Savitribai Phule Pune University

RULES AND REGULATIONS

FOR

UG CREDIT SYSTEM PROGRAMME
UNDER FACULTY OF ENGINEERING

EFFECTIVE FROM JUNE 2015

Extract from Affiliating University's Web site Course structure, Evaluation Scheme for C.B.C. System.

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College Code-96

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PREFACE:

In a bid to fine tune our technical education system to the global standards & practices, the Credit-Grade based performance and assessment system will be implemented with effect from June 2015 onwards for all the Under Graduate Programmes (UG) under the Faculty of Engineering, University of Pune, starting with First Year.

With the advent of technology and ever-changing expectations from the Industry and Society, it has become imperative to relook at the structure and subject contents of various UG courses to make it contemporary and relevant.

As per the decision by the authorities of University of Pune the faculty of Engineering has prepared the credit system and structure. The revised course is of 190 credits and 1 credit is equivalent to 15 hours. Assessments in credit system consist of A) In-semester continuous assessment and B) End-semester assessment for the Theory head and Term Work/ Practical / Oral / Presentation at the end of the semester for Practical, Oral, Seminar and Project Head.

The faculty of Engineering has shouldered the idea of incorporating latest advances in Science and technology and equip the subject/syllabus contents with latest and relevant topics and know-hows. Accordingly the new structure and syllabi are being introduced, to be implemented from **the academic year 2015-16** from First Year and it will continue for subsequent years. The rules governing the programmes shall be as given below with suffix R, followed by the rule number.

- All UG programmes, under Faculty of Engineering shall be offered with credit system.
- All the B.E. programmes running under the Faculty of Engineering will be of four years duration.
- The total no. of credits required for the completion of the programme is 190 credits.
- One credit is equivalent to 15 hours.
- A student is required to earn 190 credits in a minimum period of eight semesters.

1. UG Programme Structure:

Each B.E. / B. Tech. programme is of 4 years duration. The minimum total no. of credits requirement for each programme is 190. In the structure, the credits are distributed over 8 semesters. The open elective included, gives the student a wide choice of subjects from other programmes. The Credit structure for B E programme is given below in table 1.

TABLE -1 Credit structure for B E programme

Course Work	Credits								
	Sem-1	Sem-2	Sem-3	Sem-4	Sem-5	Sem-6	Sem-7	Sem-8	Total
Mandatory Subjects[$]	19	19	20	20	18	18	10	6	130
Elective Subjects							6	6	12
Lab Courses	6	6	5	5	5	4	4	4	39
Seminar						1			1
Project Work							2	6	8
Total	25	25	25	25	23	23	22	22	190

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$: Mandatory subjects of first, second and third semester must include at least 40 credits for Engineering Physics, Engineering Chemistry, Engineering Mathematics, social science and soft skills
In addition to above credits, there should be audit courses in semester five, six and seven to develop the various skills.
The detail structure is given in Tables

TABLE -2 Structure for Semester-1

	Code	Subjects	Short Name	Weekly Work Load (in Hrs)			Semester Examination Scheme of Marks						Credits
							Theory		TW	PR	OR	Max. Marks	
				Lectures	Tutorials	PR/DRG	In-Semester Exam	End-Semester Exam					
	107001	Engineering Mathematics I		4	1	–	50	50	25	–	–	125	5
#	107002/ 107009	Engineering Physics OR Engineering Chemistry		4	–	2	50	50	25	–	–	125	4+1
	110003	Engineering Graphics I		3	–	2	50	50	–	-	–	100	3+1
#	103004/ 104012	Basic Electrical Engineering OR Basic Electronics Engineering		3	–	2	50	50	25	–	–	125	3+1
	101005	Basic Civil and Environmental Engineering		3	–	2	50	50	25	–	–	125	3+1
	102006	Fundamentals of Programming Languages I		1	–	2	-	-	–	50*	–	50	1+1
	111007	Workshop Practice		–	–	2	–	–	50	–	–	50	1
	Total of Semester I			18	1	12	250	250	150	50	–	700	25

TABLE - 3 Structure for Semester-2

	Code	Subjects	Short Name	Weekly Work Load (in Hrs)			Semester Examination Scheme of Marks						Credits
							Theory		TW	PR	OR	Max. Marks	
				Lectures	Tutorials	PR/ DRG	In-Semester Exam	End-Semester Exam					
	107008	Engineering Mathematics II		4	–	–	50	50	–	–	–	100	4
#	107009/ 107002	Engineering Chemistry OR Engineering Physics		4	–	2	50	50	25	–	–	125	4+1
	110010	Basic Mechanical Engineering		3	–	2	50	50	25	-	–	125	3+1
	101011	Engineering Mechanics		4	–	2	50	50	25	–	–	125	4+1
#	104012/ 103004	Basic Electronics Engineering OR Basic Electrical Engineering		3	–	2	50	50	25	–	–	125	3+1
	102013	Fundamentals of Programming Languages II		1	–	2	-	-	-	50*	–	50	1+1
	102014	Engineering Graphics II		–	–	2	–	–	50	–	–	50	1
	Total of Semester II			19	–	12	250	250	150	50	–	700	25

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Instructions:

1. PR/Tutorial must be conducted in minimum three batches (batch size 22 maximum) per division
2. Minimum number of required Experiments/Assignments in PR/DRG/Tutorial be carried out as mentioned in the syllabi of related subjects.
3. * for FPL-I and FPL-II: S.P. Pune University Online Practical Examination shall be conducted at the semester end.
4. # Every student should appear for Engineering Physics, Engineering Chemistry, Basic Electronics Engineering and Basic Electrical Engineering during the year.
5. # College is allowed to distribute Teaching Workload of subjects Physics, Chemistry, BEE, BXE in semester I and II by dividing number of FE divisions appropriately in two groups.

TABLE -4 Structures for Semester-3

Subject Head	Duration/week	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	20	250	250		100	20
Practical/Oral	10			150		5
Total	30	250	250	150	100	25

TABLE -5 Structure for Semester-4

Subject Head	Duration/week	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	20	250	250		100	20
Practical/Oral	10			150		5
Total	30	250	250	150	100	25

TABLE -6 Structure for Semester-5

Subject Head	Duration/week (hrs)	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	18	150	350		100	18
Practical/Oral	10			150		5
Total	28	150	350	150	100	23

TABLE -7 Structure for Semester-6

Subject Head	Duration/week	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	18	150	350		100	18
Practical/Oral	8			100		4
Seminar	1			50		1
Total	27	150	350	150	100	23

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TABLE -8 Structure for Semester-7

Subject Head	Duration/week (hrs)	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	16	150	350	-	100	16
Practical/Oral	8			100		4
Project	2			50		2
Total	26	150	350	150	100	22

TABLE -9 Structure for Semester-8

Subject Head	Duration/week	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	12	120	280	-	100	12
Practical/Oral	8			100		4
Project	6			100	50	6
Total	26	120	280	200	150	22

Note: Semester 1 and semester 2 will be part of First Year of Engineering (FE)
Semester 3 and semester 4 will be part of Second Year of Engineering (SE)
Semester 5 and semester 6 will be part of Third Year of Engineering (TE)
Semester 7 and semester 8 will be part of Final Year of Engineering (BE)

Practicals/Lab. Work:
The laboratory work will be based on completion of assignments confined to the courses of that semester.

