	B			
21		Gayatri Dimble	B			
22	7	Swapnil Nevse	C	Internet Of Things	Baby Monitoring System Using IOT	Prof. Atul Baliram Kathole
23		Mahesh Gaikwad	C			
24		Shriram Bahirat	C			
25		Swati Dhake	C			
26	8	Deviprasad Pande	B	IOT	Robotic Arm for Military Application	Prof. V. R. Vasekar
27		Sarthak Patil	B			
28		Kajal Raykar	B			
29		Siona Samuel	B			
30	9	Pooja yelve	C	Artificial intelligence	Efficient face recognition system for identifying lost people	Prof. V.R.Vasekar
31		Nilam patil	C			
32		Rutuja Parge	C			
33	10	Sambhaji Dhavne	B	Data Mining	Rainfall prediction using deep convolutional neural networks	Prof. V.R.Vasekar
34		Aditya Chavan	C			
35		Mithilesh Honnavarkar	C			
36		Manisha Kolekar	C			
37	11	Mangesh Kachare	C	Web Development and Machine Learning	Aggregate Agro the Farming Hub	Prof. Y. B. Hembade
38		Swapnil Bansude	C			
39		Abhishek Gade	C			
40		Rahul Kenchi	C			
41	12	Sonali Baramade	B	Image Processing, Human Computer Interface(HCI)	A tale head following driven camera mouse framework	Prof. R. P. More
42		Rucha Bhand	B			
43		Gouri Ghanwat	B			
44		Shruti Kashid	B			
45	13	Aditi Pawar	B	Python,ML	Group based movie recommendations system	Prof. R. P. More
46		Rashi chaubal	B			
47		Sumit Ghadi	B			
48		Govind Agrawal	A			
49	14	Ratnadeep Ingle	A	Image Processing	Analytical Approach for soil and Land Classification System using Image Processing	Prof. R. P. More
50		Shubham Kapadi	A			
51		WADINGEKAR ANUJA RAMESH	B			
52		Gawali Namarta Devanand	A			
53	15	Ananya Ubarhande	B	Machine Learning	Disease Prediction using Machine Learning	Prof. R.T.Waghmode
54		Rutuja Jadhav	B			
55		Kalpit Vyas	B			
56		Sahil Sapar	B			
57	16	saket wadshankar	C	block chain	decentralize web hosting system using block chain	Prof. G.F.Jumnake
58		Kshitija Ghodke	B			
59		Ashwini Bramharakshas	B			
60		tejas purkar	C			

61	17	Abdullah Deshmukh	B	Flutter(Mobile and Web)	CourseCamp - Course recommendation platform	Prof. Riddhi R. Mirajkar
62		Digambar Ghodechor	B			
63		Omkar Jori	B			
64		Sudhir Pawar	B			
65	18	Aakanksha ingale	B	Internet of Things	Exhaled Aerosol Carbon lineage Gas Particles Monitoring Tool for Private & Space-Craft usage	Prof. Riddhi R. Mirajkar
66		Ashwini jagtap	B			
67		Kiran Gaikwad	B			
68		Afroz mulani	B			
69	19	Samarth Kokje	B	AI and Deep learning	Artificial Intelligence and COVID 19: Deep Learning Approches for Diagnosis and Treatment	Prof. Riddhi R. Mirajkar
70		Rushikesh Darwatkar	B			
71		Shrenik Davane	B			
72		Shubham Khadke	C			
73	20	Shraddha Vijay Bhagwat	B	Web Development, AI	Health care with chatbot	Prof. G.F.Jumnake
74		Meghnad Mukund Pandit	B			
75		Pradnya Ramesh Mane	B			
76		Vaibhav Sanjay Pawar	B			
77	21	Abhishek Raikar	A	Web development, Mobile development, Data mining	Restaurant and cuisine review system using Web	Prof. G.F.Jumnake
78		Vivek Kate	A			
79		Vishal Lokam	A			
80		Vaishnavi Shinde	A			
81	22	Shivani Mutke	B	face detection and internet of things	digital verification based voting system	Prof. Kailash P. Tambe
82		Srushti Kokre	C			
83		Shivani Girme	C			
84		Akanksha Khobragade	B			
85	23	Chaitanya Kewadkar	A	Computer Vision,Machine Learning,Iot	Automated Entrance Security system for buildings using Machine Learning,Computer Vision and Iot	Prof. Kailash P. Tambe
86		Srushti Desai	A			
87		Shivangi Singh	A			
88		Chaitrali Awasare	A			
89	24	Saurabh Sonar	B	Machine Learning	Driver Drowsiness Detection System	Prof. Mane P M
90		Shreyas Gijare	B			
91		Mohit Sharma	B			
92		Mayura Halade	B			
93	25	Vedant Vaidya	C	Artificial Intelligence	Restaurant chatbot using IBM Watson	Prof. Mane P M
94		Sanskruti Sandbhor	C			
95		Shweta Bharambe	A			
96		Pratiksha Makeshwar	A			
97	26	Yogesh Bornare	A	Navigation, Android	Steersman	Prof. Suchita V. Jadhav
98		Akshay Shinde	A			
99		Rushikesh Shinde	A			
100		Rushabh Patil	B			
101	27	Gaurav Kondhare	B	Machine Learning.	Grievance and Issues Tracking Portal	Prof. P.S. Nawghare
102		Vaishnav Gaikwad	B			
103		Siddharaj Jawalkar	B			
104		Faiyaz Mujawar	A			
105	28	Nikita Deshmukh	B	Learning.	lo	Prof. Suchita V. Jadhav
106		Nikita Gavasane	B			
107		Vrushali Dhumal	B			
108	29	Sayali Shukre	A	Machine Learning,Web Development,Application development	Valet Parking	Prof. Suchita V. Jadhav
109		Shweta Pisal	A			
110		Harshada Joshi	A			
111		Ankita Magar	A			
112	30	Ishwari Sawant	A	Python and Data Science	Optimal Interview	Prof. Aniruddha P. Kshirsagar
113		Vaishnavi Padwal	A			
114		Monika Jagtap	A			
115		Govind kshirsagar	A			
116	31	Abhay Patil	C	Internet of Things	Wearable Assistive, Adaptive, and Rehabilitative gadget for visually impaired people	Prof. Aniruddha P. Kshirsagar
117		Shivraj Sayagaon	B			
118		Ishani Rede	B			
119		Snehal Doke	B			
120	32	Rutik Ursal	A	VR, Web development, Mobile app development	Next Generation Marketplace Simulation using Virtual Reality Technology	Prof. Aniruddha P. Kshirsagar
121		Nikhil Suryawanshi	A			
122		Prasad Bandagale	A			
123		Onkar Bhasme	C			

124	33	Shubham Kadam	C	Machine Learning,Web Development,Application development	Smart Image Processing Algorithm for Text Recognition and feature extraction for audio visually Challege	Prof. Balaji Chaugule
125		Sahil Sayyed	C			
126		Omkar Ware	A			
127		Saurabh Singh	C			
128	34	Atharva Dawande	C	Mobile app development	e-commerece application for buying and selling of products.	Prof. Balaji Chaugule
129		Aishwarya Mankar	A			
130		Ayesha Bangi	A			
131		Neha Chavan	A			
132	35	Ruturaj Varne	C	IOT	Automated Solar Panel using IOT	Prof. Pravin S. Patil
133		Aishwarya Shinde	C			
134		Swapnil Wakale	A			
135	36	Anudeep Rokade	C	image processing,face recognization and artificial intelligence	Music recommendation based on face emotion recognition	Prof. Pravin S. Patil
136		Abhishek Dhadge	C			
137		Yashodeepa Choure	A			
138		Saurabh Sutar	C			
139	37	Akash Karanje	A	image processing	Deep Learning for early detection of Breast Cancer using Histopathological Images	Prof. Vikas S.Katakdound
140		BHAGYASHRI MUNDE	A			
141		Manali Pandkar	A			
142		Srushti Bidkar	A			
143	38	Kajal Babar	C	image processing using python	Text extraction form image	Prof. P. D. Kshirsagar
144		Megha Gurav	C			
145		Akanksha Mate	C			
146		Gauri Raskar	C			
147	39	Nilam Pawar	B	Web development, Data mining	Detecting Offensive Language in Social Media to Protect Adolescent Online Safety	Prof. Mane P M
148		Shraddha Pawar	B			
149		Sanket More	C			
150		Sameer Laxman Sawant	C			
151	40	Ajay Shinde	C	Internet Of Things	Fingerprint Door lock using Arduino	Prof. Kailash P. Tambe
152		Chaitanya Badade	C			
153		Nikhil Apshinge	C			
154		parshuram bansode	B			
155	41	Bhushan Pansare	C	Machine Learning , Neural Networks	Detection Of Diabetic Retinopathy using CNN	Prof. P.S.Nawghare
156		Tanmay Hajare	C			
157		Piyush Nalawade	C			
158		Ninad Deorukhakar	A			
159	42	Pallavi Suryavanshi	B	Machine Learning, Python	Health assistance (disease prediction and medicine, exercise and diet suggestion) using CNN	Prof. P.S.Nawghare
160		Bhagyashri Shelwante	B			
161		Snehal Lipte	B			
162	43	Manasi Tilekar	A	Machine Learning,augmented reality image	Spam And Ham Mail detection	Prof. G. R. Chandangole
163		Akanksha Yeole	A			
164		Neha Karadkar	C			
165	44	Khot vivek	C	Machine learning	Language Detector	Prof. Balaji Chaugule
166		Lande Tejaswini	C			
167		Deshmukh Pratik	C			
168		Sodnawar Shubham	C			
169	45	Ashwini Bagade	C	Machine Learning and Nerual Network	Sentiment Analysis of Social Media	Prof. R.T.Waghmode
170		Piyush Jadhav	C			
171		Omkar Yelpale	A			
172		Piyush Kulkarni	C			
173	46	Yogesh Jadhav	C	Python Machine Learning, Image Processing	Bank Locker Security System using Machine learning with face & liveness Detection	Prof. R.T.Waghmode
174		Aditya jambhulkar	C			
175		Pooja Nimbalkar	C			
176		Nitin More	C			
177	47	Ravindra Changdev Waghmare	B	Web, Machine learning	"PREDICTING STUDENTS PERFORMANCE USING PERSONALIZED ANALYTICS"	Prof. G. R. Chandangole
178		Tejal Balasaheb Kale	B			
179		Megha Dhanaji Deshmukh	B			
180		Omkar Modgi	B			
181	48	Aisha Banekar	B	Network Security	Three layerd structure based on cloud for data leakage detection and restore facilities	Prof. G. R. Chandangole
182		Akshay Awad	B			
183		Snehal Bhokare	B			
184		Pooja Suryawanshi	B			

185	49	Snehal Gaykar	C	Machine learning	Stock prediction	Prof. P. D. Kshirsagar
186		Megha Ladi	C			
187		Kshitija Kalje	B			
188		Sayali Kurhade	C			
189	50	Sahil Tagunde	B	Machine Learning, Python	Rumour Detection on Twitter Site Using LSTM	Prof. P. D. Kshirsagar
190		Ganesh Bankar	B			
191		Shantanu Shinde	B			
192	51	Aadesh Shigavan	B	mobile and web Development	Mobile and web portal for registering sexual harassment cases anonymously	Prof. S. M. Kolekar
193		Tanmay Mahamulkar	C			
194		Vaibhaw Shinde	C			
195		Avinash Pujari	C			
196	52	Manjiri Shirudkar	B	AI	covid 19 detection from lung CT imagery Using AI	Prof. S. M. Kolekar
197		Rajnandini Hajare	B			
198		Priyanka Rasine	B			
199		Manasi Gaikwad	B			
200	53	Aishwarya Godbole	A	java	QR based attandance system	Prof. S. M. Kolekar
201		Pooja Bodkhe	A			
202		Pratiksha Kulkarni	A			
203		Rupali Thorat	A			
204	54	Rutuja Satpute	A	Machine Learning	Covid 19 Future Forecasting	Prof. Amruta Kapre
205		Dhanashree Bobade	A			
206		Shubhamkaroti Rawlekar	A			
207		Amarsingh Jamadar	A			
208	55	Preetesh Kalshetty	A	Machine learning	News summarization and extraction based on users activity	Prof. Amruta Kapre
209		Atharva Dhumal	A			
210		Sanket Pise	A			
211		Chetan Patil	A			
212	56	Gayatri Talathi	B	Machine learning	Vehicle Accident detection and prevention by using Machine Learning	Prof. A.V. Mote
213		Amit Choughule	B			
214		Chinmay Komaravolu	B			
215	57	Satyam Takawale	C	Mobile app development	Emergency Care App, whih catalogs symptoms and keeps track of treatment.	Prof. A.V. Mote
216		Prajakta Markad	C			
217		Nikhil Lomate	C			
218	58	Ghatpande Jaydev	C	Machine Learning	Machine Learning Model to classify social networks mental disorders to maintain mental stability in human nature	Prof. Amruta Kapre
219		Joshi Shreya	C			
220		Rankhamb Rutuja	C			
221		Adsul Kajal	A			
222	59	Dawalbhakta Viktant	C		Traffic Signal Recognition Ground Count:03	Prof. Vikas S. Katakdound
223		Patil Deepak	C			
224		Londhe Vivek	C			

Prof. Sachin M. Kolekar
Project Coordinator

Prof. Aparna V. Mote
HOD, Comp. Engg.

