Roll No. ....

2154

B. E. 4th Semester (Civil Engg.)

Examination – December, 2011

FLUID MECHANICS - II

Paper : CE- 206-E

Time : Three hours]   *[Maximum Marks : 100*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

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

1. A liquid flows through a pipe with turbulent flow. Find a what distance from pipe wall the local velocity reaches the mean velocity.   20

2. A semi circular channel 1.25 meter wide 1/0 laid at a slope of 1 in 5000. Find the discharge of channel taking $C = 60$.   20

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3. A rectangular channel 4 meter wide discharges 16 cubic of water. If the specific energy need is 2.25 meter. Find possible depth of flow. 20

4. Write a short note on the following :

    (a) Type of slopes & characteristic, 10

    (b) Resistance equations. 10

5. Explain with diagram the construction, working of air lift pump with merits & demerits & applications. 20

6. (a) What do you mean by width of wheel or vanes. Can the width of wheel at inlet and outlet be different. 10

    (b) Differentiate between Water Power & Brake Power of a turbine. 10

7. The external die of an inward flow reaction turbine is 450mm. The width of wheel at inlet is 120mm & velocity of flow at inlet is 1.2 m/sec. Find the rate of flow passing through the turbine. 20

8. (a) Explain the working of air vessels. 10

    (b) Write a short note on Submersible pumps. 10