

PARUL UNIVERSITY
PARUL INSTITUTE OF APPLIED SCIENCES
MID SEMESTER INTERNAL EXAMINATION, MARCH 2020
B. Sc. Forensic Science Semester II

Paper Name: Basics of Biology

Date: 04/03/2020

Paper Code: 11107161

Time: 1hr 30min

Max. Marks: 40

Instructions:

1. All questions are compulsory and options are given in first and second question only.
 2. Numbers to the right of question indicate the marks of respective question.
-

Q. 1 Attempt **any one** question of the following. **(08)**

- (i) Describe the structure of nuclear envelope in detail along with its functions.
- (ii) Describe the characteristics of living matter.

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

- (i) Describe the cell envelope of a prokaryotic cell in detail.
- (ii) Write a note on Mitochondria and draw a neat and labeled diagram of the same.
- (iii) Write a note on the following components of a prokaryotic cell; Ribosomes, Genetic material and Plasmids.
- (iv) Write a note on Centrioles.
- (v) Explain the different procedures used for testing biological materials.

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

- (i) Define Cell biology.
- (ii) Define Totipotency.
- (iii) What is protoplasm?
- (iv) What is karyolymph?
- (v) Define biological material.

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

MCQ 1 The term cell has been derived from the word 'Cellula'.

- | | |
|------------|-----------------------|
| (A) Latin | (B) Greek |
| (C) German | (D) None of the above |

MCQ 2 Which of the following exhibit high degree of organization?

- | | |
|------------------|-----------------------|
| (A) Prokaryotes | (B) Eukaryotes |
| (C) Both A and B | (D) None of the above |

- MCQ 3 are long twisted bacteria.
 (A) Cocci (B) Bacilli
 (C) Spirilla (D) Vibrios
- MCQ 4 help in clinging to a support.
 (A) Flagella (B) Cilia
 (C) Pili (D) Fimbriae
- MCQ 5 Chemically the cell wall material is in archaebacteria:
 (A) Pseudo-peptidoglycan (B) Peptidoglycan
 (C) Murein (D) None of the above
- MCQ 6 Each phospholipid molecule in the lipid bilayer consists of 2 parts; a head which is and 2 tails which are
 (A) Hydrophilic, hydrophobic (B) Hydrophilic, hydrophilic
 (C) Hydrophobic, hydrophobic (D) Hydrophobic, hydrophilic
- MCQ 7 The proteins are loosely held to the phospholipid layers.
 (A) Intrinsic (B) Integral
 (C) Extrinsic (D) Tunnel
- MCQ 8 Cyclosis is shown by the cytoplasm of cell .
 (A) Prokaryotic (B) Eukaryotic
 (C) Both A and B (D) None of the above
- MCQ 9 The outer membrane of a mitochondrion is
 (A) Impermeable (B) Selectively permeable
 (C) Semi-permeable (D) Freely permeable
- MCQ 10 plays a role in the detoxification in the liver.
 (A) SER (B) RER
 (C) Both A and B (D) None of the above
- MCQ 11 Golgi apparatus is responsible for the formation of lysosomes
 (A) Residual (B) Primary
 (C) Secondary (D) None of the above
- MCQ 12 Which of the following are microbodies?
 (A) Sphaerosomes (B) Peroxisomes
 (C) Glyoxysomes (D) Both (B) and (C)
- MCQ 13 are known as protein factories of the cell.
 (A) Sphaerosomes (B) Ribosomes

(C) Centrioles

(D) Lysosomes

MCQ 14 Axoneme in cilia and flagella shows arrangement.

(A) 7 + 2

(B) 9 + 2

(C) 8 + 3

(D) 10 + 2

MCQ 15 The shape of the nucleus is in columnar cells.

(A) Spherical

(B) Disc shaped

(C) Elongated

(D) Cuboidal

-- End of Paper--