ZES's Zeal College of Engineering, Narhe, Pune

Department of Electrical Engineering

Mini Project List - S. E. Electrical - A DIV (SEM- II A.Y. 20-21)

S.N	Roll No.	Name of Student	Project Name	Name of Guide
1	S412001	Unune Anushka Samir	Simple clap control home automation	Mr. Sudhir G.Mane (9405285143)
2	S412002	Salunkhe Rajeshwari Dilip		
3	S412003	Katawate Shivam Rajesh		
4	S412004	Patange Pratik Naresh		
5	S412005	Akash Ganesh Shinde	High speed elctronic circuit breaker	Mr. Manoj R. Hans (9689002766)
6	S412006	Shinde Pratik Balasaheb		
7	S412007	Gaikwad Aditya Girmallappa		
8	S412008	Nikhil Dnyandeo Mehankar		
9	S412009	Shigwan Aakash Dattaram	Arduino based peizo electric sensor	Mrs. Rajashri J. Patil (8793353565)
10	S412010	Aundhe Suyog Suresh		
11	S412011	Kamble Sonali Bharat		
12	S412012	Bhalerao Pratik Shravan		
13	S412013	Rasne Mukund Santosh	555 IC Tester	Mr. Ranjit M. Zende (9763030081)
14	S412014	Kambale Lekraj Ravindra		
15	S412015	Anuse Abhishek Chandrakant		
16	S412016	Kale Pramila Bhagwan		
17	S412017	Zunjar Shrikant Chandrakant	Light Dimmer Circuit uisng DIAC and TRIAC	Mr. Bhushan S. Kunure (9960416846)
18	S412018	Bharud Diksha Santosh		
19	S412019	Kharate Saurabh Santosh		
20	S412020	Usturge Swaraj Chandrashekhar		
21	S412021	Deshmukh Pushpa Vijay	Simple Arduino Home Energy Meter	Mr. Jaysing A. Kshirsagar (9420696534)
22	S412022	Shirke Ankita Dattatraya		
23	S412023	Hingole Sunil Nagsen		
24	S412024	Nikam Komal Dilip		
25	S412025	Shelke Vaishanavi Dnyanoba	Arduino based object detector	Mr. Chaitanya Deshpande (8956687623)
26	S412026	Dimple N Waykole		
27	S412027	Hiwrale Sarvesh Pramod		
28	S412028	Ogale Maithili Chandrakant		
29	S412029	Ghuge Vikas Balkrishna	Ultrasonic Distance Measurement based on Arduino	Mr. Chinmay V. Deshpande (8956687627)
30	S412030	Shekhar Haridas Andhale		
31	S412031	Lohbande Aniket Gunaji		
32	S412032	Vaibhav Hemant Takale		
33	S412033	Dukare Shubham Dnyandeo	Water Level Indicator using Arduino	Mr. Vishal L. Tathe (7066065634)
34	S412034	Dhawale Samay Subodh		
35	S412035	Kamble Sarika Sanjay		
36	S412036	Parit Pavankumar Popat		
37	S412037	Salunkhe Shreyash Tukaram	Arduino based Hand Gesture Control of Your Computer	Mr. Satya Prakash (7028099900)
38	S412038	Sakhare Shubham Parmeshwar		
39	S412039	Borawake Akash Annaso		

S.N	Roll No.	Name of Student	Project Name	Name of Guide
40	S412040	Mahamuni Kailas Annaso		
41	S412041	Tenkale Swati Siddharth	Fan rerulator using a power electronics device	Mrs. Shruti Gour (8600847734)
42	S412042	Salunkhe Tejashri Tukaram		
43	S412043	Pawar Pranil Pramod		
44	S412044	Sorate Vaishnavi Avinash		
45	S412045	Shirsat Divyesh Suresh	Soil Moisture Sensor using Arduino Uno	Mrs. Snehal D. Dharme (8390736438)
46	S412046	Chandgude Pooja Sanjay		
47	S412047	Mendke Aishwarya Bhagwanrao		
48	S412048	Byale Shradha Ashokppa		
49	S412049	Chavan Ankita Raosaheb	Thermometer using LM35 Sensor & Arduino Uno	Mrs.Mugdha Pandurang Shimpi (8999582891)
50	S412050	Rathod Ajay Ashok		
51	S412051	Rekulge Nrasinha Somnath		
52	S412052	Rathod Nitin Bhimrao		
53	S412053	Damle Ratnadeep Sadanand	Home Automation using Arduino Uno	Ms. Swaliya F. Kagadi (9273940111)
54	S412054	Deshpande Vishal Sanjay		
55	S412055	Supekar Dnyaneshwar Sambhaji		
56	S412056	Fuke Prerana Ramakant		
57	S412057	Sawant Rushikesh Suryakant	Automatic light control system	Mrs. Samarpita Bakshi (7387531528)
58	S412058	Bulbule Gajanan Fakirji		
59	S412059	Hole Sanket Dilip		
60	S412060	Shaikh Ayyaj Ayub		
61	S412061	Jagdale Harshada Dinkar	Controlling the brightness of LED using Arduino	Mr.Swapnil Amale (8888245050)
62	S412062	Poloji Gayatri Ravikumar		
63	S412063	Kadam Prasad Shrirang		
64	S412064	Hinge Sayali Sambhajirao		
65	S412065	Samudre Prathamesh Narendra	Designing a Potentiometer to Change the Resistance Values of an LED	Mrs. Midhya Mathew (7339465748)
66	S412066	Aniket Prakash Bhakare		
67	S412067	Onkar Dattatray Damale		
68	S412068	Nivangune Shital Rajendra		
69	S412069	Ghige Vijay Tukaram	Designing a Push Button to Turn ON and OFF a LED using arduino	Mrs. Shweta G.Puntambekar (8600719994)
70	S412070	Bhingardive Ruthik Santosh		
71	S412071	Dhumal Devyani Anil		
72	S412072	Yadav Amit Subhash		
73	S412073	Bhosale Sourabh Dattatray	Circuit for Voltage Doubler	Mr.Rushikesh V. Deshmukh (9096899017)
74	S412074	Kalpande Ashvini Pralhad		
75	S412075	Ghadage Rutuja Sanjay		
76	S412076	Chougule Vishwajeet Vijay		
77	S412077	Shivam Mohan Gondrawar	Arduino Relay Control	Mrs. Amruta S. Udapurkar (8788799127)
78	S412078	Biradar Ashitosh Sudhakar		
79	S412079	Bhosale Swati Dattatray		

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ZES's Zeal College of Engineering, Narhe, Pune
Department of Electrical Engineering
Mini Project List - S. E. Electrical - B DIV (SEM- II A.Y. 20-21)

S.N	Roll No.	Name of Student	Project Name	Name of Guide
1	S412040	Jadhav Kartik Prashant	Entitled use thermister for indication of high temperator	Mrs. Shruti Gour (8600847734)
2	S412041	Tamboli Arbaj Rajjak		
3	S412042	Sasane Makarand Vishwas		
4	S412043	Yewale Mayuri Suresh		
5	S412044	Shinde Sudhanshu Vijay	Solar Mobile Charger	Mrs. Snehal D. Dharme (8390736438)
6	S412045	Patil Mrunalini Narendra		
7	S412046	Katkar Vrushali Sanjay		
8	S412047	Aakansha Gorakh Lokhande		
9	S412048	Desai Shubham Jalindar	Home Automation system using smart phone	Mrs.Mugdha Pandurang Shimpi (8999582891)
10	S412049	Waghchaure Jayesh Aniruddha		
11	S412050	Kamthe Rupesh Santosh		
12	S412051	Bangar Komal Raosaheb		
13	S412052	Kachare Dipali Baban	Arduino Servo Motor	Ms. Swaliya F. Kagadi (9273940111)
14	S412053	Khirodkar Pallavi Shankar		
15	S412054	Dhanuskar Suraj Avinashrao		
16	S412055	Ghule Nisha Ramkisan		
17	S412056	Gorade Pooja Namdev	Water Level Indicator	Mrs. Samarpita Bakshi (7387531528)
18	S412057	Panchal Nagesh Pandurang		
19	S412058	Bagane Vaibhav Vijaykumar		
20	S412059	Rakesh Kadubal Sonawane		
21	S412060	Khushboo Lalchand Narvaiyya	Controlling a servomotor postion using Potentiometer	Mr.Swapnil Amale (8888245050)
22	S412061	Sabale Nikita Devanand		
23	S412062	Katkar Nikita Gulab		
24	S412063	Kokitkar Niranjali Namdev		
25	S412064	Bhosale Prajakta Bajarang	Arduino Light Sensor	Mrs. Midhya Mathew (7339465748)
26	S412065	Ware Pournima Samadhan		
27	S412066	Samudra Aniket Mahadev		
28	S412067	Abhishek Ramesh Mohite		
29	S412068	Yadav Prashant Jaywant	Humidity & temperature monitoring using arduino	Mrs. Shweta G.Puntambekar (8600719994)
30	S412069	Kasture Swapnil Someshwar		
31	S412070	Bharat Ramesh Kaple		
32	S412071	Gore Dnyaneshwar Babu		
33	S412072	Deokar Vaishnavi Gajanan	Digital Arduino Voltmeter	Mr.Rushikesh V. Deshmukh (9096899017)
34	S412073	Patil Aishwarya Suhas		
35	S412074	Potdar Vyankatesh Satish		
36	S412075	Powar Prajyot Pandurang		
37	S412076	Bandgar Shivani Sunil	Speed Control of DC Motor using Arduino	Mrs. Amruta S. Udapurkar (8788799127)
38	S412077	Mokal Siddhesh Janardan		
39	S412078	Kore Rahul Baliram		
40	S412039	Rohit Sampatrav Sathe		

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Department of Electrical Engineering
Zeal College of Engineering & Research
Narhe, Pune - 411041

28/06/2021

Students' Project/Dissertation Report Summary

Project Group No.	Sr. No.	Examination Seat Nos.	Name of Students	Project Title	Sponsored / In-house	Name of Internal Guide	Project Report (soft copy) submission (Yes/No)	If paper is published (Please mention Conference/ Journal name)	Students Signature
G1	1	B150532583	Pandeshi Muskan Maheshkumar	Iot based energy management system for household	In house	Prof. Sudhir G.Mane (9511842971)	Yes	No	
	2	B150532620	Mohite Shweta Sanjay						
	3	B150532566	Kotale Atul Ashok						
	4	B150532536	Ghuge Ganesh Madhukar						
G2	1	B150532605	Rokka Ganesh Sunwase	Power line carrier communication used in boiler system	In house	Prof. Sudhir G.Mane (9511842971)	Yes	No	
	2	B150532619	Shweta Lalso Patil						
	3	B150532577	Naiswade Ragini Balaso						
G3	1	B150532571	Rushikesh Rajaram Mali	Cost Effective speed contrl of Electic byke BLDC motor	In house	Dr. M.G. Unde (9422727088)	Yes	No	
	2	B150532573	Chandragupta Ashok Matte						
	3	B150532563	Manisha Vyankat Kendre						
	4	B150532582	Pranav Upkar Parab						
G4	1	B150532525	Aakanksha L. Danke	OSM based monitoring of 1-ph distribution transformer	In house	Dr. M.G. Unde (9422727088)	Yes	No	
	2	B150532529	Kalyani D. Dhane						
	3	B150532590	Rupashree S. Patil						
	4	B150532612	Sana A. sheikh						
G5	1	B150532545	Jadhav Prajakta Anil	Electricity Generation by vehicle shock absorber	In house	Prof. Bhushan S. Kunare (9960416846)	Yes	No	
	2	B150532636	Zambre Swapnali Shivaji						
	3	B150532601	Pawar Rupali Vijaysing						
	4	B150532626	Talekar Vaishnavi Anil						

Project Group No.	Sr. No.	Examination Seat Nos.	Name of Students	Project Title	Sponsored / In-house	Name of Internal Guide	Project Report (soft copy) submission (Yes/No)	If paper is published (Please mention Conference/ Journal name)	Students Signature
G6	1	B150532509	Balgare Akash Maroti	Automatic Sanitary Napkin Vending Machine	In house	Prof. Ranjit M. Zende (9763030081)	Yes	No	
	2	B150532531	Done Ganpati Laxman						
	3	B150532546	Jadhav Sanket Sanjay						
	4	B150532596	Patre Mahesh Arun						
G7	1	B150532508	Awatade Vaishnavi Sanjay	BLDC fan development	In house	Prof. Sudhir G.Mane (9511842971)	Yes	No	
	2	B150532504	Masram Aishwarya Sunil						
	3	B150532600	Pawar Pradnya Bhimrao						
	4	B150532609	Sangle Shivani Satish						
G8	1	B150532528	Desale Siddhant Manohar	Automatic Metering for electricity using power line communication	In house	Dr. M.G. Unde (9422727088)	Yes	No	
	2	B150532633	Wavhal Parag Ganesh						
	3	B150532559	Kamble Sayli Sanjay						
	4	B150532604	Khandekar Punam Subhash						
G9	1	B150532567	Pratik Prakash Kshirsagar	Gravity based energy storage system(Gravitricity)	In house	Prof. R. J. Patil (9511645877)	Yes	No	
	2	B150532512	Atharva Aniruddha Bhangre						
	3	B150532533	Hrushikesh Vilas Gadge						
	4	B150532519	Shubham Prakash Bodake						
G10	1	B150532558	Kamble Rugveda Sharad	IoT based smart energy meter monitoring with theft detection	In house	Prof. R. J. Patil (9511645877)	Yes	No	
	2	B150532576	More Yogita Vijaykumar						
	3	B150532599	Pawar Mayuri Vikas						
	4	B150532564	Khot Trunali Sunil						
G11	1	B150532578	Pachpinde Akash Prakash	Harmonic & Neutral to ground voltage reduction using isolation transformer	In house	Prof. Ranjit M. Zende (9763030081)	Yes	No	
	2	B150532634	Yelamkar Abhishek Anant						
	3	B150532589	Patil Rohan Vilas						
	4								
G12	1	B150532513	Bhargude Digvijay Chandrakant	IOT Based solar energy driven smart highway system	In house	Prof. Ranjit M. Zende (9763030081)	Yes	No	
	2	B150532538	Gore Ganesh Chandrakant						
	3	B150532597	Pawar Abhijeet Sanjay						
	4	B150532614	Shinde Mayur Manohar						