SEMINAR:
Shall be on state of the art topic of student's own choice approved by an authority. The student shall submit the duly certified seminar report in standard format, for satisfactory completion of the work by the concerned Guide and head of the department/institute.

PROJECT WORK:
The project work shall 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 the seventh semester 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, project overview, 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.

Project Work in the eighth semester, the student shall complete the remaining part of the project which will consist of the fabrication of set up required for the project, work station, conducting experiments and taking results, analysis & validation of results and conclusions.

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The student shall prepare the duly certified final report of project work in standard format for satisfactory completion of the work by the concerned guide and head of the Department/Institute.

2. Examination Scheme:

R 2.1

The theory examination shall be conducted in three phases for all the subjects of semesters 1-4 and two phases for the semesters 5-8. For first four semesters (Semester 1, 2, 3 and 4), the Phase-1 and Phase-2 exam are part of in-semester exam and Phase 3 is a part of end-semester exam.

R 2.1.1: Phases of FE and SE

Phase I Online examination of 25 marks, 30 minutes duration, containing objective- multiple choice questions (MCQ) and fill in blanks; based on unit I and unit II of the subject, shall be conducted as per the schedule of the university.

Phase II Online examination of 25 marks, 30 minutes duration, containing objective- multiple choice questions (MCQ)) and fill in blanks; based on unit III and unit IV of the subject, shall be conducted as per the schedule of the university.

Phase III Written examination of 50 marks, 2 hours duration; based on all the six units, shall be conducted at the end of semester, as per the schedule of the university.

R 2.1.2: Phases of TE and BE

Phase I:

Theory examination of 30 marks, 60/90 minutes duration based on unit I ,unit II and unit III of the subject, shall be conducted as per the schedule of the university.

Phase II:

Theory examination of 70 marks, 150/180 minutes duration, based on all the units of the subject, shall be conducted at the end of semester as per the schedule of the university.

R-2.2

For the subject of Engineering Graphics- I at FE, the mode of examination shall be manual for phase I and phase II. Phase I and phase II examinations shall be of one hour duration each. All these examinations shall be conducted as per the schedule of the University.

R-2.4

The practical examination of 50 marks, one hour duration for Fundamentals of Programming Languages- I and Fundamentals of Programming Languages-II, shall be conducted online at the end of respective semesters as per the schedule of the University.

R-2.5

The third semester (first semester of SE) Phase 1 and Phase 2 will be conducted together by considering the direct second year admissions.

3. Structure of Question Paper :

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R 3.1: For FE and SE:

- All questions for online examinations shall be objective type with multiple choice/ fill in the blanks type questions. The weightage for each question will be of one or two marks as per the difficulty level. More or less equal weightage is to be given to every unit pertaining to the examination.
- The nature of all questions in phase III written examination shall be Fundamental, Mathematical and analytical. The weightage for the syllabus units is as in table 10 and every question will have an internal option.

Table 10 Unitwise weightage

Unit	% Weightage
unit I & unit II	25%
unit III & unit IV	25%
unit V	25%
unit VI	25%

R 3.2: For TE and BE

- Three Units (Unit Nos. 1, 2 & 3) will be covered for 30 marks for Phase-1(In semester) Exam. Equal weightage will be given to all units (10 marks each).
- All the Six Units will be covered for 70 marks for Phase -2 (End-semester) Exam. 20 marks will be the weightage for first 3 units and 50 marks will be the weightage for Units 4,5 and 6. Question Paper will have only one section and five questions.

4. Assessment

A. Theory

R 4.1:

- **In-Semester Examination for FE and SE:**

  Since in-semester exam for FE and SE is online, the assessment will be computer based.
- **In-Semester Examination for TE and BE:**

  Assessment will be done at the CAP Centre of the College by the Expert who is appointed as an examiner for the subject as per 32/5 panel for the In-Semester exam.

R 4.2:

End-Semester Examination for FE,SE,TE and BE:

Assessment will be done at the CAP Centre by the Expert who is appointed as an examiner for the subject as per 32/5 panel for the End-Semester exam.

B. Term work:

R 4.3:

Term Work assessment shall be conducted for the Lab Practice, Project, tutorials and Seminar. Term work is continuous assessment based on work done, submission of work in the form of report/journal, timely completion, attendance, and understanding. It should be assessed by subject teacher of the institute for first to sixth semester and by the external examiner at seventh and eighth semester. At the end of the semester, the final grade for a Term Work shall be

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assigned based on the performance of the student and is to be submitted to the Savitribai Phule Pune University. A student who fails in the Term Work on account of unsatisfactory performance shall be given F grade and on the account of inadequate attendance shall be given FX grade.

C. Practical/Oral/Presentation :

R 4.4:

Practical/Oral/presentation is to be conducted and assessed jointly by internal and external examiners. The performance in the Practical/Oral/Presentation examination shall be assessed by at least one pair of examiners appointed as examiners by the Savitribai Phule Pune University. The examiners will prepare the mark / grade sheet in the format as specified by the Savitribai Phule Pune University, authenticate and seal it.

5. RULES OF PASSING

R-5.1

To pass the term work / Practical / Oral the student has to earn Minimum of 40% marks in each head.

R-5.2

To pass the Theory Subject head the student has to earn minimum of 40 per cent marks in End-Semester exam and 40 percent average marks (In-Semester marks + End-Semester marks).

R-5.3

The failing student can repeat the End-Semester exam to pass the head in any semester and the In-Semester exam marks will be retained as it is. Or the failing student can repeat for End-Semester exam as well as in-semester exam. for the head of Even semester in the Even semester only and for the head of Odd semester in Odd semester only for the theory head.

R-5.4

To earn credits of a course (Theory/term work/practical/oral/presentation) student must pass the course with minimum passing marks/grade.

R 5.5

Student can only apply for the revaluation/Photocopying of End-Semester exam only.

6. RULES OF A.T.K.T.:

R-6.1

A student can register for the third semester(SE), if he/she earns minimum 50% credits of the total of first and second semesters(FE).

R-6.2

A student can register for the fifth semester(TE), if he/she earns minimum 50% credits of the total of third and forth semesters(SE) and all the credits of first and second semester(FE).

R-6.3

A student can register for the seventh semester(BE), if he/she earns minimum 50% credits of the total of fifth and sixth semesters(TE) and all the credits of third and forth semester(SE).

R-6.4

A student will be awarded the bachelor's degree if he/she earns 190 credits and clears all the audit courses specified in the syllabus.

7. Assessment and Grade Point Average:

R-7.1

Marks/Grade/Grade Point

A grade is assigned to each head based on marks obtained by a student in examination of the course. The marks obtained in in-semester and end-semester examination are considered

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together to calculate the grade of the course. These grades, their equivalent grade points are given in Table 11.

