

**INTER BACHELOR OF SCIENCE EXAMINATION, 2019
(2nd Year, 1st Semester, New Syllabus)**

GEOLOGICAL SCIENCES

Paleontology

Paper - CORE/TH/07

Time : Two hours

Full Marks : 50

Use a separate answer script for each group.

GROUP - A (25 marks)

1. Answer any *three* questions : 3x6=18
 - (a) What are the important indicative characters of Acanthodian fossil records? How do two major subdivisions of *Osteichthys* differ from each other? 3+3
 - (b) What were the pre-requisites in characters for transformation of the Pisces to the Tetrapod? From which crossopterygian group 'earliest tetrapod' might have evolved? Justify your answer. 4+2
 - (c) On what aspects reptiles are considered more evolved with respect to amphibians? 'Fossil record shows *not* all reptiles were herbivorous' – Justify. 3+3

(Turn over)

(2)

- (d) What were the major changes that had taken place for evolution from reptiles to mammals? Briefly discuss the changes in the mammalian molar dentition pattern from Paleocene to Oligocene. 3+3
- (e) Discuss briefly about the paleocene and early Eocene radiation of primates. Comment on the characteristic evolutionary changes from apes to homo sapiens. 3+3

2. Write notes on any *two* : 2x3.5=7
- (a) Basis for Kingdom division in Biosphere;
- (b) Major breaks in vertebrate evolution;
- (c) Bipedalism in the evolution of *hominins*.

GROUP - B(25 marks)

3. Write true or false : 5
- (a) Axial lobe is the median part of transverse lobes of a trilobite.
- (b) Rugosan corals have six primary septa and new septa are added serially in six quadrants.

(3)

- (c) Irregular echinoids have pentametral symmetry.
- (d) Palintrop is the curved surface between beak and hinge axis.
- (e) The nuclear shell of a cephalopod is called proloculus.

4. Match the following : 5
- | | |
|----------------------|---------------------|
| (a) Diductor muscles | (i) Hard substratum |
| (b) Fasciole | (ii) Brachioipod |
| (c) Occipital lobe | (iii) Echinoid |
| (d) <i>Rapichnia</i> | (iv) Trilobite |
| (e) Serpulids | (v) Crawling traces |
5. Mark and write the names of two regions each in the map of India where Lower Gondwana plant fossils and Upper Gondwana plant fossils are best exposed. Name an Upper Gondwana fossil flower. 4+1

6. Write short notes any *two* : 5x2=10
- (a) Division Filicophyta;
- (b) Ethological classification of trace fossils;
- (c) Types of biozone;
- (d) Models of speciation;

(Turn over)

Q.no. 5

