TH 4

| Discipline : MECHANICAL ENGG. | Semester : 4TH | Name of the Teaching Faculty: MUKESH KUMAR DALEI |
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| Subject: THERMAL ENGG-II | No. of days/per week class allotted: 04 | Semester From date: To Date:<br>No. of Weeks: 15 |
| Week | Class Day | Theory / Practical Topics |
| 1ST | 1ST | Introduction to thermodynamics |
| | 2ND | Introduction to Vapor Power cycles |
| | 3RD | Explain Steam Power Plant with its Layout |
| | 4TH | Explain Steam Power Plant with its Layout Contd. |
| 2ND | 1ST | Explain working of steam power plant cycle |
| | 2ND | Explain Carnot vapor cycle with property diagram |
| | 3RD | Explain Rankine vapor cycle with property diagram |
| | 4TH | Explain Rankine vapor cycle with property diagram Contd. |
| 3RD | 1ST | Explain modifications to Rankine vapor cycle |
| | 2ND | Problem solving |
| | 3RD | Explain the qualities of ideal working fluid of power cycle |
| | 4TH | Explain Binary vapor cycles |
| 4TH | 1ST | Previous year question discussion, Assignment |
| | 2ND | Introduction to Gas Power cycles |
| | 3RD | Explain the concept of I C engine |
| | 4TH | Explain the concept of I C engine contd. |
| 5TH | 1ST | Explain Otto cycle with property diagram |
| | 2ND | Explain Diesel cycle with property diagram |
| | 3RD | Explain Dual cycle with property diagram |
| | 4TH | Problem solving |
| 6TH | 1ST | Problem solving |
| | 2ND | Problem solving |
| | 3RD | Compare Otto, Diesel and Dual cycles |
| | 4TH | Differentiate between 2S and 4S engine |
| 7TH | 1ST | Previous year question discussion, Assignment |
| | 2ND | Introduction to Fuels and Combustion |
| | 3RD | Explain Hydrocarbon fuels |
| | 4TH | Explain the different combustion reactions |
| 8TH | 1ST | Explain the different combustion reactions contd. |
| | 2ND | Explain enthalpy of formation and enthalpy of reaction |
| | 3RD | Explain heating values for fuels |
| | 4TH | Explain Octane number |
| 9TH | 1ST | Explain Cetane number |
| | 2ND | Previous year question discussion, Assignment |
| | 3RD | Introduction to Heat transfer |
| | 4TH | Explain the different modes of heat transfer |
| 10TH | 1ST | State Fourier law of heat conduction, define thermal conductivity |
| | 2ND | Explain steady state heat conduction in solids |
| | 3RD | Problem solving |

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| | 4TH | Explain convective heat transfer, State Newton's law of cooling |
| 11TH | 1ST | Problem solving |
| | 2ND | Explain radiation heat transfer, State Stefan Boltzman law |
| | 3RD | Problem solving |
| | 4TH | Explain the different theories of radiation |
| 12TH | 1ST | Explain surface absorption, reflection and transmission |
| | 2ND | State Kirchhoff's law |
| | 3RD | Define heat exchanger and classify it |
| | 4TH | Explain the different types of heat exchangers with its application |
| 13TH | 1ST | Explain the different types of heat exchangers with its application |
| | 2ND | Previous year question discussion, Assignment |
| | 3RD | Introduction to refrigeration cycles |
| | 4TH | Explain the concept of refrigerators and heat pumps |
| 14TH | 1ST | Problem solving |
| | 2ND | Explain reversed Carnot cycle with its limitations |
| | 3RD | Explain ideal vapor compression refrigeration cycle |
| | 4TH | Explain actual vapor compression refrigeration cycle |
| 15TH | 1ST | Explain actual vapor compression refrigeration cycle contd. |
| | 2ND | Introduction to Gas refrigeration cycle |
| | 3RD | Previous year question discussion, Assignment |
| | 4TH | Important question discussion |

Teaching Faculty

HOD(Mechanical Engg.)