

B. Tech.
IN
MECHANICAL ENGINEERING

FLEXIBLE CURRICULUM
(For students admitted in 2015-16)



DEPARTMENT OF MECHANICAL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY
TIRUCHIRAPPALLI – 620 015

TAMIL NADU, INDIA



CURRICULUM

The total minimum credits for completing the B.Tech. programme in Mechanical Engineering is 177 [68 + 109].

MINIMUM CREDIT REQUIREMENT FOR THE VARIOUS COURSE CATEGORIES

The structure of B.Tech. programmes shall have General Institute Requirements (GIR), Programme Core (PC), Elective Courses (PE, OE and MI) and Essential Programme Laboratory Requirements (ELR) are as follows:

| Sl. No. | COURSE CATEGORY | Number of Courses | Number of Credits |
|--------------|---|-------------------|-------------------|
| 1. | General Institute Requirement (GIR) | 17 | 68 |
| 2. | Programme Core (PC) | 20 | 65 |
| 3. | Essential Programme Laboratory Requirement (ELR) | 10 | 11 |
| 4. | Elective courses a. Programme Electives (PE) b. Open Electives (OE) c. Minor (MI) A student should be allowed a minimum of 50% of the total electives of a programme from (b) and (c) if so desired by the student. | 11 | 33 |
| TOTAL | | | <u>177</u> |

**(I) GENERAL INSTITUTE REQUIREMENTS**

| Sl.No. | Name of the course | Number of Courses | Maximum Credits |
|------------|---|-------------------------------|-----------------|
| 1. | Mathematics | 4 | 14 |
| 2. | Physics* | 2 | 7 |
| 3. | Chemistry* | 2 | 7 |
| 4. | Humanities | 1 | 3 |
| 5. | Communication | 2 | 6 |
| 6. | Energy and Environmental Engineering | 1 | 2 |
| 7. | Professional Ethics | 1 | 3 |
| 8. | <i>Engineering Graphics</i> | <i>1</i> | <i>3</i> |
| 9. | <i>Engineering Practice</i> | <i>1</i> | <i>2</i> |
| 10. | Basic Engineering | 2 | 4 |
| 11. | Introduction to Computer Programming | 1 | 3 |
| 12. | Branch Specific Course** (Introduction to Branch of Study) | 1 | 2 |
| 13. | <i>Summer Internship</i> | <i>1</i> | <i>2</i> |
| 14. | <i>Project work</i> | <i>1</i> | <i>6</i> |
| 15. | <i>Comprehensive Viva</i> | <i>1</i> | <i>3</i> |
| 16. | Industrial lecture | - | 1 |
| 17. | NSS / NCC / NSC | - | 0 |
| | TOTAL | 17 (Excluding Italics) | 68 |

*including Lab

** Commence during Orientation Programme



I. GENERAL INSTITUTE REQUIREMENTS

1. MATHEMATICS

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|---|---------|
| 1. | MAIR11 | MATHEMATICS I | 4 |
| 2. | MAIR21 | MATHEMATICS II | 4 |
| 3. | MAIR32 | TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS | 3 |
| 4. | MAIR41 | NUMERICAL TECHNIQUES | 3 |
| Total | | | 14 |

2. PHYSICS

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|--------------|---------|
| 1. | PHIR11 | PHYSICS I | 3 |
| 2. | PHIR12 | PHYSICS II | 4 |
| Total | | | 7 |

3. CHEMISTRY

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|--------------|---------|
| 1. | CHIR11 | CHEMISTRY I | 3 |
| 2. | CHIR13 | CHEMISTRY II | 4 |
| Total | | | 7 |

4. HUMANITIES

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|--|---------|
| 1. | HSIR13 | INDUSTRIAL ECONOMICS AND FOREIGN TRADE | 3 |
| Total | | | 3 |



5. COMMUNICATION

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|----------------------------|---------|
| 1. | HSIR11 | ENGLISH FOR COMMUNICATION | 3 |
| 2. | HSIR12 | PROFESSIONAL COMMUNICATION | 3 |
| Total | | | 6 |

