

**2020**

**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.  
In symmetrical fold – 1
  - (A) The two limbs dip at the same angles in different directions.
  - (B) The two limbs dip at different angles but in the same direction.
  - (C) The two limbs dip in unequal angles in opposite directions.
  - (D) The two limbs dip in equal angles and in the same direction.
  
2. The corresponding time unit for 'Formation' is – 1
  - (A) Era
  - (B) Period
  - (C) Epoch
  - (D) Age

P.T.O.

3. Tipam Group belongs to – 1
- (A) Gondwana system
- (B) Dharwar system
- (C) Vindhyan system
- (D) Tertiary system
4. Limestone is an important mineral deposit formed by – 1
- (A) Evaporation process
- (B) Sedimentation process
- (C) Hydrothermal process
- (D) Magmatic process

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

5. What is the vertical component of the displacement of a fault? 1
6. Identify the shape of the contours in a river valley. 1
7. Indicate the term used when two widely situated areas have similar geological formation and age 1
8. Write down the periods of the palaeozoic Era. 1
9. Predict one type of sedimentary structure which has shallow water origin. 1
10. Assess the type of climatic condition where coal deposits are formed. 1
11. Identify any two accessory minerals present in granite. 1
12. Name the parent rock of quartzite. 1
13. Suggest one point of preventing landslides in hill areas of Manipur. 1
14. Predict the type of dam to be constructed where sound foundation rocks are available. 1

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

15. Define a 'fold'. 2
16. Explain, in brief, the formation of columnar joints. 2
17. Draw a neat diagram to show a normal fault. 2
18. Write short notes on 'Disang Series' of Manipur. 2
19. Assess the importance of index fossils in the correlation of strata. 2
20. Write short notes on intrusive 'igneous rock'. 2
21. Highlight the process of 'Sedimentation'. 2
22. Explain why volcanic rocks are fine grained and plutonic rocks, coarse grained. 2
23. State any six characteristic properties of building stones. 2
24. Give any *two* points to state how loose rock materials can be prevented from sliding downward. 2

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

25. Mention any three evidences of recognising folds in the field. 3
26. Predict the consequences of faulting in a sequence of competent and incompetent beds. 3
27. Explain 'porphyritic' texture with the help of diagram. 3
28. Explain the cataclastic metamorphism and give one example. 3
29. Explain in brief the uses of 'Gravity method' of geophysical prospecting. 3
30. Illustrate the formation of ideal artesian condition in an area. 3
31. Explain why construction of dam across strike of rocks is not recommended. 3

*Answer Question Nos. 32 to 34 in about 150 – 200 words each.*

32. Describe any two types of unconformity with the help of neat sketches. 5
33. Explain the stratigraphic succession of Tertiaries of Assam. 5

***Or***

Explain the stratigraphic succession of Gondwana system.

34. Describe the mineralogy, texture, structure and mode of occurrence of Granite. 5

***Or***

Describe the mineralogy, texture, structure and mode of occurrence of Marble.

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