

**MICROBIOLOGY**

PAPER-I

MICRO/D/18/18/I

Time: 3 hours  
Max. Marks:100

**Important Instructions:**

- 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. Define healthcare associated infections. State the scope of hospital infection control committee and mention the role of microbiologist in hospital infection control. 2+(2+6)
2. Immuno-surveillance. 10
3. What is the principle and applications of Loop-mediated isothermal amplification? Mention its advantages and disadvantages. 5+5
4. State the steps to investigate an outbreak of diarrhoea in a community. What control measures should be recommended? 8+2
5. What are the available beta lactamase inhibitor combinations? What is the use of such antibiotics? How would you identify the carbapenemase producing bacterial isolate in laboratory? 2+2+6
6. Define accreditation. What are the requirements for accreditation of a microbiology laboratory? 2+8
7. Hybrid vaccines and their current status. 10
8. Biomedical waste management and handling in hospitals- current rules. 10
9. Mention the methods of transfer of genetic elements among bacteria and their role in natural selection process of bacteria. 6+4
10. Define sterilization. Enumerate various methods of sterilization and their application. What methods can be adopted for "re-use of a single use device"? 2+5+3

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