Ph.D./Geol/245

Roll No. .....

Ph.D. COURSE WORK EXAMINATION 2013-14

GEOLOGY

Paper : GLPR – 06 : Sedimentology

Time : Three hours **Max. Marks : 70**

(WRITE YOUR ROLL NO. AT THE TOP IMMEDIATELY ON THE RECEIPT OF THIS QUESTION PAPER)

NOTE : ATTEMPT FIVE QUESTIONS IN ALL. ALL QUESTIONS CARRY EQUAL MARKS.

1. Discuss significance of textural parameters in Sedimentology.

2. Write short notes on the following :
   a) Grain morphology b) Surface textures

3. Write a note on "petrogenesis of feldspathic sandstones".

4. Discuss various models of dolomitization.

5. Write short notes on the following :
   a) Eraporites b) Silicieous deposits

6. Describe meandering river deposits in detail.

7. Discuss various facets of the estuarine sedimentation.

8. Discuss Bouma Cycle and deep marine sedimentation in detail.

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Ph.D. Course Work Examination, 2012-13

Geology

GLPR-14: Geochemistry

Time: - Three Hours | Full Marks: 70

Note: Attempt any **five** questions, selecting at least **two** from each **Section-A** and **B. Section-C** is compulsory. All questions carry equal marks.

Section-A

1. Discuss the types and importance of sampling techniques in Geochemistry. Briefly describe various geochemical instrumental techniques and their utility.

2. What is isotope geology? Discuss the stable isotope geochemistry of oxygen and its application to geological problems.

3. What are the significant geochemical aspects of the sedimentary rocks? Discuss various physico-chemical factors influencing the geochemical composition of sedimentary rocks.

4. Discuss any **two** of the followings:
   (i) Stable isotope fractionation
   (ii) Decay scheme of U-Pb
   (iii) Radioisotopes in petrogenesis

Section-B

5. Write descriptive notes on any **two** of the following:
   (a) Biogeochemical cycle
   (b) Geochemical evolution of Biosphere
   (c) Types of meteorites

6. Write explanatory notes on any **two** of the followings:
   (a) Concordia-discordia diagram
   (b) AX type of crystal structures
   (c) Concept of Geological Age.

7. Write short notes on any **four** of the followings:
   (a) K-electron Capture
   (b) Variations of carbon isotope in nature
   (c)Goldschmidt's classification of elements
   (d) Modern geochemical analytical techniques
   (e) Utility of isotopes in assessing contamination

Section-C

8. (i) What is cooling age?
   (ii) What is 'detection limit' in instrumental analysis?
   (iii) What is the significance of Banded Iron Formations in understanding Earth's atmosphere?
   (iv) Give equation for calculating temperature with help of oxygen isotopes.
   (v) What is the importance of coning and quartering?
   (vi) What is stoichiometry?
   (vii) Notation used to express stable isotopic data.

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