

**MICROBIOLOGY**  
**PAPER-I**

Time: 3 hours  
Max. Marks:100

MICRO/J/20/18/I

**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 innate immunity. Discuss the factors affecting it. Describe mechanism of innate immunity. 2+4+4
2. Define immunodeficiency disorders. Discuss disorders caused by primary immuno-deficiencies. 4+6
3. Describe phenotypic and genotypic variation of bacteria. Discuss different types of mutations in bacteria. 6+4
4. Define airborne infections and droplet infections with examples. How will you measure air contamination in a room? 4+4+2
5. Describe Personal Protection Equipment (PPE) for health care workers. How PPE helps in infection control in hospital. 4+6
6. What are the various methods of preservation and revival of bacterial cultures? 7+3
7. Define surveillance. Discuss role of Microbiologist in containment and surveillance of anti-microbial resistance. 3+7
8. What are the adjuvant and immune-potentiators? Discuss their practical uses. 5+5
9. What are the sources of health care associated urinary tract infections? Discuss various control measures to prevent urinary tract infections. 5+5
10. Describe in brief the impact of laboratory effluent on the environment. Write about effluent treatment plant. 5+5

\*\*\*\*\*