M. Sc. Bioinformatics Sem.-I (C.B.C.S.) (2013 Course) / Advanced Diploma in Bioinformatics Sem.-I (C.B.C.S.) (2013 Course) : SUMMER - 2019

SUBJECT: BASIC BIOSCIENCES

Day : Wednesday
Date : 03/04/2019

Time : 10.00 AM TO 01.00 PM
Max. Marks : 60

S-2019-1459

N. B. :

1) **Q. No. 1** and **Q. No. 5** are **COMPULSORY**. Out of remaining attempt **ANY TWO** questions from each section.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in SAME answer books.
4) Draw neat and labeled diagram **WHEREVER** necessary.

SECTION - I

Q. 1 Answer the following: **(10)**

a) Differentiate between desmosomes and hemidesmosomes.

b) What is ligand gated channel?

c) Enlist different phases of cell cycle.

d) What is the diameter of mitochondria?

e) What are the Introns, Exons?

Q. 2 Answer **ANY TWO** of the following: **(10)**

a) What is genetic code? Who was the first to put forth the theory? Describe the salient features of genetic code?

b) What is active transport? Describe the role of Na^+ and K^+ channel in membrane transport.

c) Describe in brief prophase-I of meiosis.

Q. 3 Write short notes on **ANY TWO** of the following: **(10)**

a) Structure and functions of mitochondria

b) Plasmodesmata

c) Transposons

Q. 4 Explain in detail mitosis. **(10)**

OR

Describe in detail cytoskeleton.

P. T. O.

SECTION - II

Q. 5 Answer the following: **(10)**

a) What is reciprocal recombination?

b) What is holiday structure?

c) Mention the role of DNA polymerase – III.

d) What is heterochromatin and euchromatin?

e) Mention the role of histone and non-histone protein.

Q. 6 Answer **ANY TWO** of the following: **(10)**

a) Role of DNA polymerase-I in replication and repair.

b) Explain in detail mechanism of proof reading in DNA repair.

c) Explain the 'rho' dependent and 'rho' independent termination of transcription.

Q. 7 Write short notes on **ANY TWO** of the following: **(10)**

a) Site specific recombination

b) Multi subunit structure of DNA polymerase – III

c) Chloroplast and Bacterial plasmids

Q. 8 Give an account on replication fork and licensing factors. **(10)**

OR

Write in detail on eukaryotic transcription.

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