

2016
GEOLOGY
(Theory)

Full Marks : 70

Pass Marks : 21

Time : Three Hours and *Fifteen Minutes

(*15 minutes are given as extra time for reading questions)

All the questions are compulsory.

The figures in the right margin indicate full marks for the questions.

Answer Q. 1 to 4 in one or two sentences each or the full or any one word giving appropriate word or words for the same.

1. A fault whose rake is greater than zero and less than 90° is known as 1
2. The age of the Barail Group of rocks in Manipur is 1
3. In acid plutonic rocks, the maximum silica content percentage may be upto 1
4. The grain size of the sand group of sediments ranges from to 1

P.T.O.

Answer Question No. 5 to 14 in one sentence each.

5. What is known as the maximum curvature point of a fold? 1
6. An anticlinal fold in which the centre of the fold is occupied by younger rock. Determine the mode of origin for such a fold. 1
7. What is known as the vertical stratigraphical column, in combination with the sequential arrangement of geological time units? 1
8. What are the bases of classifying India into three subdivisions? 1
9. What is the maximum temperature of basaltic magma? 1
10. How do the grains in graded bedding distributed? 1
11. Quartzite is a metamorphic rock consisting of equidimensional grains of quartz with granoblastic texture. Suggest the proth. 1
12. What is the best suited structure of a sedimentary rock bed for construction of dam? 1
13. Upto what depth, the zone of oxidation in supergene sulphide enrichment process extends from the earth's surface? 1
14. Mention the term used for sloping surface of a valley upon which a dam rests? 1

Answer Question No. 15 to 22 in about 30 words each.

15. What is a contour line? Briefly explain with example. 2
16. What is meant by vertical succession in stratigraphy? Give the list of the characters by which vertical successions are identified. 2
17. What are the units of lithostratigraphic classification? Explain briefly. 2
18. Explain the economic mineral deposits of Surma and Tipam Group of rocks of the Tertiary system of Assam. 2
19. Define metamorphism and give one example. 2

20. What are the properties of a good constructional material? 2
21. Write down the different causes of landslide. 2
22. Describe one important preventive measure for prevention of landslide. 2
23. Draw diagram of a typical fold and label the parts. 2
24. Draw diagram and label the parts of a asymmetrical ripple marks showing the direction of flow of current. 2

Answer Question Nos. 25 to 30 in about 50 words each.

25. Define the terms: Strike direction, Dip direction, and Amount of dip. 3
26. What is meant by the term "Science of Stratigraphy"? Give definitions given by the various geologists. 3
27. Explain the principle of faunal succession. 3
28. Explain the processes of cohesion of secondary rocks. 3
29. Write down the different mode of distribution of ground water. 2
30. Explain the mode of occurrences of economic minerals by magmatic concentration. 3
31. Draw diagram of a schistose structure and interpret the mode of origin of the structure. 3

Question Nos. 32 to 33 in about 130 words each.

32. Give the stratigraphical succession of the Gondwana supergroup and explain the lithology and fossil content of Gondwanas in detail. 5
33. Describe three important inequigranular textures of igneous rocks with neat sketches. 5
34. Draw model diagrams of Angular unconformity and disconformities and interpret the mode formations from the drawn diagrams. 5