Project Group No.	Sr. No.	Examination Seat Nos.	Name of Students	Project Title	Sponsored / In-house	Name of Internal Guide	Project Report (soft copy) submission (Yes/No)	If paper is published (Please mention Conference/ Journal name)	Students Signature
G13	1	B150532553	Prasita Ramesh kale	Direct Torque control of Induction Motor	In house	Prof. Jaysing A. Kshirsagar (9420696934)	Yes	No	
	2	B150532593	Vaibhavi vitthal patil						
	3	B150532574	Atharv Rajendra more						
	4	B150532549	Prathamesh ashok junare						
G14	1	B150532526	Daware Akash Sunil	Ultra Fast Acting Electronic Circuit Breaker for Overloadd Protection	In house	Prof. Rushikesh V. Deshmukh (9096899017)	Yes	No	
	2	B150532540	Gunda Virat Vithal						
	3	B150532541	Hadge Bhakti Santosh						
	4	B150532580	Pandey Pratik Ramsharan						
G15	1	B150532603	Vaibhav hanumant pokharkar	SOLAR POWERED WIRELESS FOREST FIRE DETECTION	In house	Prof. Bhushan S. Kumre (9960416846)	YES	INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS	
	2	B150532518	Supriya ashok bhosale						
	3	B150532539	Aparna sureshgir gosavi						
	4	B150532598	Aniket mahadev pawar						
G16	1	B150532502	Aadesh shankar Shirke	ELECTRIC WOMEN SAFETY JACKET	In house	Prof. Bhushan S. Kumre (9960416846)	YES	NO	
	2	B150532501	Dipali Tatyaba sodvanar						
	3	B150532618	Shubham mohan chormale						
	4	B150532523	kimaya vijay chogale						
G17	1	B150532551	Ashish Shirish Kadulkar	PATH PLANNING FOR AUTONOMOUS VEHICLE	In house	Prof. Bhushan S. Kumre (9960416846)	YES	NO	
	2	B150532527	Chaitanya S. Deokar						
	3	B150532520	Akanksha J. Chavan						
	4	B150532537	Mahadev G. Ghutukde						
G18	1	B150532628	Vakude Shyam Haribhau	Automatic LED Intensity power Controller	In house	Prof. Jaysing A. Kshirsagar (9420696934)	YES	NO	
	2	B150532631	Waghmare Amol Pramod						
	3	B150532555	Kamble Asmita Nagendra						
	4	B150532515	Bhus Krushna Nandkumar						

Project Group No.	Sr. No.	Examination Seat Nos.	Name of Students	Project Title	Sponsored / In-house	Name of Internal Guide	Project Report (soft copy) submission (Yes/No)	If paper is published (Please mention Conference/ Journal name)	Students Signature
G19	2	B150532637	Jadhav Pranav Pravin	Smart safety tools & Accident alert system for Vehicle using Arduino	In house	Prof. Jaysing A. Kalurtagar (9420696934)	YES	NO	
	3	B150532606	Naik Rushikesh Vijay						
	4	B150532584	Pathak Sanket Nutankumar						
G20	1	B150532506	Ambrale Jayant Dilip	Neutral Grounding Resistor	In House	Prof. Chinmay Deshpande (8380075630)	YES	NO	
	2	B150532552	Dongare Suraj Pradeep						
	3	B150532629	Veer Omkar Vishnu						
	4	B150532622	Suave Vaibhav Vikas						
G21	1	B150532543	Aishwarya ashokrao Honmane	GPS based dual axis solar tracker	In House	Prof. Chinmay Deshpande (8380075630)	YES	NO	
	2	B150532548	Bhagyashree tanaji Jagdhane						
	3	B150532637	Shital Baliram Kute						
	4	B150532625	Prajakta Bhanudas Taru						
G22	1	B150532554	Kale Varad Ajay	Close loop V/F Control using SPWM technique with MATLAB/SIMULINK of 3 phase IM	In house	Prof.Rushikesh V. Deshmukh (9096899017)	Yes	No	
	2	B150532562	Katke Vitthal Mahadev						
	3	B150532572	Mane Sourabh Shashikant						
	4	B150532627	Shrishail Umhare						
G23	1	B150532517	Bhosale Pravin Tanaji	Smart Helmet for coal mining safety	In house	Prof. Amruta S. Udapurkar (8788799127)	Yes	No	
	2	B150532611	Sawant Sumit Rajaram						
	3	B150532613	Shenavi Deepali Bhikaji						
	4	B150532624	Sutar Vaishnavi Vivek						
G24	1	B150532630	Vilegave Ajay S.	Automation of railway crossing gate by PLC	In house	Prof.Rushikesh V. Deshmukh (9096899017)	Yes	No	
	2	B150532570	Magar Saurabh D.						
	3	B150532607	Salve Akash A.						
	4	B150532617	Yalgonde Shubham T.						
G25	1	B150532547	Suraj Madhukar Jadhav	Speed Control of induction motor and drive using universal controller	In house	Prof. Ranjit M. Zende (9763030081)	Yes	No	
	2	B150532579	Girish Mahadeo Padalkar						
	3	B150532591	Rutika Sunil Patil						
	4	B150532623	Rohan Kundlik Sutar						

Project Group No.	Sr. No.	Examination Seat Nos.	Name of Students	Project Title	Sponsored / In-house	Name of Internal Guide	Project Report (soft copy) submission (Yes/No)	If paper is published (Please mention Conference/ Journal name)	Students Signature
G26	1	B150532594	Vishwasrao Shivajirao Patil	LED CONTROL USING LI-FI	In house	Prof. Bhushan S. Kunure (9960416846)	Yes	No	
	2	B150532550	Vaibhavi Vijay Kadam						
	3	B150532632	Komal Gautam Wasare						
	4	B150532621	Smita Sanjay Gaikwad						
G27	1	B150532565	Koregave Sudarshan Bhausa	Efficient Industrial Drying sysytem using IR Technology	In house	Prof. Jaysing A Kshirsagar (9420696934)	Yes	No	
	2	B150532592	Patil Sangram Anam						
	3	B150532516	Bhor Prashant Kailas						
	4	B150532503	Abhang Rohit Pundlik						
G28	1	B150532507	Hade Anushree Sunil	Faults in transmission line and their detection	In house	Prof. R. J. Patil (9511645877)	Yes	No	
	2	B150532556	Kamble Chitra Rajan						
	3	B150532575	More Vaishali Murlidhar						
	4	B150532635	Zagade Nikita Ramdas						
G29	1	B150532511	Shivani Trimukh Bardee	Design of Battery charge controller for 2kW wind turbine	In House	Prof. Chinmay Deshpande (8380075630)	No	No	
	2	B150532530	Aniket Ashok Dhobale						
	3	B150532557	Pritam Bhikaji Kamble						
	4	B150532587	Harshal Sunil Patil						
G30	1	B150532568	Kulkarni Aditya Sanjay	Energy conservation using automatic Star/Delta converter for three phase Induction motor	In House	Prof. Swapnil Amale (8888245050)	YES	NO	
	2	B150532535	Gavali Mukesh Dilip						
	3	B150532569	Kulkarni Shrilekha Shriram						
	4	B150532514	Bhasme Harshada Rajendra						
G31	1	B150532561	Kankumbkar Karan Manohar	Monitoring and Protection of Induction Motor (Over-Under Voltage-Current)	In House	Prof. Swapnil Amale (8888245050)	YES	NO	
	2	B150532588	Patil Pratik Bhagwat						
	3	B150532524	Choudante Ashit Bapurao						
	4	B150532608	Salve Harshad Chandrakant						
G32	1	B150532534	Gaikwad Gajanan Satish	GMS BASED IRRIGATION SYSTEM	In House	Prof. Swapnil Amale (8888245050)	Yes	NO	
	2	B150532608	Kagadi Arbaz Raju						
	3	B150532560	Kanase VivekLahu						
	4	B150532585	Patil Abhishek Siddharaj						

Project Group No.	Sr. No.	Examination Seat Nos.	Name of Students	Project Title	Sponsored / In-house	Name of Internal Guide	Project Report (soft copy) submission (Yes/No)	If paper is published (Please mention Conference/ Journal name)	Students Signature
G33	1	B150532544	Hosale Nikhil Nagendra	Power Generation Using roof ventilator	In house	Prof. Amruta S. Udapurkar (8788799127)	Yes	NO	
	2	B150532510	Bansode Yogesh Shivshankar						
	3	B150532581	Papanwar Shweta Gajanan						
	4	B150532610	Sathe Akash Sooba						
G34	1	B150532542	Hankare Pranaya Prakash	Automated solar grass cutter	In house	Prof. Amruta S. Udapurkar (8788799127)	Yes	NO	
	2	B150532521	Chavan Pallavi Baliram						
	3	B150532505	Ambarale Sanket Gorakh						
	4	B150532616	Shinde Vikky Bapurao						
G35	1	B150532602	Pawar Shubhangi Babusha	Automatic Seed and Fertilizer Dispenser for Agriculture	In house	Prof Rushikesh V Deshmukh (9096899017)	Yes	No	
	2	B150532595	Patki Sagar Sanjay						
	3	B150532615	Shinde Sandip Govindrao						
	4		SANKET CHANDRAKANT CHAUDHAI						

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Zeal College of Engineering and Research Pune

Department of Electronics and Telecommunication Engineering

SE PBL Project groups & Guides

Sr. No.	Name Of Students	Guide Names
1	ADSARE MRUNALI SANTOSH	Prof. Prajakta More
2	BANDAL SHWETA DNYANOBA	
3	BANKAR KUNAL SHANKAR	
4	BARTAKKE KADAMBARI G.	
5	BIRADAR VAIBHAV SHIVRAJ	Prof. Snehal Ghodke
6	BOBADE ESHA SANJAY	
7	BUTTE SHIVARAJKUMAR S.	
8	CHAUDHARI KAILAS MAHADEV	
9	DANGE ARSHAD ASIF	Prof . Aniket Khandekar
10	EKBOTE SIDDHARTH S.	
11	GAVHANDE CHAITANYA N.	
12	GOKHALE OMKAR	
13	HONRAO SOHAM LAXMIKANT	Prof. Prachiti Shinde
14	JADHAV SOURAV VITTHAL	
15	JAGTAP SHIVRAJ MANGESH	
16	JOSHI ATHARV PRASAD	
17	KADAM ROHIT RAJENDRA	Prof. Sachin Elgandelwar
18	KADU JASWANT DINKAR	
19	KANADE SAKSHI SHASHIKANT	
20	KAVANKAR ANIKET UDAY	
21	KHARAT RITESH VAMAN	Prof. Deepali Potdar
22	KHEDKAR SAURABH R	
23	MANDAL VEDANT HARI	
24	NANAWARE TUSHAR D.	
25	PATHAN SANABI BURANKHAN	Prof . Rupali Patil
26	PATIL HEMANT SHAMBHAU	
27	PATIL SAKSHI HEMRAJ	
28	PATIL VAIBHAV SHAMKANT	
29	PILANKAR CHITRALEKHA M.	Prof. Priya Gondkar
30	RUPANVAR GANESH SURESH	
31	SHINDE PAYAL SUNIL	
32	SINHA AJIT KUMAR	
33	SONWANE VAIBHAV R.	
34	THAKARE HIMANSHU R.	
35	WAMAN AADITYA ANIL	
36	YADAV MANISHKUMAR B.	
37	KHOT AKSHATA SHITALKUMAR	
38	MUKTA SUNIL MULAY	
39	GAIKWAD NILESH SAMBHAJI	

40	JANRAO UTKARSHA PRAMOD	Prof. Pawan Upadhye
41	MORE SANDEEP VITTHAL	
42	PHALE PRATIKSHA BHARAT	
43	KOLI DURVESH DASHARATH	
44	BADADE APURVA DATTATRAYA	
45	PRAJAPATI PAVANKUMAR ADYA	
46	KADAM SAURABH BHIVRAM	
47	DHANVE KSHITIJA SOMNATH	
48	PAWALE SAGAR DILIP	
49	SAWANT LAXMI SURESH	
50	DESHMUKH SAKSHI MAHENDRA	
51	PUNJABI TARUN ASHOK	
52	MANKAR KETAN RAJESH	
53	BHALERAO HARSHAL UDAYCHANDRA	Prof Snehal Kardile
54	DHAGE VIKAS GANGADHAR	
55	SURYAWANSHI SAPNA SHANTILAL	
56	ASHTOSH SHIVAJI MANKAR	
57	PATOLE PRIYA CHANDRAKANT	
58	GAIKWAD KETAKI ARUN	
59	BANDICHHODE BIRDEV LINGAPPA	
60	BANSODE SAROJ DATTATRAY	
61	POKALE SRUSHTI SANDEEP	
62	KADAM VINAY SHANKAR	
63	WADEKAR AKANKSHA RAJU	
64	SHINDE ASHISH SATISH	
65	KALE SALONI NANDARAM	
66	BOBDE AVINASH NARHARI	
67	MUDKANNA VINITA VISHNU	
68	KAMBLE OMKAR VIJAY	
69	SAIGAONKAR SIDDHANT MAHESH	
70	DESHMUKH SUMEDHA PANDURANG	
71	KADAM PRITI DIPAK	
72	SHIRSIKAR KAUSHIK	
73	BHALEKAR AJAY DIPAK	
74	DHAMALE RUTVIK VISHWANATH	
75	AMBIKE RAJKUMAR VIJAY	
76	GAIKWAD RAHUL ASHOK	
77	DESAI RUSHIKESH GANESH	
78	DABHADE SAMRUDDHI PRAKASH	