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TABLE 11 Grade and Grade Point

Grade	Grade Points	Percentage of Marks Obtained	Remarks
O	10	90-100	Outstanding
A	9	80-89	Very Good
B	8	70-79	Good
C	7	60-69	Fair
D	6	50-59	Average
E	5	40-49	Below Average
F	0	Below 40	Fail
AP	0	--	Passed Audit Course
FX	0	--	Detained, Repeat the Course
II	0	--	Incomplete -- Absent for Exam but continue for the course
PP	--	--	Passed (Only for non credit courses)
NP	--	--	Not Passed (Only for non credit courses)

- **Passing Grade** -The grades **O, A, B, C, D, E** are passing grades. A candidate acquiring any one of these grades in a course shall be declared as pass. And student shall earn the credits for a course only if the student gets passing grade in that course.
- **F Grade** -The grade F shall be treated as a failure grade. The student with F grade will have to pass the concerned course by re-appearing for the examination. The student with F grade for any stage of the Project Work, will have to carry out additional work/ improvement as suggested by the examiners and re-appear for the examination.

- **AP Grade** -The student registered for auditing a course shall be awarded the grade AP and shall be included such AP grade in the Semester grade report for that course, provided student has the minimum attendance as prescribed by the Savitribai Phule Pune University and satisfactory in-semester performance and secured a passing grade in that course. No grade points are associated with this grade and performance in these courses is not accounted in the calculation of the performance indices SGPA
and CGPA.

- **FX Grade**-The grade FX in a course is awarded by the college, if a student does not maintain the minimum attendance in the Lecture / Tutorial class as prescribed by the Savitribai Phule Pune University and/or his performance during the semester is not satisfactory and/or he/she fails in the Term Work head of that course.
  The student with FX grade in a given course is not permitted to take the end of semester examination in that course. Such a student will have to re-register for the course.
- **Grade II**-Grade II shall be awarded to a candidate in a course in which he has the minimum attendance as prescribed by the University and satisfactory in-semester performance but could not appear for the end-semester examination. Such a student will have to appear in the subsequent end-semester examination.

- **PP / NP Grade** -The non-credit courses, such as Practical Training, Communication Skill, Field Visit Courses etc. shall be awarded PP/NP grades. No grade points are associated with these grades and performance in these courses is not accounted in the calculation of the performance indices SGPA and CGPA. However, the award of the degree is subject to obtain a PP grade in all such compulsory courses.

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- The student with F / FX / grade II in a course shall not be awarded any credits for that course.

8. PERFORMANCE INDICES:

R-8.1

The semester end grade sheet will contain grades for the courses along with titles and SGPA. Final grade sheet and transcript shall contain CGPA.

R-8.2

SGPA -The performance of a student in a semester is indicated by a number called the Semester Grade Point Average (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses, seminars and projects registered by the student during the semester.

(i) Semester Grade Point Average (SGPA) =

$$SGPA = \frac{\sum_{i=1}^{p} Ci\,Gi}{\sum_{i=1}^{p} Ci}$$

$$\text{SGPA} = \frac{\sum \text{Grade Points Earned} \times \text{Credits for each course}}{\text{Total Credits}}$$

For Example: suppose in a given semester a student has registered for five courses having credits C1, C2, C3, C4, C5 and his / her grade points in those courses are G1, G2, G3, G4, G5 respectively.

Then students

$$\text{SGPA} = \frac{C1G1 + C2G2 + C3G3 + C4G4 + C5G5}{C1 + C2 + C3 + C4 + C5}$$

SGPA is calculated up to two decimal places by rounding off.

R-8.3

CGPA- The CGPA is the weighted average of the grade points obtained in all the courses (Theory/term work/practical/oral/presentation) of first semester to eighth semester for the students admitted in the First year and third to eighth semester for the students directly admitted at Second year. It is calculated in the same manner as the SGPA.

R-8.3

In case of a student passing a failed course or in case of improvement, the earlier grade would be replaced by the new grade in calculation of the SGPA and CGPA.

9. RESULT:

Based on the performance of the student in the semester examinations, the University of Pune will declare the results and issue the Semester Grade sheets.

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R-9.1

The class shall be awarded to a student on the CGPA calculated as mentioned in Rule no. R 8.3. The award of the class shall be as per Table 12.

TABLE 12 -CGPA and Class awarded

Sr. No.	CGPA	Class of the Degree awarded
1.	7.75 or More than 7.75	First Class with Distinction
2.	6.75 or more but less than 7.75	First Class
3.	6.25 or more but less than 6.75	Higher Second Class
4.	5.5 or more but less than 6.25	Second Class

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Supporting Document

Sl.No.	Content
1	Question Paper
2	Examination Schedule
3	Students seating plan
4	Result analysis of Class test
5	Assignments
6	Assignment report
7	Semester Result analysis

Total No. of Questions : 6]

P594

SEAT No. :

[Total No. of Pages : 2

BE/Insem/APR - 192

B.E. (Electrical)

POWER ELECTRONICS CONTROLLED DRIVES

(2015 Pattern) (Semester - II)

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates :

1) *Solve Q1 or Q2, Q3 or Q4, Q5 or Q6.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Use of Calculator is allowed.*
5) *Assume suitable data if necessary.*

Q1) State the essential parts of Electric drives and function of each parts. **[10]**

OR

Q2) a) Explain the steady state stability of a drive, depending on relative characteristics of motor and load. **[5]**

b) A drive has following parameters : J = 1 kg - m2, T = 15 – 0.01 N N-m and passive load torque, T_L = 0.005 N N-m, where N is the speed in rpm. Initially the drive is operating in steady - state. Now it is to be reversed. For this, motor characteristic is altered such that T = –15-0.0 1N N-m for positive as well as negative values of N. Calculate the reversal time. **[5]**

Q3) a) Explain regenerative braking of DC shunt motor along with speed torque characteristics. **[5]**

b) A 400V, 750 rpm, 70A dc shunt motor has an armature resistance of 0.3Ω. When running under rated conditions, the motor is to be braked by plugging with armature current limited to 90A. What external resistance should be connected in series with the armature? Calculate the initial braking torque and its value when the speed has fallen to 300 rpm. Neglect saturation. **[5]**

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OR

Q4) a) Explain the operation of a Chopper controlled Separately excited DC motor drive with suitable waveforms. Draw speed torque characteristics. **[5]**

b) A 220V, 1000 rpm dc series motor takes an armature current of 100A when driving a load with constant torque. Armature and Field resistance are 0.05Ω each. Now it is operated under dynamic braking at twice the rated torque and 800 rpm. Calculate the value of braking current and resistor. Assume linear magnetic circuit. **[5]**

Q5) a) Explain Plugging of 3 phase induction motor. Draw speed torque characteristics. **[5]**

b) A 3-phase, 400V, 50Hz, 6 pole , 925 rpm star connected induction motor has the following parameters : Rs = 0.2Ω, R'r = 0.3Ω, Xs = 0.5Ω, X'r = 1Ω. The motor is fed from a VSI with a constant V/f ratio. The motor is to be braked by plugging from its initial full load speed of 925 rpm. Calculate the initial braking torque. **[5]**

OR

Q6) a) With a neat diagram, explain V/f control of 3 phase induction motor. **[5]**

b) A 3-phase, 2.8 kW, 400V, 50Hz, 4 pole 1370 rpm delta connected squirrel cage induction motor has the following parameters :Rs = 2Ω, R'r = 5Ω, Xs = X'r = 5Ω, Xm=80 Ω. Motor speed is controlled by stator voltage control. When driving a fan load ($T_L = k(1-s)^2$), it runs at rated speed at rated voltage.
Calculate the motor terminal voltage and current at 1200rpm. **[5]**

* * *

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Department of Electrical Engineering

B.E. (Electrical Engineering)
PECD (Unit Test)
(2015Pattern) (Semester-II)(403148)

[Time: 1hour] [Max. Marks: 30]

Instruction to candidates:
1) Answer Q.1 or Q.2;Q.3 or Q.4;Q.5 or Q.6
2) Figures to therightindicate fullmarks.
3) Neat diagrams must bedrawn wherever necessary.
4) Useof electroniccalculator is allowed.
5) Assumesuitabledata, if necessary.

