

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**Diploma Engineering, mid semester Examination**

Semester: 4th  
 Subject Code: 03605257  
 Subject Name: Water Resources Engineering

Date: (dd/mm/yyyy)  
 Time: (1hr: 30min)  
 Total Marks: 40

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered to be Authentic.

Q.1	Answer any six out of Ten. (2 Marks Each)	(12)	CO/PO NAME	Blooms Taxonomy Words
	1. Enlist various types of Precipitation.		CO1	Knowledge
	2. List methods of calculating average rain fall		CO1	Understand
	3. 45mm, 30mm, 50mm are rainfall recorded at rain gauges. Find average rainfall.		CO3	Evaluate
	4. Draw hydrological cycle.		CO2	Create
	5. What is Run off?		CO1	Apply
	6. State the function of filter and Rock toe in earthen dam.		CO1	Knowledge
	7. Enlist types of earthen dam.		CO2	Knowledge
	8. Define Gravity Dam.		CO1	Knowledge
	9. Name any two spillway gates.		CO3	Apply
	10. Why Drainage gallery is provided in Gravity dam?		CO3	Apply
Q.2	A) Define : Yield, Dependable yield	(03)	CO1	Knowledge
	<b>OR</b>			
	A) Enlist Non Recording type rain gauges and explain any one with neat sketch.	(03)	CO1	Knowledge
	B) Explain factors affecting runoff.	(03)	CO4	Apply
	<b>OR</b>			
	B) Which are the factors affecting site selection of reservoirs?	(03)	CO3	Create
	C) Enlist points to be kept in mind while selecting site for rain gauge station.	(04)	CO1	Knowledge
	<b>OR</b>			
	C) Write rational methods for maximum Flood Discharge measurement.	(04)	CO3	Create
	D) Determine the optimum numbers of rain gauges in the catchment area from the following data. Number of Existing rain gauge: 05 Mean annual rainfall: 1000,950,900,850 and 800. Permissible error: 10 %	(04)	CO2	Evaluate
Q.3	A) Explain, with the neat sketch, the different storage zones of reservoirs.	(03)	CO4	Apply
	<b>OR</b>			
	A) Explain: Reservoir losses.	(03)	CO4	Apply
	B) Draw a neat sketch of earth dam and label its components	(03)	CO3	Create
	<b>OR</b>			
	B) Define Seepage control from earthen dam.	(03)	CO1	Knowledge
	C) Draw and explain the elementary profile of Gravity dam.	(04)	CO3	Create
	<b>OR</b>			
	C) Enlist equipment used for construction of concrete dam.	(04)	CO1	Knowledge
	D) Explain forces acting on gravity dams.	(04)	CO3	Create

