2014

(1st Semester)

GEOLOGY

FIRST PAPER

(General and Structural Geology)

Full Marks : 55

Time : 2 hours

(PART : B—DESCRIPTIVE)

(*Marks* : 35)

The figures in the margin indicate full marks for the questions

Answer **five** questions, selecting **one** from each Unit

UNIT—I

1. Write descriptive notes on any *two* of the following : 3½×2=7

(a) Magnetic field of the earth

(b) Nebular hypothesis

(c) Planetesimal hypothesis

2. Write a detailed note on the rotation and revolution of the earth. 7

UNIT—II

3. Describe the composition of different layers of the earth. Add a note on comparisons to other terrestrial planets. 5+2=7

4. Write notes on the following : 3½+3½=7

   (a) Origin of biosphere

   (b) Age of the earth

UNIT—III

5. Write notes on any *two* of the following : 3½×2=7

   (a) Chemical weathering

   (b) Geological timescale

   (c) Abrasion and deflation

6. What is earthquake? Add a note on different seismic waves generated when earthquake occurs. 2+5=7

UNIT—IV

7. Write a detailed note on clinometer compass. 7

8. Define outcrop. Explain "outcrop can be considered as the fundamental element of geologic science". 2+5=7

UNIT—V

9. Define unconformity. Describe different types of unconformity and their significance. 2+5=7

10. Write notes on the following : 3½+3½=7

(a) Recumbent fold

(b) Genetic classification of joints

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(PART : A—OBJECTIVE)

(*Marks* : 20)

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks* : 5)

1. Choose the correct answer and put its number within the brackets provided : 1×5=5

(a) The crust, mantle and core are separated by two sharp breaks, usually known as

(i) major discontinuities

(ii) mohorovicic discontinuity

(iii) transition zones

(iv) boundaries [ ]

(b) Which one of the following is not the characteristic of primitive atmosphere?

(i) High percent of vapour

(ii) High percent of CO_2

(iii) High percent of free oxygen

(iv) None of the above [ ]

(c) The point on the surface of the earth directly above the focus of an earthquake is called

(i) epicentre

(ii) isoseists

(iii) homoseists

(iv) None of the above [ ]

(d) Which of the following instruments is used for geological fieldwork?

(i) Brunton compass

(ii) Geological hammer

(iii) GPS

(iv) All of the above [ ]

(e) The vertical displacement along the fault plane is

(i) heave

(ii) throw

(iii) slip

(iv) None of the above [ ]

SECTION—B

(*Marks* : 15)

2. Write short notes on the following in not more than *3* or *4* sentences each : 3×5=15

(a) Geodynamo

(b) Radioactivity

(c) Elastic rebound theory

(d) Contours

(e) Drag fold

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