

Total number of printed pages-7

3 (Sem-3/CBCS) GLG HC 3

2023

## GEOLOGY

(Honours Core)

Paper : GLG-HC-3036

(*Palaeontology*)

Full Marks : 60

Time : Three hours

**The figures in the margin indicate full marks for the questions.**

1. Choose the correct option :  $1 \times 7 = 7$

(a) The occurrence of ammonites in a sequence suggests —

(i) Cenozoic age and freshwater environment

(ii) Cenozoic age and marine environment

(iii) Mesozoic age and freshwater environment

(iv) Mesozoic age and marine environment

Contd.

(b) Acme zone indicates the —

- (i) range of a fossil species
- (ii) absence of a fossil species
- (iii) maximum abundance of a fossil species
- (iv) migration of a fossil species

(c) The fauna which are exclusively active swimmers is known as

- (i) Plankton
- (ii) Necton
- (iii) Benthic
- (iv) Pelagic

(d) The shell of Brachiopod consists of —

- (i) two equal but inequilateral valves
- (ii) two unequal but equilateral valves
- (iii) two equal and equilateral valves
- (iv) None of the above

(e) Horses are very good example of 'Straight Line Evolution' i.e., they have evolved with little deviation with time. This phenomenon is known as —

- (i) Orthogenesis
- (ii) Paragenesis
- (iii) Tachygenesis

(iv) Ontogeny

(f) In India the Dinosaurs attained their highest development during the deposition of —

(i) Bagh beds

(ii) Lameta beds

(iii) Umaria marine beds

(iv) Bap beds



(g) Which of the following is a Lower Gondwana flora ?

(i) Gangamopteris

(ii) Ptilophyllum

(iii) Otozamites

(iv) Nilssonina

2. Answer briefly the following :  $2 \times 4 = 8$

(a) State the differences between Articulate and Inarticulate Brachiopod.

(b) Define ichno fossil. Give *one* example.

(c) What is sinistral coiling ? Give example.

(d) Explain 'Perforation' mode of preservation of fossil. Give example.

3. Write short notes on : **(any three)**

$5 \times 3 = 15$

(a) Dentition pattern of Bivalves

(b) Evolution of suture line in Cephalopod

(c) Species concept

(d) Biostratigraphic correlation

(e) Importance of fossil record

4. Answer the following questions :

$10 \times 3 = 30$

(a) With neat sketch describe the morphological feature of gastropods. Write a note on their biostratigraphic significance.

$8 + 2 = 10$

**Or**

Define organic evolution. Explain how organic evolution can be interpreted from fossil records.

$2 + 8 = 10$



(b) Define Paleobotany. Write a note on nearest living relative (NLR) method of Paleocimate study. Describe plant fossils of India with special emphasis to Gondwana flora.  $1+2+7=10$

Or

Describe the evolutionary history of Horse with proper phylogeny. Explain how intercontinental migration occurred throughout evolution.  $(6+2)+2=10$

(c) Discuss evolutionary history of Dinosaurs. Give *two* possible reason of extinction of Dinosaurs.  $6+4=10$

Or

Define biogeographic province. Write a note on different types of biogeographic provinces. State the difference between cosmopolitan and disjunctive distribution.  $(2+6)+2=10$