

B.E. (Civil Engineering) Model Curriculum Semester-VIII
OECE-2-CE804 - Advanced Hydraulic Structures

P. Pages : 2

Time : Three Hours



GUG/W/24/14337

Max. Marks : 80

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- Notes :
1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Diagrams and Chemical equation should be given wherever necessary.
 5. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Explain design of downstream and upstream protection work in weir. 8
- b) Briefly outline Khosla's theory on the design of weir on permeable foundation. 8

OR

2. A weir with vertical drop has the following particular nature of bed course sand with 16
Value of Bligh's C = 12
Flood Discharge = 300 cumec
Length of Weir = 40 meter
Height of Weir above low water = 2 m.
Height of falling shutter = 0.6 m
Top width of Weir = 2.0 m
Bottom width of Weir = 3.5 m
Design the length and thickness of aprons and draw cross section of the Weir.

3. a) Enumerate the various types of spillway and describe in detail Ogee spillway. 8
- b) "A spillway is a safety valve in a dam". Discuss the statement. 8

OR

4. a) Explain cavitation. 8
- b) Write short notes on: 8
 - 1) Straight Glacis fall
 - 2) Montague type fall
5. a) What is Canal Regulation? Explain function of head regulator and cross regulator. 8
- b) Explain submerged pipe outlet. 8

OR

6. a) Design a pipe outlet for the following data full supply discharge at the head of = 90 lit/sec **10**
water course.
FSL in distributary = 205.00 m
FSL in water course = 204.00 m

- b) What is meant by Canal Escapes. **6**

7. a) Explain Hind's method for design of transition when the water depth may also vary. **8**

- b) Name the different types of cross drainage work and explain any one. **8**

OR

8. a) Explain in detail design principles of pucca canal trough. **8**

- b) Write short notes on: **8**

1) Canal wings

2) Groynes

9. a) Explain in detail dam outlet. **8**

- b) Explain with neat sketch simple submerged intake. **8**

OR

10. Write short notes on: **16**

1) Trash Racks

2) Stepped Spillway

3) Labyrinth Spillway

4) Dry intake tower