Q. 1. a) Explain Fundamental Torque Equation with Rotational motion & Translational Motion? [6]

b) Explain Regenerative Braking method of DC Motor? [4]

OR

Q 2. a) Explain Closed Loop Speed Control Of DC motor Below & Above Base Speed ? [6]

b) Explain Reverse voltage Braking in Continuous conduction mode? [4]

Q. 3. a) Explain AC & DC Dynamic Braking Of Induction Motor? [6]

b) Explain Variable frequency Control Of Induction Motor drive? [4]

OR

Q. 4. A Motror equipped with a flywheel is to supply a load torque of 1000N-M for 10sec followed by a light load period of 200N-M long enough for the flywheel to regain its steady state speed.It is desired to limit the motor torque to 700N-M.What should be the moment of inertia of flywheel?Motorhas an inertia of 10kg-m2 .its no load speed is 500rpm and the slip at a torque of 500N-M is 5%. Assume Spped –Torque Characteristics of Motor to be a straight line in the region of interest. [10]

Q. 5. A drive has following Parameters:- [10]
J=10kg-m2 T=100-0.1N,N-M, passive load torque =0.05N,N-M,where N is the Speed in rpm. Initially the drive is Operating in Steady State .Now it is Considered. For this Motor Characteristics Is changed to T= -100-0.1N,N-M.calculate The time of Reversal.



Shree Ramchandra Education Society's

Shree Ramchandra College of Engineering

Gat No. 351, Lonikand, Off Nagar Road, Pune - 412 216.

Verified all entries & found correct

28/2/18

Jr. Supervisor's Name, Signature & Date

Roll No. (In Figures) TE 24 Div. A Center : 4096

Roll No.(In Words) Twenty Four

Day & Date : 28 - 2 - 2018 Examination : Prelim

Subject : Design of electrical machine Section : —

Course / Paper No.: — Medium of Answer : English

Main Ans. Book + No. of Supplements : 01 + 0 = Total 01

Question No.	1	2	3	4	5	6	7	8	9	10	11	12	Total	Sign. of Examiner
Marks Obtained	10	4	8	—	2	3	—	2	—	2	—	2	27/30	Gokul

Use of coloured pencil or ink is strictly prohibited except in case of diagrams and sketches
(Write on both sides and start writing on this page.)

Q.1 a) ——— ?

Heating curve and heating time constant.

Total energy is delivered in particular time 't'.

$= \omega . dt$

b

heat dissipated = $A\lambda\theta d\theta$

Total heat absorbed = $G\lambda d\theta$

Total energy = heat dissipated + heat absorbed

$= A\lambda\theta d\theta + G\lambda d\theta$

$\omega . dt = A\lambda d\theta + GS d\theta$

$\frac{\omega . dt}{d\theta}$

$$\frac{d\theta}{dS} = \frac{d\theta}{\left(\frac{\omega}{A\lambda} - \theta\right)}$$

$$\frac{d\theta}{dS} = \frac{d\theta}{\frac{\omega}{A\lambda} - \theta} \quad - (1)$$

Now putting the values

$$\int \frac{d\theta}{dS} = \int \frac{d\theta}{\left(\omega/A\lambda - \theta\right)}$$

$$\theta = -\log_e(\theta_f - \theta_i)$$

Put $= \theta = 0$ and $\theta = 0$

$$0 = -\log_e(\theta_f - \theta_i) + c \quad - (2)$$

$$c = \log_e(\theta_f - \theta_i)$$

Put the value of c in eqn (2).

$$= -\log_e(\theta_f - \theta_i) + \log_e(\theta_f - \theta)$$

$$= \frac{(\theta_f - \theta_i)}{(\theta_f - \theta_i)}$$

$$\theta = \theta_f - (\theta_f - \theta_i).$$

$$\frac{d\theta}{dt} = \frac{d\theta}{\left(\frac{\omega}{A\lambda} - \theta\right)}$$

$$\frac{d\theta}{dt} = \frac{d\theta}{\frac{\omega}{A\lambda} - \theta} \quad - (1)$$

Now putting the values

$$\int \frac{d\theta}{dt} = \int \frac{d\theta}{\left(\frac{\omega}{A\lambda} - \theta\right)}$$

$$\theta = -\log_e(\theta_f - \theta_i)$$

Put $\theta = 0$ and $t = 0$

$$0 = -\log_e(\theta_f - \theta_i) + c \quad - (2)$$

$$c = \log_e(\theta_f - \theta_i)$$

Put the value of c in eqn (2).

$$= -\log_e(\theta_f - \theta_i) + \log_e(\theta_f - \theta)$$

$$= \frac{(\theta_f - \theta_i)}{(\theta_f - \theta_i)}$$

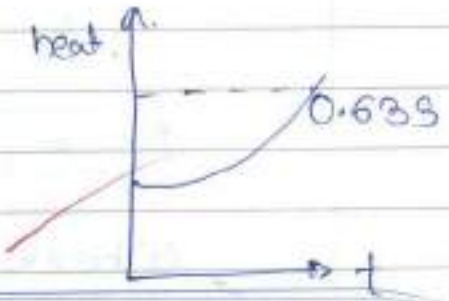
$$\theta = \theta_f - (\theta_f - \theta_i).$$

$$\theta = \theta_f \left(1 - e^{-t/T}\right)$$

this is the heating time contant T.

θ_f = final temperatureise.
T = heating time constant.
t = time in sec

this is the heating curve.



Q.1 b)

following are the various specifications of the Transformer as per IS 2016.

① General :-

In general the manufactures name are generally specified on the name plate.

② KVA rating :-

the transformer power capacity is generally specified on name plate.

4

③ manufactures name.
④ It maximum current capacity.
⑤ It maximum vtg capacity.
⑥ Type of transformer.
⑦ It's power capacity
⑧ rated full load current

Q.3 ——————→ 1)

a) ——————→ 2)

$E = 4.44 \phi F$ -①.

where

E = Vtg.

ϕ = flux in weber

F = frequency.

$A_c = T_p I_p + T_s I_s$.

where

$I_p = \frac{I_p}{\delta}$ ϕ $I_s = \frac{I_s}{\delta}$.

$A_c = \frac{T_p I_p}{\delta} + \frac{I_s T_s}{\delta}$.

A_c = Area of the copper.

K_w = $\frac{\text{Area of the copper window}}{\text{Area of conductor}}$.

$E = 2.22 \times B_m \times F \times \delta \times A_c \times A_w \times 10^{-3}$.

where

B_m = maximum flux density

F = frequency

A_c = Area of the copper win

A_w = Area of the window.

