

**BV (6/CBCS) MDT/MLT VE 2**

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**MEDICAL LABORATORY AND MOLECULAR  
DIAGNOSTIC TECHNOLOGY / MEDICAL  
LABORATORY TECHNICIAN**

Paper : MDT-VE-6026 / MLT-VE-6026

**( Biochemistry—VI )**

*Full Marks : 60*

*Time : 3 hours*

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

**1. Fill in the blanks : 1×7=7**

- (a) Sickle-cell anemia is a good example of \_\_\_\_\_ mutation.
- (b) The mobile segments of DNA are called \_\_\_\_\_.
- (c) The precursor for the synthesis of steroid hormones \_\_\_\_\_.
- (d) Acid phosphatase is a marker of \_\_\_\_\_.
- (e) Standard deviation is denoted by the symbol \_\_\_\_\_.

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(f) The primary transcript produced by RNA polymerase II is eukaryotes \_\_\_\_.

(g) According to the SI system, the unit of radioactivity is \_\_\_\_.

2. Answer the following questions :  $2 \times 4 = 8$

(a) What is reverse transcription?

(b) Why replication is semiconservative?

(c) What is wobble hypothesis?

(d) What do you understand by population mean and sample mean?  $1 + 1 = 2$

3. Answer any *three* of the following questions :  $5 \times 3 = 15$

(a) Write a short note on diagnostic importance of LDH.

(b) Mention the uses of radioisotopes in biological research.

(c) Write an account of the anterior pituitary hormones.

(d) Mention the advantages and disadvantages of ELISA.

(e) Draw the diagrammatic representation of base excision repair of DNA.

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4. Answer any *three* of the following questions :  $10 \times 3 = 30$

(a) What is clinical enzymology? Write down the diagnostic significance of alanine aminotransferase (ALT) and aspartate aminotransferase (AST). Write in detail on the commonly used biomarkers used for diagnosis of myocardial infarction.  $1 + 4 + 5 = 10$

(b) Explain what is translation and their other characteristics of genetic code.  $1 + 9 = 10$

(c) Explain different types of DNA damages and the repair mechanisms.  $5 + 5 = 10$

(d) What are mutations? Describe different types and consequences of mutation.  $1 + 9 = 10$

(e) Describe the inhibitors of transcription and translation. 10

(f) What is an immunoassay? State the principle behind immunoassay. Write in detail various types of immunoassays mentioning their application.  $2 + 2 + 6 = 10$

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