

MODEL QUESTION PAPER

Program name: Mechanical Engineering Semester: 4

Course code:

Course name: Fluid Mechanics & Hydraulic Machines

Time: 3 Hours

Max Marks: 75

I. Answer all the following questions

(9 x 1 = 9 Marks)

1	What you mean by sp.gravity of a fluid?	M 1 01	R
2	What is the relation between kinematic and dynamic viscosity?	M 1 01	R
3	Pitot tube is used to measure-----	M 2 04	R
4	Mention the significance of Hydraulic gradient line.	M 2 07	U
5	Kaplan turbine is ----- flow turbine	M 3 03	R
6	Why Cavitation is an adverse phenomenon?	M 3 06	U
7	Define slip.	M 4 07	R
8	----- is the function of air vessel.	M 4 05	R
9	Mention the use of hydraulic ram.	M 4 08	U

II. Answer any Eight questions from the following

(8 x 3= 24 Marks)

1	Explain how a simple manometer is used to measure fluid pressure.	M 1 05	U
2	A fluid has a weight of 7000 N enclosed in a volume of 6 m ³ . Solve i) Density, ii) Weight density, iii) Sp.Gravity	M 1 02	U
3	State Pascal's law and mention its applications.	M 1 03	R
4	State Bernoulli's theorem with assumptions.	M 2 02	R
5	Describe the reasons for minor losses.	M 2 07	U
6	Explain the selection of turbines based on specific speed.	M 3 04	U
7	A flat vertical plate is moving with a velocity of 3m/s under the action of a water jet from a nozzle with diameter 10mm. Discharge through the nozzle is 2 m ³ /s. Calculate the force exerted on the plate and work done by the jet.	M 3 02	U
8	Compare centrifugal pump and reciprocating pump.	M4 01 M 4 05	U
9	Explain the working of a single acting reciprocating pump with figure.	M 4 05	R
10	Distinguish between mano-metric efficiency and overall efficiency of a centrifugal pump.	M 4 03	U

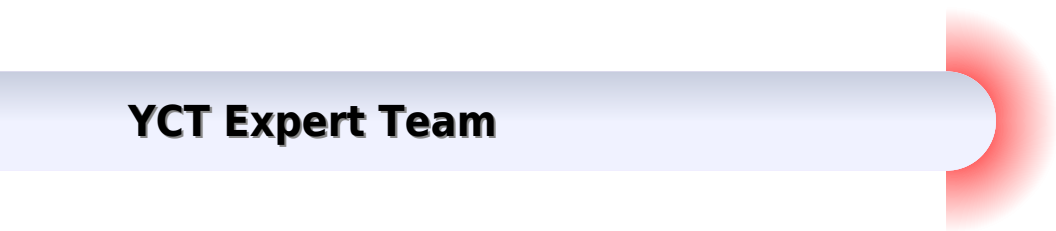
III. Answer all questions from the following

(6x 7 = 42 Marks)

1	A pipe contains an oil sp gravity 0.8. A differential manometer is connected at two points A and B of the pipe shows a difference in mercury level as 200mm. Find the difference of pressure at two points.	M 1 06	U
	OR		
2	Explain the working of Bourdon tube pressure gauge with neat	M 1 05	U

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