Q.5 b) ——→?

* cooling tubes:-

the transformer is a static device by which the electrical energy is converted one from to another without changing its frequency.

the cooling tubes are used in transformers when the pressure or temperature inside the xmer increases then the oil is also heated. if the oil is heated beyond its limit then there is a ~~charg~~ chances of maximum damage.

therefore to ~~increase~~ ~~the~~ to decrease the temperature of the of the xmer the cooling tubes are ~~are~~ used.

① cooling tubes are designed specially depends on what time of transformer is used.

2

Q.2 a) ——→?

$\theta \quad 25 = \theta_f (1 - e^{-1/\tau}) \quad - (1).$

$37.5 = \theta_f (1 - e^{-2/\tau}) \quad - (2)$

$$\frac{37.5}{25} = \frac{\theta_f (1 - e^{-2/\tau})}{\theta_f (1 - e^{-1/\tau})}$$

2

$\tau = 1.44$

Temperature = 40 - 30°

= 10

$50 = 10(1 - e^{-1/\tau})$

$\tau = 0.934$

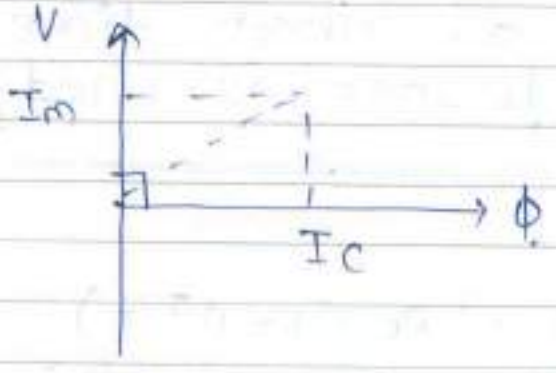
Q.2b)

following are the different coiding types used in x'mer.

1. cylindrical coinding.
2. disk coinding.
3. single layer winding
4. double layer coinding.
5. multilayer coinding.
6. helical coinding
7. semi helical coinding

∴ this are the types of coiding cobich are used in the x'mer.

Q.5b)



where

$I_0 = \sqrt{(I_m)^2 + (I_c)^2}$

the no load current is calculated when the transformer running at no load condition.

no load current is the addition of the magnetising and core loss component.

$$I_m = \frac{A_T I_0}{K}$$

I_m = length of the component.

(S.69) ——— 99.

* Mechanical forces developed under short ckt condition in a x'mer.

transformer is device which convert one form energy to another without changing its frequency.

transformer is works on the principal when primary is supplied by supply then flux linkages with secondary

if the excessive Vtg or current flows through the ckt or x'mer there coill be short ckt occurs.

if the short ckt occurs then there is formation of mechanical force due to overload.

Therefore it is necessary to prevent the transformer from this mechanical force developed under short ckt condition.

Axial forces of xmer:-

there are different types of forces are occured in xmer ① mechanical force ② Axial force.

when the supply is given to the primary then emf is induced in it then this emf links with the secondary and it produces its emf.

It will produce the force axially so this force is called as the axial force of the xmer.

the flux produced in the transformer due to this axial force.

Shree Ramchandra College of Engineering Pune

215 /2019

SAVITRIBAI PHULE PUNE UNIVERSITY

(Formerly University of Pune)

Examination Circular No. 215 of 2019 T.E. (All Branches) August, 2019.

Programme of T. E. [All Branches (In Semester- I) 2015 Course]

Examinations, August, 2019

INSTRUCTIONS FOR CANDIDATES

1. **Candidates are required to present at the respective college of the Examination, THIRTY MINUTES before the time fixed for the paper.**
2. **Candidates are forbidden from taking any material into the examination hall that can be used for malpractice at the time of examination.**
3. **No request for any special concession such as a change in time or any day fixed for the University Examination on religious or any other ground shall be granted.**
4. **Candidates are requested to see the Notice Board at their place of examination regularly for changes if any that may be notified later in the programme.**
5. **Candidates are requested to note the Day, Date & Time of every paper on every day.**
6. **Candidates are permitted to use stencils at time of examination.**
7. **Candidates please refer to rules & regulations of examination for appearance & passing criteria.**
8. **The exchange or loan of side-rules, drawing instruments or other materials used in the examination hall is not permitted while the examinations are in process. Candidates must bring their own instruments and will not be allowed to borrow from each other under any circumstances.**
9. **Use of Non-Programmable battery operated electronic Calculators of Pocket-size is allowed. The exchange of calculators is not allowed.**
10. **The Written Examination will be conducted in the following order.**

Shree Ramchandra College of Engineering Pune

IN SEMESTER- I: TIME 11.00 a.m. To 12.00 noon

Day & Date	T.E. (Civil) (2015 Course)	T.E. (Mechanical) (2015 Course)	T.E. (Mech. S/W) (2015 Course)	T.E.(Automobile) (2015 Course)
Monday, 19/08/2019	Hydrology and water resource engineering. **(301001)**	# Design of Machine Elements-I **(302041)**	Numerical Methods & Optimization **(302047)**	# Design of Machine Elements **(316481)**
Tuesday, 20/08/2019	Infrastructure Engineering and Construction Techniques **(301002)**	Heat Transfer **(302042)**	* Heat Transfer **(302042)**	* Heat Transfer **(302042)**
Wednesday, 21/08/2019	# Structural Design-I **(301003)**	Theory of Machines-II **(302043)**	Mechatronics **(302050)**	* Theory of Machines-II **(302043)**
Thursday, 22/08/2019	Structural Analysis-II **(301004)**	Turbo Machines **(302044)**	Applied Computer Aided Engineering **(302061)**	Automotive Electrical & Electronics **(316482)**
Friday, 23/08/2019	Fluid Mechanics-II **(301005)**	Metrology and Quality Control **(302045)**	# Machine Design **(302062)**	* Metrology and Quality Control **(302045)**

 # Please note the Timing : (1 Hrs.30 Min.)

*** Common with Mechanical**

IN SEMESTER- I: TIME 11.00 a.m. To 12.00 noon

Day & Date	T.E. (Electrical) (2015 Course)	T.E. (E & Tc) (2015 Course)	T.E. (Electronics) (2015 Course)	T.E. (Instru. & Control) (2015 Course)
Monday, 19/08/2019	Industrial and Technology Management **(311121)**	Digital Communication **(304181)**	Power Electronics and Applications **(304201)**	Embedded System Design **(306261)**
Tuesday, 20/08/2019	Advance Microcontroller and its Applications **(303141)**	Digital Signal Processing **(304182)**	Instrumentation Systems **(304202)**	Instrumental Methods for Chemical Analysis **(306262)**
Wednesday, 21/08/2019	Electrical Machines II **(303142)**	Electromagnetics **(304183)**	Electromagnetics and Wave propagation **(304203)**	Control System Components **(306263)**
Thursday, 22/08/2019	Power Electronics **(303143)**	Microcontrollers **(304184)**	Microcontrollers and Applications **(304204)**	Control System Design **(306264)**
Friday, 23/08/2019	Electrical Installation, Maintenance and Testing **(303144)**	Mechatronics **(304185)**	Data Communication **(304205)**	Industrial Organisation and Management **(306265)**



