

2019

GEOLOGY

(Theory)

Full Marks : 70

Pass Marks : 21

Time : Three hours

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

All the questions are compulsory .

Select the most appropriate answer of the following alternatives given as A, B, C, or D and rewrite it.

1. Choose the correct answer of the following faulting in rocks is caused by 1
A. Tensional forces
B. Rotational forces
C. Compressional forces
D. All of the above

2. Match the following in column A and B. 1

A	B
Palaeozoic	Palaeocene
Mesozoic	Silurian
Tertiary	Triassic
Quaternary	Pleistocene

3. Select the correct answer : 1
- An example of acid igneous rock is –
- A. Syenite
 - B. Gabbro
 - C. Granite
 - D. Diorite

4. Choose one mineral formed by early magmatic deposit from below – 1
- A. Chromite
 - B. Kyanite
 - C. Talc
 - D. Quartz

Answer Question Nos. from 5 – 14 in one word or a sentence each.

5. Rewrite correctly. 1
- Amount of apparent dip is always less than that of true dip.
6. Name the horizontal component of the displacement of a fault. 1
7. Identify the largest and smallest geological time units. 1
8. Mention the stratigraphic period during which limestones of Ukhrul district was formed. 1
9. Why is granite known as an acid rock? 1
10. Indicate the type of metamorphism and texture developed in the formation of marble. 1

11. Name the rock which is commonly used as building stone in Manipur. 1
12. Name one geophysical method used in the exploration of oil and gas. 1
13. Mention one reason why narrow river channel is more suitable than broad river channel for selection of dam site. 1
14. Identify the role of water in causing landslide in hill areas of Manipur. 1

Answer Question Nos. 15 to 24 in about 30 words each.

15. Write short answer on 'Symmetrical fold'. 2
16. Give *two* geological evidences of recognising fault in the field. 2
17. Explain in brief the "Law of order of super - position". 2
18. Mention any *two* characteristics of Archean rocks. 2
19. Draw a map to show three distinct physiographic divisions of India. 2
20. Write short answer on 'Magma'. 2
21. Give *one* point of similarity and dissimilarity between quartzite and sandstone. 2
22. Distinguish between concordant and discordant igneous rock bodies in two points. 2
23. Write any *two* reasons for causing soil erosion in the hills of Manipur. 2
24. Draw a labelled diagram to show ground water table in a hillock and plain area. 2

Answer Question Nos. 25 to 31 in about 50 words each.

25. Distinguish between a normal fault and a reverse fault with the help of diagrams. 3
26. Write short answer on 'Periods' in the Tertiary, Palaeozoic and Mesozoic Era. 3

27. Explain briefly the basis of classification of Vindhyan group into two sub-divisions. 3
28. Write short answer on clastic sedimentary rocks. 3
29. Explain 'gneissose structure'. 3
30. Enumerate any *six* main geological problems met with the construction of dams. 3
31. Explain the importance of mineral composition and texture in the selection of building stone. 3

Answer Question Nos. 32 to 34 in 150 - 200 words each.

32. Define a 'Fold' and describe any *two* types of fold with the help of diagrams. 5
33. Explain the stratigraphic succession of Tertiary system of Manipur. 5

Or

Explain the stratigraphic sequence of Vindhyan system.

34. Describe the mineralogy, texture, structure and mode of occurrence of sandstone or Basalt. 5