

MICROBIOLOGY

PAPER-IV

Time: 3 Hours
Max. Marks: 100

MICRO/D/19/18/IV

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. Enumerate the bio-warfare agents and methods of their detection. 3+7
2. Classify antimicrobials based on PK-PD parameters. Discuss in detail about PK-PD monitoring of antimicrobials. 5+5
3. Describe procedures used for epidemiological typing of bacterial pathogens and write in detail about various molecular typing methods used in diagnostic microbiology. 4+6
4. Define immune amnesia. Discuss it in relation to the measles virus. 5+5
5. Discuss in detail how to formulate and implement hospital antibiotic policy in any medical institute. 5+5
6. a) Edible vaccines. 5+5
b) Biosafety cabinets.
7. Discuss Sustainable Developmental Goals (SDG) of UNO/WHO pertaining to health and how they are conducive in achieving One Health concept? 6+4
8. Define quality assurance and describe in detail quality assurance programmes required for an ideal diagnostic microbiology laboratory. 4+6
9. Discuss MALDI-TOF MS and its role in microbial identification and diagnosis of infectious diseases. 4+3+3
10. Describe the principle, uses and procedure of gene therapy. 3+3+4
