

No. 270

SHIVAJI UNIVERSITY, KOLHAPUR.



Examination in the Faculty of Engineering
for the

Degree of Bachelor of Engineering
Structure and Syllabi for the

F.E. Part - I and II

Restructured First Year Engineering Course
Introduced from the Academic Year 2002- 2003

(Subject to the modifications that will be made from of time to time.)

Price Rs.
40 - 00

I

SHIVAJI UNIVERSITY, KOLHAPUR

EXAMINATIONS IN THE FACULTY OF ENGINEERING

Ordinances and Regulations

(Re-Structured Four Year Courses)

O.E. 1 : No Candidate shall be admitted to the course leading to Degree of Bachelor of Engineering unless :-

He has passed the Higher Secondary Certificate (Standard XII) Examination of the Maharashtra State Board of Secondary and Higher Secondary Education, Pune or its equivalent examination with English, Physics, Chemistry and Mathematics and with not less than 50 percent marks (45 percent marks for Backward Class Candidates from Maharashtra State only) in the subjects of Physics, Chemistry and Mathematics taken together at one and the same sitting.

OR

He has passed the Indian School Certificate (Standard XII) Examination or any other equivalent Higher Secondary (Standard XII) Examination of a Council or Board outside Maharashtra State with English, Physics, Chemistry and Mathematics and with not less than 50 percent marks (45 percent marks for Backward class candidates from Maharashtra State only) in the subjects of Physics, Chemistry and Mathematics taken together at one and the same sitting.

II

- b) A candidate who fails at his S. E. Part-I Examination, will be allowed to keep term for his S.E.Part-II Examination, for partwise courses.
- c) A candidate who fails at his T.E. Part-I Examination, will be allowed to keep term for his T.E. Part-II Examination, for partwise courses.
- d) A candidate who fails at his B.E. Part-I Examination, will be allowed to keep term for his B.E. Part-II Examination, for partwise courses.

O.E. 5 :

- a) A candidate who fails in not more than three heads of passing including aggregate at F.E./S.E./T.E. Course Examination will be permitted to keep terms to the higher class namely S.E., T.E. and B.E. Course Examination.
- b) A candidate who fails in more than three heads of passing including aggregate at F.E./S.E./T.E. Course Examination will not be permitted to keep terms in the higher class viz. S.E./T.E./B.E. Course Examination.

O.E. 6 :

- a) No candidate will be admitted to the S.E. Part-I course unless he—
 - i) Passes his F.E. Part-I and F.E. Part-II examination.

OR

- ii) fails in not more than three heads of passing at the F.E.Part-I and F.E.Part-II examinations in accordance with O.E.5 (a) within a period of three academic years from the date of his admission to the F.E.Part-I course.
- b) No candidate will be admitted to the T.E.Part-I Course unless he—
 - i) passes his F.E.Part-I, F.E.Part-II, S.E.Part-I and S.E. Part-II Examinations.

OR

- ii) passes his F.E.Part-I and F.E.Part-II Examinations, and fails in not more than three heads of passing at the S.E.Part-I and S.E. Part-II Examinations in accordance with O.E.5 (a).
- c) No candidate will be admitted to the B.E.Part-I Course unless he—
 - i) passes his F.E.Part-I, F.E.Part-II, S.E.Part-I, S.E. Part-II, T.E. Part-I and T.E.Part-II Examinations.

OR

- ii) passes his F.E.Part-I, F. E. Part-II, S.E. Part-I, S.E. Part-II, Examinations, and fails in not more than three heads of passing at the T.E.Part-I and T.E.Part-II Examination in accordance with O.E.5 (a).

O.E. 7 :

- a) A candidate passing in the minimum prescribed Period of Final Diploma Examination of the Board of Technical Examinations, Maharashtra State or any other Examination held equivalent to the Final Diploma Examination of B.T.E.M.S. in First Class are eligible for admission to S. E. Part-I as stated below :-
- b) The candidates domiciled outside the State of Maharashtra are not eligible for direct admission.

