Question Bank

B. Sc. (Regular) (Part- III) (Semester V) Examination 2020

Geology

Hydrogeology (Paper- X) (C.B.C.S.)

Sub. Code: 79704

Fill in the blanks with correct answer from the given option.

1. The flow of water through the rock formation is calculated by _____.

   A) Dorty's Law B) Darcy's Law C) Raffin's Law D) None of these

2. --- of the following material is highly porous.

   A) Silt B) Clay C) Gravel D) Sandstone

3. Porosity of rock depends on ----- of the grains.

   A) Shape B) Size C) Packaging D) All of the above

4. An influent stream is one which---

   A) Flows into a parent stream B) Consequent to main stream

   C) Receives discharge from ground water D) Recharges to ground water

5. The water is formed at the time of consolidation of magma is called—

   A) Juvenile water B) Magmatic water C) Connate water D) Meteoric Water

6. Water in the phreatic zone is under ---

   A) Atmospheric pressure B) Gravity forces C) Hydrostatic pressure

   D) All the above

7. The process of groundwater replenishment is—

   A) Evaporation B) Runoff C) Transpiration D) Infiltration

8. In the zone of aeration, the pores are filled up with---

   A) Both air and water B) Only air C) Only water D) None of these

9. Rate of infiltration is higher in---.
   A) Loam B) Clay C) Silt D) Sand

10. The stream that gains water is called as----
    A) Insulated B) Influent C) Effluent D) Main

11. Areal variation in the head of water in an aquifer is shown by ---surface.
    A) Potentiometric B) Piezometric C) Water Table D) Flow Line

12. When the magnitude and direction of specific discharge changes at a point flow is called as--.
    A) Steady B) Unsteady C) Turbulent D) Laminar

13. Soil Water zone is a part of zone of ----.
    A) Aeration B) Saturation C) Water D) None of these

14. ----- zone extends from below the soil water zone up to the capillary zone.
    A) Aeration B) Saturation C) Water D) Vadose

15. An impermeable rock mass is called _____ .
    A) Aquifer B) Aquiclude C) Aquifuge D) Aquatone

16. A good example of Aquiclude is _____ .
    A) Gravel B) Clays C) Limestone D) Sandstone

17. The maximum amount of water the soil can hold against gravity is called as---.
    A) Infiltered Water B) Field Capacity C) Precipitation D) Specific Yield

18. In artesian aquifer piezometric surface is – of the ground surface.
    A) Below B) Above C) Same Level D) Deep

19. ----Sedimentary deposits have high porosity.
    A) Poorly Sorted B) Well Sorted C) Medium Sorted D) Unsorted

20. The surface of rock determines its ---- property.
    A) Specific Yield B) Porosity C) Permeability D) Retentive

21. The difference between the static water level and pumping water is called as –
    A) Drawdown B) Infiltration C) Run Off D) Evaporation

22. Groundwater can move only through …… rocks.
    A) Compact B) Porous C) Permeable D) All

23. The zone of …… occurs below the water table.
    A) Aeration B) Saturation C) Soil Water D) Soil

24. The amount of pore water that does not drain readily under gravity is called as---.
    A) Evaporation B) Specific Retention C) Transpiration D) Infiltration

25. The sum of evaporation from the land surface plus transpiration from plants is called as----.

A) Evapotranspiration B) Runoff C) Transpiration D) Infiltration

26. ---- is the water bearing capacity of a rock

A) Permeability B) Conductivity C) Packaging D) Porosity

27. The proportion of the water in the rock that does drain out readily is known as the -----.

A) Specific yield B) Conductivity C) Packaging D) Porosity

28. How many percentage of water is frozen in ice caps?

A) 8% B) 2% C) 7% D) 6

29. Ground water flow map is also known as---

A) Isopatch Map B) Isocontour Map C) Potentiometric Map D) Flydraulic Map

30. Darcy's law is valid for---

A) Turbulent Flow B) Laminar Flow C) Both D) None of These

31. Stalactites are ……features formed by groundwater.

A) Erosional B) Abrasion C) Depositional D) None of These

32. The surface water that percolates down to form groundwater is called……

A) Juvenile Water B) Connate Water C) Meteoric Water D) None of These

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36. The difference between the static water level and pumping water is called as –

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37. Soil Water zone is a part of zone of ----.

A) Aeration B) Saturation C) Water D) None of these

38. Sediments with unrounded and unsorted grains tend to have ---- porosities.

A) Medium B) Higher C) Lower D) None of the above

39. Meinzer's unit,is a unit of ----.

A) Permeability B) Conductivity C) Porosity D) None of the above

40. --- is a discharge rate at which water is transmitted through a unit width of an aquifer under a unit hydraulic gradient.

A) Permeability B) Transmissivity C) Porosity D) Conductivity

Answer any two of the following:

1. Describe various hydrological properties of rocks.
2. Describe groundwater provinces of India.
3. Describe in detail field procedure of electrical resistivity method.
4. Describe various types of aquifers.
5. Describe in detail vertical distribution of groundwater.
6. Describe various hydrological parameters.
7. What is hydrogeology? Describe Hydrological cycle with diagram.
8. Describe in detail borehole logging method of groundwater investigation.
9. Describe sources and origin of groundwater.
10. Describe geobotanical methods of groundwater exploration.
11. Describe any one geological method of groundwater exploration in detail.
12. Describe movement of groundwater.
13. What is specific yield and transmissivity. Explain Darcy's law.'
14. Describe water bearing properties of rocks.
15. Describe hydrological cycle with properties like porosity and permeability.

Write notes on the following

1. Perched Aquifer
2. Meteoric Water
3. Influent stream
4. Artesian Well
5. Connate Water
6. Zone of Saturation
7. Evapotranspiration
8. Porosity
9. Specific Retention
10. Transmissivity
11. Specific Yield
12. Darcy's Law
13. Confined Aquifer
14. Permeability
15. Hydrological cycle
16. Transmissivity
17. Zone of aeration

18. Unconfined aquifer
19. Juvenile water
20. Infiltration