

Lesson Plan Winter-22

| Discipline :- MECHANICAL | Semester:- 5TH | Name of the Teaching Faculty MS RUPA BHENGRAJ |
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| Subject:- Hydraulic Machines &Industrial Fluid Power | No of Days/per Week Class Allotted :-04 | Semester :15 WEEKS |
| Course Code: TH3 | | |
| Week | Class Day | Theory/ Practical Topics |
| 1 st | 1 st | Definition of hydraulic turbine. classification of hydraulic turbines |
| | 2 nd | Construction and working principle of impulse turbine. |
| | 3 rd | Velocity diagram of moving blades. work done of impulse turbine. |
| | 4 th | derivation of various efficiencies of impulse turbine. |
| 2 nd | 1 st | Velocity diagram of moving blades. work done of Francis turbine. |
| | 2 nd | derivation of various efficiencies of Francis turbine. |
| | 3 rd | Velocity diagram of moving blades, work done of various efficiencies of Kaplan turbine |
| | 4 th | derivation of various efficiencies of Kaplan turbine |
| 3 rd | 1 st | Numerical |
| | 2 nd | Numerical |
| | 3 rd | Numerical |
| | 4 th | Distinguish between impulse turbine and reaction turbine. |
| 4 th | 1 st | Construction of centrifugal pumps |
| | 2 nd | working principle of centrifugal pumps |
| | 3 rd | work done and derivation of various efficiencies of centrifugal pumps |
| | 4 th | Numerical |

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| 5 th | 1 st | Numerical |
| | 2 nd | Describe construction & working of single acting reciprocating pump |
| | 3 rd | Describe construction & working of double acting reciprocating pump. |
| | 4 th | Derive the formula for power required to drive the pump (Single acting & double acting) |
| 6 th | 1 st | Define slip.State positive & negative slip & |
| | 2 nd | establish relation between slip & coefficient of discharge. |
| | 3 rd | numerical |
| | 4 th | numerical |
| 7 th | 1 st | Elements –filter-regulator |
| | 2 nd | lubrication unit |
| | 3 rd | Pressure control valves |
| | 4 th | Pressure relief valves |
| 8 th | 1 st | Pressure regulation valves |
| | 2 nd | Direction control valves |
| | 3 rd | 3/2DCV,5/2 DCV |
| | 4 th | 5/3DCV |
| 9 th | 1 st | Flow control valves |
| | 2 nd | Throttle valves |
| | 3 rd | ISO Symbols of pneumatic components |
| | 4 th | ISO Symbols of pneumatic components |
| 10 th | 1 st | Operation of double acting cylinder |
| | 2 nd | Operation of double acting cylinder |
| | 3 rd | Operation of double acting cylinder with metering in |
| | 4 th | Operation of double acting cylinder with metering out control |
| 11 th | 1 st | Hydraulic system, |
| | 2 nd | its merit and demerits |
| | 3 rd | Hydraulic accumulators |
| | 4 th | Pressure control valves |
| 12 th | 1 st | Pressure relief valves |
| | 2 nd | Pressure regulation valves |
| | 3 rd | Direction control valves |
| | 4 th | 3/2DCV,5/2 DCV |
| 13 th | 1 st | 5/3DCV |
| | 2 nd | Flow control valves |

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| | 3 rd | Flow control valves |
| | 4 th | Throttle valves |
| 14 th | 1 st | External gear pumps |
| | 2 nd | internal gear pumps |
| | 3 rd | Vane pump |
| | 4 th | Radial piston pumps |
| 15 th | 1 st | ISO Symbols for hydraulic components. |
| | 2 nd | Actuators |
| | 3 rd | Direct control of single acting cylinder Operation of double acting cylinder |
| | 4 th | Operation of double acting cylinder with metering in and metering out control Comparison of hydraulic and pneumatic system |

Refa Chougaj
14/9/22

Signature of Faculty

Divya
14/9/22

Signature of HOD