III

Sr. No.	Diploma Course with S.S.C. Std. Xth as admission qualification. Name of Courses	Duration	Sr. No.	Degree Courses. Name of Courses
1	2	3	4	5
Group-1, Civil Engg. & Allied Branch.				
1.	Civil Engineering	4 years (8 Sem.) Sandwich Pattern.	1.	Civil Engineering.
2.	Civil Engineering	3 years (Yearly)	2.	Environmental Engineering/Technology.
3.	Civil Engineering (Part-time)Engg.	4 years (8 Sem.)	3.	Construction Engg./Tech.
4.	Civil & Rural Engg.	3 years (Yearly)		
5.	Civil Engg. and Rural Re-construction.	3 years (Yearly)	4.	Water Management.
6.	Transportation Engg.	3 years (Yearly)	5.	Structural Soil & Foundation Engineering
7.	Construction Engg.	4 years (8 Sem.) Sandwich Pattern.	6.	Fabrication and Erection Tech.
8.	Construction Technology	3 years.		
9.	Structural Fabrication & Erection Engg. (Old)	4 years (8 Sem.) Sandwich Pattern.		
10.	Fabrication Tech. and Erection Engg. (Revised)	4 years (8 Sem.) Sandwich Pattern.		
11.	Environmental Technology	4 years (8 Sem.) Sandwich Pattern.		
Group-II : Mechanical Engg. and Allied Branch				
1.	Mechanical Engineering	3 years (Yearly)	1.	Mechanical Engineering.
2.	Mechanical Engineering.	3 years (6 Sem.) discontinued.	2.	Production Engineering.
3.	Mechanical Engineering. (Part-time)	4 years (8 Sem.)	3.	Industrial Engineering.
4.	Plant Engineering.	3 years (Yearly)	4.	Automobile Engineering
5.	Automobile Engineering	3 years (Yearly)	5.	Chemical Engineering.
6.	Fabrication Technology (Plant E.Q.P.oriented)	3 years (Yearly)	6.	Instrumentation Engineering.
7.	Dairy Engineering	3 years	7.	Refrigeration & Aircondition.

IV

1	2	3	4	5
8. Ship Building Engineering.		4 years (Sandwich Pattern)		8. Petroleum Technology.
9. Mechanical Engineering (Industry Integrated)		4 years (Sandwich Pattern)		9. Plant Engineering.
10. Machine Tools & Maintenance.		4 years (Sandwich Pattern)		10. Machine Tool Engineering.
11. Plastic Engineering		4 years (Sandwich Pattern)		11. Fabrication & Erection Technology.
				12. Manufacturing Process & Technology.
				13. Metallurgy.

Group-III : Electrical Engineering

1. Electrical Engineering	3 years (Yearly)	1. Electrical Engineering.
2. Electrical Engineering	3 years (6 Sem.) (discontinued)	2. Electronics Engineering.
3. Electrical Engineering	4 years (8 Sem.) Sandwich Pattern.	3. Instrumentation.
4. Electrical Engineering (Revised) (Part-time)	4 years (8 Sem.)	4. Industrial Electronics.
5. Electrical Power Systems.	3 years (Yearly)	5. Power Systems.
		6. Energy Generation & Utilisation.
		7. Industrial Control Systems.
		8. Computer Technology. / Engineering

Group-IV : Electronics Engineering.

1. Electronics & Comm. Engineering.	3 years (6 Sem.)	1. Electrical Engineering.
2. Electronics & Telecomm. Engg.	3 years (Yearly)	2. Electronics Engineering.
3. Electronics & Telecomm. Engg. (Revised Part-time).	4 years (8 Sem.)	3. Industrial Electronics.
4. Industrial Electronics	3 years (6 Sem.)	4. Instrumentation.
5. Industrial Electronics	3 years (Yearly)	5. Industrial Control System.
6. Industrial Electronics (Revised) (Part-time)	4 years (8 Sem.) Sandwich Pattern	6. Telecommunication Engineering.
7. Digital Electronics	3 years (Yearly)	7. Computer Technology/ Engineering.
8. Digital Electronics	4 years (8 Sem.) Sandwich Pattern.	

