

RCT-2 [CIVIL]

HYDROLOGY

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Q1. Match List – I with List – II and select the correct answer using the codes given below the lists:

List - I	List – II
A. Anemometer	1. Humidity
B. Rain simulator	2. Evapotranspiration
C. Lysimeter	3. Infiltration
D. Hygrometer	4. Wind speed

Codes:

	A	B	C	D
(a)	4	3	1	2
(b)	3	4	1	2
(c)	4	3	2	1
(d)	3	4	2	1

Q2. The Penman’s evapo-transpiration equation is based on

- (a) water budget method
- (b) energy balance method
- (c) mass transfer method
- (d) energy balance and mass transfer approach

Q3. The following items related to hydrologic requirements in a hydropower system. Match **List – I** with **List – II** and select the correct answer using the codes given below the list:

List –I

- A. Stream flow in order of magnitude is plotted as ordinate & percent of time as abscissa.
- B. Cumulative value of stream flow is plotted against time for whole period of record.
- C. Plot of available power against percent of time.
- D. Plot of flow in a stream against time at specific interval.

List – II

- 1. Mass curve
- 2. Flow duration curve
- 3. Hydrograph
- 4. Power duration curve

Codes:

	A	B	C	D
(a)	2	3	4	1
(b)	4	1	2	3

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(c) 2 1 4 3

(d) 4 3 2 1

Q4. Ombrometer (Pluviometer) is used to measure

- (a) soil moisture stress of a plant (c) rainfall depth
(b) leaf area (d) root zone depth

Q5. A mean annual runoff of $2 \text{ m}^3/\text{s}$ from a catchment of area 10 km^2 represents an effective rainfall of nearly:

- (a) 530 cm (c) 630 cm
(b) 590 cm (d) 658 cm

Q6. The rainfall of 5 successive days on a catchment was 3, 6, 9, 5 & 1 cm respectively. If the Φ – index for the storm can be assumed to be 3 cm/day, the total direct runoff from the catchment due to this storm is

- (a) 11 cm (c) 9 cm
(b) 24 cm (d) 20 cm

Q7. A 4 hr storm had 4 cm of rainfall and the resulting direct runoff was 2 cm. If the Φ – index remains at the same value, the runoff due to 10 cm of rainfall in 8 hr in the catchment is

- (a) 6 cm
(b) 7.5 cm
(c) 2.3 cm
(d) 2.8 cm

Q8. Match List – I (Parameter) with List – II (Relatable Term) and select the correct answer using the codes given below the lists.

List – I

- A. Rainfall Intensity C. Rainfall Averaging
B. Rainfall Excess D. Mass Curve

List – II

1. Isohyets
2. Cumulative rainfall
3. Hyetograph
4. Direct Runoff hydrograph

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Codes:

	A	B	C	D
(a)	1	3	2	4
(b)	3	4	1	2
(c)	1	3	4	2
(d)	3	4	2	1

Q9. Which one of the following defines Aridity Index (AI)?

(a) $AI = \frac{PET - AET}{PET} X 100$

(c) $AI = \frac{AET}{PET} X 100$

(b) $AI = \frac{PET}{AET} X 100$

(d) $AI = \frac{AET - PET}{AET} X 100$

Where AET = Actual Evapotranspiration & PET = Potential Evapotranspiration

Q10. What is the chemical symbol for ice as per UNESCO terminology?

