

91

SEAT No. _____

No. of Printed Pages: 2

() SARDAR PATEL UNIVERSITY

Sc

M. Sc. Integrated Biotechnology, Second (II) Semester Examination

Tuesday, 26-03-2019

Time: 10:00 am to 1:00 pm

PS02CIGB21: CELL BIOLOGY

Total Marks: 70

Q-1 Choose the most appropriate alternative for the followings:

[8x1=8]

1. The resting membrane potential is mainly determined by:
a) the K^+ gradient b) the Cl^- gradient c) the Ca^{2+} gradient d) the Na^+ gradient
2. This structure serves as the outer boundary of the eukaryotic cell:
a) flagella b) cytoskeleton c) cell membrane d) capsule
3. Cilia and flagella of eukaryotic cells are made up of
a) Microfilament b) Intermediate filament c) Microtubule d) all of above
4. Which of the following cells is NOT having endoplasmic reticulum?
a) Pancreatic cells b) Liver cells c) Adipose tissue d) Erythrocytes
5. The site of aerobic respiration in eukaryotic cells is _____
a) Peroxisome b) Plastid c) Mitochondria d) Cilia
6. Which of the following microorganism have two nuclei?
a) Slime molds b) Cyanobacteria c) Amoeba d) Paramecium
7. One of the following is NOT a part of interphase:
a) G1 b) S c) G2 d) M
8. In the _____ stage, the pairing of homologous chromosomes take place.
a) Leptotene b) Zygotene c) Pachytene d) Diplotene

Q-2 Answer the following questions in short. (Any Seven)

[7x2=14]

- (i) Differentiate between prokaryotic and eukaryotic cell.
- (ii) Write a note on phagocytosis.
- (iii) Write the basic components of cytoskeleton.
- (iv) Narrate about the types of endoplasmic reticulum.
- (v) Which filament is not involved in cell movement? Why?
- (vi) Why lysosomes is termed as suicide bag?
- (vii) Give the functions of nucleus.
- (viii) How cytokinesis is different in plant cell than animal cell?
- (ix) Which is the smallest phase of cell cycle? Give the name of stages of this this phases.

①

(P.T.O)

- Q-3 (A) Discuss the structure of Plasma membrane and Explain fluid mosaic model in detail. [06]
(B) Discuss the structure of Gram positive and Gram negative cell wall with a labeled structure. [06]

OR

- (B) Discuss the theory for the discovery of the cell in detail. [06]
Q-4 (A) Describe the structure and functions of Golgi complex. [06]
(B) Write an explanatory note on microfilament. [06]

OR

- (B) Which organelle is working as MTOCs? Explain its structure. [06]
Q-5 (A) Discuss the structure of mitochondria and draw figure of ATP synthase complex giving its importance. [06]
(B) Explain ribosomal structure and explain its role in protein translation. [06]

OR

- (B) Draw three dimensional structure of Nuclear pore complex and explain chromatin. [06]
Q-6 (A) Which cell division is known as reduction division? Describe the main features of all phases of this division. [06]
(B) Write an explanatory note on cell cycle. [06]

OR

- (B) How many types of cell divisions occur in living organisms? Discuss the use and biological significance of each type of cell division. [06]

.....X.....

2