Dr. S D Shirbhate

Department of E&TC Engineering

TE-2021 Mini project Student list

Sr. no	Group Number	Roll Number	Name of Student	Title of Project
1	1	T311038	PAWAR PRATIK SANJAY	Automatic college bell syestem
2		T311031	MORE SANDIP SHESHRAO	
3		T311035	PAIKRAO ABHIJEET BHIMRAO	
4	2	T311013	DEVRAJ KARMOKAR	Autonomous vehicle with obstacle detection and autorouting
5				
6				
7	3	T311012	VAISHNAVI DESHMUKH	motion detector circuit
8		T311005	ESHWARI BIDRI	
9		T311ee7	TEJESH CHADAR	
10	4	T311052	MANAN MAHESH VELANI	Djpad
11		T311014	KEVAL TULSIBHAI DHOLU	
12		T311029	TEJAS PRASHANT KULKARNI	
13	5	T311054	JATIN DHANANJAY YERAWADEKAR	Automatic Room Lighting System
14		T311053	VAIBHAV RAJESH WANKHEDKAR	
15		T311042	ABHIJEET RAJENDRA RAYKAR	
16	6	T311011	SNEHA CHANDRAKANT DERE	Electronic notice board
17		T311009	SONAL DABHOLKAR	
18		T311015 T311022	SAKSHI SAGAR GHODKE AKSHADA MAHENDRA KALE	
19	7	T311026	SHARVARI AVINASH KHATAVKAR	Ultrasonic Nevigation system for blind people
20		T311051	AISHWARYA YASHPAL VALSANGKAR	
21		T311001	PRUTHAV ASHUTOSH ABHYANKAR	
22	8	T311021	SAYALI BHAUSAHEB JADHAV	Password based door lock system
23		T311023	MANSI DEEPAK KATKE	
24		T311027	AJINKYA RAMESH KHEDEKAR	

25	9	T311004	RUTUJA HANUMANT BHANDWALKAR	Microcontroller based heartbit detector system
26		T311046	MAHESH SHANTILAL SURYAWANSHI	
27		T311002	KAUSHAL ADSUL	
28	10	T311032	NAVGHANE SUPRIYA JAGANNATH	RFID based attendance
29		T3110040	SHWETA RATHOD	
30		T311033	CHAVAN NIKITA	

31	11	T311036	SHUBHAM BALASAHEB PANDE	Obstracal avoidence robot
32		T311044	GANESH PRADIP SAMGIR	
33		T311047	SIDDHESH MOHAN THORAT	
34	12	T311020	JADHAV ADITYA BAPURAO	Gas leackage detector using Microcontroller
35		T310008	CHAUDHARI NILIN DILIP	
36		T311017	GOGAWALE SAURABH MAHADEV	
37	13	T311003	BANNE DINESH BASAVRAJ	
38		T311006	BIRAJDAR PRANITA PRATAP	
39		T311010	DERE ASHISH VIJAY	
40	14	T311015	GIRE AKASH PANJABRAO	
41		T311018	HAMBIRE VIRAJ HARISHCHANDRA	
42		T311019	HARPALE SUSHANT BALASAHEB	
43	15	T311024	KATORE SUSHMA GOVIND	Water level controller using ultr
44		T311025	KHAN RAFIYA AKHTAR	
45		T311028	KINI PRATHAMESH PRAMOD	
46	16	T311030	MISHRA SURAJ SANJAY	Water level controller
47		T311034	PAGDHARE PRATHMESH PRASHANT	
48		T311037	PATIL HARSHAD PRADIP	
49	17	T311038	PHADNIS SAMEER RAVINDRA	Stepper motor with speed control
50		T311041	RATHOD VINAYAKSAITRAO	
51		T311043	RUTUJA VIKAS KHEDEKAR	
52	18	T311045	SAVE SAHIL	Smart Stick For blind using ardino
53		T311048	TULSI MUKUND SHITOLE	
54		T311050	UPASANI SANIYA SHRKANT	
55	19	T311049	UBALE SWAPNIL RAMESH	

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BE (AY - 2020-21)

Sr.No.	Group No.	Student Name	Title of Project
1	1	Akhil Bhavsar	Smart home
2		Monika Pawar	
3		Aaditya Dudhe	
4	2	Faizan Madki	Auto Smart Cover (Truss Based)
5		Vrushali Pawar	
6	3	Akshay A. Gadhave	3)PLC based automation in drip irrigation system
7		Rohan R. Jangam.	
8		Sanket R. Gavli.	
9	4	Shubham Pokale	Coin based mobile charging
10		Kiran lambe	
11		Akash Patil	
12	5	Abhishek Duduskar	Make any Electronic device smart (Smart switch)
13		Archana Benkar	
14		Shivani Gandhamwar	
15	6	Atharva Vijay Lingayat	3. Biometric Vehicle Starter.
16		Vivek Masudge	
17		Sagar Raosaheb Singar	
18	7	Pradnya Kadam	Smart Dustbin with IOT notifications
19		Rohini Kurhe	
20		Aniket More	
21	8	Shinde komal tanaji	Ethernet base smart agro automation
22		Kshirsagar kiran rajaram	
23		Paramane pranav satish	
24	9	Sneha utekar	Smart robotic arm
25		Nirmala gundu.	
26		Aniketsingh pardeshi.	
27	10	Pradnya hande	Face recognization expression detection
28		Megha kharode	
29		Poonam ghodeswar	
30	11	Manisha gend	OTP based smart wireless locking system
31		Charushila sanjay shedge	
32		Sana pathan	
33	12	Parit Omakar Ramesh	Speaking system for dumb people using hand gestures
34		Nigade jyoti Sambhaji	
35		Parab Sagar sadguru	
36	13	Shrikar wagh	Home Security System using PIC Microcontroller PIC16F73
37		Shilpa tambe	
38		Mayuri giri	
39	14	Pritesh Kale	Prepaid energy meter with theft detection.
40		Swapnil Bhagawat	
41		Akash Gavade	

42	15	Suraj Chavan	Automatic irrigation system using soil moisture sensor
43		Karan bandichode	
44		Abhijeet Desai	
45	16	Rajwardhan Autade	RFID Based Petrol Pump Automation System with GSM Technology
46		Vishal Gutal	
47	17	Rajani	Library Management System
48		Vaibhav	
49		Sagar	
50	18	Varsha Hajare	Patient monitoring system using ioT
52		Rupali Deshmukh	
45	19	Tejas Jaiswal	IOT Based Smart Parking System
46		Prachi Khedkar	
47		Sanket Kamthe	
48	20	Pratiksha Dhole	Store Room Automation
49		Dhanashree Sanas	
50		aishwarya dhamale	
51	21	Mankar Rameshwar	IOT Based Home Automation System
52		Prita Kamble	
53	22	Tanuja Deshmukh	Smart Charger
54		Priyanka Chavan	
55		Bhagyashree More	
56	23	Urmila Karale	Colour Seperator Using Image Processing
57		Rutuja Kamble	
58		Jyoti Kamble	
59		Afroj Ansari	

Dr.Shirbahdurkar S.D
HoD

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Department: Information Technology **Semester: II** **Academic Year: 2020 -2021**

Class: SE-A **Subject: Project Based Learning**

Sr. No	Group No.	Name of Student	Topic
1	SE-A1	ADSARE PRATIK VIKAS	THE "EDUCATOR" USER INTERFACE FOR SMARTPHONE EDUCATIONAL SOFTWARE
2		ANDHALE AMRAPALI AJIT	
3		ARGADE NISHANT VILAS	
4		ATTAR LUBNA SAMEER	
5	SE-A2	BANGAR AISHWARYA SURESH	ANIMATION BASE APPLICATION USING OPENGL
6		BARALIYA PALAK LOKESH	
7		BEMBRE ROHIT RAM	
8		BHAGWAT KOMAL SANJAY	
9	SE-A3	BHANDWALKAR SANKET SAKHARAM	SENDING AND RECEIVENG MESSAGES BY USING ENCRYPTION TECHNOLOGY
10		BHARATE CHANDAN LAHUDEO	
11		BHARGAV KRISHNAN	
12		BHARNE YASH TULSHIRAM	
13	SE-A4	BHOSALE JANHAVI DHAIRYASHEEL	APPLYING PRIM'S ALGORITHM TO IDENTIFY ISOLATED AREAS FOR NATURAL DISASTER PREVENTION AND PROTECTION
14		CHAUDHARI YASH MANOHAR	
15		CHAVAN NIKHIL SANTOSH	
16		CHAVAN PRATHAMESH RAJARAM	
17	SE-A5	CHAVAN SAURABH SACHIN	SOFTWARE DEFINED NETWORKING SYSTEM FOR SECURE VEHICULAR CLOUDS
18		CHAVAN SNEHAL BALKRISHNA	
19		DAVKARE ONKAR RAJENDRA	
20		DESHMUKH SWARAJ PRAFUL	
21	SE-A6	DHIWARE BHUSHAN ARUN	IMPLEMENTATION OF TIC TAC TOE GAME USING BACK TRACKING ALGORITHM
22		DHUMAL RAVINA RAJENDRA	
23		DUBEY SAKSHI RAMDAS	
24		DUDHWAD UMAKANT SHIVAJI	

Sr. No	Group No.	Name of Student	Topic
25	SE-A7	DUTTA SOHINI BISWAJYOTI	SHOP MANAGEMENT SYSTEM
26		FEGADE OM PRALHAD	
27		GAIKWAD ADITYA BALASAHEB	
28		GAIKWAD ATHARVA DEEPAK	
29	SE-A8	GAUD GUNJAN VASANT	IMPLEMENTING STUDENT DATA MODULE WITH ADT
30		GEDAM AKESHRAIN	
31		GHOGARE TRUPTI RAMCHANDRA	
32		GIRI AAKASH SUBHASH	
33	SE-A9	HADKE DEVENDRA ARUN	PAINT APPLICATION USING LINE DRAWING ALGORITHM
34		INGULKAR PRATHMESH ANIL	
35		JANMALE CHAITANY BHANUDAS	
36		JAVALEKAR RUTUJA RAVINDRA	
37	SE-A10	JOSHI OMKAR VIJAY	SMART PARKING AREA USING ARDINO
38		KACHAR VISHAL DIGAMBAR	
39		KADAM KARAN GANESH	
40		KADAM SANDESH NARENDRA	
41	SE-A11	KAIMAL SNEHA SURESH	EMPLOYEE DATABASE MANAGEMENT
42		KALBHOR SHUBHAM ARUN	
43		KALE GANESH VISHWAS	
44		KALE PRATHAMESH VIJAY	
45	SE-A12	KALE SHWETA SOMNATH	TO FIND SHORTEST PATH AMONG CITIES KRUSKAL ALGORITHM[MST]
46		KAMLE KUNAL MADHAV	
47		KAPRATWAR PRATHAM DNYANESHWAR	
48		KARDULE ANIKET MAHADEV	
49	SE-A13	KESHATWAR SRUSHTI SANJAY	RESULT ALERT SYSTEM THROUGH SMS AND E-MAIL
50		KHANDAGALE ARPITA HANUMANT	
51		KHANDAGALE OMKAR PRAVIN	
52		KHARE TANAYA RAJU	

Sr. No	Group No.	Name of Student	Topic
53	SE-A14	KHOJE KARTIKI VIJAYKUMAR	OPENGL MODELLING FOR GRAPHICS APPLICATIONS
54		KHOPADE SAMRUDDHI JITENDRA	
55		KHUNE UDAY RAMESHRAO	
56		KODRE SAURABH SONAJI	
57	SE-A15	MAHAJAN ISHWAR PRAKASH	FIND THE SHORTEST PATH BETWEEN TWO CITIES USING DIJKSTRA'S SHORTEST PATH ALGORITHM
58		MANDAVKAR NIKHIL RAJENDRA	
59		MARATHE PRATIK VIKASH	
60		MARSHETTIWAR SHUBHAM MANOJ	
61	SE-A16	KUMBHAR RUSHIKESH SANTOSH	APPLICATIONS OF GRAPH THEORY IN DISTRICT HEAT NETWORK ANALYSIS AT NATIONAL SCALE
62		MRUDULA VIVEK SHIRKE	
63		JADHAV PRATIK PRAKASH	
64		MORE ANKITA DATTATRAY	
65	SE-A17	VALE RUTIKA AJAY	COST MINIMIZATION ALGORITHMS FOR DATA CENTER MANAGEMENT
66		BIRJE SONALI ANIL	
67		KADAV PRITI AJAY	
68		MORE SHIVANI RAJENDRA	
69	SE-A18	PATIL GAURAV BHARAT	SOCIAL DISTANCING DETECTOR BY USING PYTHON
70		KANOJIA MIHIR	
71		JOSHI SARANG MANOJ	
72		JANHAVI ABHIMANYU SHINDE	
73	SE-A19	MAGAR VAIBHAV KAILAS	FILE SECURITY ALGORITHMS
74		MAHAJAN AARYA ATUL	
75		GORE SHUBHAM ANNA	
76		GAIKWAD ANIKET DATTA	
77	SE-A20	DANDGE PALLAVI BALKRUSHNA	DEMONSTRATING THE FUNCTIONALITY OF LOGIC GATES
78		PRATIK RAVI SONAWANE	
79		PATIL TANUJA YUVRAJ	

