

PARUL UNIVERSITY
PARUL INSTITUTE OF APPLIED SCIENCES
MID SEMESTER INTERNAL EXAMINATION, MARCH 2020
M.Sc. Geology, Semester II

Paper Name: Paleontology

Paper Code: 11211153

Date: 04/03/2020

Time: 2.30-4.00 pm

Maximum Marks: 40

Instructions:

1. All questions are compulsory and options are given in first & second question only.
 2. Numbers to the right of question indicate the marks of respective question.
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Q. 1 Attempt **any one** question of the following. **(08)**

- (i) Describe the four postulates of Lamarckism and also provide examples favoring Lamarckism.
- (ii) Define and discuss categories of mechanisms of reproductive isolation

Q. 2 Attempt **any three** questions of the following. **(12)**

- (i) Draw schematic representation showing Seilacher and Martinson's trace fossil classification.
- (ii) Discuss about the subdivisions of biogenic sedimentary structures.
- (iii) According to principle of Natural selection, which individuals produce more offspring?
- (iv) Discuss any two reasons of why do animals burrow.
- (v) Enlist and define the four types of chromosomal aberration type of mutation.

Q. 3 Do as directed. Attempt **all five** questions. **(05)**

- (i) Define the term "population".
- (ii) Give any two characteristics of trace fossils
- (iii) Species with which characteristic are termed as incipient species?
- (iv) What do you mean by the term "Population dynamics"
- (v) What is the ethological term used for a burrow representing a dwelling structure?

Q. 4 Write correct option in your answer sheet for all 15 multiple choice questions **(15)**

MCQ 1 The scatter diagram is the simplest graphic form of _____ analysis

- | | |
|----------------|------------------|
| (A) Trivariate | (B) bivariate |
| (C) Univariate | (D) multivariate |

MCQ 2 _____ structures are those where the burrower forces a passage through the substrate by pressing it aside and compact the sediment.

- | | |
|----------------|-----------------|
| (A) Intrusion | (B) Backfill |
| (C) Excavation | (D) Compression |

MCQ 3 The distinction between a worker and a queen in honeybee and termites is an example of _____ variation.

- | | |
|-------------------------------|---------------------------|
| (A) Continuous non-genetic | (B) Discontinuous genetic |
| (C) Discontinuous non-genetic | (D) Ontogenetic |

MCQ 4 _____ substrate suggests mud or silty mud,

- | | |
|-----------------|----------------|
| (A) Softground | (B) Hardground |
| (C) Looseground | (D) Soupground |

- MCQ 5 Appearance of a short legged sheep variety from long-legged parents in a single generation is an example of _____ theory of evolution.
 (A) Mutation (B) Darwinian
 (C) Lamarckian (D) Synthetic
- MCQ 6 _____ refers to a phylogenetic cluster of taxa.
 (A) Clade (B) Rank
 (C) Unit (D) Phenogram
- MCQ 7 The trace fossil Rhizocorallium is an example of _____.
 (A) Domichnia (B) Repichnia
 (C) Fodinichnia (D) Pascichnia
- MCQ 8 _____ is the highest (most general) rank of organisms.
 (A) Species (B) Domain
 (C) Kingdom (D) Order
- MCQ 9 _____ is an evolutionary process of species formation.
 (A) Adaptation (B) Speciation
 (C) Mutation (D) Variation
- MCQ 10 Theory of inheritance of acquired characters was proposed by _____.
 (A) August Weismann (B) Ernst Mayer
 (C) Charles Darwin (D) Jean Baptiste de Lamarck
- MCQ 11 Two species having bodies or reproductive structures that simply don't fit together represents _____ isolation.
 (A) Mechanical (B) Temporal
 (C) Gametic (D) Habitat
- MCQ 12 _____ is the branch of biology that classifies all living things.
 (A) Paleontology (B) Taxonomy
 (C) Ichnology (D) Stratinomy
- MCQ 13 Which of the following statement is true for a “species”
 I. It should be able to interbreed.
 II. It should be able to produce fertile offspring.
 III. It should be living near to each other.
 (A) I & II are true but III is false (B) All the three are true
 (C) I & III are true but II is false (D) Only I is true.
- MCQ 14 The struggle for existence between members of different species is called as _____.
 (A) Interspecific (B) Inheritance
 (C) Extraspecific (D) Intraspecific
- MCQ 15 When a new genus is proposed, a _____ designation must accompany the original description.
 (A) Type order (B) Type Family
 (C) Type species (D) Type phylum