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Total No of Questions : 8 Total No. of Printed Pages : 2

EK-336

B.E. (VIth Sem.) (CGPA) Civil Engg. Exam.-2016

FLUID MECHANICS - II

Paper - CE-601

Time Allowed : Three Hours

Maximum Marks : 60

Note : Attempt any five questions. All questions carry equal marks.

Q.I What do you understand by turbulent flow? What factors decides the type of flow in pipes. 12

Q.II Define an expression for the discharge through a channel by chezy's formula? What is the relation between Manning's constant and chezy's constant? 12

Q.III What is the essential difference between gradually varied flow and rapidly varied flow? 12

Q.IV Define the terms :- drag and lift? How are drag and lift forces caused on a body immersed in a moving fluid. 12

Q.V Classify the types of turbines? 12

Q.VI Define the terms :- Suction head, delivery head, static head and manometric head. 12

Q.VII A pelton wheel is to be designed for the following specification :-
Shaft power = 11,772 kw; Head = 380 metres ; speed = 750 r.p.m; Overall efficiency = 86% ; jet diameter is not to exceed on - sixth of the wheel diameter.
Determine :-
(i) The wheel diameter
(ii) The number of jets required
(iii) Diameter of the jet.

Q.VIII The internal and external diameters of the impeller of a centrifugal pump are 200 mm and 400 mm respectively. The pump is running at 1200 r.p.m. The vane angles of the impeller at inlet and outlet are 20° and 30° respectively. The water enters the impeller radially and velocity of flow is constant. Determine the workdone by the impeller per unit weight of water. 12
