



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR

Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code : ENGINEERING GEOLOGY(13A01506)

Course & Branch: B.Tech - CE

Year & Sem: III-B.Tech & I-Sem

Regulation: R13

UNIT –III

GROUND WATER, EARTH QUAKE AND LAND SLIDES

1. a) Explain the geological control on ground water movement. 10M
b) Distinguish between porosity and permeability?
2. Write short notes on. 10M
a) Types of aquifers b) Ground water pollution.
c) Cone of depression d) springs
3. What is a water table? What are types of ground water? Which occur in the zone of aeration and saturation? 10M
4. a) Explain various investigation uses in ground water exploration 10M
b) Explain the engineering significance of ground water.
5. a) Give a brief account of groundwater as a natural hazard? 10M
b) Describe briefly impact and consequences of ground water over withdrawal?
6. Write short notes on: 10M
a) Earth quake waves b) Intensity of earth quakes c) Magnitude of earth quakes 10M
d) Safety factors in building construction in seismic areas e) Terminology of earth quake.
7. a) Describe the various effects of an earthquake? How do we locate the epicenter of an earth quake? 10M
b) What are surface waves? Explain Rayleigh and love waves?
- 8) Enumerate the various types of landslides and explain the causes of landslides and preventive Measures to be taken to prevent the landslides? 10M
- 9) a) What are landslides? Describe the causes and methods to prevent them? 10M
b) How are landslides measured?
- 10) a) What is meant by seismic zone? 2M
b) What is meant by subduction zone? Mention its importance 2M
c) Define the terms epicenter and focus? 2M
d) List out the common types of ground water? 2M
e) Differentiate earth flow and mud flow? 2M

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- 1) Which of the following reservoirs contains the most water? []
 A) Atmosphere B) Biosphere C) Ground water D) Rivers and lakes
- 2) How much of the Earth's water is stored in underground aquifers? []
 A) Less than 10% B) About 5% C) About 10% D) About 20%
- 3) What is the process by which water enters the small pore spaces between particles in soil or rocks?
 A) Transpiration B) Infiltration C) Precipitation D) Sublimation []
- 4) Which of the following terms is a measure of the amount of water vapor in the air as a proportion of the maximum amount the air could hold at the same temperature? []
 A) Dew point B) Sublimation point C) Evaporation rate D) Relative humidity
- 5) Permeability is _____ []
 A) The ability of a solid to allow fluids to pass through
 B) The process by which plants release water vapor to the atmosphere
 C) The amount of water vapor in the air relative to the maximum amount of water vapor the air can hold. D) The percentage of pore space in the rock
- 6) The best groundwater reservoirs have _____ []
 A) Low permeability and low porosity B) Low permeability and high porosity
 C) High permeability and low porosity D) High permeability and high porosity
- 7) The lowering effect on the water table about the base of the well stem is called []
 A) Aquiclude B) Artesian surface C) Cone of depression D) Speleothem
- 8) A local water table positioned above the regional water table is said to be []
 A) Stranded B) Perched C) Displaced D) Depressed
- 9) The boundary between the saturated zone and the unsaturated zone is called the _____
 A) Water table B) Aquifer C) Aquiclude D) Porosity []
- 10) The infiltration of water into the subsurface is the _____ []
 A) Influent B) Effluent C) Discharge D) Recharge
- 11) Groundwater represents how much of the world's fresh water supply? []
 A) About 1% B) About 5% C) About 20% D) About 50%
- 12) Which of the following rocks has the highest permeability? []
 A) An unfractured shale B) A cemented sandstones C) An uncemented sandstone
 D) All of these rocks have approximately the same permeability
- 13) Which of the following materials has the lowest porosity? []
 A) Granite Shale B) Gravel C) Shale D) Sandstone
- 14) Which of the following can contaminate an aquifer? []
 A) Landfills B) Agricultural regions C) Gas stations D) All of these
- 15) What is the term for a relatively impermeable geologic unit? []
 A) An artesian B) An aquiclude C) An aquifer D) None of these
- 16) Excessive pumping in relation to recharge can cause _____ []
 A) The water table to decline B) A cone of depression to form
 C) The well to go dry D) All of these
- 17) Hard water contains large amounts of _____ []