Project Coordinator

ZES's Zeal College of Engineering & Research, Dept. of Information Technology, Narhe, Pune-41

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NARHE | PUNE -41 | INDIA

Department: Information Technology **Semester: II** **Academic Year: 2020 -2021**

Class: SE-B **Subject: Project Based Learning**

Sr. No	Group No.	Name of Student	Topic
1	SE-B1	MASKE NILESH NANDU	BUSRESERVATIONTICKETSYSTEM
2		METKARI ARVIN D	
3		MISAL NILESH MAHENDRA	
4		MOHIT VITTHAL RAO	
5	SE-B2	MORE AKSHAY D	DEVELOPING IMAGE CLASSIFIER FOR TOURIST SPOT .
6		MORE PRATIKET V	
7		MORE SIDDHESHWAR P	
8		MULANI TAMANNA RIYAJ	
9	SE-B3	NADGOUDA SANJANA S	LIBRARY MANAGEMENT SYSTEM
10		NAGARE TANISHQ ASHOK	
11		NALAWADE PRADYUMNA M	
12		NARUTE ANAND MOHAN	
13	SE-B4	NEVASE AHITOSH P	MINI BANK SYSTEM
14		PACHPAWAR NIKHIL V	
15		PADWAL PRATHAMESH A	
16		PANDAV TEJAS C	
17	SE-B5	PANHALE TRUPTI VIKAS	IMPLEMENTATION OF A ROUTING PROTOCOL FOR AD HOC NETWORKS
18		PARAB NAMRATA S	
19		PASALKAR MANISH B	
20		PATIL ADITI MANOJ	
21	SE-B6	PATIL NEHA P	RESPONSIVE LOGIN SYSTEM FOR WEBSITE FOR THE SESSION
22		PATIL SALONI DINESH	
23		PATIL VISHAL NITIN	
24		PATRA SHAKTIPRASAD S	

Sr. No	Group No.	Name of Student	Topic
25	SE-B7	PAWAR GAURAV SANJAY	KRUSKAL ALGORITHM FOR THE SEARCH FOR THE SHORTEST PATH TO THE LOCATION OF A BUILDING STORE IN THE CITY
26		PAWAR SANDIP G	
27		PAWAR SHUBHAM S	
28		PAWAR SOURABH SHARAD	
29	SE-B8	PAWAR TANISHQ N	BINARY SEARCH TREE BASED HIERARCHICAL PLACEMENT ALGORITHM FOR IOT BASED SMART PARKING APPLICATIONS
30		PAWAR VAISHNAVI D	
31		PAWAR VAISHNAVI V	
32		PISAL ABHAY AMARSIGH	
33	SE-B9	POHAKAR HARSHAL S	PHONE DIRECTORY APPLICATION USING DOUBLY-LINKED LISTS
34		PURANE VAIBHAV	
35		RASAL RATNADIP D	
36		RONALD ANTHONY	
37	SE-B10	SAMANT MANAS A	DAILY COUNTING COVID PATIENTS
38		SASTURE ATHARVA SANJAY	
39		SATPUTE SHRADDHEY W	
40		SATPUTE SUMEET NATTHU	
41	SE-B11	SAWANT SAURABH R	PASSWORD BASED GUI SYSTEM
42		SHELAR MALHARRAO ANIL	
43		SHELAR SHUBHAM R	
44		SHINDE CHETAN RAMESH	
45	SE-B12	SHINDE ROHIT DATTATRAY	DETECTING ERROR IN THE TRANSMITTED/ RECEIVED MESSAGE WITH CRC CHECKSUM
46		SHINDE SAKSHI SACHIN	
47		SHINDE SIDDHI SUDHAKAR	
48		SHINGANE MAYUR PRADEEP	

Sr. No	Group No.	Name of Student	Topic
49	SE-B13	SINGH PREM FIRNATH	FACE RECOGNISATION
50		SONONE SHRUTI S	
51		SUPEKAR DARPAN R	
52		SUTAR PRIYANKA	
53	SE-B14	SUTAR SHREYAS SAMBHAJI	DEVELOP IMAGE CLASSIFIER FOR INDIGENOUS COW IDENTIFICATION
54		TANDALE DNYANESHWAR V	
55		TAWARE ATHARV RAHUL	
56		TODKAR MAYUR GANESH	
57	SE-B15	TONPE RUTIK SAMBHAJI	TRAVELLING SALESMAN PROBLEM USING GENETIC ALGORITHM
58		TRIPATHI HARSHIT VIJAY	
59		VINOD KUMAR	
60		WANDHEKAR PRATIKSHA S	
61	SE-B16	WASEKAR AKANKSHA S	TRANSFORM BLACK AND WHITE IMAGE TO COLORED USING PYTHON
62		YADAV AKANKSHA ANKUSH	
63		ZAGADE MAYUR S	
64		PAWAR SHRINIVAS R	
65	SE-B17	MAMDAPURE DURGESH R	FACE MASK DETECTION
66		KHABALE KARTIK S	
67		NIMBALKAR ANIKET B	
68		BIBAVE SUYASH S	
69	SE-B18	GULEKAR NIKETAN ANIL	WORD FREQUENCY COUNTER
70		JUNDARE SHRUTI C	
71		BOMBLE KIRAN SANDIP	
72		KAZI PARVEZ M	

Sr. No	Group No.	Name of Student	Topic
73	SE-B19	MASNE AISHWARYA S	TEXT ENCRYPTION AND DECRYPTION SYSTEM USING AES
74		GAGARE VIKAS VIJAY	
75		PRATIKSHA MAGAR	
76		MOTE SHREYA VIVEK	
77	SE-B20	DIGOLE DIPALI D	BLOOD BANK MANAGEMENT SYSTEM
78		DEOKAR NAMRATA K	
79		GADHAVE KRISHNA T	

Project Coordinator

Head of Department

HOD
Dept. of Information Tech. Engg.
ZES's Zeal College
of Engineering & Research,
Narhe, Pune - 411 041

ZEAL EDUCATION SOCIETY'S
ZEAL COLLEGE OF ENGINEERING AND RESEARCH
NARHE | PUNE -41 | INDIA

Department: Information Technology **Semester: I** **Academic Year: 2020 -2021**

Class: TE **Subject: Project Based Seminar**

Sr. No	Group No.	Name of Student	Topic
1	TE 301	PRAGATI GAWADE	SMART STICK FOR BLIND PEOPLE USING OBJECT DETECTION ALGORITHM AND IOT
2		RUTUJA SAPKAL	
3		BHISHALI RATHOD	
4		SHREYAS KULKARNI	
5	TE 302	ATHARVA SAVARGAONKAR	CUSTOMER SEGMENTATION USING CLUSTERING AND DATA MINING TECHNIQUES
6		ISHA KADAM	
7		ANUSHKA PAWAR	
8		SAHIL NAGPURE	
9	TE 303	SUYASH PARADKAR	RECOMMENDATION SYSTEM FOR SELECTING BEST CAREER
10		KOMAL GANATRA	
11		SHREYA TEKADE	
12		SALONI SARWADE	
13	TE 304	AKASH GAIKWAD	AUGMENTED REALITY IN EDUCATION LEARNING AND TRAINING
14		SASHA RAHANE	
15		SHAMBHAVI KADAM	
16		ROHIT MATE	
17	TE 305	PRACHI BHARNE	EFFECT OF OUTDATED TECHNOLOGY IN BANKING INDUSTRY & NEED OF ADVANCE TECHNOLOGY TO ELIMINATE CYBER SECURITY THREATS. TRACK ILLEGAL TRANSACTION AND FRAUD AND TO ENHANCE REVENUE STREAM -THE CLIENTS ENTERPRISE
18		TEJAL JOSHI	
19		MANSI SHAH	
20		SIDDHANT CHAUDHARY	

Sr. No	Group No.	Name of Student	Topic
21	TE 306	ABHIJEET OMBASE	FINGER PRINT AUTHENTICATION (ACCESS) ON WEB SERVICES
22		SAHIL NAGANE	
23		SURAJ KHARADE	
24		NISHA BHONDWE	
25	TE 307	ABHINAV THOOL	SECURITY CHALLENGES TO SMART AGRICULTURE: CURRENT STATE, KEY ISSUES, AND FUTURE DIRECTIONS
26		SAURABH GHEWARE	
27		ABHAY RAJPURE	
28		ABHISHEK MOOLYA	
29	TE 308	SHWETA GHATGE	SUPERMARKET SHOPPING SYSTEM USING RFIDAS THE IOT APPLICATION
30		KUSUM KARANDE	
31		SAMRUDDHI DEO	
32		SAKSHI SUNIL DESHMUKH	
33	TE 309	TEJAS JADHAV	SECURE FILE SHARING USING ACCESS CONTROL
34		PANKAJ DHAPADE	
35		SHUBHAM SHETE	
36		SAURABH MANDAVKAR	
37	TE 310	ATHARVA PRABHUNE	DATA SECURITY USING ANNONYMIZATION
38		TEJAS BHASME	
39		OMKAR BARTAKKE	
40		ANANT KHOT	
41	TE 311	CHRISTINA GRACE NANDIGAM	HEALTH-E MINDS: A PARTICIPATORY PERSONALISED AND GAMIFIED MHEALTH PLATFORM TO SUPPORT HEALTHY LIVING BEHAVIOURS FOR PEOPLE WITH MENTAL ILLNESS
42		NAYANA JOSHI	
43		SWARANJALI BICHUKALE	
44		VINISHA GOMARE	

Sr. No	Group No.	Name of Student	Topic
45	TE 312	ADITYA ASHOK SHINDE	DATA MININIG TECHNIQUES FOR SAFETY IN BANKING SECTOR
46		TEJAS RAYKAR	
47		PRAFULLA PATIL	
48		HARSHAWARDHAN MALI	
49	TE 313	MAYURI GHARGE	AUTOMATED ENHANCED LEARNING SYSTEM USING IOT
50		MRUNAL MARNE	
51		SHUBHAM BHUJBAL	
52		SARVESH ITNARE	
53	TE 314	TEJAS NANDPATIL	VIRTUALIZATION IN CLOUD COMPUTING.
54		AKSHAY PATIL	
55		ADITYA PANDHARE	
56		SATISH ZORE	
57	TE 315	PRAGATI BABAN DEVKAR	IOT-AIDED CHARITY: AN EXCESS FOOD REDISTRIBUTION FRAMEWORK
58		POOJA EKNATH AWATE	
59		SNEHAL DATTATRAY TAMBE	
60		SWARAJ SWARUPKUMAR JANKAR	
61	TE 316	WAGHMARE ANUJA	SMART PARKING SYSTEM USING IOT
62		AHIRRAO VAISHNAVI	
63		ABHANG GAYATRI	
64		WANI VAIBHAV	
65	TE 317	VAISHNAV VISHWANATH	DETECTION OF PHISING WEBSITE USING MACHINE LEARNING
66		SHWETA DHANDE	
67		RUTUJA BOKARE	
68		PAVITRA BHANDARE	

Sr. No	Group No.	Name of Student	Topic
69	TE 318		SENTIMENT ANALYSIS OF TWITTER DATA
70		GAUND SIDDHANT	
71		JADHAV AJINKYA	
72		ANEES MULLA	
73	TE 319	PRATIKSHA JAGDALE	AGRICULTURE PROBLEM SLOVING USING MACHINE LEARNING ALGORITHM
74		SAATVIK GAWADE	
75		ROHAN JINDE	
76		VAIBHAV DHOBLE	
77	TE 320	SAUDNYA SAWANT	NATURE INSPIRED ALGORITHM FOR TRAVELLING SALES PERSON PROBLEM
78		APOORVA DIVEKAR	
79		RAHUL SINGH	

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Department: Information Technology **Semester: II** **Academic Year: 2020 -2021**

Class: BE- A, B. **Subject: Project**

Sr. No	Group No.	Name of Student	Topic
1	1	JADHAV GOVIND GANESH	INTERNET OF THINGS "WASTE MANAGEMENT SYSTEM"
2		ORGANTIWAR SHIVAM SANJAY	
3		JAINAPURE VIJAY MAHESH	
4		PARSUTKAR MAYUR GAJANAN	
5	2	SHUBHAM NAIK	SAFETYDROID- SITUATION AWARENESS IN EMERGENCY
6		BOBATE GOURAV SURESH	
7		GADE RUSHIKESH ANIL	
8		SHUBHAM NIGHOT	
9	3	FATTEPURE POOJA BALBHIM	TEXT SUMMERIZATION
10		ATTAR UMERA ARIF	
11		POPALE PRACHI RAJENDRA	
12		RASKAR VIKAS BAGHWANT	
13	4	KAKADE DEEPAK SANJAY	HEART DISEASE PREDICTION USING HYBRID MODEL.
14		MANE SUKRUT SAKHARAM	
15		PATODEKAR AISHWARYA MADHAV	
16		KHURUD APURVA SHRIKANT	
17	5	AMANA SHLOK SHIVRAM	INTERACTIVE MIRROR WITH VOICE ASSISTANCE
18		AWATE PUSHKAR SANJAY	
19		CHAWARE KETAN NITIN	
20		WANARE NIKITA GAJANAN	
21	6	BORATE OM KISAN	AUGMENTED REALITY FOR VIRTUAL PERSPECTIVE IN SHOPPING AND ARCHITECTURAL DESIGN
22		DESAI ATHARVA MILIND	
23		PINGLE SANIKA VIJAY	
24		SHETYE SHAUNAK ANANT	
25	7	PATIL GAURAV	HANDWRITTEN CHARACTER RECOGNINZING USING DEEP LEARNING
26		RAJPUROHIT SHRIKRISHNA	
27		RAIBAGKAR ABHISHEK SANDEEP	
28		RAJESHWARKAR RAHUL RAJENDRA	
29	8	CHAVAN PRADIP VASANT	PRACTICAL PRIVACY PRESERVING FACE AUTHENTICATION FOR SMART PHONE SECURE AGAINST MALICIOUS CLIENTS
30		CHAVAN SHRIRAJ DILIP	
31		BIRARI SHUBHAM RAJENDRA	

