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Roll No

CE-6001 (CBGS)**B.E. VI Semester**

Examination, May 2018

Choice Based Grading System (CBGS)**Design of Hydraulic Structures***Time : Three Hours**Maximum Marks : 70***Note:** i) Attempt any five questions.

ii) All questions carry equal marks.

iii) Assume data suitably, if any missing.

1. a) What do you mean by the elementary profile of a gravity dam and a high gravity dam. rgpvonline.com
b) Differentiate between a Low Gravity Dam and a High Gravity Dam.
2. a) Discuss the design criteria of earth dams.
b) Show that the best central angle for an arch dam is $133^{\circ}-34^{\circ}$.
3. Design a suitable section for the overflow portion of a gravity dam having downstream face sloping at 1.0 H and 1.2 V. Design head = 2.5M; C = 2.1; height of spillway = 30M. Also draw a neat sketch of the ogee spillway with bucket.

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4. a) Bring out the circumstances where chute spillway is used. Explain with neat sketches.
b) Explain with neat sketch the different types of rock fill dams. What precautions are to be taken in the construction of these dams?
5. a) Discuss various type of energy dissipaters used in the downstream of spillways bringing out the circumstances and location where they are used.
b) Why falls are provided on irrigation channels?
6. a) Draw a typical low head hydropower development scheme and mark its various elements therein, explain the function of each.
b) Discuss the guiding factors for selection of turbines at a particular hydropower installation.
7. a) Draw a neat sketch of a syphon well drop and discuss its design features.
b) What are Canal Transitions? How are they Designed?
8. Write short notes on the following:
 - a) Draft tubes
 - b) Tidal power plant
 - c) Foundation treatment of dams
 - d) Radial gate
