



**Government of Karnataka**  
**Karnataka School Examination and Assessment Board**  
**II Year PUC Supplementary Examination May/June – 2023**  
**Scheme of Evaluation**

**Subject: Geology**

**Subject code: 37**

**Hours: 3 hrs 15 min**

**Maximum Marks: 70+30**

Note:

- All the parts are compulsory.
- Draw diagrams wherever necessary.
- Write correct question numbers.

**PART – A**

**I. Answer all the following questions**

**(5 X 1 = 5)**

1. \_\_\_\_\_ is the plane which divides the fold into two equal parts.

b. Axial plane ----- 1 marks

2. The fracture formed by a fault on the surface is known as \_\_\_\_\_

a. Fault line ----- 1 marks

3. Calceola represents \_\_\_\_\_ age.

a. Middle Devonian ----- 1 marks

4. The largest septa of corals is called \_\_\_\_\_ septa.

c. Primary ----- 1 marks

5. The Archaean era begins at \_\_\_\_\_ million years.

a. 3500 ----- 1 marks

**II. Answer all the following questions**

**(5 X 1 = 5)**

6. In Karnataka deccan basalts cover an area of 31,250 sq. Kms. ----- 1 marks

7. The study of fossils is called as Palaeontology. ----- 1 marks

8. Primary rocks are also termed as Igneous rocks. ----- 1 marks

9. The term Cenozoic was introduced by John Phillips. ----- 1 marks

10. Pangea split occurred during Mesozoic era. ----- 1 marks

**III. Answer all the following questions**

**(5 X 1 = 5)**

11. Define rock cycle.

Ans. Definition ----- 1 marks

12. Define basic lava.

Ans. Definition ----- 1 marks

13. Define holohyaline.

Ans. Definition ----- 1 marks

14. Give an example of arenaceous group of rock.

Ans. One example ----- 1 marks

15. What is the size range of silt?

Ans. 1/256 – 1/16 mm. ----- 1 marks

**IV. Match the following**

**(5 X 1 = 5)**

16. Spire a) Gastropods ----- 1 marks

17. Vesicles b) Vesicular ----- 1 marks

18. James Hutton c) Stratigraphy ----- 1 marks

19. 300 – 550<sup>0</sup> C

d) Mesozone ----- 1 marks

20. Shale

e) Argillaceous ----- 1 marks

### PART – B

**V. Answer any four of the following questions**

**(4 X 2 = 8)**

21. What is metamorphism?

Ans. Definition ----- 2 marks

22. What is phaneritic texture?

Ans. Definition ----- 2 marks

23. What is foot wall?

Ans. Definition ----- 2 marks

24. Name the periods in Cenozoic era.

Ans. Paleocene, Neogene and Quaternary ----- 2 marks

25. What is Joint?

Ans. Definition ----- 2 marks

26. What are adductor impressions?

Ans. Definition ----- 2 marks

27. What are genal spines?

Ans. Definition ----- 2 marks

### PART – C

**VI. Answer any four of the following questions**

**(4 X 3 = 12)**

28. Explain hypabasal rocks.

Ans. a) Definition ----- 1 marks

b) Explanation ----- 2 marks

29. Explain discordant forms of igneous rocks.

Ans. a) Definition ----- 1 marks

b) Explanation ----- 2 marks

30. Explain rudaceous group of rocks.

Ans. a) Definition ----- 1 marks

b) Explanation ----- 2 marks

31. Explain the formation of joints

Ans. a) Definition ----- 1 marks

b) Explanation ----- 2 marks

32. Explain the reverse fault with a neat labeled diagram.

Ans. a) Explanation ----- 1.5 marks

b) Diagram ----- 1.5 marks

33. Write the non-metallic deposits of archaeans of India.

Ans. Mica, Kyanite, Sillimanite, Magnesite, Marbles, Granite, Basalt and Slates. ----- 3 marks

