

**Name:**

**ID #:**

**Quiz No. 3**

Total marks: 10

Time allowed: 40 minutes

Attempt all the questions.

1. In order to find normal depth of flow in a channel what data are required? [1]

Answer:

2. What are alternate depths in an open channel? [1]

Answer:

3. Froude number is the ratio of two forces. Which forces are those? [1]

Answer:

4. In a sub-critical flow through a prismatic channel, a small hump is created at the bed. Just at the location of the hump the water surface will be higher or lower than the water surface just upstream of the hump? Prove your answer. [2]

Answer:

5. In the field where do you expect to see an M2 surface profile? [1]

Answer:

6. What types of surface profiles are expressed by the following conditions?  
 $y_n$ ,  $y_c$  and  $y$  are normal, critical and current water depths, respectively.

[2]

Answer:

(a)  $y_n > y_c > y =$

(b)  $y_c > y > y_n =$

7. In what situations, Direct step method of calculating water surface profiles cannot be used.

[1]

Answer:

8. Briefly write down the procedure for Standard step method for the calculation of water surface profiles.

[1]

Answer: