

**M. SC. (MEDICAL BIOTECHNOLOGY) SEM-II (CHOICE
BASED CREDIT SYSTEM) : WINTER - 2017
SUBJECT : MEDICAL GENETICS**

Day : Tuesday
Date : 31/10/2017

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

W-2017-1051

N.B.:

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of remaining questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

SECTION – I

- Q.1** Define **ANY FIVE** of the following terms: **[10]**
- a) Loss of function mutations.
 - b) Autosomal recessive.
 - c) Dosage compensation.
 - d) Chromosomal mosaicism.
 - e) Triploidy.
 - f) Monosomy.
 - g) Test cross.
- Q.2** Attempt the following: **[10]**
- a) What is codominance? Explain with an example.
 - b) What are multiple alleles? How they affect the expression of blood groups?
- Q.3** Attempt the following: **[10]**
- a) Explain genetic linkage giving suitable example.
 - b) What is extrachromosomal inheritance?
- Q.4** Write short notes on **ANY TWO** of the following: **[10]**
- a) Jacob's syndrome
 - b) Law of independent assortment
 - c) Cystic fibrosis

SECTION – II

- Q.5** Attempt **ANY TWO** of the following: **[10]**
- a) Write the cause and symptoms of Turner's syndrome.
 - b) Describe the inborn errors of lipid metabolism.
 - c) Explain the role of tumor suppressor proteins in control of cell cycle.
- Q.6** Attempt the following: **[10]**
- a) Give the etiology and symptoms of disease hemophilia.
 - b) Outline the extensions of Mendelian genetic principles.
- Q.7** Attempt the following: **[10]**
- a) What is amniocentesis? For what purpose it is used?
 - b) What is X – Chromosome inactivation? Explain its significance.
- Q.8** Write **ANY ONE** of the following: **[10]**
- a) Describe the structure of human chromosome. Classify human chromosomes on the basis of centromere position.
 - b) Describe various techniques used for diagnosis of chromosomal abnormalities.

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