M. Sc. (Biotechnology) Sem-I / M. Sc. (Medical Biotechnology) Sem- I
(CBCS 2018 Course) : SUMMER - 2019

SUBJECT: GENETICS

Day : Tuesday
Date : 02/04/2019

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

S-2019-1425

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Answers should be written in **SAME** answer book.

SECTION – I

Q.1 Attempt **ANY FIVE** of the following. **(10)**

a) What are pseudoalleles?
b) Define the term 'epistasis'. Name two types.
c) What is meant by pleiotropy? Give one example.
d) Define centromere? Write its function.
e) Explain 'Turner's syndrome'.
f) What is prenatal diagnosis? Name one method.
g) What is a solenoid tube?

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

a) Define genomic model organisms? Explain its characteristics with an example.
b) Explain law of independent assortment with a suitable example.
c) Define lethal allele. Explain 'conditional lethality' with an example.

Q.3 Attempt **ANY TWO** of the following. **(10)**

a) Describe the classification of human chromosome.
b) What is translocation? Explain Translocation Down Syndrome.
c) What is 'FISH'? Explain its application in Genetics.

SECTION - II

Q.4 Attempt **ANY FIVE** of the following. **(10)**

a) What is meant by 'Gene frequency'?
b) Define the concept of non-random mating.
c) What is kin selection?
d) Explain the term 'angiogenesis'.
e) Define term 'sub-fertility'?
f) What is amniocentesis?
g) Write the 'Hardy-Weinberg equation'.

Q.5 Attempt **ANY TWO** of the following. **(10)**

a) What is migration? Explain the effect of migration in the recipient population.
b) Define speciation. Explain allopatric speciation with a suitable example.
c) What is selection? Explain the term directional selection with an example.

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

a) Writes short note on IVF.
b) Explain the characteristics of a cancer cell.
c) Explain the importance of oncogenes in induction of tumor.

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