

# Question Paper

Exam Date & Time: 27-May-2024 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER BSc. HEALTH SCIENCE DEGREE EXAMINATION - MAY 2024  
SUBJECT: BHS-208 - MICROBIOLOGY AND GENETICS

Marks: 75

Duration: 180 mins.

### SECTION A: MICROBIOLOGY (25 MARKS)

#### 1. Answer in brief:

- 1A) List any FOUR contributions of Louis Pasteur to the field of Microbiology. (2)
- 1B) Describe the cell wall structure of a gram-negative bacteria. (2)
- 1C) List the human prion disorders. (2)
- 1D) Describe the methods of sterilization control employed in an autoclave. (2)
- 1E) Describe the laboratory diagnosis of dermatophytosis. (2)
- 1F) Describe the modes of transmission of hepatitis B virus. (2)
- 1G) List the serological tests used for screening syphilis. (2)

#### 2. Answer in short:

- 2A) Explain Koch's postulates. (3)
- 2B) Describe the laboratory diagnosis of malaria. (3)

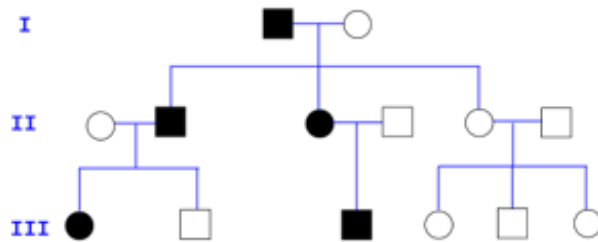
Answer the following:

- 3) Classify immunity with examples. Describe any three components of innate immunity. (5)

**SECTION B: GENETICS (25 MARKS)**

**4. Answer in brief:**

- 4A) Briefly explain the importance of genetic counselling. (2)
- 4B) In rabbits, white fur (W) is dominant to black (w), and long ears (E) are dominant to short ears (e). A breeder mates two rabbits that are heterozygous (WwEe) for both traits. What is the chance that the offspring will be black with long ears? (2)
- 4C) What is Presymptomatic testing? Give some examples. (2)
- 4D) Outline the differences between Nuclear genome and Mitochondrial genome. (2)
- 4E) What is Down's syndrome? List the predominant features of Down's syndrome. (2)
- 4F) In the following pedigree, identify the mode of inheritance and list its characteristics. (2)



- 4G) List the advantages of using *Drosophila* as a model organism. (2)

**5. Answer in short:**

- 5A) Explain the Immunoglobulin Structure with a neat labelled diagram. (3)
- 5B) What is T4 Bacteriophage? Outline its life cycle. (3)

**Answer the following:**

- 6) Discuss the different techniques used for creating physical maps. (5)

**End**