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1. Admission Schedule (Important Dates)

1. Sale of Application form commences on :15-06-2009
2. Receipt of Application form :27-07-2009
3. Display of list of eligible GATE candidates :28-07-2009
and list of Non-GATE candidates
with entrance examination Seat No. (if necessary)
4. Admission round for GATE candidates : 29-07-2009
at 11.00 a.m.
5. Entrance examination of two hours duration : 30-07-2009
for Non-GATE candidates (if necessary)
 - i. M.E. (Civil-Structure, Mechanical and Electrical) at 11.00 a.m.
 - ii. M.E. (Civil-Construction and Management) at 02.00 p.m.
6. Personal Interview for Non-GATE Candidates : 31-07-2009
(if necessary)
7. Display of merit list of selected Non-GATE candidates : 01-08-2009
(if necessary)
8. Admission round for Non-GATE candidates
(if necessary) : 01-08-2009
9. Commencement of Classes : 03 -08-2009

2. IMPORTANT INSTRUCTIONS FOR CANDIDATES

1. **Application form** complete in all respects along with the attested Xerox copies of the certificates should reach this office on or before **27th July, 2009 by 4.00 p. m.**
2. Sponsored category candidates should get the **Sponsorship** Certificate signed by Employer / Manager of the Organization and should send their application through proper channel only.
3. The candidate should have served the present employer for **at least two continuous years** from whom the sponsorship certificate is submitted. The candidates should submit the attested copy of the **pay slip/salary certificate** from the present employer for the month of **May/June 2009**
4. All candidates should ensure that they have entered correct branch and sub-branch in **item no. 5** of the application form in order of preference. (For example, Branch – Mechanical, Sub - branch - production. Both the entries are important and wrong and incorrect entries will cause **rejection of the application form.**)
5. For vacant seats, available for **Non-GATE and Sponsored admissions**, an entrance test of two hours duration will be conducted on **30th July, 2009 at 11.00 a. m.** in the respective department of this institute (If necessary).
6. The admission, round for the candidates with valid GATE Score will be on **29th July, 2009 at 11.00 a. m.** as per inter-se-merit. (**The entrance examination is not required for Non - sponsored GATE candidates.**)
7. All Non - GATE and sponsored candidates will have to attend the personal interview on **31st July, 2009** at 11.00 a. m. along with all the original certificates at their own expenses (If necessary).
8. The admission round for Non-GATE / Sponsored candidates (if necessary) will be on **1st August, 2009 at 11.00 a. m.** as per inter-se-merit based on the entrance examination and personal interview.
9. All candidates should remain present at 11.00 a. m. on the date of admission along with the relevant documents. The admitted candidates will have to **deposit the tuition fee and other fees as mentioned in the prospectus by 2.30 p.m. on the same day in cash only (No extra time will be given for the payment of fees)** otherwise his / her admission will be cancelled and the seat will be offered to next merit candidate.
10. All relevant documents including sponsorship certificate should-be submitted at the time of admission only. No **extra time** will be given for the submission of any relevant documents.
11. Note that this is a full time course. No body will be allowed to work as an employee either full time or part time. However, the candidates may be given some undergraduate teaching or other assignment in this institute. The admission of candidates found working outside would be cancelled immediately.
12. The admission process will be completed by **1st August, 2009.**
13. Regular classes will start from **3rd August 2009.**
14. Attested copies of the following documents as applicable should be attached along with the application form:
 - a) S.S.C. Certificate as proof of date of birth.
 - b) Degree certificate and mark sheet.

- c) Caste certificate and caste validity certificate.
- d) Valid GATE score card and GATE admission card
- e) Experience certificate.

3. ATTENDANCE

- a) Students are required to attend minimum 75% of lectures delivered in each subject of the course. They must complete at least 80% of practical / sectional work in order to qualify for appearing at the University Examination. The attendance will be calculated from the date of commencement of classes in the academic session and not from the date on which the student joins the college in case of regular admission. However, in case of late admission of the students due to reasons beyond their control, the attendance should be 85% from the date of Joining.
- b) A punishment as decided by the College Authorities will be imposed on the students for their period of absence. Those who wish to take leave must send in writing an application duly countersigned by their parents or guardians or hostel warden to the respective Head(s) of the Department (s), normally two days before the date on which they wish to proceed on leave.
- c) Medical leave / Leave of absence will be at the student's own risk. Deficiency in the percentage of attendance required by the University will not be condoned even on medical grounds.
- d) Leave, other than vacations, will not ordinarily be granted to students during the college session (July to May). Parents and guardians are requested not to encourage their sons / daughters and wards to take leave.
- e) All tests or examinations conducted by the college or by various departments are compulsory for all the students of the college.

4. IDENTITY CARDS

Students are issued identity cards. Possession of the identity card signed by the college authority is compulsory for students. They must carry the identity card in person while on the college campus and should produce the same whenever demanded by any member of the college staff. Students are advised to have the identity cards on their persons outside the college campus also, as they may find it useful while dealing with the post office, bank, police, railway and other public bodies.

5. EXAMINATION AND AWARD OF DEGREE

Students are required to appear at the University examination conducted at the end of each semester as applicable. The students who pass the final examination are awarded -degree by the Shivaji University Kolhapur.

