

LESSON PLAN WINTER-2021

NAME OF FACULTY: RUPA BHENGRAJ SUBJECT- HMIFP(5TH) BRANCH- MECHANICAL ENGG.

SEMESTER FROM DATE:1.10.2022 TO DATE:30.01.2022 No. OF WEEKS = 15

| SL NO | Week | No. of Days/Week Class allotted: 4 | CHAPTER | TOPIC NAME | NO OF PERIODS |
|-------|------|------------------------------------|---|---|--|
| 1 | 1st | 1st | HYDRAULIC TURBINES CHAP-1 | Defination,Classification of hydraulic turbines | 1 |
| 2 | | 2nd | | General layout of hydroelectric power plant | 1 |
| 3 | | 3rd | | Construction and working principle of impulse turbine. | 1 |
| 4 | | 4th | | Derivation of efficiencies of impulse turbine | 1 |
| 5 | 2nd | 1st | | Velocity triangle,derivation work done & various efficiencies of impulse | 1 |
| 6 | | 2nd | | Numerical Problems related to impulse turbine | 1 |
| 7 | | 3rd | | Construction and working principle of Francis turbine. | 1 |
| 8 | | 4th | | Working principle of Francis turbine. | 1 |
| 9 | 3rd | 1st | | Velocity triangle,derivation work done & various efficiencies of Francis | 1 |
| 10 | | 2nd | | Numerical Problems related to Francis turbine | 1 |
| 11 | | 3rd | | Construction and working principle of Kaplan turbine. | 1 |
| 12 | | 4th | | Working principle of Kaplan turbine. | 1 |
| 13 | 4th | 1st | | Velocity triangle,derivation work done & various efficiencies of Kaplan | 1 |
| 14 | | 2nd | | Numerical Problems related to Kaplan turbine | 1 |
| 15 | | 3rd | | Difference between impulse turbine and reaction turbine | 1 |
| 16 | | 4th | | Defination,construction of centrifugal pumps | 1 |
| 17 | 5th | 1st | Working principle of centrifugal pumps | 1 | |
| 18 | | 2nd | Derivation of work done of centrifugal pumps | 1 | |
| 19 | | 3rd | Derivation of various efficiencies of centrifugal pumps | 1 | |
| 20 | | 4th | Numerical Problems related to Centrifugal pumps | 1 | |
| 21 | 6th | 1st | RECIPROCATING PUMPS CHAP-3 | Defination,Construction and working of Reciprocating pumps | 1 |
| 22 | | 2nd | | Derivation of discharge & work done of a single acting Reciprocating Pump | 1 |
| 23 | | 3rd | | Derivation of discharge & work done of a double acting Reciprocating Pump | 1 |
| 24 | | 4th | | Difference between Centrifugal & Reciprocating pump, numerical problems related to single acting reciprocating pump | 1 |
| 25 | 7th | 1st | Numerical Problems related to double acting Reciprocating pumps | 1 | |
| 26 | | 2nd | PNEUMATIC SYSTEM CHAP-4 | Introduction to pneumatic system,Basic components pneumatic system | 1 |
| 27 | | 3rd | | Construction & working of air filters | 1 |
| 28 | | 4th | | Construction & working of lubrication unit | 1 |
| 29 | 8th | 1st | | Construction & working of pressure control valve | 1 |
| 30 | | 2nd | | Construction & working of pressure relief valve | 1 |
| 31 | | 3rd | | Construction and working of 3/2DCV | 1 |
| 32 | | 4th | | Construction and working of 5/2 DCV | 1 |
| 33 | 9th | 1st | | Construction and working of 5/3 DCV | 1 |
| 34 | | 2nd | | Construction and working of Throttle valves | 1 |
| 35 | | 3rd | | ISO Symbols of pneumatic components | 1 |
| 36 | | 4th | | Basic components pneumatic circuits | 1 |
| 37 | 10th | 1st | | Operation of Direct control of single acting cylinder | 1 |
| 38 | | 2nd | | Operation of double acting cylinder | 1 |
| 39 | | 3rd | | Operation of double acting cylinder with metering in control | 1 |
| 40 | | 4th | | Operation of double acting cylinder with metering out control | 1 |
| 41 | 11th | 1st | | HYDRAULIC SYSTEM CHAP-4 | Introduction to Hydraulic system, difference between hydraulic & pneumatic |
| 42 | | 2nd | Merit and demerits of Hydraulic system | | 1 |
| 43 | | 3rd | Hydraulic accumulators | | 1 |
| 44 | | 4th | Pressure control valves | | 1 |
| 45 | 12th | 1st | Pressure relief valves | | 1 |
| 46 | | 2nd | Pressure regulation valves | | 1 |
| 47 | | 3rd | Construction and working of 3/2DCV | | 1 |
| 48 | | 4th | Construction and working of 5/2 DCV | | 1 |
| 49 | 13th | 1st | Construction and working of 5/3 DCV | | 1 |
| 50 | | 2nd | Construction and working of Flow control valves | | 1 |
| 51 | | 3rd | Construction and working of Throttle valves | | 1 |
| 52 | | 4th | ISO Symbols of pneumatic components | | 1 |
| 53 | 14th | 1st | Basic components pneumatic circuits | | 1 |
| 54 | | 2nd | Operation of Direct control of single acting cylinder | | 1 |
| 55 | | 3rd | Operation of double acting cylinder | | 1 |
| 56 | | 4th | Operation of double acting cylinder with metering in control | | 1 |

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|--------------|------|-----|---|-----------|
| 57 | 15th | 1st | Operation of double acting cylinder with metering out control | 1 |
| 58 | | 2nd | Revision & doubt clearing | 1 |
| 59 | | 3rd | Revision & doubt clearing | 1 |
| 60 | | 4th | Revision & doubt clearing | 1 |
| TOTAL | | | | 60 |