

PUC - I
MODEL QUESTION PAPER

2023-24

GEOLOGY (37)

Duration: 3 hrs 15 min

Maximum marks: 80

Note:

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

PART – A

I. Answer all the following questions

(5 X 1 = 5)

1. • It deals with past history of earth.
- It studies stratified rocks.
 - Present is the key to the past

Based on the above information which branch of geology is being discussed about

- | | |
|-----------------------|---------------------|
| a. Crystallography | b. Paleontology |
| c. Historical geology | d. Physical geology |

2. Given below are the names of planets. Arrange the planets according to their distance from the sun and choose the correct option.

Planets: i) Neptune ii) Venus iii) Mercury iv) Uranus

- | | |
|-------------------|-------------------|
| a. iii, ii, i, iv | b. iii, ii, iv, i |
| c. i, ii, iii, iv | d. iv, iii, ii, i |

3. The shape of earth is _____

- | | |
|----------|---------------------|
| a. Geoid | b. Circular |
| c. Flat | d. All of the above |

4. Assertion (A): A dune is defined as a ridge or mound of sand with crest.

Reason (R): Dune is developed normally when the wind deposit's its load due to some obstruction during its transport.

- a. (A) is true but (R) is false
- b. (A) is false but (R) is true

- c. Both (A) and (R) are true but (R) is not the correct explanation for (A)
- d. Both (A) and (R) are true and (R) is the correct explanation of (A)

5. The full form of CIL is _____

- a. Coal India Limited
- b. Crude-oil India Limited
- c. Compound India Limited
- d. None of the above

II. Fill in the blanks by selecting the correct answer given below (5 X 1 = 5)

(Answer: Mechanical, Planetary geology, 5.517, Environment, Cystal, Chemical)

- 6. The branch of geology which deals with the study of cosmic bodies is called _____
- 7. The mean density of the earth is _____ gm/cm³.
- 8. Physical weathering is also called as _____ weathering.
- 9. A solid polyhedral body bounded by faces, edges and solid angles is called as _____
- 10. The total set of circumstances which surrounds an organism or a group of organisms is called as _____

III. Match the following (5 X 1 = 5)

- | | |
|---------------------------|--|
| 11. Structural geology | a) Venus |
| 12. Inner group of planet | b) Wind |
| 13. Earth's volume | c) Example of mineral |
| 14. Ventifacts | d) Study of rock structures |
| 15. Muscovite | e) $1.083 \times 10^{27} \text{ cm}^3$ |
| | f) Saturn |

IV. Answer all the following questions (5 X 1 = 5)

- 16. What is the term used to define the association of billions of stars?
- 17. Name the discontinuity which separates the crust from the mantle.
- 18. What is neeve?
- 19. What do you call the sharp peak formed when three or more cirques are carved out of mountain?
- 20. What is pollution?

PART – B

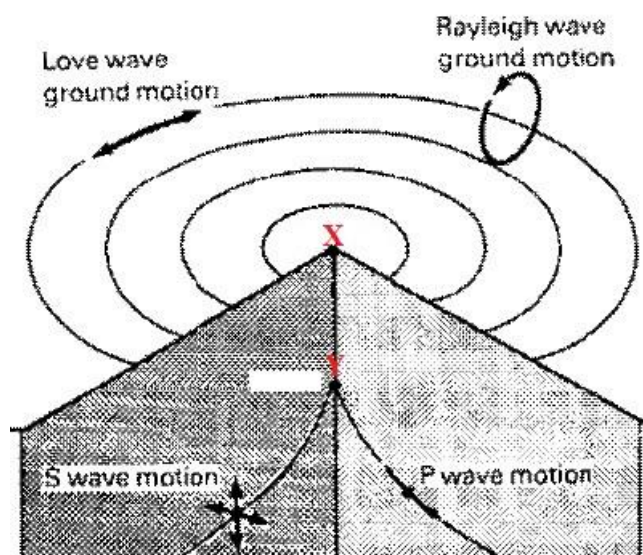
V. Answer any seven of the following questions

(7 X 2 = 14)

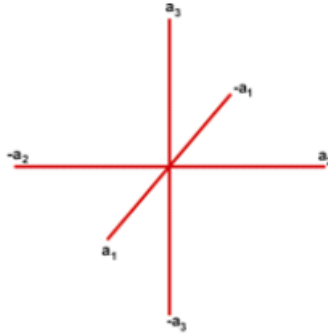
21. What is dynamic geology and geomorphology?
22. • Identify the cosmic object shown in the image given below
- Give the definition of the object shown in the image.