Sr. No	Group No.	Name of Student	Topic
32	9	DANGI RITESH RAMLAL	SMART E-FARMING
33		MISTRY DURGESH RAJENDRA	
34		VARMA JAYDEEP SATISH	
35		SHINDE BINDUMADHAV RAVINDRA	
36	10	MALIKPETKAR ANAGHA PRAMOD	MUSIC PLAYER BASED ON HUMAN EMOTION
37		PAWAR SAURABH SHANKAR	
38		WASKAR SHIVANI RAJKUMAR	
39		JAMDAR AKSHAY ARVIND	
40	11	VAISHNAVI ZADBUKE	HTTP BOTNECK DETECTION USING MACHINE LEARNING
41		RADDHIKA KULKARNI	
42		BHAREKAR KRUTIKA ARUN	
43		BOBADE SWAPNIL VINOD	
44	12	KULKARNI RISHIKESH RAJENDRA	DETECTION OF PLANT LEAF DISEASE USING MACHINE LEARNING
45		KAD SACHIN NARAYAN	
46		SAPARIYA ASHWINI DINESH	
47	13	GHADGE SHWETA VILAS	SOLDER HEALTH MONITORING AND TRACKING SYSTEM USING IOT AND AES
48		DOIPHODE VAIDEHI PRADEEP	
49		BHOSALE SHITAL SOMINATH	
50		KUMBHAR AKANKSHA MAHESH	
51	14	DESHMUKH SHUBHAM DILIP	HEALTHCARE SYSTEM USING BLOCKCHAIN
52		DESHPANDE VAIBHAV PRASANT	
53		GOLE SAISHREE MOHAN	
54		KALBHOR DISHA HEMANT	
55	15	SHINTRE RUSHIKESH SATISH	DEPRESSION DETECTION USING AIRTIFICIAL INTELLIGENCE THROUGH TEXT AND VISUAL EXPRESSION
56		SAWANT AKANKSHA SURESH	
57		WASHIVALE RAJ CHANDRAKANT	
58		MASKHE TEJAS JAYANT	
59	16	CHAUBEY SAURABHI	ARDUINO BASED VEHICAL ACCIDENT ALERT SYSTEM
60		BIRADAR SHEWANTA SURESH	
61		GOGAWALE SAYUNKTA	
62		BHIKULE CHETAN SHANKAR	
63	17	LANDGE MANSI BAGHWAN	A FRUIT QUALITY MANAGEMENT SYSTEM USING IMAGE PROCESSING
64		PANIKER ASHWATHY RAGHUNATH	
65		UBHE VAISHNAVI RAJESH	
66		ROKADE BHAGYASHREE J.	

Sr. No	Group No.	Name of Student	Topic
67	18	RAIKODE SHUBHANGI MANIKRAO	IOT BASED SMART CITY MANAGEMENT
68		PISE SAYALI ANIL	
69		KAMBLE SANJIWANI BANKAT	
70		DAREKAR ANJALI ANGAD	
71	19	KAMBLE JYOTI ANIL	AN IOT BASED SYSTEM FOR AUTOMATIC ELECTRICITY SAVING USING MACHINE LEARNING TECHNIQUES
72		JAGADE POOJA RAMCHANDRA	
73		MUSKAN SHEKH	
74		PATIL BHAGYASHREE SANJAY	
75	20	OMKAR SANKPAL	A DEEP LEARNING APPROACH FOR PRIVACY PRESERVATION IN ASSISTED LIVING
76		KARAN CHAWLA	
77		GAURAV DESAI	
78		ADARSH DUBEY	
79	21	GAYATRI KULKARNI	PROXIMITY DETECTION WARNING SYSTEM USING RAY CASTING
80		BHAKTI BANNE	
81		SAMIKSHA KUDALE	
82		ASHUTOSH BHORDE	
83	22	ATUL LAVHATE	WIRELESS CARDEONE SURVEILLANCE ROBOT
84		SHASHIKANT GHANEKAR	
85		PRAJAKTA SHINDE	
86		SHARWARI SHINDE	
87	23	AJAY MAHAMUNI	DIGITAL SIGN ENABLED SECURE SCALABLE PRIVATE CLOUD FOR DATA STORAGE
88		OMKAR PARTHE	
89		AJAY GAWARE	
90		OMKAR PATIL	
91	24	ATHARVA WAGHMARE	TOURISM PREDICTION USING SENTIMENT CLASSIFICATION RECOMMENDATION SYSTEM USING MACHINE LEARNING FRAMEWORK FOR ONLINE REVIEWS
92		SHASHANK WADEKAR	
93		ROHIT NADGRI	
94		JANHAVI SHINDE	
95	25	OMAKR THOPTE	ONLINE PRODUCT RECOMMENDATION
96		SANKET PAWAR	
97		RUSHIKESH AUTI	
98		AVADHUT LOHAR	
99	26	DHANAJAY SHIQWAN	FIND BEST PRODUCT USING TEXT MINING
100		AKASH SHINDE	
101		SIDDHESH PAWAR	
102		VISHAL WALEKAR	

Sr. No	Group No.	Name of Student	Topic
103	27	BHUSHAN PARKAR	YOUTUBE DEPRESSION LEVEL DETECTION
104		VIVEK PATIL	
105		ARBAZ MULLA	
106		SAHIL LANJEKAR	
107	28	WAGHUNDE PRANJAL RASHANT	BIOMETRIC ATTENDANCE SYSTEM USING FACE RECOGNIZATION
108		MANALI TAYDE	
109		AKSHAY SABALE	
110		YASHPAL SAWANT	
111	29	SHUBHAM HANMORE	VOICE E-MAIL FOR BLIND PEOPLE
112		TANMAY SANCHETI	
113	30	KARVE NUPUR PRAVIN	TOUCH LESS SANITIZER DISPENSER
114		GIRI TEJAS SHASHIKANT	
115		ANSARI IFRAH SAMIUDDIN	
116		OSWAL ATISHKUMAR RAJENDRA	
117	31	DAWANDE MAYUR ATUL	AI ATTENDANCE SYSTEM USING FACE RECOGNITION
118		JADHAV AKSHAY BALASAHEB	
119		TILLU ATHARVA PRASHANT	
120		BANKAR SHUBHAM PRABHAKAR	
121	32	DESHMUKH AKSHAY RAJARAM	IOT BASED SMART BUILDING MANAGEMENT SYSTEM
122		CHOUHAN AKANKSHA ASHISH	
123		SOMWARE SANDESH KISHOR	
124		UJJAIN VISHWANATH JORI	
125	34	KALE RADHIKA DHANANJAY	DETECTION OF BREAST CANCER USING ML
126		ADAWADE TANVI SANJAY	
127		DIGHE SHIVANI	
128		DARWATKAR RUCHITA	
129	35	TELANG VISHAL DATTATRYA	BRAIN TUMOR DETECTION SYSTEM
130		ANAND BHALERAO	
131		GUNDLE BALAJI SANGAMNATH	
132		JAGTAP ADITYA PRAKASH	

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Sr. No	Group No.	Name of Student	Topic
133	36	KULKARNI PARAG SHASHIKANT	DETECTION OF COVID 19 FROM CHEST X RAY IMAGES
134		SAHANI RAHUL RAMPRIT	
135		PUNDLIK OMKAR RAJIV	
136		SHAIKH AZIM AZIZ	
137	37	PATIL PRAJAKTA YUVRAJ	DISEASE DETECTION IN PLANT USING ML
138		AKASH JADHAV	
139		KALAL AISHWARYA NARSING	
140		CHAVAN VIJAYMALA TUKARAM	

Project Coordinator

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Project Based Learning 2020-21					
Gr. No	Sr. No	Roll No	Name of student	Project Guide	Title of Project
1	1	1	ANISH NILESH RANE	Prof. Gandigude A. U.	Mixer Silencer
		2	BANSODE SANTOSH SADHU		
		3	BHOSALE GOKUL UMESH		
		4	BIDGAR HRISHIKESH SHANKAR		
2	2	5	BUDDE ABHISHEK RANGNATH	Dr. Ritapure P. P.	Finger print bike starting system
		6	CHAUS FAIZAN HAMID		
		7	CHAVAN NIKHIL DHONDIBA		
		8	CHAVAN RUTUJA SUNIL		
3	3	9	DAWALAR AKASH DEVENDRA	Dr. Jagtap H. P.	Design and Fabrication of Cylindrical parabolic Collector
		10	DHAYALE HARSHAL MADHUKAR		
		11	DHUMAL VINOD BALAJI		
		12	DHUPKAR PRANAV SUHAS		
4	4	13	DIXIT HARSHIT MAHENDRA	Prof. Aldar B. D.	Mini Battery Table Lamp
		14	DOKE SHUBHAM BABASAHEB		
		15	FERNANDES ARYAN FELIX		
		16	GAIKWAD NIKHIL SUBHASH		
5	5	17	GAIKWAD SANKET KISHOR	Prof. Maknikar S. K.	Mini Convener with Geneva Mechanism
		18	GAWADE VISHAL ISHWER		
		19	GHODKE GAURAV RAJU		
		20	GOWANDE ATHARVA SAGAR		
6	6	21	HAJARE DIPAK RAJKUMAR	Prof. Gandigude A. U.	Braid Slicer
		22	JADHAV PRATHAMESH DATTATRAY		
		23	JADHAV RUSHIKESH VINOD		
		24	JADHAV VISHAL VIJAY		
7	7	25	JAKNALE AJAY VENKAT	Prof. Maknikar S. K.	Power enhancement of two wheeler by using Supercharger
		26	JANGAM RAHUL LAXMAN		
		27	KAMBALE SUJIT MADHUKAR		
		28	KHAVANEKAR PRASAD DATTARAM		
8	8	29	KOMPALWAR KIRAN KESHAV	Dr. Bhamare Y. M.	Arduino based SONAR Tracking
		30	KUMBHAR ROHIT BANDU		
		31	MALJI OMKAR SATISH		
		32	MOHITE KANAKRAJ MAHESH		
9	9	33	MOHITE SANDESH SUNIL	Prof. Adewar S. S.	Swing saw Machine
		34	MORE SAURABH SUHAS		
		35	MULANI AARISH RIYAJ		
		36	NAIK DIGAMBAR DATTATRAY		

10	10	37	NAIK PRATHAM VINAY	Prof. Gadpayale U. K.	Mini Vacuum Cleaner using bottle
		38	NAYKAWADI NIHAL NAJARUDDIN		
		39	NIUNGARE HARSHAL DHASHARATH		
		40	PARTH AVINASH KAWAD		
11	11	41	PATIL SARVESH SANTOSH	Prof. Kamble D. P.	Water Level Indicator with sensor
		42	PAWAR AJINKYA SADASHIV		
		43	PAWAR VAIBHAV BAPUSAHEB		
		44	SANGARE GAURESH JANARDHAN		
12	12	45	SHANTANU PRADEEP AKASHE	Prof. Gadhave P. S.	Automatic Hand sanitizer machine
		46	SHENDGE RAVI VYANKAT		
		47	SHINDE RAJAT JEEVAN		
		48	SHINDE RUSHIKESH NAVNATH		
13	13	49	SHINDE SOMNATH LIMBRAJ	Prof. Randive V. A.	Mini Vacuum Cleaner using bottle
		50	SOLIM MAYUR DILIP		
		51	SONAWANE PRANAV RAJENDRA		
		52	TANDALE OMKAR ANIL		
14	14	53	TENGLI SAKET SANTOSHKUMAR	Prof. Kulkarni S. S.	Li-Fi Wireless Communication
		54	TUDME VINOD VITTHALRAO		
		55	WAGHMARE PRADEEP SHANKAR		
		56			
15	15	57	ABHISHEK N KUMAR CHINDARKAR	Prof. Joshi S. H.	Table Saw wood Cutter
		58	BHANAGE RUTWIK RAMDAS		
		59	BHORDE RUTIK SANJAY		
		60	BOLEGAVE VIKRANT BALIRAM		
16	16	61	BORADE YASH SUNIL	Prof. Bhoite K. L.	Not Reported Job Case
		62	BORNARKAR SIDDHESH VILAS		
		63	BULBULE SHIVPRASAD MAHADEV		
		64	CHOW PALIKTAN MANNOI		
17	17	65	DARDA RUSHABH SHASHIKANT	Prof. Mali L. B.	TDS Meter
		66	DESHPANDE SANKET KESHAV		
		67	DESHPANDE YOGESH GANESH		
		68	DHUMAL KAILAS SHIVSHANKAR		
18	18	69	DIGE PREM PRADIP	Prof. Borade S. S.	Water Overflow Alarm
		70	DOIPHODE AKASH RAMDAS		
		71	GAJARE GAURAV RAJU		
		72	GANDHEWAR KARAN RAJENDRA		
19	19	73	GAWADE ROHAN VIDYASAGAR	Prof. Deshmukh J. A.	Water Dispenser Machine using Card board
		74	GAYKE KIRAN RAMESH		
		75	GORNAL NARASIMHA GURURAJ		
		76	JADHAV SURAJ SUDHAKAR		

