Chettinad
College of Engineering & Technology
Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Department of Civil Engineering

CE8491 & Soil Mechanics

Unit II - MCQ Bank

1. Ground water may be also called as _____

   a) Capillary water

   b) Gravitational water and Free water

   c) None of the mentioned

   d) All of the mentioned

   Answer: a

2. Water present in the voids of soil mass is called _____

   a) Soil water

   b) Free water

   c) Ground water

   d) Pore water

   Answer: a

3. Hygroscopic water is affected by which of the following factor?

   a) Gravity

   b) Capillary forces

   c) All of the mentioned

   d) None of the mentioned

   Answer: d

4. What are the forces involved in hygroscopic water or contact moisture?

   a) Adhesion force

   b) Capillary force

   c) All of the mentioned

   d) None of the mentioned

   Answer: a

5. The water which soaks in to ground by moving downward, subjected to capillary force is
    _____

    a) Ground water

    b) Pore water

    c) Infiltrated water

    d) Capillary water

    Answer: c

6. Based on inter-particle forces, soil water can be classified in to _____

    a) Adsorbed water

    b) Pore water

    c) All of the mentioned

    d) None of the mentioned

    Answer: a

7. Solvate water is subjected to _____ forces.

    a) Polar

    b) Electrostatic

    c) Binding

    d) All of the mentioned

    Answer: d

8. The soil water which is impossible to remove from the soil is _____

    a) Structural water

    b) Capillary water

    c) Solvate water

    d) Pore water

    Answer: a

9. Water can be classified in to _____ types based on structural aspect.

    a) 3

    b) 5

    c) 4

    Answer: c

10. Capillary water is located in part of _____ soil mass.

   a) Within the voids in soil

   b) Above the ground water surface

   c) Pores in the soil mass

   d) Surface of soil particles

   Answer: a

11. The capillary force of water depends on _____

   a) Surface tension of water

   b) Pressure in water

   c) Conformation of soil pores

   d) All of the mentioned

   Answer: d

12. The coefficient of surface tension depends on which of the following?

   a) Chemical nature of liquids

   b) Surface area of the liquid

   c) Forces acting

   d) Atmospheric pressure

   Answer: a

13. When a capillary tube of uniform-section is lifted from the water surface, water in the tube

   will be _____

   a) Retained

   b) Not retained

   c) Retained partially

   d) None of the mentioned

   Answer: a

14. The height of capillary rise in capillary tube, depends on _____

   a) Diameter of the tube

   b) Surface tension

   c) Direction of flow of water

   Answer: c

15. Total stress or unit pressure on a soil mass is _____

    a) Total load

    b) Total surface area

    c) Total volume

    d) Total weight

    Answer: a

16. At any plane, pore pressure is equal to _____

    a) Ratio of Piezometric head to weight of water

    b) Equal to piezometric head times the unit weight of water

    c) Ratio of weight of water to the piezometric head

    d) None of the mentioned

    Answer: b

17. Pressure transmitted from particles to the soil mass is called _____

    a) Neutral pressure

    b) Effective pressure

    c) Pore pressure

    d) Capillary pressure

    Answer: b

18. The neutral pressure does not have any effect on _____

    a) Shearing resistance

    b) Shearing strength

    c) Shearing stress

    d) All of the mentioned

    Answer: a

19. The total pressure in a soil mass consists of _____ distinct components.

    a) 3

    b) 4

    c) 2

    d) 5

    Answer: c

20. The neutral pressure is transmitted through _____

    a) Soil particle

    b) Pore fluid

    c) Air particle

    d) Atmosphere

Answer: b

21. Total vertical pressure at any plane is equal to _____

    a) $\sigma = \sigma' + u$

    b) $\sigma' = \sigma + u$

    c) $\sigma = \sigma' + v$

    d) None of the mentioned

Answer: a

22. Factor of unit cross-section χ, depends on _____

    a) degree of saturation

    b) soil structure

    c) stress change

    d) all of the mentioned

Answer: d

23. For degree of saturation, it is recommended to take χ as _____

    a) 0

    b) 1

    c) 2

    d) ∞

Answer: b

24. Decrease in water content causes _____

    a) shrinkage

    b) swelling

    c) frost heave

Answer: a

25. Increase in water content causes _____

    a) shrinkage

    b) swelling

    c) frost heave

Answer: b