6. ENERGY AND ENVIRONMENTAL ENGINEERING

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|--------------------------------------|---------|
| 1. | ENIR11 | ENERGY AND ENVIRONMENTAL ENGINEERING | 2 |
| Total | | | 2 |

7. PROFESSIONAL ETHICS

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|---------------------|---------|
| 1. | HSIR14 | PROFESSIONAL ETHICS | 3 |
| Total | | | 3 |

8. ENGINEERING GRAPHICS

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|----------------------|---------|
| 1. | MEIR12 | ENGINEERING GRAPHICS | 3 |
| Total | | | 3 |

9. ENGINEERING PRACTICE

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|----------------------|---------|
| 2. | PRIR11 | ENGINEERING PRACTICE | 2 |
| Total | | | 2 |

**10. BASIC ENGINEERING**

| Sl. No. | Course Code | Course Title | Credits |
|--------------|-------------|--|----------|
| 1. | CEIR11 | BASIC CIVIL ENGINEERING | 2 |
| 2. | EEIR11 | BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING | 2 |
| Total | | | 4 |

11. INTRODUCTION TO COMPUTER PROGRAMMING

| Sl. No. | Course Code | Course Title | Credits |
|--------------|-------------|--------------------------------------|----------|
| 1. | CSIR11 | BASICS OF PROGRAMMING (Theory & Lab) | 3 |
| Total | | | 3 |

12. BRANCH SPECIFIC COURSE

| Sl. No. | Course Code | Course Title | Credits |
|--------------|-------------|--|----------|
| 1. | MEIR15 | INTRODUCTION TO MECHANICAL ENGINEERING | 2 |
| Total | | | 2 |

13. SUMMER INTERNSHIP

| Sl. No. | Course Code | Course Title | Credits |
|--------------|-------------|--|----------|
| 1. | MEIR16 | INTERNSHIP / INDUSTRIAL TRAINING / ACADEMIC ATTACHMENT (2 to 3 months duration during summer vacation) | 2 |
| Total | | | 2 |

The student should undergo industrial training/internship for a minimum period of two months during the summer vacation of 3rd year. Attachment with an academic institution within the country (IISc/IITs/NITs/IIITs and CFTIs) or university abroad is also permitted instead of industrial training.

#To be evaluated at the beginning of VII semester by assessing the report and seminar presentations.

**14. PROJECT WORK**

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|--------------|---------|
| 1. | MEIR17 | PROJECT WORK | 6 |
| Total | | | 6 |

15. COMPREHENSIVE VIVA

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|--------------------|---------|
| 1. | MEIR18 | COMPREHENSIVE VIVA | 3 |
| Total | | | 3 |

16. INDUSTRIAL LECTURE

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|--------------------|---------|
| 1. | MEIR19 | INDUSTRIAL LECTURE | 1 |
| Total | | | 1 |

A course based on industrial lectures shall be offered for 1 credit. A minimum of five lectures of two hours duration by industry experts will be arranged by the Department. The evaluation methodology, will in general, be based on quizzes at the end of each lecture.

17. NSS / NCC / NSO

| Sl. No. | Course Code | Course Title | Credits |
|---------|-------------|-----------------|---------|
| 1. | SWIR11 | NSS / NCC / NSO | 0 |
| Total | | | 0 |

