

CIVIL ENGINEERING

Work Sheet

Course Title : GROUND WATER HYDROLOGY

Course Code : 23CE711

Regulation : NR23

UNIT – I: Ground Water Occurrence

Multiple Choice Questions (MCQs)

1. Groundwater is a part of the:
 - A) Carbon Cycle
 - B) Nitrogen Cycle
 - C) Hydrologic Cycle
 - D) Rock Cycle
 - **Answer: C**
2. The zone below the water table is called:
 - A) Zone of Aeration
 - B) Zone of Saturation
 - C) Vadose Zone
 - D) Capillary Zone
 - **Answer: B**
3. Which rock property indicates the percentage of void spaces?
 - A) Permeability
 - B) Porosity
 - C) Transmissivity
 - D) Storage Coefficient
 - **Answer: B**
4. An aquifer confined between two impermeable layers is called:
 - A) Unconfined Aquifer
 - B) Perched Aquifer
 - C) Confined Aquifer
 - D) Leaky Aquifer
 - **Answer: C**
5. Darcy's law relates groundwater flow to:
 - A) Temperature
 - B) Hydraulic Gradient
 - C) Salinity
 - D) Pressure Only

- **Answer: B**
- 6. The SI unit of permeability is:
 - A) m/s
 - B) m²
 - C) m³/s
 - D) s/m
 - **Answer: A**
- 7. Specific yield represents:
 - A) Water retained by soil
 - B) Water released by gravity
 - C) Total pore volume
 - D) Total groundwater volume
 - **Answer: B**
- 8. Transmissivity is the product of:
 - A) Porosity × Thickness
 - B) Hydraulic Conductivity × Aquifer Thickness
 - C) Gradient × Area
 - D) Velocity × Area
 - **Answer: B**
- 9. Groundwater flow contours are lines joining points of equal:
 - A) Velocity
 - B) Permeability
 - C) Hydraulic Head
 - D) Discharge
 - **Answer: C**
- 10. The origin of groundwater is mainly due to:
 - A) Magmatic Water
 - B) Connate Water
 - C) Infiltration of Rainwater
 - D) Ocean Water
 - **Answer: C**

Fill in the Blanks

1. Groundwater movement is governed by _____ law.
Answer: Darcy's
2. The upper surface of the saturated zone is called the _____ table.
Answer: Water
3. The zone above the water table is known as the _____ zone.
Answer: Aeration
4. The ability of a soil to transmit water is called _____.
Answer: Permeability
5. _____ is the ratio of pore volume to total volume.
Answer: Porosity
6. Water released from saturated material by gravity is called _____ yield.
Answer: Specific

7. Storage coefficient is represented by the symbol _____.

Answer: S

8. Groundwater flow equations can be expressed in _____ coordinates.

Answer: Polar

9. A geological formation capable of yielding water is called an _____.

Answer: Aquifer

10. Hydraulic conductivity multiplied by aquifer thickness gives _____.

Answer: Transmissivity