IN SEMESTER- I : TIME 11.00 a.m. TO 12.00 noon

Day & Date	TE (Chemical) (2015 Course)	T.E. (Computer) (2015 Course)	TE (Info. Tech.) (2015 Course)
Monday, 19/08/2019	Chemical Engineering Mathematics **(309341)**	Theory of Computation **(310241)**	Theory of Computation **(314441)**
Tuesday, 20/08/2019	Mass Transfer I **(309342)**	Database Management Systems (DBMS) **(310242)**	Database Management Systems **(314442)**
Wednesday, 21/08/2019	Industrial Organization & Management **(309343)**	Software Engineering & Project Management **(310243)**	Software Engineering & Project Management **(314443)**
Thursday, 22/08/2019	Chemical Process Technology **(309344)**	Information Systems & Engineering Economics **(310244)**	Operating System **(314444)**
Friday, 23/08/2019	Chemical Engineering Thermodynamics II **(309345)**	Computer Networks (CN) **(310245)**	Human-Computer Interaction **(314445)**

Ganeshkhind, Pune - 411007
Ref. No. XCT/1159

Date :26.07.2019.

Director ,
Board of Examinations & Evaluation

Shree Ramchandra College of Engineering ★ Pune

SAVITRIBAI PHULE UNIVERSITY OF PUNE

March- 2019 In-Sem Exam

Seating Chart

Shift:- Morning (11:00AM to 12:00 PM) Date:- 12/03/2019

Block No.	Branch	Seat Numbers	Subject Name & Code	Branch Wise Total	Total
1	MECHANICAL (2015 Pat.)	T150960801 to T150960832	Design Of Machine Element-II(302048)	30	30
2	MECHANICAL (2015 Pat.)	T150960833 to T150960862	Design Of Machine Element-II(302048)	30	30
3	MECHANICAL (2015 Pat.)	T150960863 to T150960892	Design Of Machine Element-II(302048)	30	30
4	CIVIL (2015 Pat.)	T150960001 to T150960032	Project Management & Engineering Economics(301008)	30	30
5	MECHANICAL (2015 Pat.)	T150960893 to T150960901	Design Of Machine Element-II(302048)	9	30
	CIVIL (2015 Pat.)	T150960033 to T150960101	Project Management & Engineering Economics(301008)	21	
6	COMPUTER (2015 Pat.)	T150964201 to T150964232	Systems Programming & Operating System(310251)	30	30
7	ELECTRICAL (2015 Pat.)	T150962501 to T150962530	Control System-I (303147)	30	30
8	ELECTRICAL (2015 Pat.)	T150962531 to T150962560	Control System-I (303147)	30	30
9	ELECTRICAL (2015 Pat.)	T150962561 to T150962565	Control System-I (303147)	5	29
	E&TC(2015 Pat.)	T150963001 to T150963018	Information Theory& Coding Technique(304189)	18	
	COMPUTER (2015 Pat.)	T150964233 to T150964236	Systems Programming & Operating System(310251)	4	
	MECHANICAL (2015 Pat.)	T150960902 to T150960903	Design Of Machine Element-II(302048)	2	
10	MECHANICAL (2015 Pat.)(2012 Pat.)	714930869C to 71628909B	Design Of Machine Element-II(302048)	17	37
	CIVIL (2015 Pat.)(2012Pat.)	71628954H to 71555522H	Project Management & Engineering Economics(301008)	9	
	ELECTRICAL (2015 Pat.)	71749810H to 71749785C	Control System-I (303147)	2	
	COMPUTER (2012 Pat.)	BACKLOG	Embedded Operating Systems(310250)	2	
	ELECTRICAL (2015 Pat.)	BACKLOG	Control System-I (303147)	2	
	ELECTRICAL (2012 Pat.)	BACKLOG	Control System-I (303147)	3	
	E&TC(2015 Pat.)	BACKLOG	Information Theory& Coding Technique(304189)	2	

Sr.Supervisor

Shree Ramchandra College of Engineering Pune

Shree Ramchandra College of Engineering

DEPARTMENT OF ELECTRICAL ENGG.

BE (SEM-II) (2015 PATTERN) A.Y. 2019-20

Subject- Power electronics & Controlled Drives

Exam Seat No.	Name of Students	CT1(30)	CT2(30)	CT-3(100)
B150962501	ADITYA VASANTRAO BHALEKER	22	18	69
B150962502	AJAY GOVIND MANE	20	17	63
B150962503	AKSHAY WAMANRAO BAINALE	23	21	76
B150962504	ALANE SANDHYARANI SHIVAJI	21	20	68
B150962506	BEDRE TUKARAM AGATRAO	22	21	71
B150962509	DAMAL MAHESH LAXMAN	18	16	62
B150962510	DAVANGE PRADEEP DATTATRAYA	17	25	77
B150962511	DHAWDE NAMRATA ARJUN	18	22	60
B150962512	DHUNAL BIAJI LAXMAN	21	21	66
B150962513	GAIKWAD AJAY MADHAVRAO	19	20	73
B150962514	GANDHARE VIJAY RAMESH	20	18	83
B150962516	GAVAKARE VAISHNAVI BALASAHEB	21	25	88
B150962517	GHADGE GANESH SANJAY	22	23	79
B150962518	GHUN KOMAL SANJAY	22	24	60
B150962519	JADHAV SHRADHA BALASAHEB	21	25	78
B150962520	JADHAV SUBHASH BABA	18	20	60
B150962521	JAWARE ANOL BALIRAM	18	19	74
B150962522	KATKHEDE AKASH DEVANAND	18	20	71
B150962523	KESKAR SUVARNA PANDURANG	16	18	54
B150962525	KUDALE ASHUTOSH ANNUSE	20	21	74
B150962526	LANDAGE KRUSHNA MAHADEV	17	25	68
B150962527	MUNJAL AMOL PATIL	20	22	79
B150962528	NAMADE ARATI HARISH	21	21	74
B150962529	NAPMADE SARSWATI VARSUD	23	23	73
B150962530	PARDHE TEJSHRI RAMANAND	19	18	71
B150962531	PAWAR RAHUL AMBARNATH	20	20	71
B150962532	PAWAR SACHIN SHANKAR	16	16	71
B150962533	PRANAV SURYABHAN MANGE	20	20	68
B150962534	PRATHMESH VASANT BHOSALE	21	21	57
B150962535	RASE SWATI SAHEBRAO	20	20	64
B150962536	RASKAR SAKSHI VILAS	21	21	68
B150962537	RATHOD AKSHAYKUMAR GULAB	20	20	67
B150962540	TELANG SWATI DIGAMBAR	22	23	75
B150962541	THORAT VARSHA RAVINDRA	21	25	60
B150962542	UBHARE KUNAL SAHADEO	22	21	78
B150962543	VISHAL JOTIRAM SANKPAL	22	22	66
B150962544	WADGHULE MAYURI PANDURANG	21	21	58
B150962545	WAGHIRE DIPAK HANUMAN	20	20	68
B150962547	ZARGAD AMRUTA UTTAM	20	15	62
B150962515	GAURKAR SHREYANSH MORESHWAR	16	16	61
B150962546	ZAGADE NITIN VINAYAK	17	18	64
B150962539	TAKWANE RAVINDRA RAMDAS	17	16	68