**(II) PROGRAMME CORE (PC)****[Note: (1) Number of programme core: 16 to 20 (2) Credits: 56 - 65]**

| Sl. No. | Course Code | Course Title | Prerequisites | Credits |
|--------------|-------------|--|---------------|-----------|
| 1. | MEPC10 | ENGINEERING MECHANICS | -NIL- | 3 |
| 2. | MEPC11 | ENGINEERING THERMODYNAMICS | -NIL- | 4 |
| 3. | MEPC12 | STRENGTH OF MATERIALS | -NIL- | 3 |
| 4. | MEPC13 | APPLIED ELECTRICAL AND ELECTRONICS ENGINEERING | EEIR11 | 4 |
| 5. | MEPC14 | INSTRUMENTATION AND CONTROL ENGINEERING | -NIL- | 3 |
| 6. | MEPC15 | PRODUCTION TECHNOLOGY – I | -NIL- | 4 |
| 7. | MEPC16 | THERMAL ENGINEERING | MEPC11 | 3 |
| 8. | MEPC17 | MECHANICS OF MACHINES - I | MEPC10 | 3 |
| 9. | MEPC18 | FLUID MECHANICS | -NIL- | 3 |
| 10. | MEPC19 | PRODUCTION TECHNOLOGY – II | -NIL- | 4 |
| 11. | MEPC20 | ENGINEERING MATERIALS | -NIL- | 4 |
| 12. | MEPC21 | TURBOMACHINES | MEPC18 | 3 |
| 13. | MEPC22 | HEAT AND MASS TRANSFER | MEPC11 | 3 |
| 14. | MEPC23 | MECHANICS OF MACHINES - II | MEPC17 | 3 |
| 15. | MEPC24 | ANALYSIS AND DESIGN OF MACHINE COMPONENTS | MEPC12 | 3 |
| 16. | MEPC25 | AUTOMOBILE ENGINEERING | -NIL- | 3 |
| 17. | MEPC26 | DESIGN OF MECHANICAL DRIVES | MEPC12 | 3 |
| 18. | MEPC27 | COMPUTER AIDED DESIGN AND DRAFTING | MEIR12 | 3 |
| 19. | MEPC28 | POWER PLANT ENGINEERING | MEPC21 | 3 |
| 20. | MEPC29 | METROLOGY AND QUALITY CONTROL | -NIL- | 3 |
| Total | | | | 65 |

**(III) ELECTIVES****a. PROGRAMME ELECTIVE (PE)**

[Note: Number of programme elective: at least 3 courses]

Students pursuing B.Tech. in Mechanical Engineering should take at least three courses from the Programme Electives listed below.

| Sl. No. | Course Code | Course Title | Prerequisites | Credits |
|---------|-------------|---------------------------------------|-------------------|---------|
| 1. | MEPE10 | COMPRESSIBLE FLOW AND JET PROPULSION | MEPC18 | 3 |
| 2. | MEPE11 | COMPUTATIONAL FLUID DYNAMICS | MEPC18 | 3 |
| 3. | MEPE12 | ADVANCED IC ENGINES | MEPC16 | 3 |
| 4. | MEPE13 | COMBUSTION ENGINEERING | MEPC16 | 3 |
| 5. | MEPE14 | BIOFUELS | MEPC16 | 3 |
| 6. | MEPE15 | REFRIGERATION AND AIR CONDITIONING | MEPC16 | 3 |
| 7. | MEPE16 | FUNDAMENTALS OF HVAC SYSTEMS | MEPC16 | 3 |
| 8. | MEPE17 | CRYOGENIC ENGINEERING | MEPC16 | 3 |
| 9. | MEPE18 | NANO TECHNOLOGY | MEPC20 | 3 |
| 10. | MEPE19 | VEHICLE DYNAMICS | MEPC25 | 3 |
| 11. | MEPE20 | COMPUTER APPLICATIONS IN DESIGN | MEPC27 | 3 |
| 12. | MEPE21 | DYNAMICS OF MACHINERY | MEPC23 | 3 |
| 13. | MEPE22 | MEMS DEVICES – DESIGN AND FABRICATION | MEPC13 | 3 |
| 14. | MEPE23 | VIBRATION ANALYSIS AND CONTROL | MEPC23 | 3 |
| 15. | MEPE24 | OIL HYDRAULICS AND PNEUMATICS | MEPC18 | 3 |
| 16. | MEPE25 | INDUSTRIAL ROBOTICS | MEPC13 | 3 |
| 17. | MEPE26 | MECHATRONICS | MEPC13 | 3 |
| 18. | MEPE27 | INDUSTRIAL TRIBOLOGY | MEPC20 | 3 |
| 19. | MEPE28 | OPTIMIZATION IN ENGINEERING DESIGN | MAIR31, MAIR46 | 3 |

**b. OPEN ELECTIVE (OE)**

| Sl. No. | Course Code | Course Title | Prerequisites | Credits |
|---------|-------------|--------------------------------|---------------|---------|
| 1. | MEOE10 | RENEWABLE ENERGY | -NIL- | 3 |
| 2. | MEOE11 | FINITE ELEMENT METHOD | -NIL- | 3 |
| 3. | MEOE12 | COMPOSITE MATERIALS | -NIL- | 3 |
| 4. | MEOE13 | ADVANCES IN WELDING TECHNOLOGY | -NIL- | 3 |
| 5. | MEOE14 | INDUSTRIAL SAFETY ENGINEERING | -NIL- | 3 |

c. MINOR (MI)

Students who have registered for B.Tech Minor in Mechanical Engineering.

