



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 -I

INTRODUCTION, WEATHERING AND MINERALOGY

1. a) Define geology and explain different branches of geology? 10M
b) Explain the scope and importance of geology in civil engineering works?
2. Explain the brief study of case histories of failure of some civil engineering constructions due to some geological drawbacks? 10M
3. What is weathering? Enumerate the various mechanisms of rock weathering. Describe chemical Weathering in detail? 10M
4. Distinguish between weathering and erosion. Describe the various process of weathering? 10M
5. Give a detailed account on chemical composition, physical properties, origin, occurrence, Engineering behavior and uses of clay minerals. 10M
6. a) Explain why the study of minerals by physical properties in advantage. 10M
b) Write the physical properties of (i) Garnet. (ii) Hematite.
7. Explain the following terms: 10M
a) Define a mineral, a rock and an ore?
b) Explain the important physical properties of minerals that are commonly studied for their identification?
8. What are secondary minerals? How are formed? Add a note on their significance in rocks? 10M
9. Describe the following minerals. Mention their chemical composition and add a note on how They are identified in rocks. 10M
(a) Quartz.
(b) Orthoclase Feldspar.
(c) Plagioclase Feldspar.
(d) Biotite mica.
10. a) Give the physical properties and uses of hornblende? 2M
b) Define hardness, fracture and specific gravity? 2M
c) Give the example for chemical reaction in chemical weathering? 2M
d) What is moh's scale of hardness ? 2M
e) Name at least 4 clay minerals and their important engineering properties? 2M

Prepared by:.

Dr. S.SIDDIRAJU



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- 1) The thickness of core is about..... []
A) 3550Km B) 2870Km C) 3480Km D) 3780Km
- 2) Sea level is raising mainly as a result of an increase in melting of glaciers. The raise of water in sea is approximately.....per century. []
A) 3.2feet B) 5.4feet C) 2.5feet D) 1.5feet
- 3) On the surface of the earth, largest ocean is []
A) Atlantic B) pacific C) Indian D) Arctic
- 4) Thickness of upper mantle is []
A) 370km B) 350km C) 390km D) 970km
- 5) Geology is derived from Word []
A) Latin B) Greek C) French D) Korea
- 6) Which of the following agents causes maximum erosion in nature []
A) Wind B) Glacier C) Stream D) Gravity
- 7) The depth of which we get witchert Guttenberg discontinuity is []
A) 4500km B) 6371km C) 5150km D) 2898km
- 8) One of the following substance response granite to weathering []
A) Quartz B) Mica C) Clay D) Iron
- 9) Colour of pegmatite is []
A) Black with grey B) white with grey C) yellow with grey D) cream with grey
- 10) Which mineral has a green steak []
A) Zincite B) Malachite C) Serpentine D) Plasma
- 11) Which state in India is the largest producer of manganese ores? []
A) Jharkhand B) Madhya Pradesh C) Maharashtra D) Odisha
- 12) What are the Khetri mines famous for? []
A) Coal B) Copper C) Iron D) Gold
- 13) The silica oxygen ratio for the mica is []
A) 1:3 B) 1:2 C) 2:5 D) 2:3
- 14) The weathering called exfoliation occurs due to the process of []
A) Running water B) Glaciers C) Fluctuation in temperature D) None
- 15) Mechanical wear by rivers, winds etc are called []
A) Degradation B) Saltation C) Salifluction D) Corrosion
- 16) The degradation or erosion by a following river does not depend much upon []
A) Volume of water B) Velocity of water C) Width of river bed D) Depth of river bed
- 17) The age of the earth is []
A) 4.6 billion years B) 4.5 billion years C) 3.8 billion years D) 4.7 billion years
- 18) Geology is therefore the science of earth” is the prepare sense of word is first used in []
A) 1772 B) 1774 C) 1776 D) 1778
- 19) Hardness of corundum []
A) 6 B) 10 C) 2 D) 9
- 20) What is a mineral wool? []

- A) Scapolite B) Andalnsite C) Asbestos D) Kyanite
- 21) Division tunnel in Himalayas is a failure due to geological reasons
 A) Rāmgangā B) Bassein Greek C) Umian barapani D) None []
- 22) The combined effect of weathering and erosion is called []
 A) Exfoliation B) Disintegration C) Denuation D) Spheroidal weathering
- 23) The principal agents of physical weathering are []
 A) Frost B) heating C) organisms D) all of the above
- 24) The weathering due to fluctuation in temperature is termed as []
 A) Granular disintegration B) Thermal weathering C) Frost heaving D) Exfoliation
- 25) In case of wind erosion, the base level is []
 A) Mean sea level B) Water table C) Sea level D) Perched water table
- 26) Soil is composed of _____ []
 A) Organic matter produced by organisms B) Fragments of bedrock
 C) Clay minerals formed by the chemical alteration of bedrock D) All of these
- 27) Density inside the earth is maximum in []
 A) Crust B) Core C) Mantle D) Oceanic ridge
- 28) The attitude line between troposphere and hemi sphere is []
 A) 20km B) 30km C) 40km D) 50km
- 29) Atmosphere has maximum concentration of following gases []
 A) Nitrogen B) Oxygen C) Co₂ D) Argon
- 30) Which of the following is most likely mineral to split into thin sheets? []
 A) Mica B) Halite C) Orthoclase D) Quartz
- 31) Which of the mineral has the lowest hardness? []
 A) Fluorite B) Quartz C) Topaz D) Gypsum
- 32) Which of the following is the diagnostic physical property of calcite? []
 A) Hardness B) Colour C) Lustre D) Specific gravity
- 33) Cat's eye is a gem variety of []
 A) Garnet B) Beryl C) Chrysoberyl D) Epidote
- 34) The cleavage in diamond is []
 A) Highly perfect B) Imperfect C) Not perfect D) Of two sets
- 35) Melting point of quartz is about []
 A) 1470 °c B) 1728 °c C) 870 °c D) 167 °c
- 36) The physical and chemical weathering of granite will produce _____ []
 A) Ions dissolved in rainwater and soil water
 B) Mineral fragments and granite fragments
 C) Clays and iron oxides D) All of these
- 37) Structure of olivine consists of layers, which are parallel to []
 A) (100) B) (001) C) (010) D) (111)
- 38) Finger nail has hardness []
 A) Equal to talc B) In between talc and gypsum
 C) In between selenite & calcite D) Equal to fluorite
- 39) Which of the following minerals is most stable at the Earth's surface? []
 A) Hematite B) Mica C) Olivine D) Feldspar
- 40) Plagioclase feldspar is []
 A) Isomorphous B) Polymorphous c) Pseudomorphous E) Polytypus

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