Dept of Mechanical Engineering

20	20	77	JARANDE HARSHAL DATTATRAY	Prof. Kasar A. M.	Automatic water tank filler system
		78	JIVANE SAGAR ASHOK		
		79	KHAN QIBRAHIM ABUTHAIR		
		80	KHAN SOHAIL IRFAN		
21	21	81	KHAPARE GAURAV GANPAT	Prof. Kamble P. S.	Guide Changed today
		82	KHARAT SAURABH SURESH		
		83	KOLEKAR NITESH JAGANNATH		
		84	KORE ATISH TUKARAM		
22	22	85	LAMKHEDE JAGANNATH VITTHAL	Dr. Ubale A. B.	Not Reported
		86	MANE KESHAV RAJESH		
		87	MOKASHI AAKIB ALTAF		
		88	MULANI ASAD ASLAM		
23	23	89	MULE GANESH AKROSH	Prof. Shaikh T. M.	Robotics Arm for Multitasking Purpose
		90	NAIK YASH NILESH		
		91	NIPANE RUPESH ANAND		
		92	OJES DATTATRAY KALUNGE		
24	24	93	PACHHAPURE ABHISHEK R	Prof. Surwase N.B.	Pedal Gear Electric Generator
		94	PANCHAL OMKAR PANDHARNATH		
		95	PATHAN SALMAN SHARIF		
		96	PATIL CHANDRASHEKHAR MILIND		
25	25	97	PATIL INDRAJEET SACHIN	Prof. Kamble Rohit S.	Smart Dustbin
		98	PATOLE VIRAJ JAGANNATH		
		99	POL RUSHIKESH SHAHAJI		
		100	RAM VIDYADHAR PATIL		
26	26	101	RAUT KAUSTUBH BHIVAJI	Dr. Ubale A. B.	Electrical Pedal
		102	RAUT SAMIKSHA HANUMANT		
		103	RITESH KIRAN KHANDELWAL		
		104	SADAMATE AKASH AJIT		
27	27	105	SAINDANE HEMANSHU VINAYAK	Prof. Ingole Yogesh R.	Hydraulic Crane
		106	SATPUTE RUSHIKESH JAYWANT		
		107	SAWANT SAURABH ARUN		
		108	THAKARE KOMAL NANA		
28	28	109	THORAT MANGESH AVINASH	Prof. Magade P. B.	Free Energy Generator
		110	UMARANIKAR AKSHAY DHUNDAPPA		
		111	VASAVE ROHIT DATTATRAY		
		112	VISHAL DATTATRAYA SHINDE		

PROF. GODASE S. M.
H.O.D MECHANICAL

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BE Project 2020-21						
Gr. No	Sr. No	Roll No	Name of student	Project Guide	Title of Project	Type of Project
1	1	B611017	PRATHMESH P.BOKIL	Dr.Bhmare Y.M.	Over Speed Indication and Automatic Accident avaoiding system for Two Wheeler	In House
	2	B611021	NILESH S.BORASE			
	3	B611033	SHIVRAJ D.DESHMUKH			
	4	B611010	TANMAY S. BHAT			
2	5	B625051	KHOLE AKASH MANGESH	Dr.A.B.Ubale	Performance enhancement of solar ETC system by using Thermic fluid as primary working fluid	In House
	6	B625015	MORE NISHANT SIDDHARTH			
	7	B625016	MOTE DINESH KISAN			
	8	B625028	PORE HARISH KUMAR			
3	9	B624045	MALI AVADHUT SANDEEP	Dr. Ritapure P. P.	Optimization in Automobile	In House
	10	B624028	GAVALI AKSHAY ARUN			
	11	B624007	BEHERE AMOD NARAYAN			
	12	B625043	TALLA MANOHAR SATYANARAYAN			
4	13	B611007	BADAVE ANIKET AVINASH	Dr. Ritapure P. P.	Power Generation Using Forearms Machine Mechanical Project	In House
	14	B611012	BHILARE SRUSHTI ANANTA			
	15	B611024	CHAVAN AADESH RAJENDRA			
	16	B611006	BABAR SHUBHAM PRADEEP			
5	17	B624030	GHORPADE ASHISH ARUN	Prof.Kulkarni S.S.	Energy and Exergy Analysis of I.FC based Solar Tunnel Dryer Intergrated With Thermal Energy Storage Syatem	In House
	18	B625013	MOGHE KANAK GIRISH			
	19	B625012	MISHRA ARPIT KAMESHWAR			
	20	B625046	TATHE SAURABH DATTATRAY			
6	21	B612039	MAHALIM GAURAV VIJAY	Prof. Aldar B. D.	Parabolic Solar Tracking System	In House

Dept. of Mechanical Engineering

	22	B612042	MALSHETTE SANGMESH SURESH			
	23	B612055	NAGOTHKAR AADESH DINESH			
	24	B612059	NANAWARE VIPUL PRAKASH			
7	25	B612027	KULKARNI CHINMAY MANDAR	Prof. Aldar B. D.	Radiant Cooling System	In House
	26	B612054	MUNGI GAURAV VISHRAM			
	27	B625049	YADAV KRISHNAKUMAR SURYABALI			
	28	B613028	RAVIKANTH BASAVARAJ SIMPIGER			
8	29	B611032	DESHMUKH KAMALESH SHANKARRAO	Prof. Karande A.V.	Animatronic Hand	In House
	30	B611001	ACHOLI ANIL SHIVASHARAN			
	31	B611009	BHANDE SUMIT MANOHARRAO			
	32	B611051	GIRAMKAR NIKITA JAYPRAKASH			
9	33	B612062	PANCHARAS RUSHIKESH KAILAS	Prof. Gandigude A. U.	Seasonal Helmet	In House
	34	B612033	LEKHA RAVINDRA NIMKAR			
	35	B613024	RANDIVE SHUBHAM DILIP			
	36	B613006	PANGARE PRANAV NILESH			
10	37	B625033	SHELAR NIKHIL DEEPAK	Prof. Maknikar S. K.	License Face Detetction System	In House
	38	B624044	KURUND YOGESH YADAVRAO			
	39	B624029	GAWADE SUHAS SHANKAR			
11	40	B612038	MAHAJAN NITESH ASHOK	Prof. Maknikar S. K.	Natural Flow Electricity Generation	In House
	41	B612035	MADDIRALA SUBRAMANYAKASHYAP SHIVKUMAR			
	42	B612063	PANDE CHAITANYA JAGDISH			
	43	B613049	SURYAVANSHI YADNYESH VISHNU			

12	44	B612001	AKASH SHIVAJI KARALE	Prof.Kasar A.M.	Design and deveopment of Remote control Ornithopter	In House
	45	B612005	JADHAV SARTHAK KISHOR			
	46	B612008	JAGTAP VEDANT BHANUDAS			
	47	B612056	NAIR SURAJ UNNIKRISHNAN			
13	48	B611050	GHARVE PRANIT SAMIR	Prof. Adewar S. S.	Simulation of Single Point incremental forming using ANSYS	In House
	49	B611004	ATPALKAR AJINKYA NANDKISHOR			
	50	B611034	DESHMUKH VIVEK VINOD			
14	51	B625007	KSHIRSAGAR PIYUSH GIRISH	Prof. Gadhave P. S.	Design and development of oven for sterilization using UV light	In House
	52	B625023	PATIL GAURAV SUNIL			
	53	B611060	JADHAV REENA SANJAY			
	54	B612011	JOSHI ROHIT SUNIL			
15	55	B612043	MALUSARE ROHIT PRAKASH	Prof. Gadhave P. S.	Enhancement of Performance of Triplex type Heat Exchanger with PCM & different geometry of fins.	In House
	56	B612052	MUKANE VIJAYRAJ GAJENDRA			
	57	B612061	PADRI SUYASH YASHWANT			
	58	B612031	KUMBHAR PRATHMESH SAMBHAJI			
16	59	B611041	DIMBALE HRISHIKESH YASHWANT	Prof. Kamble D. P.	Cooling system for vehicle using Nano Fluids	In House
	60	B611011	BHATKAR PRIYAL SUHAS			
	61	B611055	ISAVE OMKAR BHAGWAN			
	62	B611015	BODAKE SWAPNIL TANAJI			
17	63	B611035	DHAGALE PRANAV RAJENDRA	Prof. Kamble D. P.	Employement of Face and Finger print recognization system for smart vehicles	In House
	64	B611065	SHARDUL DILIPRAO BAHEGAVANKAR			
	65	B611046	GANDHI SHUBHAM RAMDAS			
	66	B611047	GAVALI AKASH BHAUSAHEB			
18	67	B612067	SHAIKH SUHEL ABDULSHIKUR	Prof. Randive V. A.	Design & Fabrication of Gear defect detection	In House
	68	B612041	MAKRUWAR AKASH			

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			SANJAY			
	69	B612024	KHAWALE GAURAV LALA			
	70	B612066	SAWANT PRATIK DATTATRAY			
19	71	B611061	JAGTAP SANKET SHEKHAR	Prof.Gadpayale U.K.	Manufacturing and Testing of Glass Fiber composite	In House
	72	B611062	KAMBLE AKASH RAJENDRA			
	73	B611063	PARAB VINAYAK GOPAL			
	74	B611066	SHETE SUMIT HEMANTKUMAR			
20	75	B612015	KAMBLE SURAJ MOHAN	Prof. Randive V. A.	Electro-Pneumatic Gear Shifting Mechanism	In House
	76	B612028	KULKARNI HARISH PRADEEP			
	77	B612018	KARAD AKSHAY SUDAM			
	78	B612025	KHOJE DHANANJAY MAHESH			
21	79	B612058	NALAWADE SIDDHARTH RAMESH	Prof. Bhoite K. L.	Design of Solar water heater with Low Heat Dissipation rate	In House
	80	B612065	POL VENKATESH MANIK			
	81	B612007	JAGTAP SIDHESHWAR BAJRANG			
	82	B612002	BHAT KAPIL KISHOR			
22	83	B612021	KATORE RUTUJA RAJENDRA	Prof.Adewar S.S.	Experiental Investigatuion & Optimisation of single point incremental forming process	In House
	84	B612023	KHARABE VAISHNAVI DILIP			
	85	B612048	MORE KAJAL POPAT			
	86	B611002	ALDAR SUSMITA SUKHADEO			
23	87	B611068	VIJAY RAJEEV DABHADE	Prof.Gadpayale U.K.	Residual stress analysis of Butt Weld	In House
	88	B611013	BIKKAD SANKET ASHOK			
	89	B611053	HUMBE PRASAD PANDURANG			
	90	B611067	VAYDANDE ONKAR SUNIL			
24	91	B612047	MOHOL OMKAR ANIL	Prof. Bhoite K. L.	Damage detection and conditioning assistment of beams	In House
	92	B612057	NALAWADE AJAY GORAKH			
	93	B612040	MAID SIDDHESH DEEPAK			

	94	B612036	MAHADIK ADITYA SUNIL			
25	95	B613029	SALUNKE AKASH CHANDRAKANT	Prof. Joshi S. H.	Exo-Skeleton Power Suit	In House
	96	B613003	GURAV NINAD RAVINDRA			
	97	B613066	YEWALEKAR DINESH DILIP			
	98	B613045	SHIVNEKAR SARANG MADHAV			
26	99	B625034	SHELKE TUSHAR RAJKUMAR	Prof. Deshmukh J. A.	Design and Fabrication of 90 degree steering system	In House
	100	B625018	PALANGE VINAYAK ABHAY			
	101	B624040	KHEDEKAR VIKAS VILAS			
	102	B624046	MALI MANOJ ASHOK			
27	103	B612029	KULKARNI SHUBHAM SHASHIKANT	Prof. Deshmukh J. A.	Design and development of loop wheel damper	In House
	104	B612016	KANAWADE ONKAR DINKAR			
	105	B612068	JADHAV SHUBHAM DHANAJI			
28	106	B613031	SALVE ADARSH BHARAT	Prof. Shaikh T. M.	Design and Fabrication of Automatic release of Hand brake after the appliction of seat belt.	In House
	107	B613050	SUTAR PRASAD TUKARAM			
	108	B613046	SIRSATH AKSHAY NARAYAN			
	109	B613034	SAPRE KAUSHAL SHASHANK			
29	110	B624015	CHAVAN SHIRISH SHARAD	Prof. Shaikh T. M.	Compressed Air Engine Power	In House
	111	B624018	DESAI ABHISHEK BHAGWANT			
	112	B624041	KHEDKAR AKSHAY PRADEEP			
	113	B625039	SURYAVANSHI SHUBHAM ASHOK			
30	114	B611025	CHAVAN SANKET SANJAY	Prof. Survase Priya M.	Semi Automatic Mulching Machine	In House
	115	B611043	GAIKWAD ATISH GUNDU			
	116	B611045	GAIKWAD SURAJ SANJAY			