23. What is the equatorial and polar diameter of earth?
24. What is rotation of earth?
25. What is revolution of earth?
26. In the image given below locate the epicenter and focus of the earthquake using the points X and Y.
- Name what occurs at X and Y positions.
 - What is earthquake?



27. Given below is the image of crystallographic axis. The length of all the three axis is same, they are mutually perpendicular to each other and can be interchanged.
- Name the crystal system which has such relationship between crystallographic axis.
 - Give an example of the mineral which crystallizes under this crystal system.



28. What is water pollution?

29. What is NIO?

PART – C

VI. Answer any seven of the following questions

(7 X 3 = 21)

30. What are the different types of chemical weathering?

31. What are the different types of glaciers?

32. “When the underground water drips from the cavern ceiling, it contains carbonate of lime. When the droplets of water are hanging by the ceiling, some water is evaporated and portion of the carbonate of lime is deposited on the ceiling giving rise to distinct and attractive structural features of rock.”

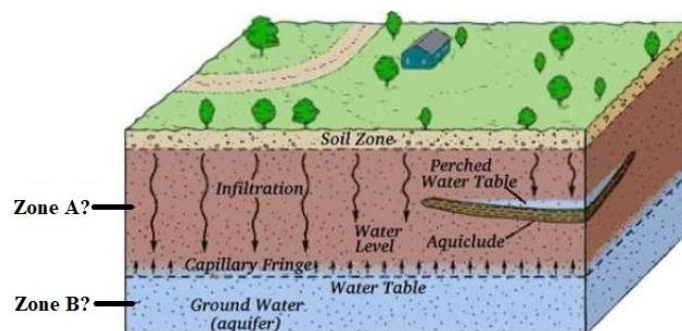
Based on the above para, answer the following questions:

- What are stalactites?
- From where is the carbonate of lime getting into the water.

33. Explain dug well and bore well.

34. Based on the figure given below:

- Name the zone A and zone B.
- Define the zone identified at A and B.



35. Write a note on depositional features formed by glaciers.

36. Write the classification of earthquake based on depth of focus.

37. Write a note on Moho's scale of hardness.
38. Write a note on Euler's law.
39. Write a note on contact goniometer.

PART - D

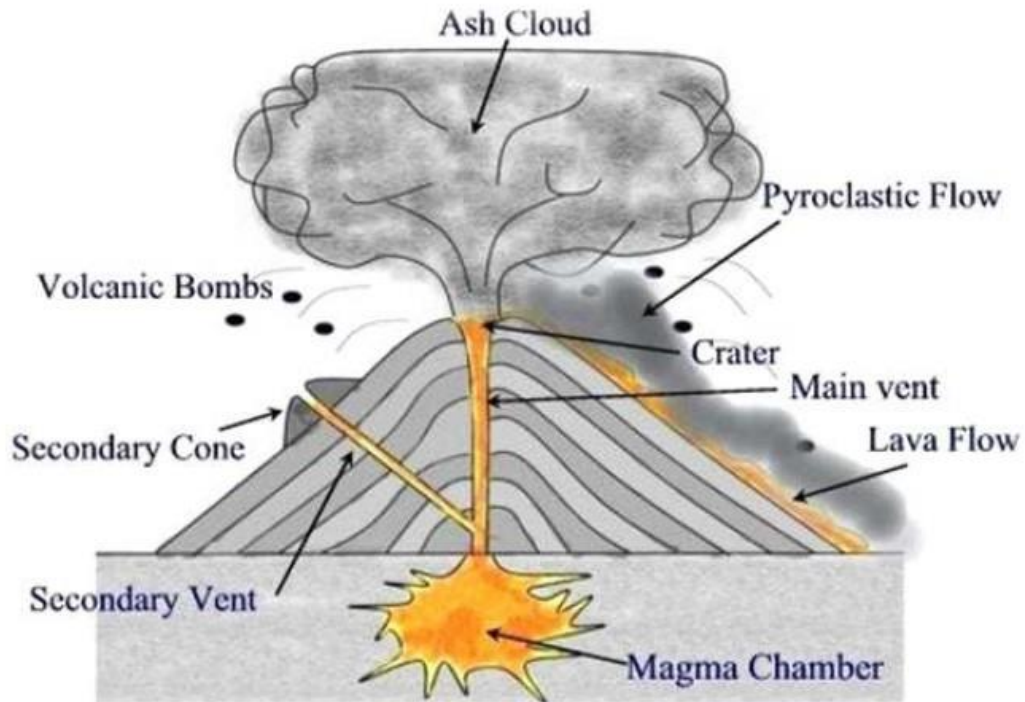
VII. Answer any five of the following questions

