

PG CBCS
M.Sc. Semester-II Examination, 2022
MEDICAL LABORATORY TECHNOLOGY
PAPER: MLT 202
(DIAGNOSTIC MOLECULAR BIOLOGY AND EPIDEMIOLOGY)
Full Marks: 40 **Time: 2 Hours**

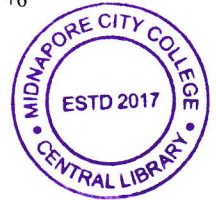
The figures in the right - hand margin indicate full marks.
 Candidates are required to give their answers in their own words as far as practicable.

GROUP - A

- 1. Answer any two questions:** **8X2=16**
- a) What do you mean by DNA damage? Write the process of BER, NER and SOS repair of DNA damage. 1+8
 - b) Write down the principle of Site directed mutagenesis and flow cytometry. 4+4
 - c) Describe the process of transcription.
 - d) Write the principle of Flow cytometry. Illustrate the working principle of flow cytometry for cell separation with diagram. 2 +6

GROUP - B

- 2. Answer any four questions:** **4×4=16**
- a) Write the name of any five tumour markers with their site of tumour.
 - b) Write down the principle of Commet study.
 - c) Briefly discuss gene therapy with an example.
 - d) Write down the mechanism of TUNEL study.
 - e) Write down the basic steps of Recombinant DNA technology.
 - f) Discuss the process of "switched off" and "switched on" control of Lac operon.
 - g) Briefly write the molecular mechanism of cancer.
 - h) Write the difference between prevalence and incidence rate of disease. Define sampling for survey.



GROUP - C

- 3. Answer any four questions:** **2×4=8**
- a) What do you mean by central dogma of life? Write the composition of RNA Polymerase holoenzyme. 1+1
 - b) What is genetic code? Write any two features of genetic code. 1+1
 - c) Define apoptosis.
 - d) What do you mean by morbidity rate?
 - e) What is incident rate of a disease? Give example. 1+1
 - f) Define questionnaire?
 - g) Briefly write the initiation process of the DNA replication. 2
 - h) Which enzyme is called molecular scissor? Give an example of that enzyme show how it cuts the DNA. 1+1