34. Write a note on distribution of corals.

Ans. Explanation ----- 3 marks

#### **PART - D**

**VII. Answer any two of the following questions**

**(2 X 5 = 10)**

35. Briefly explain the structures of igneous rocks

Ans. a) Explanation ----- 2.5 marks

b) Diagram ----- 2.5 marks

36. Briefly explain the grain size and texture of sedimentary rocks.

Ans. a) Grain size ----- 3 marks

b) Texture ----- 2 marks

37. Briefly explain dynamothermal and plutonic metamorphism.

Ans. a) Dynamothermal ----- 2.5 marks

b) Plutonic ----- 2.5 marks

**VIII. Answer any two of the following questions**

**(2 X 5 = 10)**

38. Briefly explain the disconformity with a neat labeled diagram

Ans. a) Explanation ----- 2.5 marks

b) Diagram ----- 2.5 marks

39. Briefly explain the morphology of gastropods with a neat labeled diagram

Ans. a) Explanation ----- 2.5 marks

b) Diagram ----- 2.5 marks

40. Briefly explain the types of joints with a neat labeled diagram.

Ans. a) Explanation ----- 2.5 marks

b) Diagram ----- 2.5 marks

**IX. Answer any two of the following questions**

**(2 X 5 = 10)**

41. What is granularity? Briefly explain the textures of igneous rocks based on granularity

Ans. a) Definition ----- 1 marks

b) Explanation ----- 4 marks

42. With a neat labeled diagram explain law of order of superposition

Ans. a) Explanation ----- 2.5 marks

b) Diagram ----- 2.5 marks

43. Briefly explain graded bedding with a neat labeled diagram

Ans. a) Explanation ----- 2.5 marks

b) Diagram ----- 2.5 marks

**PART – E**  
**(PRACTICAL)**

**X. Answer all the following questions**

**(6 X 5 = 30)**

44. Describe the following rocks:

a) Pumice

- Explanation ----- 2.5 marks

b) Breccia

- Explanation ----- 2.5 marks

45. a) Describe stratification structure

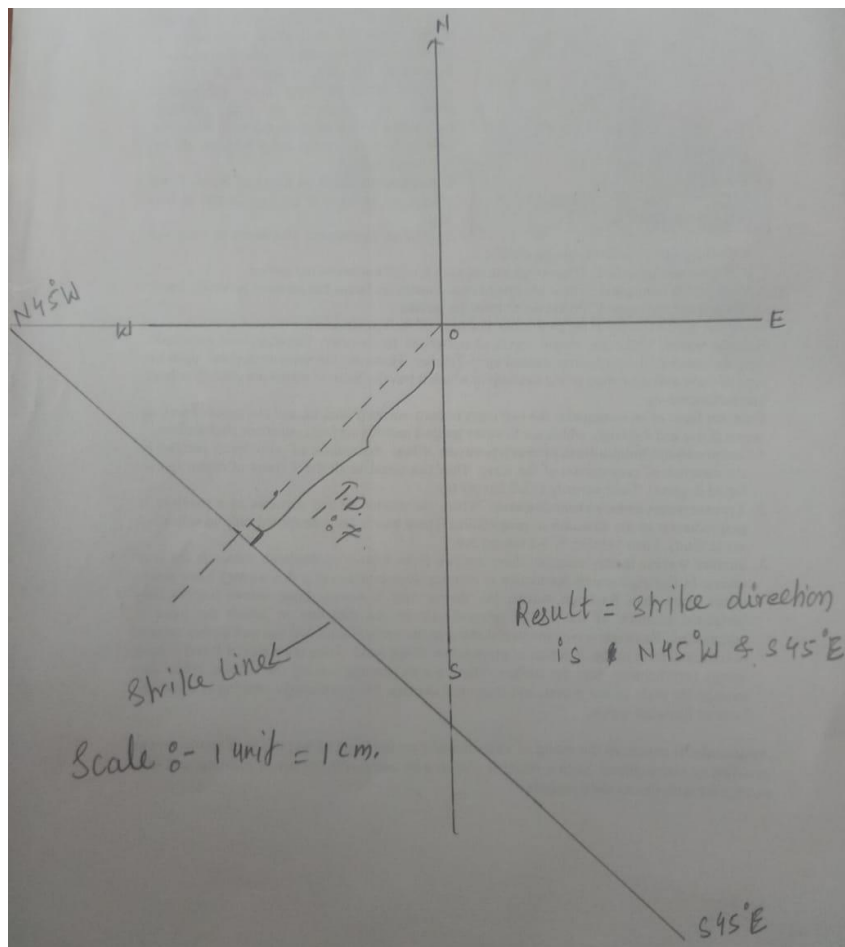
Ans. i) Explanation ----- 2.5 marks

ii) Diagram ----- 2.5 marks

OR

A coal seam has a true dip of 1:7 due south 45° west. Find out its strike direction.

Ans.