6. FEES AND DEPOSITS

Statement showing the fees (**likely to be revised**) against each course to be paid in single installment by the student admitted in the College / Hostel during academic session 2009 – 2010 for post graduate Courses is as follows. The revision in the payment of fees, if any, will be brought in effect immediately irrespective of semester in which he/she is studying. Fees should be paid in cash only.

| Sr.No | Description of Head | Full Time M. E. | | | |
|-------|------------------------------------|-----------------|--------|---------|--------|
| | | Sem I | Sem II | Sem III | Sem IV |
| 1. | Tuition Fees | | | | |
| | a) General Students | 2000 | 2000 | 2000 | 2000 |
| | b) Sponsored Student | 4000 | 4000 | 4000 | 4000 |
| | c) Other/State Student | ---- | ---- | ---- | ---- |
| 2. | Development Fee | 5000 | ---- | 5000 | ---- |
| 3. | Caution Money (Lib. & Deposits) | 500 | ---- | 500 | ---- |
| 4. | Gymkhana Subscription | 500 | ---- | 500 | ---- |
| 5. | Annual College Day | 125 | ---- | 125 | ---- |
| 6. | Library Fee | 700 | ---- | 700 | ---- |
| 7. | Internet & email facility fee | 500 | ---- | 500 | ---- |
| 8. | Laboratory fee | 1600 | ---- | 1600 | ---- |
| 9. | Training & Placement fee | 75 | ---- | 75 | ---- |
| | Total | | | | |
| | a) General Student | 11000 | 2000 | 11000 | 2000 |
| | b) Sponsored | 13000 | 4000 | 13000 | 4000 |

7. SCHOLARSHIPS & FREESHIPS

The institute offers following scholarships to the eligible students from undergraduate and postgraduate courses.

- a) Govt. of India Scholarship. (for. S.C.& S. T. categories)
- b) Scholarship for handicapped students.
- c) Merit Scholarship (on the basis of XII standard marks or the marks obtained at the examinations conducted by Shivaji University, Kolhapur.
- d) Scholarships of other trusts (on the basis of marks).

The Scholarships under category 'a' and 'b' are given through the Social Welfare Department of Govt. of Maharashtra.

Free ships are also offered for the reserved category students, wards of teachers, .etc. The students have to apply in a proper format for getting free ships in the payment of fees. The relaxations will be accorded after getting the sanction from respective authorities.

8. ADMISSION PROCEDURE FOR M.E. COURSE

8.1 GENERAL

- A) The institute offers four semester full time Postgraduate courses leading to Master of Engineering (M. E.) degree from Shivaji University, Kolhapur. The "Specializations and the number of seats are approved by AICTE and Govt. of Maharashtra. Admission will be done on all India basis.

| Sr. No. | Department | Specialization | No of seats | | | | Total |
|---------|------------------------|----------------------------|-------------|----|----|-----------|-------|
| | | | Open | SC | ST | Sponsored | |
| | | | | | | | ** |
| 1 | Civil Engineering | 1. Construction Management | 10 | 2 | 1 | 5 | 18 |
| | | 2. Structural Engineering | 10 | 2 | 1 | 5 | 18 |
| 2 | Mechanical Engineering | 1. Production Engineering | 10 | 2 | 1 | 5 | 18 |
| | | 2. Heat Engineering | 10 | 2 | 1 | 5 | 18 |
| 3 | Electrical Engineering | 1. Power Systems | 10 | 2 | 1 | 5 | 18 |

Indicates max. no. of seats, likely to be reduced depending upon availability of faculty

- B) The prescribed application form along with prospectus and other details can be obtained either by paying Rs. 500/- (Rs. 300/- for reserved category) in cash or by sending DD for the same amount drawn in favor of the '**Principal, Govt. College of Engineering, Karad**' payable at Karad along with the self addressed envelope of minimum size of 20cm x 30cm with the stamps of Rs. 40/- for Regd. A.D. affixed

thereon. Request for application should be made to the "**Principal, Govt. College of Engineering, Vidyanagar, Karad 415 124**" as per the notification enclosed.

- C) Application form complete in all respects along with the attested Xerox copies of certificates should reach to this office as per the notification enclosed.
- D) Application form received after the last date or the applications, which are not in order, will be summarily rejected. No communication in this regard will be entertained.
- E) If any candidate furnishes any false information either knowingly or unknowingly, the admission, if granted, will be cancelled at any time and fees will not be refunded.
- F) Candidates claiming seat of backward class will be required to produce the certificates-to that effect from appropriate authority
- G) This is a full time course. No candidate is permitted to get employed (full time or part time) during the four-semester course. If such a candidate is traced, his / her admission will be cancelled with immediate effect.

8.2 ELIGIBILITY

8.2.1 For Non -sponsored Candidates

- A) Candidates having degree in an appropriate branch of Engineering (as indicated in the following table) with 55% aggregate marks (50% for reserved category) at degree examination from an AICTE approved institution will be considered for admission to the respective courses. **The appropriate branch for each course is as under:**

| Course | Minimum. Qualification |
|----------------------------|---|
| 1. Construction Management | Degree in Civil Engineering |
| 2. Structural Engineering | Degree in Civil Engineering |
| 3. Production Engineering | Degree in Mechanical / Production / Automobile Engineering |
| 4. Heat Power Engineering | Degree in Mechanical / Production / Automobile Engineering |
| 5. Power Systems | Degree in Electrical Engineering |

- B) The diploma holders after passing their Section A & B examinations of Institutions of Engineers (India), Calcutta are considered eligible for admission to ME degree courses in the respective branch only when they qualify-through GATE examination. (Minimum admission marks)
- C) The candidates who have appeared for their final year of the graduate examination in Engineering may also submit the application form and appear for the entrance test and interview. However, he or she must produce the final year mark list / provisional

parsing certificate obtained from University/Institute at the time of admission, otherwise admission to the course will be refused.

