

Seat No: _____

Enrollment No: _____

PARUL UNIVERSITY
FACULTY OF MEDICINE
DEPARTMENT OF PARAMEDICAL AND HEALTH SCIENCES
B.Sc. Med. Sci. April-2023 Examination

Semester: 2
Subject Code: 19100209
Subject Name: Microbiology

Date: 12/04/2023
Time: 10:00 am to 1:00 pm
Total Marks: 70

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1(A): Answer the following questions in details (2 out of 3) (Each worth 7.5 marks) 15 marks**
- (i) Write down the morphology, cultural characteristics and laboratory diagnosis of *Mycobacterium*.
 - (ii) Write a note on Lysogenic and Lytic cycle of Bacteriophage.
 - (iii) Explain bacterial growth curve with diagram. What happens when a culture is transferred from a rich to poor medium?
- Q.1(B): Answer in short (5 out of 7) (Each worth 1 marks) 05 marks**
- (i) Write the functions of phagolysosomes.
 - (ii) Write down the examples of coliform.
 - (iii) Name the scientist who discovered gram staining.
 - (iv) Define Starvation proteins.
 - (v) What is the use of autoclave?
 - (vi) Name four bacteria causing dysentery
 - (vii) Give one word for uniform distribution of flagella around bacterial cell wall.
- Q.2(A): Write short notes on any of the following (3 out of 5) (Each worth 5 marks) 15 marks**
- (i) Explain the diagnosis of Sars-CoV-2.
 - (ii) Explain the normal microbiota of skin & large intestine.
 - (iii) Difference between active and passive immunity.
 - (iv) Write a note on disease caused by *Salmonella typhi*.
 - (v) Write a note on Adaptive Immunity.
- Q.2(B): Answer in short (5 out of 7) (Each worth 1 marks) 05 marks**
- (i) Difference between selective and differential media
 - (ii) Name the Antibody that gets secreted in tears.
 - (iii) Name the enzyme group predominantly present in lysosomes.
 - (iv) What is the process that generates different types of Antibodies called?
 - (v) What is the full form of MHC?
 - (vi) What components constitute the outer membrane of gram negative bacteria?
 - (vii) Define chemotaxis.
- Q.3: Write a detailed note on the following (2 out of 3) (Each worth 7.5 marks) 15 marks**
- (i) Write a note on Innate Immunity in detail.
 - (ii) Define enzyme and their types. Also explain the enzyme mechanism.
 - (iii) Explain the process of Viral Multiplication (Replication) with labelled diagram.
- Q.4: Write short notes on any of the following (3 out of 5) (Each worth 5 marks) 15 marks**
- (i) Define zoonosis and write two examples of zoonotic disease with aetiological agents.
 - (ii) Draw the structure of all 5 Immunoglobulins with labels.
 - (iii) How do Koch's postulates ensure that cause and effect of a given disease are clearly differentiated?
 - (iv) Write a short note on hospital acquired infections and its prevention
 - (v) Explain Hematopoiesis.