V

1	2	3	4	5
9.	Instrumentation	3 years		
10.	Computer Technology/ Engineering.	3 years.		
11.	Electronics Engg. (Industr Integrated)	4 years (8 Sem.)		
12.	Electronics & Radio Engg. (Adm. XIIth science)	2 years.		
13.	Sound & Television Engg.	2 years.		
14.	Radio, AudioVideo Engg. Services.	3 years.		
15.	Audio & Video Engg.			
16.	Electronics & Video Engg.			
Group-V : Chemical Engineering.				
1.	Chemical Engg.	3 years (Yearly)	1.	Chemical Engineering.
2.	Chemical Engineering	4 years (8 Sem.)	2.	Chemical Technology.
3.	Chemical Engineering (Revised)(Part-time)	4 years (8 Sem.)		
4.	Chemical Technology	3 years (Yearly)		
Group-VI :				
1.	Metallurgical Engg.	3 years (Yearly)	1.	Metallurgy.
2.	Metallurgical Engineering.	3 years (6 Sem.) (discontinued).	2.	Mechanical
Group-VII :				
1.	Production Engineering	4 years (8 Sem.) Sandwich Pattern.	1.	Production.
2.	Production Technology	3 years (Yearly)	2.	Mechanical
3.	Production Technology	4 years (8 Sem.) Sandwich Pattern.	3.	Metallurgy
4.	Production Technology (Industry Integrated)	4 years (8 Sem.) (Sandwich Pattern.)	4.	Automobile
Group-VIII :				
1.	Textile Manufactures	4 years (8 Sem.)	1.	Textile Technology.
			2.	Man Made Textile Technology.
1.	Man-made Textile Technology.	3 years (6 Sem.)	1.	Man-made Textile Technology.
2.	Man-made Fibre Manufacture	3 years (6 Sem.)		

VI

1	2	3	4	5
1. Knitting Technology		3 years (6 Sem.)	1. Textile Technology.	
1. Mechanical Engineering		3 years (6 Sem.)	1. Textile Plant Engineering	
1. Manmade Textile Chemistry		3 years (6 Sem.)		
2. Textile Chemistry		4 years (8 Sem.) (Sandwich Pattern)	1. Textile Chemistry	
Group-IX :				
1. Printing Technology (LTG)		3 years (Yearly)	1. Printing.	
2. Printing Technology (LTP)		3 years (Yearly)		
Group-X :				
1. Mining & Mine Surveying		3 years (6 Sem.)	1. Mining.	
Group-XI :				
1. Plastic Engineering.		3/4 years (Annual/Sem./ Sandwich)	1. Plastics & Polymers.	
Group-XII :				
1. Paint/Surfog Coating Technology		3/4 years (Annual/ Sem./ Sandwich)	1. Chemical Engineering.	
Group-XIII :				
1. Technology Chemistry		3/4 years (Annual/Sem./ Sandwich)	1. Polymers and Plastics. 2. Chemical Technology. 3. Petroleum Technology.	
Group-XIV :				
1. Foundry Technology		3/4 years (Annual/Sem./ Sandwich)	1. Mech. Engineering. 2. Metallurgy. 3. Production Engineering.	

2. Regulations :

R.E. 1 : The teaching and examinations scheme shall be according to the structure and syllabi prescribed, subject to such revision, modification, etc. made from time to time.

VII

R.E. 2 : At each Part Examination for partwise system and yearly Examination for yearly courses :

1. Paper Total
2. Practical and Oral taken together
3. Term-Work
4. Oral

as prescribed in the subjects, shall each constitute a separate head of passing.

Aggregate of Parts-I & II (for partwise courses) and together annual examination marks for yearly courses will constitute a separate head of passing.

Term Work

R.E. 3 : In respect of Term Work, a target date shall be fixed for the completion of each sheet, job, project, experiment or assignment, and the same complete or incomplete shall be collected on the target date and assessed immediately at the respective colleges by the concerned teachers and marks shall be submitted to the principal. The Principal of the College shall communicate these marks to the University within a week after the end of each term.