(5 X 5 = 25)

40. Explain the hydrological cycle with a neat labelled diagram.
41. Explain different types of springs.
42. Given below is the image of glacier. Observe the image and answer the following questions:
- Name any three erosional features that can be identified from the image below.
 - Explain the three erosional features identified from the image.



43. Given below is the figure of volcano. Observe the figure and answer the following questions:
- What is volcano?
 - What is main vent?
 - What are volcanic bombs?
 - What are the advantages of volcanic eruption?



44. Briefly explain the seismograph with a neat labelled diagram.

45. Given below is image of a mineral group.

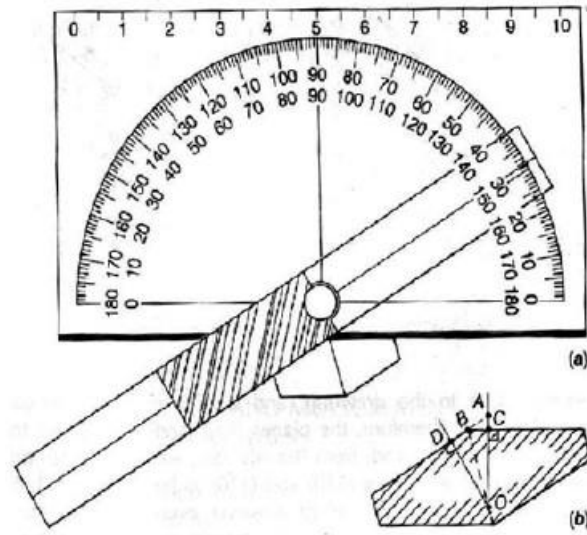
- Identify the mineral group in the image.
- Explain the physical properties of the mineral group shown in the image.
- Name the minerals which comes under this mineral group.



46. Explain the specific gravity of a mineral with Walker's steel yard balance.

47. Observe the figure of the device given below. Answer the following questions related to this device.

- Identify the name of the device shown in the figure below.
- Explain the device identified from the figure.
- What is the use of this device?



PUC - I

GEOLOGY BLUEPRINT FORMAT FOR MODEL QUESTION PAPER FOR 80 MARKS FOR THE YEAR 2023-2024

Sl.No	Objectives	Marks Alloted	Percentage
1	Remember	37	34.25
2	Understanding	34	31.48
3	Application	24	22.22
4	HOTS	13	12.05
Total		108	100

Question type (Based on marks)	Number of questions	Total marks
1. MCQ (1 marks each question)	05/05	05/05
2. Fill in the blanks (1 marks each question)	05/05	05/05
3. Match the following (1 marks each question)	05/05	05/05
4. Very short answer - VSA (1 marks each question)	05/05	05/05
5. Short answer – SA (2 marks each question)	07/09	14/18
6. Short answer – SA (3 marks each question)	07/10	21/30
7. Long answer – LA (5 marks each question)	05/08	25/40
Total	39/47	80/108

Chapters	No. of Periods	Marks	Remember				Understanding				Application				HOTS			
			Marks				Marks				Marks				Marks			
			1	2	3	5	1	2	3	5	1	2	3	5	1	2	3	5
1. General geology	05	05	2	1			1											
2. Universe & solar system	06	05	1	1			1				1							
3. Parameters of earth	05	05	1	1			1				1							
4. Earth motion	05	04		1				1										
5. Zones of earth	06	06	1							1								
6. Geological processes	38	33			2		1		2	1	1		2		3			1
7. Endogenous process	17	15				1			1			1						1
8. Mineralogy	15	14			1	1					1			1				
9. Crystallography	15	14	1		1				1			1		1				
10. Environmental geology	05	04	1				1	1										
11. Role of Indian organizations/institutes in geology	03	03					1	1										
Total	120	108	07	08	12	10	06	06	12	10	04	04	06	10	03			10