

5TH SEM./MECH./DIP.IN MECH./MECH(MAINT.)/MECH(PROD.)/
MECH(SAND.)/MECH(IND. INT.)/2024(W)

TH3 Hydraulic Machines & Industrial Fluid Power

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer All questions 2 x 10
- Draw inlet and outlet velocity triangle diagram for Pelton wheel turbine?
 - Define slip in reciprocating pump? Write mathematical expression for relation between percentage of slip and coefficient of discharge?
 - "Vaness in centrifugal pump are forward curved" true or false
 - Draw ISO symbol for Pneumatic motor and 5/2 direction control valve?
 - Define hydraulic accumulator?
 - Define specific speed of turbine with mathematical expression?
 - Define monometric efficiency of centrifugal pump?
 - What is the use of F-R-L unit?
 - What is use of air vessel in reciprocating pump?
 - Define reaction turbine with example?
2. Answer Any Six Questions 5 X 6
- With circuit diagram explain the working of direct control of single acting cylinder?
 - Explain the working of pressure relief valve?
 - Derive the formula for power required to drive double acting reciprocating pump?
 - With diagram explain components and working of impulse turbine?
 - Explain the working of external and internal gear pump?
 - Write advantages and disadvantage of hydraulics control system.
 - The external and internal diameter of an inward flow reaction turbine are respectively 1.5m and 75cm. velocity of flow is constant and equal to 2m/s. determine 2.5+2.5
 - Discharge through the runner
 - Width of turbine blade at outlet if width of the turbine blade at inlet is 25cm.