

PG CBCS
M.Sc. Semester-IV Examination, 2022
MEDICAL LABORATORY TECHNOLOGY (MLT)
PAPER: MLT 403B
(DIAGNOSTICS AND APPLIED MICROBIOLOGY)

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:** **2×8=16**
- a) What are the different types of clinical manifestation observed in tuberculosis?
 What are the different symptoms of SARS? (6+2)
 - b) How is Covid-19 spread in our body? What are the possible preventions against this infection? What is herd immunity? (5+2+1)
 - c) What are the advantages of using a live recombinant viral vaccine over killed and subunit vaccines? What is the role of 16SrRNA in bacterial identification? (4+4)
 - d) What is the basic principle of polymerase chain reaction? How real time PCR is performed? (4+4)

GROUP - B

- 2. Answer any four questions:** **4×4=16**
- a) How enterohemorrhagic *E. coli* causes infection in humans?
 - b) What are different biochemical tests conducted in the diagnosis of tuberculosis?
 - c) Write down the four kinds of milk spoilage and their causative microorganisms.
 - d) “ESKAPE pathogens are responsible for majority of health care associated infections” - justify.
 - e) Discuss about the algorithm of test for HIV diagnosis.
 - f) How and why microbes synthesized biofilm? How is its formation controlled? (2+2)
 - g) What are the different factors responsible for emergence of disease?
 - h) How different reservoirs distribute healthcare associated infections?

GROUP - C

- 3. Answer any four questions:** **2X4 = 8**
- a) What is melting temperature and how is it determined in case of a PCR sample?
 - b) How does antigenic shift differ from antigenic drift?
 - c) What do you mean by Sabin and Salk?
 - d) How heat is regulated in different pasteurization techniques?
 - e) Give two examples of microorganisms involved in healthcare associated infections?
 - f) What do you mean by the typing method in bacteriology?
 - g) What is foodborne intoxication?
 - h) Give two physiological effects of botulinum toxin occurred in our body.