8.2.2 For Sponsored Candidates

- A) Candidates who possess Bachelors degree in the respective branch of Engineering/ Technology, specified in 8.2.1 (A) for admission to a particular postgraduate course from an AICTE approved institution with at least 55% marks will be eligible for admission to respective course.
- B) Only those candidates who at the time of admission are employed in an Organization referred to in C will be eligible for claiming seats against sponsored category
- C) The candidates must have minimum of 2 years of full time work experience in a recognized and registered firm / company/ industry/ educational and / or research institute / any Government department or autonomous organization in the relevant field in which admission is being sought. The candidate seeking admission in sponsored category must attach the certificate of sponsorship signed by concern authority (Employer/ Manager), given in the application form. The Employer / Manager should also indicate that the' sponsored candidates will not be withdrawn midway till the completion of the course and will be completely relieved from his / her present duties to attend the course. The candidate will be fully under the control of this institute during full duration of course.
- D) The condition of minimum percentage of marks may be waived for those candidates who are teachers either in Engineering College or in Polytechnics and joined before 20.9.1989, **provided** they are eligible for admission to that course as per 8.2.1 (A).

8.3 ADMISSION PROCEDURE

8.3.1 For Non-Sponsored Candidates

8.3.1.1 Admission will be effected according to Merit-list prepared on the basis of valid GATE score in the respective branch only.

8.3.1.2 when enough GATE qualified candidates in the respective branch are not available, the vacant seats-will be offered to the non-GATE candidates, as per merit, based on total marks secured out of 100 as indicated below.

- | | |
|------------------------------------|-------------------------|
| i) Entrance Test (2 Hrs. duration) | Maximum 70 marks |
| ii) Interview/viva-voce | <u>Maximum 30 marks</u> |

Total Performance 100 marks

The respective department to fill up the vacant seats, if any after admitting all GATE qualified candidates, followed by the interview as per the schedule, will conduct a Written entrance test for all Non-GATE candidates. The committee of the concerted department appointed by t-he Principal would conduct the interview. The syllabus for the entrance prescribed by the Shivaji University, Kolhapur is notified in the prospectus.

8.3.1.3 The date and times, of entrance test and the admission programs is notified in separate annexure.

8.3.1.4 A candidate having valid GATE score in one branch will not be considered for admission to another branch. However, if the candidate desires that he / she be considered for admission to the another branch against vacant seats, he/ she will be required to appear for entrance test and interview / viva-voce in full. Admission of such a candidate will be effected if he/ she is otherwise eligible for admission to that branch as per 8.2.1 (A).

8.3.1.5 Candidates securing less than 40 marks out of 100 indicated above shall not be eligible for admission.

8.3.2 For Sponsored Candidates

8.3.2.1 No reservation is provided in the sponsored category. However, preference will be given to the candidates of reserved category in the case of equal merit.

8.3.2.2 Candidates will be considered for admission on merit, based on total marks secured out of 100 as indicated in 8.3.1.2. The entrance test and syllabus shall be common to non-sponsored and sponsored candidates. Candidates securing less than 40 marks out of 100 indicated above shall not be eligible for admission.

8.3.2.3 If the total performance of the candidates is comparable, then the preference will be given for admission to the candidates who are GATE qualified and those who are serving in Engineering college, Polytechnic and Industry, in that order.

8.3.3 Admission Rounds

Round A - All GATE Candidates.

Round B - Non-GATE Candidates

Round 1A: Admission as per common merit list

Round 1B: Admission for category seats

a) SC

b) ST

Round C: Sponsored Category

8.4 CANCELLATION OF ADMISSION & REFUND OF FEES

The candidate canceling admission shall forfeit his / her candidature by submitting an application and may request for refund of fees. The refund of all fees as applicable shall be made in due course after deduction as under (as per Govt. rules).

| Period | Deduction |
|--|-------------------------------------|
| On or before commencement classes (As per schedule) | Rs.1000/- (of Cancellation charges) |

Note: if the seat is cancelled after commencement of the classes, proportionate fees will be deducted.

8.5 RULES FOR RECEIVING GATE STIPEND

- 8.5.1** Few of the admitted merit candidates with valid GATE score are likely to get stipend depending on availability of funds from AICTE, New Delhi. However, a GATE qualified candidate does not automatically become eligible to receive a stipend.
- 8.5.2** The stipend will be offered to the GATE qualified candidates only strictly on the basis of GATE score MERIT and continue to receive the same, provided they fulfill the conditions prescribed by AICTE, from time to time.
- 8.5.3** The stipend, once-sanctioned, may be withdrawn due to non-compliance of terms and conditions. The decision of Principal in this regard will be final.
- 8.5.4** Stipend amount is Rs. 5000/- per month for a maximum period of 24 months only.
- 8.5.5** If a candidate does not clear his all papers at any semester, he will be paid Rs. 2000/- per month for next semester onwards.
- 8.5.6** The candidate should apply for the stipend through Prof. Dr. Pranesh Murnal. Head of the Department for every subsequent semester after taking admission in that semester. The application should contain the attested copy of his mark list of last semester/s and a Xerox copy of admission receipt for the current semester, workload, allotted to him, and his satisfactory attendance report.
- 8.5.7** The candidates receiving stipend should not receive scholarship / stipend / grants / salary / remuneration etc. from other sources for the period for which stipend is granted.
- 8.5.8** All stipendiary candidates should maintain daily record of their work and should sign on the muster (attendance registers) available with the concerned Head of the Department at 10.30 are daily.
- 8.5.9** The stipendiary candidates will be allotted teaching / laboratory work of 8 hrs per week by the concerned H. O. D.
- 8.5.10** Attendance in the vacation and the corresponding report of work done is also essential otherwise the stipend for that period shall not be released.
- 8.5.11** Stipendiary candidates are not entitled for any kind of vacation
- 8.5.12** Working hours of all stipendiary candidates are 10.3(3 am to 6.00 pm excluding Sundays and holidays. It means even if a candidate does not have U. G. load or M. E. lectures, he has to report and has to stay back for entire working duration in the department.
- 8.5.13** The candidate can avail leave up to 30 days per year in proportion to the course duration. For this he/ she has to apply to the H.O.D. and should get it sanctioned before proceeding for leave.
- 8.5.14** If a stipendiary candidate is carrying out his dissertation work in the industry / organization out of Karad, he has to submit the attendance report of that industry/organization mentioning precisely the duration he spent in that industry / organization along with the signatures of his co-guide / competent authority and the guide in the institution.
- 8.5.15** Sponsored candidate will not be eligible for any stipend.