R.E. 4 :

- a) Term Work and performance at practical/oral Examination shall be assessed on the basis of the depth of understanding of principles involved and not on the basis of mere correctness of results or appearance. Ornamentation is, therefore, not expected and will not be given credit.
- b) The Term-work assessment will be done by the internal concerned teacher continuously and if necessary, by and oral Examination.

R.E. 5 :

- i) When term-work in any subject is assessed the marks will be carried over to subsequent examination, unless the candidate rejoins an affiliated college as a regular students in the corresponding Part/year and chooses to submit a fresh term-work.
- ii) Marks obtained in the class tests will also be similarly carried over to the subsequent examination, except in the case of those who rejoin an affiliated college as regular students.
- iii) A candidate whose marks are thus carried over is eligible for award of class.

R.E. 6 :

1. Marks obtained by a candidate in Practical and/or Oral Examinations will at his option, be carried over to subsequent examinations, wherever practical and oral are prescribed as separate heads of passing in a subject, the same be combined into one head of passing i.e. "Practical and Oral Examinations."

R.E. 7 :

- a) There will be two class tests of 10 marks each for subject with theory paper of 80 marks and one class test of 10 marks for a subject with theory paper of 40 marks.

VIII

This is applicable wherever class tests are prescribed.

- b) The Principal shall communicate the marks of the candidates in the concerned subjects at each class test to the University alongwith the original marksheet submitted by the teachers within two week after the end of each part/year.

Note : i) Cases of students who are unable to take the class tests prescribed above due to circumstances beyond their control will be decided finally by the Principal, on the merits of these cases.

R.E. 8 : The number of optional questions in a theory paper per section shall be atleast 25 percent of the maximum number of questions required to be attempted.

Standard of Passing

R.E. 9 : To pass the Examination, a candidate must obtain :

- i) a minimum of 40% marks in each head of passing excepting aggregate, and
- ii) a minimum of 45% marks in the aggregate.

R.E. 10 : No class will be awarded for any Part-I Examination (applicable to partwise courses). The award of class for the Degree of Bachelor of Engineering shall be based on the aggregate of the marks, obtained at the B.E. Part-I and B.E. Part-II Examinations (for partwise pattern) taken together, and IV year B. E. Examination for annual pattern, as under :

Minimum 45 percent marks for Pass Class

Minimum 50 percent marks for Second Class

Minimum 60 percent marks for First Class

Minimum 66 percent marks for First Class with Distinction.

R. E. 11 : "A candidate who fails to clear all heads of passing (Including aggregate marks) at an Examination may be exempted at a subsequent attempts from appearing in a head or heads of passing in which he has secured 40% or more marks and these marks will be carried over for the purposes of aggregate and he will be declared to have passed in the examination when he passes according to R.E. 9.

A candidate who has cleared all heads of passing but has failed in aggregate for passing the examination has a choice to reappear for any head/s so as to enable him to secure aggregate marks.

A candidate passing the B. E. Examination in this manner will not be eligible for a prize or scholarship at the Degree Examination.

The class be awarded for the B. E. Course on the basis of actual number of marks obtained irrespective of the number of attempts.

A Candidate passing in the remaining paper/s of T. E. Examination after clearing the papers of B. E. Examination in not more than two, examination sessions shall also be held eligible for award of class but he will not eligible for prizes, medals, ranks etc."

This is applicable for partwise system only. For annual pattern. A candidate has to pass in one examination session only.

R. E. 12 : The Degree Course in Civil/Mechanical/Electrical Engineering branches provides for General Course of Specialised Streams for B. E. Part-I & II. The F. E., S. E. and T. E. in any branch are common for any stream in that branch and the choice of stream can be exercised before joining B. E. Part-I Course. The Stream provided in each branch are as under :

- a) Civil Engineering :
 - i) General
 - ii) Structures
 - iii) Environmental Engineering
 - iv) Transportation Engineering
 - v) Water Resources Engineering
 - vi) Construction Engineering
- b) Mechanical Engineering :
 - i) General
 - ii) Power Engineering
 - iii) Design Engineering
 - iv) Production Engineering
- c) Electrical Engineering :
 - i) General
 - ii) Power Apparatus and System
 - iii) Machines Drives and Control
 - iv) Computer Techniques and Control / Systems
 - v) Networks, Systems and Instrumentation
 - vi) Electronics.

