

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc., Summer 2022-23 Examination

Semester: 4
Subject Code: 11211252
Subject Name: Quaternary Geology

Date: 22-03-2023
Time: 2:00pm to 4:30pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Write a note on glaciers and glacial sedimentation
 (b) Explain fluvial sedimentation
- Q.1. B) Answer the following questions (Any two) (04)**
 (a) Define (2x2)(Each of 02 marks) (04)
 1. Loess deposits
 2. Interglacial
 (b) Short note on marine sedimentation (04)
 (c) Short note on lacustrine sedimentation (04)
- Q.2. A) Answer the following questions. (04)**
 (a) Fill in the blanks. (Each of 02 marks) (04)
 1. The age of Holocene epoch is 10 K.Y. State True / False.
 2. _____ are very small remains of organisms ranging in size from <1 micron to 1mm.
 (b) Short note (04)
- Q.2. B) Answer the following questions (Any two) (03)**
 (a) Short note/ Multiple choice questions. (Each of 01 marks) (03)
 1. The age of Quaternary period is _____ million years
 (a) 1.88 (b) 2.88 (c) 2.58 (d) 2.68
 2. Which of the following sedimentary environments is dominated by waves and tidal currents?
 (a) deltaic (b) glacial (c) deep marine (d) lacustrine
 3. With time, sediment transported by a fluvial system becomes _____.
 (a) rounded and smaller (b) rounded (c) smaller (d) none of these
 (b) Short note on erosion cycles (03)
 (b) Short note on classification of rivers (03)
- Q.3. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Explain solar energy budget of the earth
 (b) Write short note on Biostratigraphy
- Q.3. B) Answer the following questions (Any two) (04)**
 (a) Define (2x2) (Each of 02 marks) (04)
 1. Clay minerals with example
 2. Frost action
 (b) Short note on Milankovitch cycles (04)
 (c) Short note Dating methods (04)
- Q.4. A) Answer the following questions. (04)**
 (a) Fill in the blanks. (Each of 02 marks) (04)
 1. Arctic ocean is situated on the _____
 2. The age of Quaternary period was modified to 2.588 Ma from _____ Ma
 (c) Short note on magnetostratigraphy (04)

Q.4. B) Answer the following questions (Any two)

(a) Short note/ Multiple choice questions. (Each of 01 marks)

(03)

1. 'Interstadials' can be defined as a short period of _____
(a) within an interglacial interval (b) increased cold within a glacial interval
(c) greater warming within an interglacial interval (d) warming within a glacial interval
2. Milankovitch theory is based on 3 cyclical alterations in the Earth's orbit around the Sun, which of the following is not one of these cycles?
(a) Equatorial gradient (b) Precession of the equinoxes
(c) Eccentricity of orbit (d) Tilt of the earth
3. Data from ice cores has shown that CO₂ concentrations were much lower during glacial periods. What was the concentration?
(a) 200 ppm (b) 280 ppm (c) ~180 ppm (d) 160 ppm

(b) Short note on chronostratigraphy

(03)

(c) Short note on fluvial erosion

(03)