

MICROBIOLOGY**PAPER-IV**Time: 3 hours
Max. Marks:100

MICRO/D/20/18/IV

Important Instructions:

- **You are provided with 5 answer sheet booklets. Each individual answer sheet booklet consists of 10 pages excluding the covering jackets.**
- **Answers to all the questions must be attempted within these 5 answer sheet booklets which must be later tagged together at the end of the exam.**
- **No additional supplementary answer sheet booklet will be provided.**
- **Attempt all questions in order.**
- **Each question carries 10 marks.**
- **Read the question carefully and answer to the point neatly and legibly.**
- **Do not leave any blank pages between two answers.**
- **Indicate the question number correctly for the answer in the margin space.**
- **Answer all the parts of a single question together.**
- **Start the answer to a question on a fresh page or leave adequate space between two answers.**
- **Draw table/diagrams/flowcharts wherever appropriate.**

Write short notes on:

1. Blotting techniques. 10
2. a) Pulse Field Gel Electrophoresis. 5+5
b) Restriction Fragment Length Polymorphism.
3. Describe principle of Loop Mediated Isothermal Amplification (LAMP). 4+6
Discuss its utility in the diagnosis of parasitic diseases.
4. Describe the principle of TrueNat test. Compare the advantages and 4+6
disadvantages of TrueNat test and RT-PCR test in diagnosis of SARS-CoV-2.
5. What is CLABSI? Discuss the strategies for prevention of CLABSI. 4+6
6. Discuss principle and applications of TaqMan PCR assay. What is Strand (3+3)+4
displacement amplification?
7. Automation in Bacteriology. 10
8. Vaccines available against COVID-19. 10
9. Discuss on surveillance of Health Care Associated Infections (HCAIs), 4+3+3
highlighting the methods and types of surveillance.
10. Describe the different biosafety levels. Compare the different Biosafety 5+3+2
cabinets. What is DOP test?