8.6 SUBMISSION OF SYNOPSIS OF DISSERTATION FOR APPROVAL

ME students have to submit the synopsis of this dissertation work. He should submit synopsis of his ME dissertation as per schedule. Failing which a candidate will be responsible for further consequences.

8.7 ADMISSION TO SEMESTER – III

All ME third semester regular students must take admission as per the schedule displayed by the institute in the month of July by paying necessary fees as prescribed

8.8 COMPLETION AND SUBMISSION OF DISSERTATION REPORT

- 8.8.1** Student must be able to finish his dissertation work at the end of fourth semester only.
- 8.8.2** Student has to present his dissertation work in front of faculty, Head and the Guide of the respective department before submission of his dissertation report.
- 8.8.3** If a student fails to submit his dissertation report by the end of fourth semester **he will be detained and will have to take re-admission in the beginning of next semester. This rule will be applicable to all subsequent semesters and he has to take re-admission for every subsequent semester till the submission of his dissertation report.** The submission of dissertation must be carried out before the end of the respective term.
- 8.8.4** All candidates claiming free-ships / concession in fees are entitled for concession in payment of fees only once in that semester. In case of re-admission, the student is not entitled for concession and he has to pay all the fees.

9 SYLLABUS FOR ENTRANCE TEST (As prescribed by Shivaji University, Kolhapur)

I) SYLLABUS FOR M.E. (CIVIL) CONSTRUCTION MANAGEMENT ENTRANCE TEST EXAMINATION

Section I

1. Natures and Importance of Management. –
Contribution by Taylor, Fayol, Gilbreth, Mayo and Me Creger.
2. General Principles of Management, functions and qualities of Manager.
3. Inventory control EOQ, ABC_Safety stocks.
4. Introduction to CPM-PERT, Forward and Backward Pass, Calculation of EST, EFT, LST, LFT & Floats.
5. Engineering Economics-Time Value of Money-Cash Flow diagrams-Present and future worth-Annual Cost-Equivalence, Payback-Rate of Return and Yield.

Section II.

6. Excavation and Transportation of earth & rock, Tractor, Scapers, Rippers, Shovels, Trucks etc. Dragline, Clamshells etc. Safety considerations and efficiencies of such machineries and economics and selection of Equipment.
7. Rock Excavation-Drills, Jackhamers, -Compressors-Blasting. Explosives fuses misfixs safety precautions Dewatering, Surface pumping, Electro-osmosis method.
8. Concrete-Batching and Mixing-Central Plants, Transit misers, curing, Finishing and Q. C. tests. Pumping and groution conerete, shotcrete methods, Underwater concreting, concreting for prestressed concrete, prestressing yards, tools and equipments.

II) SYLLABUS FOR ME (CIVIL) STRUCTURES: ENTRANCE EXAMINATION

Section -I

Analysis of Structures:-

Analysis of statically indeterminate structures. Continuous beams, slope deflection, moment distribution methods, strain energy methods, influence lines, matrix methods of analysis of structures - Flexibility method & stiffness method.

Section – II

Design of Structures:-

Limit state methods for design of R.C.C. beams, Columns, Slabs, Staircase, "Design of Steel structures, Design of beams, Columns, Roof trusses, design of welded and riveted connection.

III) SYLLABUS FOR M. E. ENTRANCE EXAMINATION OF ELECTRICAL (POWER SYSTEM)

Question paper should cover all topics from 1 to 4 and the Questions from topic 5, 6, 7 be included" as per the specialization opted with internal options from topics 5, 6, 7. Option should be 20% to 30% only in each section.

1. Microprocessors-8 bit processor 8085 Instruction set/Architecture interrupts, Interfacing techniques. Study of commonly used chips. Applications of microprocessor. Brief introduction to 8006.
2. Power Electronics - Thyristor Rating, protection; characteristics, Triggering devices and circuits. Thyristor converters and inverters cycio converters, Dual converters. Future trends.
3. Computer Techniques - Computer programming Numerical solution of equations. Computer simulation of circuits and devices. Network calculations.
4. Measuring - Techniques - Electrical measuring techniques and bridges Instrumentation systems. Transducers, Accuracy, Instrumentation Amplifier.
5. Power System Specialization -

- a) Power System Operation, Analysis and Stability -Symmetrical components, Fault analysis, Load flow studies, Active reactive power control stability.
 - b) Switch gear and Protection - Principles of circuit breaking, circuit breakers protective relaying, protection of power system apparatus and installations.
 - c) Brief introduction to use of computer methods for operation and control and simulation in power system.
6. Control System Specialization -
- a) Review of frequency domain analysis of feed back control systems. Study of control system components.
 - b) Compensation techniques, state variable techniques and non linear control systems.
 - c) Introduction to sampled data control systems. Digital techniques and algorithms. Use of microprocessor. Brief study of computer methods for control system analysis and design.
7. Electrical Machines -
- a) Design of Electrical machines. Basic principals and design procedures.
 - b) Performance and Analysis of all important machines. Applications Introduction to linear and other special machines.
 - c) Brief study of generalized machine, theory and use of computer for analysis. Performance and design of machines.

