

Duration: 2 Hours

Marks: 60

Instructions:

- 1) All the questions are compulsory
 - 2) Figures to the right indicate full marks
 - 3) Draw neat labelled diagrams wherever necessary
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Q. 1 Answer any one of the following questions (15)

- A) Define Stratigraphy. Describe the types and sources of sediment.
- B) What are Fossils? Explain the process of Fossilisation in detail.

Q. 2 Answer any one of the following questions (15)

- A) Explain isotopes of Carbon, Oxygen and Nitrogen and give their isotopic analysis.
- B) Illustrate Beer's law and Lambert's law and explain their use in colorimetry. Give applications of colorimetry in detail.

Q. 3 Answer any one of the following questions (15)

- A) With the help of neat labelled diagram, illustrate any two detectors used in mass spectrometry. Draw the structure of compound having peaks at m/z 74, 57, 45, 28.
- B) Define specific gravity. Give its applications in archaeology. Explain working of specific gravity balance.

Q. 4 Answer any two of the following questions (15)

- A) Write a note on climatic changes in Quaternary period.
- B) Explain analysis of alloys in coins.
- C) Give applications and advantages of X-ray diffraction.

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