



LESSON PLAN-(SUMMER-2023)
SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR

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| Discipline- MECHANICAL | Semester-4TH | Name of teaching faculty- Er. S.R KAR |
| Subject- THERMAL II | No class allotted/ per week -4 | SEM From date- 13.2.2023 TO 23.5.2023 No of weeks- 15 |
| Week | Class day | Theory Topics |
| WEEK 1 | 13.02.2023 | Carnot vapor cycle & Problems on it |
| | 14.02.2023 | Rankine vapor cycle & Problems on it |
| | 15.02.2023 | Modification to rankine vapor cycles, Problems on it |
| | 17.02.2023 | Qualities of ideal working fluid for vapor power cycle |
| WEEK 2 | 20.02.2023 | Binary vapor cycles |
| | 21.02.2023 | Class test |
| | 22.02.2023 | Concept of IC Engine |
| | 24.02.2023 | Otto cycle, Problems on it |
| WEEK 3 | 27.02.2023 | Diesel cycle |
| | 28.02.2023 | Problems on it |
| | 2.03.2023 | Dual cycle |
| WEEK 4 | 3.03.2023 | Problems on it |
| | 6.03.2023 | Comparison of otto, Diesel and Dual cycles |
| | 9.03.2023 | 2S and 4S engines and differences thereof |
| | 10.03.2023 | ASSIGNMENTS |
| WEEK 5 | 20.03.2023 | Hydrocarbon fuels |
| | 21.03.2023 | Combustion reactions |
| | 23.03.2023 | Concept of stoichiometric combustion |
| | 27.03.2023 | Enthalpy of formation , enthalpy of reaction |
| WEEK 6 | 28.03.2023 | Heating values for fuels |
| | 29.03.2023 | Quality of IC engine fuels : Octane Number and Cetane Number |
| | 31. 03.2023 | ASSIGNMENTS |
| | 3.04.2023 | Octane Number, Cetane Number |
| WEEK 7 | 5.04.2023 | Modes of heat transfer |
| | 6.04.2023 | Fourier law of heat conduction, thermal conductivity |
| | 11.04.2023 | Steady state heat conduction in solid plane wall |
| | 12.04.2023 | Steady state heat conduction in solid hollow cylinder |
| WEEK 8 | 13.04.2023 | Steady state heat conduction in solid plane wall |
| | 17.04.2023 | Steady state heat conduction in solid hollow sphere |
| | 19.04.2023 | Stefan Boltzman law |
| | 20.04.2023 | Max planck's theory |
| WEEK 9 | 24.04.2023 | absorption, reflection and transmission |
| | 25. 04.2023 | Kirchoff's law |
| | 26.04.2023 | Heat exchangers, types |
| | 27.04.2023 | introduction |

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| | 28.04.2023 | Reversed carnot cycle |
| WEEK 10 | 1.05.2023 | Ideal vapor compression refrigeration cycle |
| | 2.05.2023 | Actual vapor compression refrigeration cycle |
| | 3.05.2023 | Air , Gas refrigeration cycle |
| | 4.05.2023 | Modes of heat transfer |
| WEEK 11 | 8.05.2023 | Fourier law of heat conduction, thermal conductivity |
| | 10.05.2023 | Steady state heat conduction in solid plane wall |
| | 11.05.2023 | Steady state heat conduction in solid hollow cylinder |
| | 12.05.2023 | Related problems on it |
| WEEK 12 | 15.05.2023 | Convective heat transfer, Newton's law of cooling |
| | 16.05.2023 | Radiation heat transfer, Stefan Boltzman law |
| | 17.05.2023 | Theories of radiation : Maxwell's theory |
| | 18.05.2023 | Max planck's theory : black body radiation |
| WEEK 13 | 19.05.2023 | Surface absorption, reflection and transmission |
| | 22.05.2023 | Kirchoff's law relating to spectral emissive power to absorptivity |
| | 23.05.2023 | Heat exchangers : concept , application, and classification |
| HOD SIGN. PRINCIPAL SIGN. | | DEAN (Academic) SIGN. |