Subject Incharge

H.O.D.(EE)

Shree Ramchandra College of Engineering Pune

SRES's
SHREE RAMCHANDRA COLLEGE OFENGINEERING
Lonikand, Pune – 412216
Department of Electrical Engineering

Assignment No. 1

MATERIAL SCIENCE (2019 course)
S.E. ELECTRICAL Semester-III A.Y-2020-2021

Unit-I

1. In case of dielectric materials, define Electric Dipole Moment, Polarization, Polari ability, dielectric strength, dielectric constant along with their units.
2. Explain: (i) Polarization (ii) Pyroelectricity and (iii) Ferroelectricity.
3. Write short note on polar and non-polar dielectric materials with examples.
4. What are the different mechanisms of polarization? Explain any two with diagram.
5. Derive Clausius-Mossotti relation as applied to dielectric materials in static field. State clearly the assumptions made.
6. What is dielectric loss? Give concept of negative tan delta. Also derive equation for dielectric loss angle.
7. Write short notes on fiber optics with its principle of working. State clearly materials used for fiber optics.
8. A parallel plate capacitor is used to store 16 μC at a potential of 8 kV. The distance between the plates is 10×10^{-4} m. If the dielectric constant of the material is 20, kept between plates, what is the area of the plates?
9. Differentiate between photoconductive and photo emissive cells.
10. Write different materials used for photovoltaic material. Describe its construction and working principle.
11. Differentiate piezoelectric, ferroelectric and pyroelectric materials.
12. Write different materials used for organic and thin-film solar cells.

Unit-II

1. State the properties and applications of :
(i) Asbestos (ii) Carbon. iii) Pressboard iv) Varnish v) ceramics vi) transformer oil vii) Paper viii) Air ix) SF6 x) Mica. xi) Resin.
2. Discuss Insulating materials used for transmission line, power transformer, rotating machines and Line insulators.
3. What is meant by primary and secondary ionization?
4. Explain Ferromagnetic and Ferromagnetic materials and their applications.
5. Explain various factors that affect the breakdown of solid insulating materials.
6. Explain various factors that affect the breakdown of liquid insulating materials.
7. Describe the properties and applications of the following materials: (i) Platinum (ii) Molybdenum.
8. Define Breakdown voltage, Breakdown strength, primary ionization and Secondary Ionization.
9. The relative permittivity of a parallel plate capacitor of 3 microfarad is 150. For an applied voltage of 1200 V, find the energy stored in the capacitor as well as energy stored in polarizing the dielectric material.

Shree Ramchandra College of Engineering Pune

Shree Ramchandra College of Engineering

DEPARTMENT OF ELECTRICAL ENGG.

SE Assignment Report (2019 PATTERN) Sub-Material science

Exam Seat No.	Name of Students	Assignment-1	Assignment-2	Assignment-3	Assignment-4	Assignment-5
S190962501	ADINATH DATTATRAY DHUMAL	1	0	1	1	1
S190962502	ADSULE TUSHAR PRAKASH	1	1	0	1	1
S190962503	ANARTHE RUSHIKESH DIGAMBER	1	0	1	1	0
S190962504	ATHARVA SHANTANU DAHALE	1	1	0	0	1
S190962505	BAGLANE DIVYA DADASAHEB	1	0	1	1	0
S190962506	BHALDAR ALTAF MOHMADJAVED	1	1	0	1	1
S190962507	BHISE ANIKET ATITOSH	1	0	1	0	1
S190962508	BHONGALE RAJ KAILAS	1	1	0	1	1
S190962509	BHONGALE VINAYAK ASHOK	1	0	1	1	1
S190962510	DESHMUKH MANGESH SANJAY	1	1	0	0	0
S190962511	GAIKWAD ABHILASHA VISHWANATH	1	0	1	1	1
S190962512	GAIKWAD ANIRUDH AVINASH	1	1	0	1	0
S190962513	GAURI MANIK CHAVAN	1	0	1	0	1
S190962514	GHADGE PRASAD VIJAY	1	1	1	1	0
S190962515	HAMANE GANESH SURESH	1	1	0	1	1
S190962516	JADHAV CHETAN ASHOK	1	1	1	0	0
S190962517	JOSHI PRANAV ANANT	1	0	1	1	1
S190962518	KAD OMKAR KISHOR	0	0	0	1	1
S190962519	KALOKHE ANIL BHAUSAHEB	1	0	1	0	1
S190962520	KANHERKAR SHUBHAM TUKARAM	0	1	0	0	0
S190962521	KHAIRE RUSHIKESH SITARAM	1	1	1	1	1
S190962522	KIRAN SANJAY SHINDE	1	0	1	0	0
S190962523	MAGAR HRITHIK BABAN	0	0	1	1	1
S190962524	NAGARGOJE KOMAL SANJAY	1	1	1	1	1
S190962525	NEWARE PRADYUMN KISAN	1	0	0	1	1
S190962526	NIRMAL PRAJAKTA ASHRUBA	0	0	1	0	0
S190962527	PADULE SHRIRAM BHALCHANDRA	1	1	1	1	1
S190962528	PATEL SHAKIL SHABBIR	1	0	0	1	0
S190962529	PATIL ARVIND SHIVANAND	0	1	0	0	1
S190962530	PATIL SUBODH ISHWAR	1	1	1	1	1
S190962531	PAWAR PRASAD EKNATH	1	0	0	1	0
S190962532	SANKET SANJAY SHINDE	0	0	1	0	1
S190962533	SHINGADE ABHISHEK DIPAK	1	1	1	1	0
S190962534	SONAVANE PRATIK RAHUL	0	1	0	1	1
S190962535	SOURAB SINGH SENGER	0	1	1	0	0
S190962536	TORMAL ANIKET BHAURAV	1	0	1	1	1

Subject incharge

Shree Ramchandra College of Engineering Pune

H.O.D(E.E.)

Shree Ramchandra College of Engineering
DEPARTMENT OF ELECTRICAL ENGG.
BE RESULT ANALYSIS (SEM-II)(2012 PATTERN) A.Y. 2017-18