	117	B625041	SURYWANSHI VIKAS TULSHIRAM			
31	118	B613020	RAHATE SAHIL DINESH	Prof. Godase S. M.	Design and manufacturing of automatic two wheel drive forklift for material handling.	In House
	119	B613038	SAWANT RAHUL SURESH			
	120	B613022	RAMBADE OMKAR KRISHNA			
	121	B613030	SALUNKE PRANAY SANJAY			
32	122	B613013	PATIL POOJA NIVAS	Prof. Survase Priya M.	Design and Development of Material Lifting and Moving machine	In House
	123	B613041	SHENDKAR VINAYA SANJAY			
	124	B613064	YADAV MADHURI SUNIL			
33	125	B612049	MORE OMKAR DNYANOBA	Prof. Mali L. B.	Design of Low Cost Refrigeration System using LPG	In House
	126	B612050	MORE PAVAN BALAJI			
34	127	B613005	KULKARNI RUSHIKESH SHIRISH	Prof. Magade P. B.	Dust Conrtrol in Stone crusher	In House
	128	B613021	RAHURKAR KIRAN ASHOK			
	129	B613040	SHARMA HRITIK			
	130	B613043	SHINDE AMOL SANJAY			
35	131	B613059	UBHE NIKHIL SAKHARAM	Prof. Ingole Yogesh R.	Live Kilometer Count	In House
	132	B613051	TANWADE MUKUNDA ANANDA			
	133	B613056	THAKUR VIHANG PURUSHOTTAM			
	134	B613063	WATHORE SANTOSH CHANDRAKANT			
36	135	B625040	SURYAWANSHI AKSHAY DAYARAM	Prof. Charthal Sagar M.	Automatic Floor Cleaning Mahine	In House
	136	B625031	SAWANT AJINKYA RUPCHAND			
	137	B625027	POL SURAJ BALASO			
	138	B625029	SAKAPAL MITHILESH MANAJI			
37	139	B625032	SAYYED FAIZAN AHMAD FAROOQUE	Prof.Kulkarni S.S.	Power Generation using combined cycle	In House

			AHMAD		in Aa air breathing Engine	
	140	B624005	BAGODI SHREYASH RAGHAVENDRA			
	141	B625045	TANZIL AHEMAD MOHAMMAD ZAFAR			
	142	B625011	MATE KUNAL KHANDU			
38	143	B624002	ANKIT RADHE MOHAN SHUKLA	Prof. Jagtap H. P.	Design and Fabrication of River Water Cleaning Machine	In House
	144	B625035	SHEVALE SANKET SANJAY			
	145	B625037	SHRIKE SHANTARAM ANANDARAO			
	146	B625042	TALIKHEDE VEDANT JANARDHAN			
39	147	B611030	DEORE JITESH DASHRATH	Prof. Patunkar M.M.	Design and Analysis of Disc Brakes using different patterns	In House
	148	B611031	DEORE MAYUR UTTAM			
	149	B611018	BORAVAKE MAYUR BHANUDAS			
	150	B611029	DAWALBHAKTA RUSHIKESH VIVEK			
40	151	B625022	PATEL SUMIT DILIP	Prof. Ingole Yogesh R.	Automatic overhead water tank cleaning system.	In House
	152	B624006	BAGUL CHETAN DAGA			
	153	B625006	KOTKAR PRASAD BHASKAR			
	154	B625026	PAWAR KRISHNA CHANDRASHEKHAR			
41	155	B612045	MANGAONKAR MANDAR ANIL	Prof.Lawate S.A.	Performance Analysis of Vortex Tube	In House
	156	B612046	MHATRE SHUBHAM CHANDRAKANT			
	157	B612044	MANDHARE AJINKYA VIJAY			
	158	B612032	LAKADE ADESH ARUN			
42	159	B612013	KALE POOJA LAXMAN	Prof. Karande A. V.	Analytical and Expermental Study of Flow of Hot air in air dryer to maximise the Performance	In House
	160	B612012	JOSHI TANMAY SUNIL			
	161	B612009	JEWALIKAR AKSHAY ARUN			

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	162	B612010	JOSHI ONKAR PRASHANT			
43	163	B624019	DEVDHAR SANKET SUDHAKAR	Prof.Chavan P.B.	Automatic Fire Fighting Robot	In House
	164	B624003	AYADE VEDANT MANGESH			
	165	B624033	HARIDAS AKASH RAVINDRA			
	166	B624022	DIXIT AKHILESH GAJANAN			
44	167	B624012	BORATE MAYURESH MUKUND	Prof.Topia M.H.	Design and Fabrication of Weight Scrubbing for Vehicle Pollution control System	In House
	168	B611052	HIVARE MOHIT RAJESH			
	169	B624024	DOMBE AKSHAY GANGADHAR			
	170	B624043	KULKARNI YOGESH C			
45	171	B613060	VAHADNE OMKAR CHANDRASHEKHAR	Prof. Tapre Krunal A.	Design and manufacturing of floor cleaning machine	In House
	172	B613047	SURWADE NIKHIL SAMADHAN			
	173	B613026	RATHOD DNYANESHWAR DEVIDAS			
	174	B613017	POKHARKAR AKASH			
46	175	B624014	CHAVAN PRASAD DEVDAS	Prof. Charthal Sagar M.	Lifting of Water using wind Mill	In House
	176	B625004	KAME KALPAK SUDHIR			
	177	B625030	SALUNKE SACHIN DADAJI			
	178	B625036	SHILIMKAR OMKAR DASHRATH			
47	179	B611064	PRANAY RAJENDRA DHOLE	Prof.Kasar A.M.	Design,Manufacturing and Analysis of Juite Fiber	In House
	180	B611036	DHAKANE DNYANESHWAR ASHOK			
	181	B611027	DAKHORE YASHVANT VITTHAL			
	182	B611044	GAIKWAD RAHUL ANAND			
48	183	B612003	JADHAV PRAKASH RAMESH	Prof.Gujar S. H.	Gearless Power Transmission System	In House

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	184	B612004	JADHAV SARIKA SHARAD			
	185	B612006	JAGATAP PRATIK BALASO			
	186	B612019	KARANDE SANKET TUKARAM			
49	187	B625001	BARAHATE ROHIT RAMCHANDRA	Prof. Sawant S. B.	Thermoelectric generator and cooler opertaed for removal System for Automobile	In House
	188	B625002	GAIKWAD PURUSHOTTAM DEVANAND			
	189	B625003	KAMBLE SUMIT SHAMRAO			
	190	B624025	GAIKWAD RAVIKIRAN MAHENDRA			
50	191	B613039	SAYYAD SOHEL SADRUDDIN	Prof.Gujar S. H.	Automatic breaking system	In House
	192	B613042	SHID ROHIT BHIMRAO			
	193	B613062	WAGHMODE SHUBHAM VITTHAL			
	194	B613065	YADAV SOURABH MANOJ			
51	195	B611039	DHONDE TUSHAR SANJAY	Prof.Kamble P.S.	Thermal Management of Electric Vehicle Battery	In House
	196	B611005	AVHAD SAURABH SHANKAR			
	197	B611049	GHANEKAR TEJAS ATMARAM			
	198	B611039	DHONDE NIKHIL BHAUSAHEB			
52	199	B611016	BODKE GAURAV LAHU	Prof.Kamble P.S.	Investigation on residual stress in friction stir welding	In House
	200	B611037	DHOBALE MARUTI RAM			
	201	B611059	JADHAV OMKAR HARISH			
	202	B611070	BHANDARE AMIT ASHOK			
53	203	B612014	KALE SHUBHAM SUNIL	Prof. Bombale R.R.	Modified steamer system for turmeric processing.	In House
	204	B612034	LOKHANDE ABHISHEK DEVIDAS			
	205	B612020	KARNKOTI ROHIT BHIMASHANKAR			

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	206	B612026	KORGAONKAR RAJ PRAKASH			
54	207	B613001	AMBEKAR SHUBHAM PRAKASH	Prof. Surwase N.B.	Energy Harvesting from Highway by vertical wind mill turbine	In House
	208	B613019	PRAJAPATI MAHESH BABULAL			
	209	B613053	TELGU OMKAR SAINATH			
	210	B613007	PARDESHI RUSHIKESH DEVENDRA			
55	211	B613011	PATIL ANIRUDDHA MALHAR	Prof.Lawate S.A.	Pedal Powered Washing Machine	In House
	212	B613014	PATIL SAURABH DHANAJI			
	213	B613015	PHALKE PRASANNA SUDHAKAR			
	214	B613044	SHINDE PRANAV JAGDISH			
56	215	B613002	GHUGE PRASHANT ABHIMAN	Prof.Chavan P.B.	Design and Analysis of Zero turn steering system	In House
	216	B613004	KUDALE SHUBHAM BAJIRAO			
	217	B613048	SURYAVANSHI SHIVARAJ ARUN			
	218	B613035	SARADE PRASHANT SAMBHAJI			
57	219	B613069	NAWALE NIKHIL SOPANRAO	Dr. Bhamare Yatin M.	Pulse jet engine	In House
	220	B613072	SANJEET KUMAR NAVIK			
58	221	B624021	DHUMAL NANDKISHOR ARVIND	Dr. Ritapure P. P.	Multi purpose agricultural wheel sprayer	In House
	222	B625052	MORE PRASAD VILAS			
	223	B624026	GAIKWAD SHASHIKANT KUMAR			
	224	B624027	GARUDKAR ABHISHEK BABASAHEB			
59	225	B625047	VARE PANKAJ SUNIL	Prof.Jagtap H.P.	Gearless angular Power transmission using rods	In House
	226	B624042	KULKARNI HRUSHIKESH PRAKASH			
	227	B625038	SINGH MOHIT SOBAN			

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	228	B625019	PAMPATTIWAR ROHAN RAJESH			
60	229	B611042	DONGARE ABHISHEK DATTATRAYA	Prof.Joshi S.H,	Oil Skimmer	Sponsored
	230	B611008	BAGAL SWAPNIL CHANDRAHAR			
	231	B611022	CHAFEKAR VIRAJ VIKAS			
61	232	B611020	BOROLE ROHAN SUNIL	Prof.Borade S.S.	Design of Screw Conveyor	Sponsored
	233	B611026	CONTRACTOR MUSTANSEER SHABBIR			
	234	B611023	CHAKWATE PRATHMESH SACHIN			
	235	B611019	BORKAR SANKET UMESH			
62	236	B613054	TELI SAURABH SHIVSHANKAR	Prof.Suryawanshi A.R.	Experimental Investigation and Optimization Wire EDM parameters for SR,MRR in machining of AISI D3 tool steel.	Sponsored
	237	B624008	BHOIR SHUBHAM KAILAS			
	238	B624034	JADHAV VAIBHAV RAMDAS			
	239	B624035	JANGAM PRAFULL MALAYYA			
63	240	B613027	RAUT SUJAY SUDHIR	Prof.Gadpayale U.K.	Design,Analysis and Manufacturing of Hydrualic expanding sleeve	Sponsored
	241	B613032	SALVE SHUBHAM LALASAHEB			
	242	B613037	SAURABH MORE			
	243	B613052	TATHE ASHISH SAYAJI			
64	244	B612030	KULKARNI TUSHAR KALYAN	Prof. Mali L. B.	Design and Analysis of Carbon Fibered Helicoptor Blade	Sponsored
	245	B612053	MULE ATHARVA SHAILESH			
	246	B612022	KHANPATHAN AVEZ ALTAF			
65	247	B613008	PARDESHI VEDIKA UMESH	Prof.Kalyanshetty M.R.	CAD Customisation and Parametric Modelling for Muffler	Sponsored
	248	B613061	WAGHMARE RUTUJA DIGAMBAR			
66	249	B613012	PATIL NIKHIL JITENDRA	Prof.Borade S.S.	Design and Optimisation of Heat	Sponsored

	250	B613010	PATIL AKSHAY ASHOK		Exchanger	
	251	B613036	SARALKAR NARENDRA NANDKUMAR			
	252	B613016	PHANSE RUSHIKESH SAHADEV			
67	253	B624037	JOSHI PRATHAMESH PANDURANG	Prof. Patunkar M.M.	Optimization of Turning Parameters of AISI-1016 steel specimen in lathe machine using Taguchi Method	Sponsored
	254	B625021	PANDIT VAISHALI DILIP			
	255	B612064	PATIL AISHWARYA HEMANT			
	256	B624020	DHAWALE PRAFUL SUNILRAO			
68	257	B613009	PASALKAR ATHARVA ATMARAM	Prof.Kalyanshetty M.R.	Design and Manufacturing of positive metering pump water treatment	Sponsored
	258	B613018	POLEKAR AKASH MARUTI			
	259	B613057	THORAT ABHIJEET ASHOK			
	260	B613058	TIKHE OMKAR SANJAY			
69	261	B613023	RANDIVE MAHESH SADASHIV	Prof. Bombale R.R.	Design manufacturing and Anslysis of Stirrer for Chemical Industry	Sponsored
	262	B612037	MAHADIK AKSHAY SANTOSH			
	263	B612051	MORE SHUBHAM DEEPAK			
	264	B612060	NIMBALKAR VIVEK DEEPAK			
70	265	B624004	BADAME BHUSHAN RAVI	Prof.Kasar A.M.	Design and Manufacturing of Link door lock to handle outer link required tool	Sponsored
	266	B624032	GURAV VIVEK PANDURANG			
	267	B611048	GAVALI OMKAR			
	268	B611056	JADHAV ABHISHEK ARUN			

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