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**3 (Sem-3/CBCS) GLG HC 3**

**2022**

**GEOLOGY**

(Honours)

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 : **(any seven)**

1×7=7

(a) The study of trace fossil is known as—

(i) Paleocology

(ii) Palynology

(iii) Ichnology

(iv) Ichthyology

Contd.

(b) In Trilobites, the most primitive suture line is described as—

- (i) Hypoparian
- (ii) Opisthoparian
- (iii) Proparian
- (iv) Gonatoparian

(c) In Brachiopods, the valves are closed by \_\_\_\_\_ muscle and opened by \_\_\_\_\_ muscle.

- (i) adductor and diductor
- (ii) diductor and adductor
- (iii) adductor and ligament
- (iv) ligament and adductor

(d) Which of the following Mollusca are exclusively marine?

- (i) Pelecypod
- (ii) Gastropod
- (iii) Cephalopod
- (iv) None of the above

(e) Which of the following is known as the “horned dinosaurs”?

- (i) Ankylosaurus
- (ii) Stegosaurus
- (iii) Sauropods
- (iv) Ceratopsids

(f) ‘Vertebraria Indica’ is—

- (i) a plant fossil belonging to conifers
- (ii) a plant fossil belonging to cycads
- (iii) the stem of Glossopteris
- (iv) the stem of Fern

(g) The ‘Hipparion Fauna’ were characteristics of—

- (i) Eocene
- (ii) Miocene
- (iii) Pliocene
- (iv) Pleistocene

(h) The earliest man like primate recovered in 1930s from the Siwalik hills is named as—

- (i) Dryopithecus
- (ii) Ramapithecus
- (iii) Sivapithecus
- (iv) Aegyptopithecus

(i) Which of the following era is called the 'age of reptiles'?

- (i) Proterozoic era
- (ii) Paleozoic era
- (iii) Mesozoic era
- (iv) Cenozoic era

(j) The extinction of Dinosaurs at the close of Mesozoic era is thought to be due to asteroid impact over the Earth's surface. This has been concluded after the discovery of high amount of \_\_\_\_\_ in thin beds of clay at the boundary between Mesozoic, Cenozoic.

- (i) Radium
- (ii) Iridium
- (iii) Niobium
- (iv) Neodymium

(k) Deepest part of marine basin is—

- (i) Bathyal zone
- (ii) Abyssal zone
- (iii) Neritic zone
- (iv) Littoral zone

(l) Which of the following is the correct order of division?

- (i) Family → Order → Genera  
→ Class → Phylum → Kingdom
- (ii) Genera → Family → Order  
→ Class → Phylum → Kingdom
- (iii) Kingdom → Family → Genera  
→ Class → Phylum → Order
- (iv) Genera → Kingdom → Order  
→ Family → Class → Phylum

2. Write short notes on : **(any four)**

2×4=8

- (a) Chronological importance of fossil
- (b) Trochospiral coiling

- (c) Permineralization
- (d) Merychippus
- (e) Biozone
- (f) Taxodont dentition pattern
- (g) Lophophore
- (h) Order Agnostida of class Trilobite

3. Explain the following : **(any three)**

5×3=15

- (a) Order Saurischia
- (b) Importance of Palynology
- (c) Species concept
- (d) Cephalon and types of facial suture in Trilobite
- (e) Different stages of vertebrate evolution
- (f) Index fossil and its importance
- (g) Horses of Eocene age
- (h) Biostratigraphic correlation

4. Answer the following questions :

10×3=30

- (a) What are the different stages involved in the fossilization process? Describe in detail about the altered mode of preservation of fossil. 3+7=10
- (b) Define organic evolution. Explain different theories of organic evolution. 2+8=10
- (c) With neat sketch, describe the morphological characteristics of Brachiopods and add a note on their biostratigraphic significance. 8+2=10
- (d) What is Ammonoidea? Why ammonoidea subclass is considered as important for Mesozoic biostratigraphy? Explain how different external morphological features of ammonoids were changed during the process of adaptation. 1+4+5=10
- (e) Describe the evolutionary history of Human with proper phylogeny. Write briefly how modern humans and Neanderthals are related. (6+2)+2=10

(f) What is the difference between biogeography and palaeontology? Define Dispersal and explain different factors controlling dispersal of organism. Also add a note on the barriers of dispersals. 2+2+3+3=10

(g) With neat sketch describe the morphological characteristics of Gastropods. Explain the difference between gastropods and cephalopods. 6+4=10

(h) Write a note on paleoenvironmental paleoecological and economic importance of fossil.