IV SYLLABUS FOR ENTRANCE EXAMINATION FOR ADMISSION TO ME (MECHANICAL) IN POWER AND PRODUCTION ENGINEERING.

Nature of Paper

- 1. There will be FOUR questions in EACH section A, B & C
- 2. Total FOUR questions are to be solved with at least one question from each section.
- 3. Marks will be evenly distributed
- 4. Paper duration: 2 hours

Syllabus

Section - A (Power Engg.)

1. (A) Heat Transfer -Conduction- steady; unsteady state, Fins;
Convection- forced, free, Radiation; Heat Exchangers, Condensation & Boiling.
(B) Thermodynamics:- Laws of thermodynamics; Reversibility Entropy, availability, thermodynamic cycles, properties of pure substances, equation of state.
2. (A) Steam Power Engg: - Boilers, components, operation, steam turbines, condensers.
(B) Refrigeration: - Basic cycles, components, Refrigerants, applications of refrigeration.
(C) Air-Conditioning:- Fundamentals of psychrometry, Applications of Air conditioning, methods of air conditioning Ducts, & distribution of air
3. (A) Fluid Mechanics: - Fluid properties,, statics, dynamics, manometry buoyancy Eulers equation, Bernoulli's equation laminar and turbulent flow through pipes and channels.
(B) Fluid Machines: - Performance and operation of water pumps, hydraulic turbines, air-compressors, Rotary compressors.
(C) I. C. Engines :- Cycles of operation, Types of I. C. engine systems, combustion in SI & CI engine carburetors, fuel pumps, ignition, injectors, performance testing, study of gas turbines, jet propulsion.

Section (B) (Machine Design)

1. Engg Mechanics:- Free body concepts and equations of equilibrium, cinematics and dynamics of rigid bodies, Euler equations of motion.
2. Strength of Materials:- Stress and strain for elastic bodies, Theories of failure, Mohr's circles, Shear force and bending moment diagrams, calculations of stresses and deflections of beams.
3. Theory of Machine:- Types of mechanism; Velocity and acceleration analysis, balancing of rotating and reciprocating masses, cams & followers, Gear terminology, gear trains, principles of gyroscope, single and two degree forced and free vibrations, transmissibility, coefficient of damping, vibration absorber.
4. Machine Design: - Properties of engg. Materials,. design considerations for static dynamic fatigue loads, stress concentration, factor of safety, design of bolts, rivets, welded joints, power screws, springs, design of spur, helical, bevel & worm gears, design considerations of brakes & clutches, design of shafts, keys & couplings, design of thick & thin pressure vessels, Reynolds equations, Summerfield no., selection procedure for belts, ropes, chains and antifriction bearing.

Section - C (Production Engg)

1. Foundry Processes :- Characteristics of casting methods, types of casting, pattern materials and allowances, mould and core materials, melting furnaces, design of casting, gating & risers, casting defects & inspection.
2. Metal Working :- Hot & Cold working methods, Rolling, extrusion, wire & tube drawing, sheet metal working, forging, high -energy rate forming processes.
3. Manufacturing Methods:- For plastic and for powder metallurgy products, metal joining processes, gas /arc welding, TIG & MIG Welding, Design of welded joints.
4. Machining & Machine tool Operations :- Cutting tool materials & geometry, cutting fluids, turning, drilling, boring, milling, grinding, broaching, lapping. Theory of metal cutting, non traditional manufacturing processes: EDM, ECM, USM, LBM etc.
5. Metrology & Quality Control :- Limits & fits linear & angular measurements, comparators, Measurement of screw threads & gears, alignment test of machine tools, quality control, statistical quality control.
6. Industrial Engg:- Work study, Method study .& work measurement job evaluation, merit rating, wage incentive plans, break even point, Design of plant layout.
7. Production Planning and Control:- Manufacturing analysis, process planning. Operations Research techniques.
8. Management of Production Systems: - Functions of management, Inventory control. Computer Integrated Manufacturing, Reliability and Maintenance. Management information system, TQM.

**M.E. (CIVIL) – CONSTRUCTION & MANAGEMENT
FOUR SEMESTER COURSE – SEMESTER – I**

| Sr. No. | NAME OF SUBJECT | Teaching Scheme 60 minutes period / week | | | | Examination Scheme Max. Marks at Uni. Exam. | | |
|---------|------------------------------------|--|---|----|-------|---|----|-------|
| | | L | T | Pr | Total | TP | TW | Total |
| 1 | Project Evaluation & of Projects | 3 | 1 | - | 4 | 100 | 25 | 125 |
| 2 | Planning & Management of Projects. | 3 | 1 | - | 4 | 100 | 25 | 125 |
| 3 | Construction Methods. | 3 | 1 | - | 4 | 100 | 25 | 125 |
| 4 | Construction Equipments. | 3 | 1 | - | 4 | 100 | 25 | 125 |
| 5 | Elect – I | 3 | 1 | - | 4 | 100 | 25 | 125 |
| 6 | Seminar - I | - | - | 1 | 1 | 100 | 50 | 125 |

SEMESTER – II

| Sr. No. | NAME OF SUBJECT | Teaching Scheme 60 minutes period / Week | | | | Examination Scheme Max. Marks at Uni. Exam. | | |
|---------|--|--|---|----|-------|---|----|-------|
| | | L | T | Pr | Total | TP | TW | Total |
| 7 | Construction techniques | 3 | 1 | - | 100 | 25 | - | 125 |
| 8 | Legal Aspects in Construction Engineering | 3 | 1 | - | 100 | 25 | - | 125 |
| 9 | Management Information Systems for Construction Management | 3 | 1 | - | 100 | 25 | - | 125 |
| 10 | Computational Methods & Optimization Techniques | 3 | 1 | - | 100 | 25 | - | 125 |
| 11 | Elect – II | 3 | 1 | - | - | 25 | - | 125 |
| 12 | Seminar - II | - | - | 1 | - | 50 | - | 50 |

SEMESTER – III

| Sr. No. | NAME OF SUBJECT | Teaching Scheme 60 minutes period / week | | | | Examination Scheme Max. Marks at Uni. Exam | | | |
|---------|-------------------------------------|--|---|----|-------|--|-----|----|-------|
| | | L | T | Pr | Total | TP | TW | OE | Total |
| 13 | Lab Work. | - | - | 1 | 1 | - | 50 | - | 50 |
| 14 | Dissertation Phase – I with seminar | - | - | 3 | 3 | - | 100 | - | 100 |

Seminar based upon dissertation phase – I should be before panel of expert's formed by guide.

