

# EARTH SYSTEM SCIENCE

## MODEL QUESTION PAPER – SET 2

SEMESTER I ■ MAJOR COURSE – MJ 1

Full Marks: 75

Time: 3 Hours

Pass Marks: 40

Instructions:

1. Answer all questions in Group A. 2. In Group B, answer any four questions out of six. 3. Figures, where required, should be neat and properly labelled.

### GROUP A

Q1. Choose the correct answer. ( $5 \times 1 = 5$ )

1. The Solar System is located in the:

(a) Milky Way Galaxy (b) Andromeda Galaxy (c) Magellanic Cloud (d) Triangulum Galaxy

2. A meteorite is:

(a) A star (b) A planetary moon (c) A fragment of extraterrestrial material that reaches Earth's surface (d) A type of asteroid belt

3. The outer core of Earth is mainly:

(a) Solid rock (b) Liquid metallic material (c) Gaseous material (d) Ice

4. A transform fault is associated with:

(a) Plates sliding past one another (b) Only convergent movement (c) Only volcanic islands (d) Mountain weathering

5. The principle that younger beds generally overlie older beds in an undisturbed sequence is:

(a) Uniformitarianism (b) Faunal succession (c) Superposition (d) Cross-cutting

Q2. What is continental drift? Mention two important evidences supporting it. (5 marks)

Q3. Explain the origin of Earth's magnetic field and the role of convection in the outer core. (5 marks)

### GROUP B

Answer any FOUR questions. Each question carries 15 marks. ( $4 \times 15 = 60$ )

Q4. Give an account of the origin of the Solar System. Distinguish between terrestrial and Jovian planets and discuss the significance of asteroids and meteorites.

Q5. Describe the internal structure of Earth. Explain the crust, mantle and core and discuss the evidence used to understand Earth's interior.

Q6. Explain plate boundaries with suitable examples. Discuss divergent, convergent and transform boundaries and the landforms associated with them.

Q7. Write an essay on volcanoes. Describe volcanic types, volcanic products and their distribution with reference to plate tectonics.

Q8. Explain the hydrosphere and oceanic circulation. Discuss the effect of Coriolis force, wave erosion and beach processes.

Q9. Describe soil formation and soil profile. Explain the major factors controlling soil formation and discuss important soil types.