

UNIT – IV : Groundwater Hydrology and Irrigation

1. Water present below the earth's surface is known as
 - a) Surface water
 - b) Groundwater
 - c) Rainwater
 - d) Runoff**Ans: b**
2. A geological formation capable of storing and transmitting water is called
 - a) Aquifer
 - b) Aquiclude
 - c) Aquifuge
 - d) Aquitard**Ans: a**
3. An unconfined aquifer is also known as
 - a) Artesian aquifer
 - b) Water table aquifer
 - c) Perched aquifer
 - d) Confined aquifer**Ans: b**
4. Darcy's law is valid for
 - a) Turbulent flow
 - b) Laminar flow
 - c) Uniform flow only
 - d) Critical flow**Ans: b**
5. The discharge through porous media is proportional to
 - a) Hydraulic gradient
 - b) Temperature
 - c) Pressure only
 - d) Rainfall**Ans: a**
6. Specific yield is the ratio of
 - a) Water drained by gravity to total soil volume
 - b) Void volume to total volume
 - c) Water retained to total volume
 - d) Permeability to porosity**Ans: a**
7. Transmissibility of an aquifer is
 - a) Ability to transmit water
 - b) Ability to store water
 - c) Ability to absorb water
 - d) Ability to recharge water**Ans: a**
8. Storage coefficient is important in
 - a) Groundwater flow analysis
 - b) Rainfall analysis
 - c) Canal design
 - d) Flood routing**Ans: a**
9. Recuperation test is conducted to determine
 - a) Yield of open wells

- b) Rainfall intensity
- c) Runoff coefficient
- d) Evaporation loss

Ans: a

10. The cone of depression is formed around

- a) Reservoir
- b) Pumping well
- c) Canal
- d) Rain gauge

Ans: b

11. Water requirement of crops includes

- a) Consumptive use only
- b) Irrigation requirement only
- c) Total water needed for growth
- d) Rainfall only

Ans: c

12. Duty of water is expressed as

- a) Hectares per cumec
- b) mm/day
- c) m³/sec
- d) Percentage

Ans: a

13. Delta represents

- a) Total depth of water required by a crop
- b) Canal discharge
- c) Rainfall intensity
- d) Well yield

Ans: a

14. Consumptive use of water refers to

- a) Water used by crops through evapotranspiration
- b) Runoff
- c) Seepage loss
- d) Reservoir storage

Ans: a

15. Drip irrigation is an example of

- a) Surface irrigation
- b) Micro irrigation
- c) Flood irrigation
- d) Furrow irrigation

Ans: b

16. Sprinkler irrigation belongs to

- a) Surface irrigation
- b) Subsurface irrigation
- c) Pressurized irrigation
- d) Flood irrigation

Ans: c

17. Permeability is the property of soil that permits

- a) Air flow only
- b) Water flow through pores
- c) Compaction
- d) Settlement

Ans: b

18. A confined aquifer is bounded by

- a) Impervious layers
- b) Rivers
- c) Lakes
- d) Reservoirs

Ans: a

19. The quality of irrigation water mainly affects

- a) Crop growth and soil productivity
- b) Rainfall
- c) Streamflow
- d) Evaporation

Ans: a

20. The most water-efficient irrigation method is

- a) Flood irrigation
- b) Basin irrigation
- c) Furrow irrigation
- d) Drip irrigation

Ans: d

Fill in the Blanks

1. Water present below the ground surface is called _____ water.

Answer: groundwater

2. A geological formation that stores and transmits water is called an _____.

Answer: aquifer

3. Aquifers may be confined or _____.

Answer: unconfined

4. Specific yield is the ratio of water drained by gravity to total _____.

Answer: volume

5. Permeability indicates ease of water _____ through soil.

Answer: flow

6. Darcy's Law relates discharge to hydraulic _____.

Answer: gradient

7. Darcy's Law is expressed as $Q = KIA$, where K is _____.

Answer: permeability

8. Transmissibility is the product of permeability and aquifer _____.

Answer: thickness

9. Storage coefficient is represented by the symbol _____.

Answer: S

10. Water movement toward a well is called radial _____.

Answer: flow

11. Recuperation tests are conducted on _____ wells.

Answer: open

12. The yield of a well depends upon aquifer _____.

Answer: properties

13. Duty is the area irrigated per unit _____.

Answer: discharge

14. Delta represents total depth of water required by a _____.

Answer: crop

15. Water requirement depends on crop and _____ conditions.

Answer: climatic

16. Consumptive use includes evaporation and _____.

Answer: transpiration

17. Drip irrigation is a type of _____ irrigation.

Answer: micro

18. Sprinkler irrigation distributes water under _____.

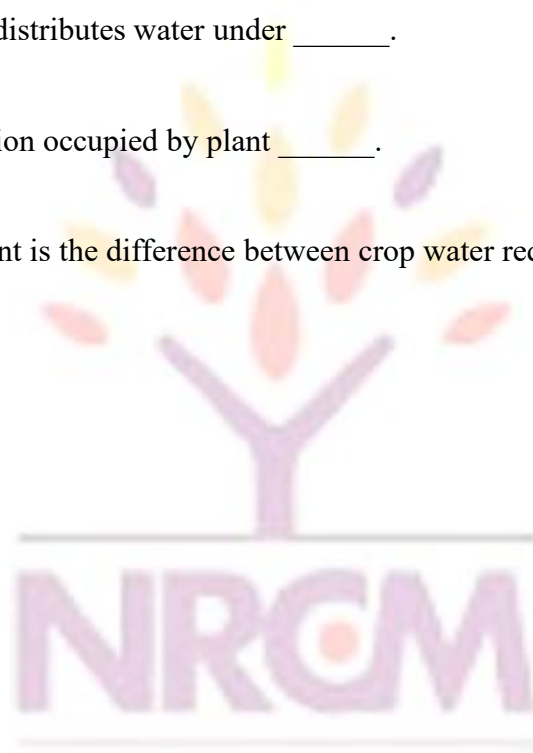
Answer: pressure

19. Root zone is the region occupied by plant _____.

Answer: roots

20. Irrigation requirement is the difference between crop water requirement and effective _____.

Answer: rainfall



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