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Name of Examination : **Summer 2021** - (Preview)

Course Code & Course Name : **CE451 - Water Resources Engineering-II**

Generated At : **19-04-2022 15:16:55**

Maximum Marks : **60**

Duration : **3 Hrs**

[Edit](#) [Print](#) [View Answer Key](#) [Close](#) **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

Attempt any one from Que.1a & 1b

- 1) a) Explain hydraulic failures and seepage failure of earthen dam. [5]
 b) State the eight factors affecting selection of site for gravity dam. [5]
 c) Explain the forces acting on gravity dam. Show them with neat sketch. [10]

Attempt any one from Que.2a & 2b

- 2) a) What is diversion head works? State its component with functions [5]
 b) Draw a labelled sketch of barrage and state advantages of it [5]
 c) A canal section has following parameters. [10]
 1) Bottom width of canal = 10 m
 2) FSD = 1.5 m
 3) Bank width = 2 m
 4) Side slope in cutting = 1:1
 5) Side slope of filling = 1.5:1
 6) FB = 0.5 m
 Calculate the balancing depth of canal.

Attempt any one from Que.3a & 3b

- 3) a) Draw the neat sketch of diversion headwork and show component parts of it. [5]
 b) Compare between contour canal and Ridge Canal. [5]
 c) What is Spillway and explain energy dissipation spillway with and without gates [10]

Attempt any one from Que.4a & 4b

- 4) a) Draw a neat labelled sketch of radial gate. State its suitability. [3]
 b) Classify the canal according to alignment and position in the canal network & explain contour canal [3]
 c) Draw the neat sketch of gravity dam with usual notation. Also Distinguish between Earthen dam and Gravity dam [12]

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