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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) Nilssonia

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 'Petrification' 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. $(2+6)+2=10$