SEMESTER – III

| Sr. No. | NAME OF SUBJECT | Teaching Scheme 60 minutes period / week | | | | Examination Scheme Max. Marks at Uni. Exam. | | | |
|---------|-------------------------|--|---|----|-------|---|-----|-----|-------|
| | | L | T | Pr | Total | TP | TW | OE | Total |
| 15 | Dissertation Phase - II | - | - | 5 | 5 | - | 100 | 200 | 300 |

Elective – I

1. Entrepreneurship in Construction
2. Human Resource Development in Construction

Elective – II

1. Advanced Construction
2. Appropriate Technology

3. Work Study & Incentive Management.

3. Environment Impact Assessment

**M.E. (CIVIL STRUCTURES) COURSE
SEMESTER - I**

| Code No. | SUBJECTS | L | Pr. | Tu | Total | TW | P/O | Total |
|----------|--|----|-----|----|-------|-----|-----|-------|
| M1 | Theory of Elasticity & Plasticity | 3 | - | 1 | 4 | 25 | - | 125 |
| M2 | Mechanics of Structures | 3 | - | 1 | 4 | 25 | - | 125 |
| M3 | Advanced Design of Concrete Structures | 3 | - | 1 | 4 | 25 | - | 125 |
| M4 | Dynamics of Structures | 3 | - | 1 | 4 | 25 | - | 125 |
| M5 | Elective – I | 3 | - | 1 | 4 | 25 | - | 125 |
| M6 | Seminar - I | 1 | - | 1* | 1* | 50 | - | 50 |
| | | 15 | - | 6 | 21 | 175 | - | 675 |

Indicates Load per candidate.

Elective – I

- 1) Design of Foundations
- 2) Advances in Concrete Composites
- 3) Structural Optimization

SEMESTER II

| Code No. | Subject | Teaching / week | | | | | Examination Scheme | | | | |
|----------|---------------------------|-----------------|-----|-----|-----|-------|--------------------|-----------|-----|----|-------|
| | | L | Pr. | Tu. | Dr. | Total | Theory Paper Work | Term work | | | |
| | | | | | | | | TW | POE | OE | Total |
| M7 | Theory of Plates & Shells | 3 | - | 1 | - | 4 | 100 | 25 | - | - | 125 |
| M8 | Finite Element Method | 3 | - | 1 | - | 4 | 100 | 25 | - | - | 125 |
| M9 | Earthquake Engg. | 3 | - | 1 | 4 | - | 100 | 25 | - | - | 125 |
| M10 | Advanced Design of Steel | 3 | - | 1 | 4 | - | 100 | 25 | - | - | 125 |
| M11 | Elective - II | 3 | - | 1 | 4 | - | 100 | 25 | - | - | 125 |
| M12 | Seminar – II | - | - | 1* | 1* | - | - | 50 | - | - | 50 |
| | | 15 | - | 6 | 21 | - | 50 | 175 | - | - | 675 |

* Indicates load per candidate.

Elective II

- 1) Stability of Structures.
- 2) Design of R.C.C. Bridges.

3) Structural Reliability.

4) Design of Folded Plates & Shells.

Semester II

| Code No. | Subject | Teaching / week | | | | | Examination Scheme | | | | |
|----------|---------------|-----------------|-----|-----|-----|-------|--------------------|-----------|-----|----|-------|
| | | L | Pr. | Tu. | Dr. | Total | Theory Paper work | Term Work | | | |
| | | | | | | | | TW | POE | OE | Total |
| M13. | Lab Practical | - | 1 | - | - | 1 | - | 50 | - | - | 50 |
| M14. | Dissertation | - | 3* | - | - | 3* | - | 100 | - | - | 100 |
| | Phase - I | - | 4* | - | - | 4* | - | 150 | - | - | 150 |

*Indicates load per candidate.

Semester IV

| Code No. | Subject | Teaching / week | | | | | Examination Scheme | | | | |
|----------|-------------------------|-----------------|-----|-----|-----|-------|--------------------|-----------|-----|---------|-------|
| | | L | Pr. | Tu. | Dr. | Total | Theory Paper work | Term work | | | |
| | | | | | | | | TW | POE | OE | Total |
| M15 | Dissertation Phase – II | - | 5* | - | - | 5* | - | 100 | - | 20 0 | 300 |
| | | - | 5* | - | - | 5* | - | 100 | - | 20 0 | 300 |

- Indicates load per candidate.