- A) Lead B) Sodium C) Calcium D) Silicon
- 18) Most of the water coming out of continental hot springs is _____ []
 A) Meteoric water B) Magmatic water C) Seawater D) Metamorphic water
- 19) With respect to the Earth's land surface, which of the following expressions is correct?
 A) Precipitation = evaporation – runoff B) Precipitation = runoff – evaporation []
 C) Precipitation = evaporation + runoff D) Precipitation = evaporation * runoff
- 20) Which one of the following features is a sure sign of karst? []
 A) Sinkholes B) Artesian wells C) Cones of depression D) Speleothems
- 21) What is the difference between the saturated and the unsaturated zones of ground water?
 A) The saturated zone has a higher porosity than the unsaturated zone []
 B) The saturated zone has a lower porosity than the unsaturated zone
 C) The pore spaces in the saturated zone are completely full of water; the pore spaces in the unsaturated zone are not completely full of water.
 D) The pore spaces in the saturated zone are not completely full of water; the pore spaces in the unsaturated zone are completely full of water
- 22) Influent streams are _____ []
 A) More common in arid regions B) More common in humid regions
 C) Only found in areas of permafrost D) Sinkhole
- 23) Water that is good enough to drink is called _____ []
 A) Potable water B) Groundwater C) Surface water D) Artesian water
- 24) Which of the following can contaminate an aquifer? []
 A) Landfills B) Agricultural regions C) Gas stations D) All of these
- 25) Which of the following describes the buildup and release of stress during an earthquake?
 A) The Modified Mercalli Scale B) The elastic rebound theory []
 C) The principle of superposition D) The travel time difference
- 26) The amount of ground displacement in a earthquake is called the _____ []
 A) Epicenter B) Dip C) Slip D) Focus
- 27) The point where movement occurred which triggered the earthquake is the ___ []
 A) Dip B) Epicenter C) Strike D) Focus
- 28) Which of the following sequences correctly lists the different arrivals []
 from first to last?
 A) P waves ... S waves.... Surface waves B) Surface waves ... P waves.... S waves
 C) P waves ... Surface waves ... S waves D) S waves ... P waves.... Surface waves
- 29) How do rock particles move during the passage of a P wave through the rock? []
 A) Back and forth parallel to the direction of wave travel
 B) Back and forth perpendicular to the direction of wave travel
 C) In a rolling circular motion D) The particles do not move
- 30) Earthquakes can occur with _____ faulting. []
 A) Normal B) Reverse C) Thrust D) All of these
- 31) Approximately what percentage of earthquakes occurs at plate boundaries?
 A) 25% B) 50% C) 75% D) 90%
- 32) Which type of faulting would be least likely to occur along the mid-Atlantic ridge?
 A) Normal B) Reverse C) Transform D) All of these could occur []
- 33) How often do magnitude 8 earthquakes occur? []
 A) About 5 to 10 times per year B) About once a year
 C) About every 5 to 10 years D) About every 50 to 100 year
- 34) If a P wave were to go from a solid to a liquid - what would happen to its velocity?
 A) Stay the same B) Increase C) Decrease to 0.0 D) Decrease []
- 35) Earth movements are classified into ----- types []
 A) 2 B) 4 C) 3 D) 5

- 36) The recording instrument of earthquake is []
A) Seismology B) Seismograms C) Seismometer D) Seismographs
- 37) The enormous energy released from focus in time of earthquake by waves []
A) Elastic waves B) R- waves C) Radio waves D) Seismic waves
- 38) Land slide involving a continuous and gentle downward creep of soil, sand, gravel etc is known as
A) Rock slip B) Soil slip C) Collapsing D) Over break []
- 39) Land slide occurs when the angle of slope is greater than the angle of []
A) Fault plane B) Dip and strike C) Rest D) Fold axis
- 40) Which of the following statements about mudflows is false? []
A) Mudflows tend to move slower than debris flows
B) Mudflows are most common in semi-arid regions
C) Mudflows contain large amounts of water
D) Mudflows can carry large boulders

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