Exam Seat No.	Name of Students	SGP (PP) 100M	SGP (TW) 50M	SGP (OR) 50M	PECD (PP) 100M	PECD (TW) 25M	PECD (PR) 50M	HVE (PP) 100M	HVE (TW) 25M	HVE (OR) 25M	SG(PP) 100M	PROJ-II (TW) 50M	PROJII (OR) 100M	TOTAL(SEM-II	TOT(SEMI+ SEM II)	%	RESULT	Total Back SUB
B120962501	AMRUT BALKRISHNA BUGAD	FF	AA	AA	46	AA	AA	42	AA	AA	43	AA	AA	FAIL	FAIL	FAIL	FAIL	1
B120962502	ANIRUDH SURESH RANGARI	71	38	19	72	19	42	61	19	22	55	35	79	532	979	65.26	FC	
B120962503	BADGUJAR UTKARSH VIJAY	53	34	12	69	18	40	54	22	21	61	40	84	508	991	66.06	FCD	
B120962504	BAGWAN TAUSEEF RUBAB	52	39	18	60	18	39	44	20	22	64	39	80	495	FAIL	FAIL	FAIL	
B120962505	BHAPKAR SAGAR JALINDER	50	39	13	71	17	28	54	19	20	58	41	79	489	909	60.60	FC	
B120962507	CHAUHAN PRADEEP PREMCHAND	68	42	18	78	23	40	77	23	22	71	41	84	587	1102	73.46	FCD	
B120962508	CHAVAN RESHMA SUNIL	FF	AA	AA	FF	AA	AA	FF	AA	AA	FF	AA	AA	FAIL	FAIL	FAIL	FAIL	4
B120962509	CHAVAN SANJIVANI SAMBHAJI	69	44	14	78	23	40	80	23	22	70	44	83	590	1141	76.06	FCD	
B120962510	CHOUNDKAR KISHOR GANGARAM	81	43	22	81	24	44	85	23	24	79	38	80	624	1137	75.80	FCD	
B120962511	DAHIFALE PANDURANG ARUN	60	33	11	61	18	41	40	18	20	48	37	78	465	FAIL	FAIL	FAIL	
B120962512	DHADGE SAGAR BHAGWAN	FF	AA	AA	FF	AA	AA	FF	AA	AA	FF	AA	AA	FAIL	FAIL	FAIL	FAIL	4
B120962513	DHANANJAY SHREEKISHAN KALE	56	38	11	74	17	33	46	19	18	55	39	75	481	915	61.00	FC	
B120962514	GADEKAR MAHESH BALASAHEB	66	39	20	67	15	32	61	22	22	69	40	84	537	1013	67.53	FCD	
B120962515	GAIKWAD VISHAL VANKAT	77	42	22	73	18	33	71	22	21	76	38	81	576	1104	73.60	FCD	
B120962516	GHULE RESHMA LAXMAN	70	44	14	70	22	38	65	24	22	81	44	84	578	1111	74.06	FCD	
B120962517	HARSHAL RAJARAM FARANDE	43	36	16	52	16	28	49	17	21	43	32	70	423	FAIL	FAIL	FAIL	
B120962518	INDE ROHINI BABURAO	80	43	20	83	22	40	87	23	21	83	41	84	627	1192	79.46	FCD	
B120962519	JADHAV AKSHAY VASANT	58	AA	AA	63	AA	AA	63	AA	AA	71	AA	AA	FAIL	FAIL	FAIL	FAIL	
B120962520	KADAM RAHUL ASHOK	54	37	14	87	18	32	64	18	22	60	38	78	522	1012	67.46	FCD	
B120962521	KALE RAJSHEKHAR GOVIND	63	38	11	78	19	27	44	19	19	73	39	83	513	1033	68.86	FCD	
B120962522	KENDRE PRIYANKA ASHOKRAO	62	41	11	79	20	28	62	23	23	73	42	82	546	1025	68.33	FCD	
B120962523	KHARADE JAGANNATH TANAJI	71	39	17	72	19	31	73	19	23	76	35	79	554	1038	69.20	FCD	
B120962524	KHYADE NIRAJ LIMBARAJ	60	40	14	68	19	30	59	21	21	72	43	84	531	1018	67.86	FCD	
B120962525	KULSANGE AJINKYA BHUJANGRAO	59	39	12	75	20	32	53	19	19	62	40	82	512	994	66.26	FCD	
B120962526	LASHKAR SHUBHAM RAJENDRA	FF	38	11	71	17	26	53	18	20	57	37	80	FAIL	FAIL	FAIL	FAIL	1

B120962527	LOKHANDE POOJA KANTILAL	71	44	22	79	22	39	71	23	23	71	44	89	598	1104	73.60	FCD	
B120962528	MANE AVINASH KUMAR	47	AA	AA	56	AA	AA	48	AA	AA	63	AA	AA	FAIL	FAIL	FAIL	FAIL	
B120962529	MAYUR VILAS PATIL	51	36	13	71	18	39	49	19	19	35	36	80	486	FAIL	FAIL	FAIL	
B120962533	PATIL ONKAR JAYKAR	47	34	11	64	17	27	51	20	21	72	37	75	476	943	62.86	FC	
B120962534	PAWAR VAIBHAV DHANAJI	60	43	22	77	20	42	53	22	22	67	41	78	547	1030	68.66	FCD	
B120962535	PIKALKAR AKASH SHIVAJI	72	45	23	72	22	38	54	23	24	75	42	87	577	1090	72.66	FCD	
B120962536	POL SANTOSH BALKRUSHNA	69	43	20	74	21	44	73	21	20	87	40	82	594	1129	75.26	FCD	
B120962537	POTDAR BHUSHAN SHARAD	45	38	12	58	18	35	59	19	19	64	38	78	483	903	60.20	FC	
B120962540	RANE NIKHIL NILKANTH	74	39	15	75	17	33	67	19	20	70	39	79	547	1029	68.60	FCD	
B120962541	RAUT PRASHANT BALASAHEB	51	33	12	62	18	34	62	17	19	73	37	75	493	943	62.86	FC	
B120962542	RAUT SANDIP SADASHIV	49	38	15	45	18	40	FF	22	22	69	34	79	FAIL	FAIL	FAIL	FAIL	1
B120962543	SANTOSH UTTAM WAGHOLE	41	AA	AA	46	AA	AA	45	AA	AA	62	31	61	FAIL	FAIL	FAIL	FAIL	
B120962544	SAYKAR KIRAN RAVINDRA	55	38	12	65	18	33	56	20	19	73	35	75	499	966	64.40	FC	
B120962545	SURWASE AISHWARYA TUKARAM	64	41	15	72	23	40	59	21	20	77	42	82	556	1053	70.20	FCD	
B120962546	THERE SACHIN ISHWAR	49	AA	AA	60	AA	AA	61	AA	AA	60	AA	AA	FAIL	FAIL	FAIL	FAIL	
B120962547	WAGHMARE BHARAT SIDRAM	57	AA	AA	67	AA	AA	62	AA	AA	81	32	61	FAIL	FAIL	FAIL	FAIL	
B120962552	SHINDE NITIN DATTATRAY	70	40	18	47	22	43	58	19	22	71	37	79	526	969	64.60	FC	
SUBJECT WISE % RESULT		91%			95%			93%			95%							
NO OF STUDENTS PASS		38			40			39			40							
NO OF STUDENTS FAIL		4			2			3			2							
NO OF STUDENTS PRESENT		42			42			42			42							
NO OF STUDENTS ABSENT		0			0			0			0							
TOTAL NO OFSTUDENTS		42			42			42			42							

Toppers								
1	INDE ROHINI BABURAO	1ST	79.46			TOTAL NO OF DISTINCTION STUDENTS	20	No. of students having one subject backlog	3
2	CHAVAN SANJIVANI SAMBHAJI	2ND	76.06			TOTAL NO OF FIRST CLASS STUDENTS	8	No of students having two subject backlog	0
3	CHOUNDKAR KISHOR GANGARAM	3RD	75.80			TOTAL NO OF SECOND CLASS STUDENTS	0	No. of students having three backlog	0
								No. of students havin four backlog	2

Shree Ramchandra College of Engineering Pune

HOD(Electrical)