[Note: Number of Minor courses: 5 courses (Minimum)]

| Sl. No. | Course Code | Course Title | Prerequisites | Credits |
|---------|-------------|--|---------------|---------|
| 1. | MEMI10 | BASIC THERMODYNAMICS | -NIL- | 3 |
| 2. | MEMI11 | FUNDAMENTALS OF THERMAL ENGINEERING | -NIL- | 3 |
| 3. | MEMI12 | FLUID MECHANICS AND MACHINERY | -NIL- | 3 |
| 4. | MEMI13 | FUNDAMENTALS OF HEAT AND MASS TRANSFER | -NIL- | 3 |
| 5. | MEMI14 | MACHINE DESIGN | -NIL- | 3 |
| 6. | MEMI15 | FUNDAMENTALS OF AUTOMOTIVE TECHNOLOGY | -NIL- | 3 |
| 7. | MEMI16 | POWER PLANT TECHNOLOGY | -NIL- | 3 |
| 8. | MEMI17 | FUNDAMENTALS OF REFRIGERATION AND AIR CONDITIONING | -NIL- | 3 |
| 9. | MEMI18 | PRINCIPLES OF TURBOMACHINERY | -NIL- | 3 |
| 10. | MEMI19 | FUNDAMENTALS OF INTERNAL COMBUSTION ENGINES | -NIL- | 3 |
| 11. | MEMI20 | ENGINE POLLUTION AND CONTROL | -NIL- | 3 |
| 12. | MEMI21 | CAD/CAM | -NIL- | 3 |

Note : Student should be allowed a minimum of 50% of the total electives of a programme from Open electives and Minor, if so desired by the student.



(IV) ESSENTIAL PROGRAMME LABORATORY REQUIREMENT (ELR)

| Sl. No. | Course Code | Course Title | Co requisites | Credits |
|---------|-------------|--|---------------|---------|
| 1. | MELR10 | MACHINE DRAWING | MEIR12 | 2 |
| 2. | MELR11 | STRENGTH OF MATERIALS LABORATORY | MEPC12 | 1 |
| 3. | MELR12 | THERMAL ENGINEERING LABORATORY | MEPC16 | 1 |
| 4. | MELR13 | FLUID MECHANICS LABORATORY | MEPC18 | 1 |
| 5. | MELR14 | HEAT TRANSFER, REFRIGERATION AND AIR CONDITIONING LABORATORY | MEPC22 | 1 |
| 6. | MELR15 | DYNAMICS LABORATORY | MEPC23 | 1 |
| 7. | MELR16 | AUTOMOBILE ENGINEERING LABORATORY | MEPC25 | 1 |
| 8. | MELR17 | COMPUTER AIDED DESIGN LABORATORY | MEPC27 | 1 |
| 9. | MELR18 | METROLOGY AND QUALITY CONTROL LABORATORY | MEPC29 | 1 |
| 10. | MELR19 | MECHATRONICS LABORATORY | MEPE26 | 1 |
| Total | | | | 11 |

NOTE: Students can register for 2 laboratory courses during one session along with regular courses (PC / PE / OE / MI).



