

1 **M. Sc. (Biotechnology) Sem-I / M. Sc. (Medical Biotechnology) Sem- I**
(CBCS 2018 Course) : WINTER - 2018
SUBJECT: GENETICS

Day : Tuesday
Date : 30/10/2018

W-2018-1223

Time: 10.00 AM TO 12.00 Noon
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Answer to both the sections should be written in **SEPARATE** answer books.

SECTION – I

- Q.1** Attempt **ANY FIVE** of the following. **(10)**
- a) Define the term allele. Give an example.
 - b) What is meant by expressivity in genetics?
 - c) What is phenocopy? Site an example.
 - d) Write about dosage compensation.
 - e) What is Klinefelter syndrome?
 - f) Define FISH. Write an application of FISH.
 - g) Explain the term karyogram.
- Q.2** Attempt **ANY TWO** of the following. **(10)**
- a) Elaborate on complementation test.
 - b) Explain the term pleiotropy with an example.
 - c) Write in detail the mitochondrial inheritance.
- Q.3** Attempt **ANY TWO** of the following. **(10)**
- a) What is SRY gene? Write its importance in sex determination in human.
 - b) What is inversion? Explain para and pericentric inversion with diagram.
 - c) Write a note on Genetic counseling.

SECTION - II

- Q.4** Attempt **ANY FIVE** of the following. **(10)**
- a) Define the term 'co-evolution'.
 - b) What is meant by 'founder effect'?
 - c) Explain the concept of reciprocal altruism.
 - d) Define 'apoptosis'.
 - e) Write about cancer syndromes.
 - f) What is oocyte banking?
 - g) Explain IVF.
- Q.5** Attempt **ANY TWO** of the following. **(10)**
- a) Explain natural selection with suitable example.
 - b) Write about parapatric speciation with suitable example.
 - c) Write short note on inbreeding depression and its effect.
- Q.6** Attempt **ANY TWO** of the following. **(10)**
- a) Write short note on assisted reproductive techniques.
 - b) Explain different steps involved in the development of cancer.
 - c) Write short note on BRAC Genes.

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