46. Write any two structures of metamorphic rocks.

Ans. a) Structure - 1 with diagram & explanation carries ----- 2.5 marks

b) Structure - 2 with diagram & explanation carries ----- 2.5 marks

47. With a neat labelled diagram describe columnar structure

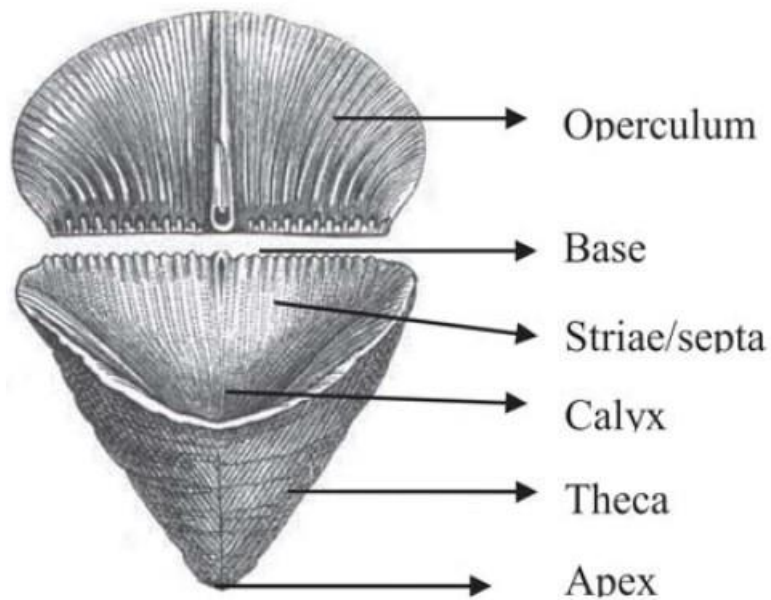
Ans. a) Explanation ----- 2.5 marks

b) Diagram ----- 2.5 marks

48. Sketch and label the following fossils:

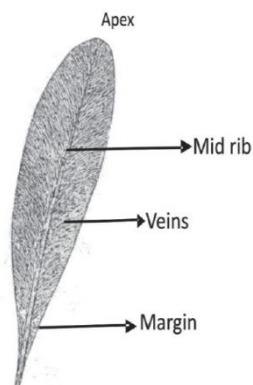
a) Calceola

Ans.



b) Glossopteris

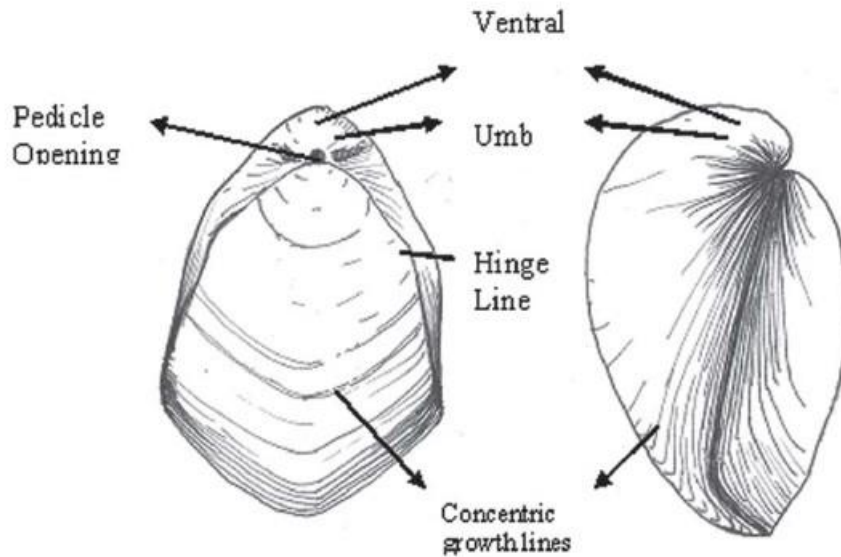
Ans.



49. With a neat labeled diagram describe morphological features of terebratula.

Ans. a) Explanation ----- 2.5 marks

b) Diagram ----- 2.5 marks



1. The shell is bivalved, equilateral and inequivalved.
2. The valves are plano-convex.
3. Umbo is prominent on ventral valve with a pedicle opening.
4. Hinge line is short and curved. Hinge area is small.
5. Concentric growth lines are present, and are more near anterior end indicating rapid growth of the shell.
6. The shell is composed of calcium carbonate, representing Cretaceous age.