

Total No. of Questions : 8]

SEAT No. :

P4755

[Total No. of Pages : 2

[5060] - 559

M.E. (Civil) (WREE)

DAM ENGINEERING

Water Resources and Environmental Engineering

(2013 pattern)

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) *Answer any FIVE questions.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Use of Calculator is allowed.*
- 5) *Assume Suitable data if necessary.*

- Q1)** a) Discuss reservoir operation [4]
b) Draw a neat sketch of foundation for Gravity dam and suggest treatment for durability [6]
- Q2)** a) How earthquake load is taken in to consideration for design of earthen dam [7]
b) Discuss causes of seepage in earthen dam [3]
- Q3)** a) Explain any one theory for design of arch dam [7]
b) How arch differs from other type of dams. [3]
- Q4)** a) Explain design concept for buttress dam [6]
b) What is buttress dam? Explain the classification of buttress dam [4]

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- Q5) a)** Explain side channel and syphon spillway [6]
- b) Calculate the discharge over an ogee shaped weir whose coefficient of discharge is equal to 2.5 at a head of 4 m. The length of the spillway is 40 m. The weir crest is 6 m above the bottom of the approach channel which has the same width as that of the spillway. [4]
- Q6) a)** Explain determination of settlement and lateral movements in dam [6]
- b) What are the objectives of dam safety organization (DSO) [4]
- Q7) a)** State common objectives of CWC and ICID. [4]
- b) Explain functioning of global water partnership (GWP). [6]
- Q8) a)** Comment on dams and climate. [6]
- b) What is the impact due to construction of dam on displacement and rehabilitation? [4]

