

FINAL EXAM  
JUNE 2018

NATIONAL BOARD OF EXAMINATIONS

## MICROBIOLOGY

## PAPER-IV

MIC/J/18/18/IV

Time: 3 hours  
Max. Marks:100IMPORTANT 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.  | Principle of MALDI-TOF and its application in Diagnostic Microbiology Laboratory.  | 5+5     |
| 2.  | Discuss the Antibiotic Stewardship Program and its components (ASP). Describe the role of Microbiologist in ASP.   | 5+5     |
| 3.  | Non-culture methods for diagnosis of sepsis.   | 10      |
| 4.  | Define Point-of Care tests. Give an example and describe in detail the principle of the test.  | 3+(2+5) |
| 5.  | Define vaccine. What are the characteristics of conjugate vaccines? Give two examples.   | 2+6+2   |
| 6.  | Classify the phenotypic and genotypic methods used for determining relatedness of bacteria. Mention the advantages and disadvantages of any three methods. | 4+6     |
| 7.  | Define quality assurance and describe in detail quality assurance programme for a diagnostic microbiology laboratory.                                      | 2+8     |
| 8.  | What is Real-time Polymerase chain reaction? Give its principle. What are the advantages over the conventional PCR?  | 2+5+3   |
| 9.  | Enumerate the causes of nosocomial diarrhoea. Write briefly about hospital infection control programme.  | 3+7     |
| 10. | a) Principle and applications of microarray in Microbiology.<br>b) What are edible vaccines and their current status?                                      | 5+5     |

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