V. ADVANCED LEVEL COURSES FOR B.Tech. (HONOURS)

A student can obtain B.Tech. (Honours) degree provided the student has;

- i. Registered at least for 12 theory courses and 2 ELRs in the second year.
- ii. Consistently obtained a minimum GPA of 8.5 in the first four sessions
- iii. Continue to maintain the same GPA of 8.5 in the subsequent sessions (including the Honours courses)
- iv. Completed 3 additional theory courses specified for the Honours degree of the programme.
- v. Completed all the courses registered, in the first attempt and in four years of study.

| Sl. No. | Course Code | Course Title | Co requisites | Credits |
|----------------|--------------------|---|----------------------|----------------|
| 1. | MEHO10 | ADVANCED HEAT TRANSFER | MEPC22 | 3 |
| 2. | MEHO11 | ADVANCED FLUID MECHANICS | MEPC18 | 3 |
| 3. | MEHO12 | SIMULATION OF IC ENGINES | MEPC16 | 3 |
| 4. | MEHO13 | DESIGN AND ANALYSIS OF TURBO MACHINES | MEPC21 | 3 |
| 5. | MEHO14 | ADVANCED ENGINEERING MATERIALS | MEPC20 | 3 |
| 6. | MEHO15 | DESIGN OF HEAT EXCHANGERS | MEPC22 | 3 |
| 7. | MEHO16 | DESIGN AND OPTIMIZATION OF THERMAL ENERGY SYSTEMS | MEPC16 | 3 |



DESCRIPTION OF COURSE CODES FOR B.TECH. PROGRAMME

| Sl. No. | Type of the course | Course Code and range |
|---------|----------------------------------|-----------------------|
| 1. | General Institute requirements | xxIR10 to 99 |
| 2. | Programme core | xxPC10 to 99 |
| 3. | Programme Elective | xxPE10 to 99 |
| 4. | Essential Laboratory Requirement | xxLR10 to 99 |
| 5. | Open Electives | xxOE10 to 99 |
| 6. | Minors | xxMI10 to 99 |
| 7. | Honours | xxHO10 to 99 |

where xx denotes the Department offering the course

DESCRIPTION OF DEPARTMENT CODES FOR B.TECH. PROGRAMME

| Sl. No. | Department | Code |
|---------|---|------|
| 1. | Architecture | AR |
| 2. | Chemical Engineering | CL |
| 3. | Civil Engineering | CE |
| 4. | Computer Applications | CA |
| 5. | Computer Science and Engineering | CS |
| 6. | Chemistry | CH |
| 7. | Electronics and Communication Engineering | EC |
| 8. | Electrical and Electronics Engineering | EE |
| 9. | Energy and Environment | EN |
| 10. | Humanities | HM |
| 11. | Instrumentation and control Engineering | IC |
| 12. | Mathematics | MA |
| 13. | Mechanical Engineering | ME |
| 14. | Metallurgical and Materials Engineering | MT |
| 15. | Production Engineering | PR |
| 16. | Physics | PH |
| 17. | Management Studies (DoMS) | MB |
| 18. | Office of Dean, Student Welfare (NSS/NSC/NSO) | SW |



Flow of courses for B.Tech. Mechanical Engineering Programme and the session of study for each core course is given below.

| Sl. No. | Course Code | Course Title | Year of Study | Session/s |
|---------|-------------|---|---------------|-----------|
| 1. | HSIR11 | ENGLISH FOR COMMUNICATION | I | July |
| 2. | MAIR11 | MATHEMATICS I | I | July |
| 3. | PHIR11 | PHYSICS I | I | July |
| 4. | CHIR11 | CHEMISTRY I | I | July |
| 5. | CSIR11 | BASICS OF PROGRAMMING | I | July |
| 6. | MEIR15 | INTRODUCTION TO MECHANICAL ENGINEERING | I | July |
| 7. | CEIR11 | BASIC CIVIL ENGINEERING | I | July |
| 8. | EEIR11 | BASIC ELECTRICAL AND ELECTRONICS ENGINEERING | I | July |
| 9. | PRIR11 | ENGINEERING PRACTICE | I | July |
| 10. | HSIR12 | PROFESSIONAL COMMUNICATION | I | January |
| 11. | MAIR21 | MATHEMATICS II | I | January |
| 12. | PHIR12 | PHYSICS II | I | January |
| 13. | CHIR13 | CHEMISTRY II | I | January |
| 14. | ENIR11 | ENERGY AND ENVIRONMENTAL ENGINEERING | I | January |
| 15. | MEPC10 | ENGINEERING MECHANICS | I | January |
| 16. | MEIR12 | ENGINEERING GRAPHICS | I | January |
| 17. | SWIR11 | NSS / NCC / NSO | I | January |
| 18. | MAIR32 | TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS | II | July |
| 19. | MEPC11 | ENGINEERING THERMODYNAMICS | II | July |
| 20. | MEPC12 | STRENGTH OF MATERIALS | II | July |



