

**BV (5)/MLMDT-5.2/18 (MC)**

**2018**

**MEDICAL LABORATORY AND MOLECULAR  
DIAGNOSTIC TECHNOLOGY**

**QP : Molecular Diagnostic Technician**

**Paper : S-5.2**

**( Clinical Genetics )**

**Full Marks : 40**

**Time : 2 hours**

*The figures in the margin indicate full marks  
for the questions*

**1. Fill in the blanks :**

**1×5=5**

(a) Genes which pair for contrasting traits are known as \_\_\_\_\_.

(b) Turner's syndrome results due to loss of a \_\_\_\_\_ chromosome in human females.

(c) The genetic disorder due to additional X chromosomes is \_\_\_\_\_.

(d) Segments of DNA are called \_\_\_\_\_.

(e) Gregor Mendel conducted hybridization experiments on \_\_\_\_\_.

2. Write short notes on any five of the following : 2×5=10

- (a) Backcross
- (b) Monohybrid cross
- (c) Phenotype
- (d) Allele
- (e) Karyotyping
- (f) ISCN nomenclature
- (g) Gene

3. Answer any three of the following questions : 5×3=15

- (a) Write a note on chromosomal abnormalities of human.
- (b) What is test cross? Explain the significance of testcross.
- (c) What is the ploidy of gametes? How does ploidy increase genetic variation?
- (d) Explain the incomplete and codominance with example.
- (e) Write a short note on lampbrush chromosome.

4. Answer any one of the following questions : 10

(a) Elucidate Mendel's law of independent assortment with the help of suitable examples using Punnett square.

(b) Enumerate the chromosomal events during each stages of mitotic cell division.

(c) Write a note on symptoms, risk factor, pathophysiology and diagnosis of chronic myelogenous leukemia (CML).

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