Total No. of Printed Pages:2

SUBJECT CODE NO:- P-49
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(CIVIL) Examination May/June 2017
Water Resources Engineering-II
(Revised)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B i)Q.1 and Q.6 are compulsory.
ii) Answer any two questions from remaining question of each section.
iii)Assume suitable data if necessary.
iv) Figures to the right indicate full marks.

Section A

Q.1	a)What do you mean by silting of reservoir? Suggest suitable method to control it.	04
	b) Classify various types of dams.	04
	c) Define with neat sketch Buttress dam.	02
Q .2	a) Explain the procedure for calculating the reservoir capacity for a specific yield from the mass inflow curve.	07
	b) Explain the various investigations of site to be undertaken for developing a water reservoir.	08
Q.3	a)A masonry dam 15.0m high is trapezoidal in section with a top width of 2.0m and bottom width 8.0m the face exposed to water has a batter of 1:10 test the stability of the dam. Assume unit weight of masonry=24kN/m^3.	10
	b) Differentiate between a low gravity dam & high gravity dam in detail.	05
Q.4	a) Explain the different types of Arch dam with neat sketch.	08
	b) Explain the methods for computing the uplift pressure force when: (i)There is no drainage , ii)There is a drainage system.	07
Q.5	Solve any three a) Explain economic height of dam. b) Write a short note on Earthquake forces on dams. c)Write a short note on Slope protection. d)Explain with neat sketches any two types of earth dams.	15

Section-B

Q.6	a)Give the classification of Spillways.	03
	b)Explain with neat sketch Super passage.	03
	c)Draw with neat sketch typical layout of diversion head-works.	04
Q.7	a)Design a suitable section for the overflow section of a concrete gravity dam having d/s face sloping at a slope of 0.75 H:1 V. The design discharge for the spillway is 10000 cumecs. The height of spillway crest is kept at R.L.205.0m. The average river bed level at the site is 100.0m. The spillway length consists of 6 spans having clear span of 11 m each. Thickness of each pier may be taken as 2.5m.	10
	b)Explain with neat sketch Radial Gates.	05
Q.8	a)Explain with neat sketch Syphon Aqueduct and Canal Syphon.	05
	b)Using Lacy's theory design an irrigation channel for the following data: Design discharge =55 cumecs, Side slope=1/2:1, Slit factor=1	10
Q.9	a)Explain with neat sketch Bligh's creep theory for seepage flow.	10
	b)Differentiate with neat sketch Weir and Barrage.	05

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Q.10 Solve any Three. 15

a)Compute the discharge over an ogee spillway with c=2.3 at a head of 4.5m. The effective length of the spillway is 95.0m. Neglect velocity approach.

b)Write a short note on Energy dissipation.

c)List out the different functions served by canal modules.

d)Explain with neat sketch Fish ladder.