F. Y. B. Sc. (Biotechnology) SEM – II (CBCS - 2015 COURSE) :
WINTER - 2018

SUBJECT:- CELL BIOLOGY

Day: Thursday
Date: 25/10/2018

W-2018-1172

Time: 02.00 PM TO 05.00 PM
Max. Marks: 60

N.B.:

1) Q1 and Q5 are compulsory.
2) Answer ANY TWO questions from Q 2, 3, 4 in Section I.
3) Answer ANY TWO questions from Q 6, 7, 8 in Section II.
4) Answers to Both the sections to be written in SEPARATE answer books.
5) Draw a labeled diagram WHEREVER necessary.

SECTION - 01

Q.1) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

a) Write functions of lysosomes.
b) What is role of F1 particles in mitochondria.
c) Mention different cytoskeletal elements with their diameters.
d) Write significance of Ca^{++} ATPase.
e) Define the terms active and passive transport.
f) Define mitosis and meiosis.

Q.2) Answer the following: (5 Marks X 2 = 10)

a) Describe the structure of Fluid Mosaic Model and explain how it is differs from previous models.
b) Explain different types of cell shape and size related to functional state of cell.

Q.3) Explain the following: (5 Marks X 2 = 10)

a) Explain prokaryotic cell with suitable example.
b) Describe the structure and functions of intermediate filaments.

Q.4) Write short notes on the following: (5 Marks X 2 = 10)

a) Explain different types of blood cells with their functions.
b) Explain structure of microtubules and add note on its functions.

SECTION - 02

Q.5) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

a) Write role of ion channels in membrane transport.
b) What is active transport?
c) Mention types of signaling molecules.
d) Sketch and label metaphase of mitosis.
e) Define apoptosis and necrosis.
f) Write significance of ionophores.

Q.6) Answer the following: (5 Marks X 2 = 10)

a) Explain, microtubules as a target in anticancer treatment.
b) Define gametogenesis. Explain process of oogenesis.

Q.7) Explain the following: (5 Marks X 2 = 10)

a) Write short note on ultrastructure of choloroplast.
b) Explain different types of check points and their role in regulation of cell cycle.

Q.8) Write short notes on the following: (5 Marks X 2 = 10)

a) Explain the mechanism of signal transduction.
b) Describe in brief prophase I of meiosis.

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