

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS-2022

B.Tech-VII Semester (CIVIL)

COURSE CODE (CREDITS): 18B1WCE735 (3)

MAX. MARKS: 15

COURSE NAME: DAM AND RESERVOIR DESIGN

COURSE INSTRUCTOR: NIRAJ SINGH PARIHAR

MAX. TIME: 1 Hour

*Note: All questions are compulsory. Marks are indicated against each question in square brackets. Assume suitable data if required.*

1. Briefly describe the suitability of various types of dams on the basis of their design and material.

[3Marks][CO1]

2. A contour survey of a reservoir site gives the following data:

Contour R.L.(m)	200	210	220
Area (hec)	6.0	18.1	34.0

The capacity of the reservoir up to 200 m elevation is found to be 14.1 hec-m. Determine the general equation for the area-elevation curve and capacity-elevation curve. Also determine the reservoir capacity at RL 225 m.

[4 Marks][CO2]

3. The following table gives the monthly inflow into and contemplated demand from a reservoir. Assuming the reservoir area as 30 km<sup>2</sup> and the runoff coefficient of the area to be flooded by the reservoir to be 0.4, estimate the reservoir capacity needed to meet the demand.

Month	Monthly demand (Mm <sup>3</sup> )	Evaporation (cm)	Rainfall (cm)	Monthly inflow (Mm <sup>3</sup> )
Jan	50	6	1	50
Feb	75	8	0	40
March	80	13	0	30
April	85	17	0	25
May	130	22	0	20
June	120	22	19	30
July	25	14	43	200
Aug	25	11	39	225
Sep	40	13	22	150
Oct	45	12	6	90
Nov	50	7	2	70
Dec	60	5	1	60

[8 Marks][CO2]