SHIVAJI UNIVERSITY, KOLHAPUR.

CIRCULAR.

It is hereby notified for the information of all concerned that the following OME 12 of the Master of Engineering under the Faculty of Engineering and Technology was sent to the Hon. Chancellor as provided under Section 54 (4) of the Maharashtra Universities Act 1994 on 15-2-2002. The Hon. Chancellor has not raised any objections to this Ordinance hence the following amended Ordinance is implemented which is passed by the Management Council in its meeting held on 5-2-2002.

OME-12

- a) Any person who has passed the Degree of Bachelor of Engineering of this University or a degree of another University as equivalent thereto is eligible for admission to the appropriate M.E. Course by papers and Dissertation.
- b) A Candidate who has passed M.Sc. (Organic Chemistry/M.Sc. Bio-Chemistry/M.Sc. Micro Biology) in First Class from this University or an equivalent examination from any other University will be eligible for admission to the M.E. (Civil) Environmental Engineering course after he keeps two terms for subjects prescribed for him by the Board of Studies in Civil Engineering and passes in these subjects.
- c) Candidate who has passed the Grade-Institution of Electronics and Telecommunication Engineering Examination is eligible for admission to M.E. (Electrical) (Control System) if he has passed GATE (Graduate Aptitude Test in Engineering) Examination successfully and has studied the following courses during their studies leading to Grade IETE (Institution of Electronic and Telecommunication Engineering).
 - 1) Electrical Machines
 - 2) Numerical Analysis
 - 3) Control System.
- d) The Diploma holders after passing their Sections A and B examinations of Institution of Engineering (India) Calcutta are considered eligible for admission to M.E. degree course in the respective branch only when they qualify through the GATE Examination.
- e) A candidate who has passed B.E. (Automobile) Engineering B.E. (Production) Engineering Course is considered eligible for admission to the M.E. (Mechanical) Degree Course.
- f) A candidate who has passed Final year in any of the following discipline of Engineering Degree Course with Minimum 50% of aggregate marks is considered eligible for admission to M.E. Computer Science and Engineering Degree Course.
 - a) B.E. (Computer Science & Engineering)
 - b) B.E. (Computer Engg./Computer Tech.)
 - c) B.E. (Electrical/Electronics Engineering)
 - d) B.E. (Electronics and Telecommunication Engineering)
 - e) B.E. (Instrumentation Engineering)
 - f) B.E. (Information Technology)
 - g) B.E. (Industrial Electronics)

The Candidate with GATE Score in Computer Science and Engineering will be given preference.

The NON-GATE candidates will have to appear for Entrance Test and Interview.

g)(I) Any Engineering graduate who has completed at least one subject i.e. Control System at under graduate level is eligible for the admission to M.E. Electrical (Control System) Degree Course.

(II) Any Engineering graduate who has completed at least two Subjects of (1) Electrical Machine (2) Electrical Power System/Engineering at Third and Final Year B.E. Course is eligible for the admission to M.E. Electrical (Power System) Degree Course.

The candidate with GATE Score in Electrical Engineering will be given preference.

The Non-GATE candidates will have to appear for the Entrance Test and Interview

h) A Candidate who has completed B.E./ B.Tech. Degree in Industrial Engineering and Production Industrial Engineering is eligible for admission to M.E. Mechanical (Production Engineering) Degree Course.

Yours faithfully,

Deputy Registrar
B.O.S. Section.

No. SU/BOS/Engg. 6995
Date : 21/11/2002.

Copy forwarded to :

1. The Principal of all affiliated Engineering Colleges.
2. Eligibility Section
3. Other Exam. (4) Section
4. P.G. Affiliation Section
5. P.G. B.U.T.R. Section
- for information and necessary action.
6. Dean, Faculty of Engineering and Technology
7. The Chairmen of B.O.S. / Ad-hoc Boards.

Shinde/Circular/OATB