M.E. MECHANICAL (Production Engineering) SEMESTER- I (REVISED)

SEMESTER – I

| Sr. No. | Name of Subject | Teaching Scheme | | Examination | | | Total |
|---------|--|-----------------|-----|-------------|-----|------|-------|
| | | L | T/P | T/W | TP | ORAL | |
| 1 | Industrial Instrumentation & Control | 3 | 2 | 25 | 100 | -- | 125 |
| 2 | Advanced Manufacturing Techniques – I | 3 | 1 | 25 | 100 | -- | 125 |
| 3 | Production Management | 3 | 1 | 25 | 100 | -- | 125 |
| 4 | Design of Experiments & Research Methodology | 3 | 2 | 25 | 100 | -- | 125 |
| 5 | Elective – I | 3 | 1 | 25 | 100 | -- | 125 |
| 6 | Seminar - I | - | 2 | 25 | 100 | -- | 125 |
| | | 15 | 9 | 150 | 500 | -- | 650 |

L-Lecture T/P – Tutorial T/W – Term Work TP- Theory examination.

SEMESTER – I

| Sr. No. | NAME OF SUBJECT | Teaching Scheme | | Examination | | | Total |
|---------|-------------------------|-----------------|-----|-------------|-----|------|-------|
| | | L | T/P | T/W | TP | ORAL | |
| 1 | Advanced Manufacturing | | | | | | |
| | Techniques – I | 3 | 2 | 25 | 100 | -- | 125 |
| 2 | Quantitative Techniques | 3 | 1 | 25 | 100 | -- | 125 |
| 3 | Human Resource | | | | | | |
| | Development | 3 | 1 | 25 | 100 | -- | 125 |
| 4 | Machine Too Design | 3 | 2 | 25 | 100 | -- | 125 |
| 5 | Elective – II | 3 | 1 | 25 | 100 | -- | 125 |
| 6 | Seminar – II | - | 2 | 25 | 100 | -- | 125 |
| | | 15 | 9 | 150 | 500 | | 650 |

In-plant training report for the training for at least tow weeks undertaken in the vacation after semester II is to be submitted in Semester III

LIST OF THE ELECTIVES:

Elective – I

- 1) Advance production system
- 2) Facility Planning & Material Handling
- 3) Industrial hydraulics & pneumatics
- 4) Costing & Cost Control
- 5) Fabrication Eng & welding Technology Analysis

Elective - II

- 1) T Q M
- 2) Non-metal Manufacturing Techniques
- 3) Material & Finance Management
- 4) Manufacturing System
- 5) Manufacturing System Design &

SEMESTER – III

| Sr. No. | Name of Subject | Teaching Scheme | | Examination | | | Total |
|---------|------------------------|-----------------|-----|-------------|------|------|-------|
| | | L | T/P | T/W | TP | ORAL | |
| 1. | In-plant Training | - | - | 50 | -- | -- | 50 |
| 2. | Semester – III | - | 1 | -- | -- | -- | 50 |
| 3. | Dissertation – Phase I | - | 4 | 50 | -- | 50 | 50 |
| | | 15 | 9 | 150 | 5000 | -- | 650 |

SEMESTER – IV

| Sr. No. | Name of Subject | Teaching Scheme | | Examination | | | Total |
|---------|-----------------|-----------------|-----|-------------|----|------|-------|
| | | L | T/P | T/W | TP | ORAL | |
| 1. | Dissertation | - | 5 | 100 | -- | 200 | 300 |
| | Total | - | 5 | 100 | -- | 200 | 300 |
| | | | | | | | |

M.E. MECHANICAL (Heat Power Engineering) SEMESTER – I (REVISED)

SEMESTER – I

| Sr. No. | Name of Subject | Teaching Scheme | | Examination | | | Total |
|---------|--|-----------------|-----|-------------|-----|------|-------|
| | | L | T/P | T/W | TP | ORAL | |
| 1. | Advanced Fluid Mechanics & CFD | 3 | 2 | 25 | 100 | - | 125 |
| 2. | Advanced Thermodynamics | 3 | 1 | 25 | 100 | - | 125 |
| 3. | Advanced Instrumentation Techniques | 3 | 1 | 25 | 100 | - | 125 |
| 4. | Advanced heat & mass Transfer | 3 | 2 | 25 | 100 | - | 125 |
| 5. | Design of Experiments & Research methodology | 3 | 1 | 25 | 100 | - | 125 |
| 6. | Seminar – I | - | 2 | 25 | - | - | 125 |
| | Total | 15 | 9 | 150 | 500 | - | 650 |

L-lecture T/P – Tutorial t/W – Team Work TP- Theory Examination

Students have to opt for one of the following groups for semester – II

SEMESTER – II GROUP I

| Sr. No. | Name of Subject | Teaching Scheme | | Examination | | | Total |
|---------|---|-----------------|-----|-------------|-----|------|-------|
| | | L | T/P | T/W | TP | ORAL | |
| 1. | I. C. Engines - I | 3 | 2 | 25 | 100 | - | 125 |
| 2. | I. C. Engines - II | 3 | 1 | 25 | 100 | - | 125 |
| 3. | Design of thermal systems | 3 | 1 | 25 | 100 | - | 125 |
| 4. | Gas Turbines | 3 | 2 | 25 | 100 | - | 125 |
| 5. | Computational Techniques in thermal Engineering | 3 | 1 | 25 | 100 | - | 125 |
| 6. | Seminar – II | - | 2 | 25 | 100 | - | 125 |
| | Total | 15 | 9 | 150 | 600 | - | 650 |

In- plant training report for the training for at least two weeks undertaken in the vacation after Semester II is to be submitted in Semester III.

SEMESTER – II GROUP II

| Sr. No. | Name of Subject | Teaching Scheme | | Examination | | | Total |
|---------|---|-----------------|-----|-------------|-----|------|-------|
| | | L | T/P | T/W | TP | ORAL | |
| 1. | Refrigeration | 3 | 2 | 25 | 100 | - | 125 |
| 2. | Air Conditioning | 3 | 1 | 25 | 100 | - | 125 |
| 3. | Cryogenics | 3 | 1 | 25 | 100 | - | 125 |
| 4. | Design of Thermal Systems | 3 | 2 | 25 | 100 | - | 125 |
| 5. | Computational Techniques in thermal Engineering | 3 | 1 | 25 | 100 | - | 125 |
| 6. | Seminar – II | - | 2 | 25 | 100 | - | 125 |
| 7. | In Plant Training Report* | - | - | - | - | - | - |
| | Total | 15 | 9 | 150 | 600 | - | 650 |

L – Lecture T/P Tutorial T/W – Team Work TP- Theory Examination.

