

2017

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.

1. Choose the correct answer of the following : 1
A bed dipping in the direction of Northwest has its strike in the direction of —
(a) North – South
(b) East – West
(c) South – West
(d) Northwest – Southeast

2. Match the following into pair. 1
Palaeozoic, Mesozoic, Tertiary, Quaternary, Cambrian, Eocene, Pleistocene, Jurassic.

3. Select the right answer — 1
 An example of argillaceous sedimentary rock is —
 (a) Sandstone
 (b) Conglomerate
 (c) Shale
 (d) Breccia.
4. Write 'true' or 'false' : 1
 Electromagnetic method is best suited for prospecting of ore bodies.
5. Fill in the blank : 1
 An anticlinal structure which dips in all direction is known as _____.
6. State the name of the direction of line formed by the intersection between a horizontal plane and an inclined plane. 1
7. Give the name of the oldest Tertiary formation in Assam. 1
8. Complete the sentence : 1
 In Mesozoic Era there are *three* Periods namely
9. State *one* reason why no fossil is found in igneous rocks. 1
10. Mention the parent rocks of gneiss and quartzite. 1
11. Arrange the following rocks in order of decreasing silica content : 1
 Dunite, Gabbro, Granite, Syenite.
12. State *one* point of similarity and dissimilarity between granite and basalt. 1

13. Give an example of late magmatic mineral deposits and rocks associated with it. 1
14. Why is narrow river valley more important than wide one for construction of concrete dam ? Give *one* reason. 1
15. Generalise *any two* features of recognising fold. 2
16. Draw and label a representative diagram of a fault. 2
17. Define the term 'Stratigraphy'. 2
18. Relate the sequence of periods in Tertiary Era. 2
19. Summarise *any two* characteristics of Archean rocks. 2
20. Discriminate between a symmetric and an asymmetric fold with the help of diagram. 2
21. Write *two* characteristics of sedimentary and metamorphic rocks. 2
22. Define 'Landslide' ? 2
23. Discriminate *any four* properties which are commonly used in the selection of construction materials. 2
24. Suggest *any two* measures of preventing landslides in the hill areas of Manipur. 2
25. Compare between a normal fault and a reverse fault. 3

26. Interpret the statement that fossil character is more important than lithological character in the correlation of strata. 3
27. Write the salient characteristics of plutonic rocks. 3
28. Explain in brief how sedimentary rocks are formed. 3
29. Infer the occurrence of dark and light bands in gneiss. 3
30. Define 'ground water' and identify *three* types of ground water. 3
31. Explain the main object of prospecting of an area. 3
32. Define 'fold' and describe *any two* types of fold with the help of neat sketches. 5
33. Describe the stratigraphic sequence of Vindhyan system. 5
34. Explain the mineralogical composition, structure, texture and mode of occurrence of Sandstone. 5