17080

BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Tech.(CE)]-2021
Course Name – Conservation of Water Resources
Course Code - OEC-CE802A
(Semester VIII)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Select the process responsible for water movement through different phases.
a) Hydrologic cycle b) Water Budget
c) Groundwater Recharge d) Surface Runoff

(ii) Select the main component of the water budget equation.
a) Water Storage b) Wind Speed
c) Air Pressure d) Soil Color

(iii) Choose the main purpose of artificial groundwater recharge.
a) Flood Prevention b) Groundwater Conservation
c) Air Purification d) Soil Fertility

(iv) Select the major environmental factor affecting groundwater availability.
a) Air pollution b) Deforestation
c) Urban planning d) Road construction

(v) Select the type of aquifer that is not directly recharged from the surface.
a) Confined aquifer b) Unconfined aquifer
c) Perched aquifer d) Seasonal aquifer

(vi) Select the artificial recharge technique that improves soil moisture retention.
a) Farm ponds b) Recharge trenches
c) Injection wells d) Water spreading

(vii) Choose the primary goal of rainwater harvesting.
a) Flood control b) Water conservation
c) Soil erosion d) Evaporation reduction

(viii) Choose the structure designed to capture rainwater for future use.
a) Percolation tanks b) Farm ponds
c) Rainwater harvesting structures d) Injection wells

(ix) Choose the factor that affects the efficiency of rainwater harvesting.

a) Roof material
b) Depth of groundwater table
c) Temperature
d) Wind speed

(x) Select the government initiative supporting watershed management in India.
a) Smart Cities Mission
b) Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)
c) Make in India
d) Startup India

(xi) Select the best strategy to reduce water pollution in a watershed.
a) Proper wastewater treatment
b) Uncontrolled urbanization
c) Dumping industrial waste
d) Increasing mining activities

(xii) Select the best method for improving groundwater recharge.
a) Constructing check dams
b) Increasing paved surfaces
c) Expanding agricultural land
d) Deforestation

(xiii) Choose the correct reason for adopting an integrated watershed management approach.
a) To manage water and land resources holistically
b) To promote deforestation
c) To increase groundwater depletion
d) To reduce biodiversity

(xiv) Choose the best method to control urban runoff in a watershed.
a) Constructing green roofs
b) Expanding paved surfaces
c) Removing vegetation
d) Increasing deforestation

(xv) Choose the correct effect of climate change on watersheds.
a) Increased droughts
b) Higher flood risks
c) Altered rainfall patterns
d) All of these

Group-B
(Short Answer Type Questions) 3 x 5=15

2. Apply water spreading techniques for groundwater recharge. (3)
3. Classify the different sources of groundwater. (3)
4. Compare different decision-making strategies in watershed management policies. (3)
5. Write about the importance of farm ponds in artificial recharge. (3)
6. Justify the need for an integrated approach in watershed management. (3)

OR

Write about the impact of watershed management on groundwater recharge. (3)

Group-C
(Long Answer Type Questions) 5 x 6=30

7. Compare the effectiveness of water spreading and percolation tanks. (5)
8. Write the benefits of groundwater recharge through percolation tanks. (5)
9. Differentiate between water spreading and check dam-based recharge techniques. (5)
10. Distinguish between urban and rural rainwater harvesting techniques. (5)
11. Justify the economic benefits of watershed management programs. (5)
12. Justify the impact of land-use planning on watershed sustainability. (5)

OR

Write about innovative approaches to watershed management in urban areas. (5)

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