SEMESTER – II GROUP III

| Sr. No. | Name of Subject | Teaching Scheme | | Examination | | | Total |
|---------|---|-----------------|-----|-------------|-----|------|-------|
| | | L | T/P | T/W | TP | ORAL | |
| 1. | Power Plant Engineering | 3 | 2 | 25 | 100 | - | 125 |
| 2. | Design of Thermal Systems | | | | | | |
| 3. | Design of Pumps, Blowers Compressors | 3 | 1 | 25 | 100 | - | 125 |
| 4. | Energy Analysis & Management | 3 | 1 | 25 | 100 | - | 125 |
| 5. | Computational techniques in thermal engineering | 3 | 1 | 25 | 100 | - | 125 |
| 6. | Seminar – II* | 3 | 2 | 25 | 100 | - | 125 |
| 7. | In Plant Training Report* | - | - | - | - | - | - |
| | Total | 15 | 9 | 150 | 600 | - | 650 |

In-plant training report for the training for at least two weeks undertaken in the vacation after Semester-II is to be submitted in Semester III.

SEMESTER – III

| Sr. No. | Name of Subject | Teaching Scheme | | Examination | | | Total |
|---------|------------------------|-----------------|-----|-------------|----|------|-------|
| | | L | T/P | T/W | TP | ORAL | |
| 1. | In-plant Training | - | - | 50 | -- | -- | 50 |
| 2. | Semester – III | - | 1 | -- | -- | 50 | 50 |
| 3. | Dissertation – Phase I | - | 4 | 50 | - | - | 50 |
| | Total | - | 5 | 150 | - | 50 | 150 |

SEMESTER – IV

| Sr. No. | Name of Subject | Teaching Scheme | | Examination | | | Total |
|---------|-----------------|-----------------|-----|-------------|----|------|-------|
| | | L | T/P | T/W | TP | ORAL | |
| 1. | Dissertation | - | 5 | 20 | -- | 10 | 300 |
| | Total | - | 5 | 20 | -- | 10 | 300 |

STRUCTURE OF M.E. (ELECTRICAL) (POWER SYSTEMS)

| Sr. No. | Name of the Subject | Teaching Scheme | | Examination Schemes | | |
|---------|---|-----------------|-------------|---------------------|-----|------|
| | | Lect. | Tut./Pract. | Paper | T.W | O.E. |
| 1) | SEMESTER – I Power System Modeling & stability | 3 | 1 | 100 | 25 | -- |
| 2) | Modern Power System Protection & Related Instrumentation. | 3 | 1 | 100 | 25 | -- |
| 3) | Modern Power System Analysis & Computer Methods | 3 | 1 | 100 | 25 | -- |
| 4) | E.H.V.A.C. Transmission | 3 | 1 | 100 | 25 | -- |
| 5) | Laboratory Practice - I | - | 8 | - | 50 | 50 |
| | | 12 | 12 | 400 | 150 | 50 |

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| Sr. No. | Name of the Subject | Teaching Scheme | | Examination Schemes | | |
|---------|-------------------------------------|-----------------|-------------|---------------------|-----|------|
| | | Lect. | Tut./Pract. | Paper | T.W | O.E. |
| | SEMESTER – II | | | | | |
| 1) | Power System Planning | 3 | 1 | 100 | 25 | -- |
| 2) | Real Time Control of power systems. | 3 | 1 | 100 | 25 | -- |
| 3) | H.V.D.C. Transmission | 3 | 1 | 100 | 25 | -- |
| 4) | Elective – I | 3 | 1 | 100 | 25 | -- |
| 5) | Elective – II | 3 | 1 | 100 | 25 | -- |
| 6) | Laboratory Practice – II | - | 8 | - | 25 | -- |
| 7) | Semester – I* | - | 1 | - | 75 | 50 |
| | | | | | 50 | -- |
| | | 15 | 14 | 500 | 250 | 50 |

*Semester topic to be based on Literature Survey for Dissertation Work.

| | | | | | |
|----------------------------|----|---|----|-----|----|
| SEMESTER – III | | | | | |
| 1) Semester – II | -- | 1 | -- | 50 | -- |
| 2) Dissertation Phase - I | -- | 4 | -- | 100 | -- |
| | -- | 5 | -- | 150 | -- |
| SEMESTER – IV | | | | | |
| 1) dissertation Phase - II | -- | 5 | - | 100 | -- |
| | -- | 5 | -- | 100 | -- |

Group 'A'

A1/ H. V. Engg.

A2 Power Controllers.

A3 Power System Instrumentation.

A4 Fuzzy logic & Artificial Neural Networks.

Group 'B'

B1. Advanced Microprocessor

Techniques for Power Systems

B2 Electric Power Quality & Harmonics.

B2 Electric Power Quality & Harmonics.

OUR FACULTY....

"A teacher affects eternity; One can never tell where his influence stops."

Henry Adams...

The corner stone of academic excellence is a faculty of the highest order. The faculty members gain advanced knowledge and bring the findings of their research into the classrooms. The dissemination of knowledge is then more than teaching.

The classroom becomes the place where participation is crucial originality is encouraged. The inspiration from the staff is of frequent occurrence.

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Prof. Dr. A. S. Pant

B. Tech (Civil) M. Tech (Structure) Ph.D.

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