| | | | | |
|-----|--------|--|-----|---------|
| 21. | MEPC13 | APPLIED ELECTRICAL AND ELECTRONICS ENGINEERING | II | July |
| 22. | MEPC14 | INSTRUMENTATION AND CONTROL ENGINEERING | II | July |
| 23. | MEPC15 | PRODUCTION TECHNOLOGY - I | II | July |
| 24. | MELR10 | MACHINE DRAWING | II | July |
| 25. | MELR11 | STRENGTH OF MATERIALS LABORATORY | II | July |
| 26. | MAIR41 | NUMERICAL TECHNIQUES | II | January |
| 27. | MEPC16 | THERMAL ENGINEERING | II | January |
| 28. | MEPC17 | MECHANICS OF MACHINES - I | II | January |
| 29. | MEPC18 | FLUID MECHANICS | II | January |
| 30. | MEPC19 | PRODUCTION TECHNOLOGY - II | II | January |
| 31. | MEPC20 | ENGINEERING MATERIALS | II | January |
| 32. | MELR12 | THERMAL ENGINEERING LABORATORY | II | January |
| 33. | MELR13 | FLUID MECHANICS LABORATORY | II | January |
| 34. | MEPC21 | TURBOMACHINES | III | July |
| 35. | MEPC22 | HEAT AND MASS TRANSFER | III | July |
| 36. | MEPC23 | MECHANICS OF MACHINES - II | III | July |
| 37. | MEPC24 | ANALYSIS AND DESIGN OF MACHINE COMPONENTS | III | July |
| 38. | | ELECTIVE-I | III | July |
| 39. | | ELECTIVE-II | III | July |
| 40. | MELR14 | HEAT TRANSFER, REFRIGERATION AND AIR CONDITIONING LABORATORY | III | July |
| 41. | MELR15 | DYNAMICS LABORATORY | III | July |
| 42. | MEPC25 | AUTOMOBILE ENGINEERING | III | January |
| 43. | MEPC26 | DESIGN OF MECHANICAL DRIVES | III | January |
| 44. | MEPC27 | COMPUTER AIDED DESIGN AND DRAFTING | III | January |
| 45. | | ELECTIVE-III | III | January |



| | | | | |
|-----|--------|--|-----|---------|
| 46. | | ELECTIVE-IV | III | January |
| 47. | | ELECTIVE-V | III | January |
| 48. | MELR16 | AUTOMOBILE ENGINEERING LABORATORY | III | January |
| 49. | MELR17 | COMPUTER AIDED DESIGN LABORATORY | III | January |
| 50. | MEIR16 | SUMMER INTERNSHIP | III | January |
| 51. | MEIR19 | INDUSTRIAL LECTURE | III | January |
| 52. | HSIR14 | PROFESSIONAL ETHICS | IV | July |
| 53. | MEPC28 | POWER PLANT ENGINEERING | IV | July |
| 54. | MEPC29 | METROLOGY AND QUALITY CONTROL | IV | July |
| 55. | | ELECTIVE-VI | IV | July |
| 56. | | ELECTIVE-VII | IV | July |
| 57. | | ELECTIVE-VIII | IV | July |
| 58. | MELR18 | METROLOGY AND QUALITY CONTROL LABORATORY | IV | July |
| 59. | MELR19 | MECHATRONICS LABORATORY | IV | July |
| 60. | MEIR18 | COMPREHENSIVE VIVA | IV | July |
| 61. | HSIR13 | INDUSTRIAL ECONOMICS AND FOREIGN TRADE | IV | January |
| 62. | | ELECTIVE-IX | IV | January |
| 63. | | ELECTIVE-X | IV | January |
| 64. | | ELECTIVE-XI | IV | January |
| 65. | MEIR17 | PROJECT WORK | IV | January |