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Roll No.

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S. No. of Question Paper : 5850

Unique Paper Code : **2532013503**

Name of the Paper : **Medical Microbiology**Name of the Course : **B.Sc. (Hons.) Microbiology**

Semeſter : VI (Part-III)

Duration : 3 Hours

Maximum Marks : 90

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt any *five* questions.

All questions carry equal marks.

Attempt *all* parts of a question together.

1. Describe the following terms giving suitable examples (Any *nine*) : $2 \times 9 = 18$

- (i) Microbiome
- (ii) Toxoids
- (iii) Opportunistic Pathogens
- (iv) Prophylaxis
- (v) Zoonotic disease

P.T.O.

(vi) Systemic infection

(vii) Reservoir

(viii) XDR

(ix) Virulence

(x) Contact tracing.

2. (a) Write short notes on any *three* of the following :

4×3=12

(i) Lateral flow assay-based kits

(ii) General principles of clinical specimen collection

(iii) Athlete's foot

(iv) Microbiota of gastrointestinal tract.

(b) Give an example of each inhibitor :

1×4=4

(i) Nucleic acid synthesis

(ii) Cell wall synthesis

(iii) Cell membrane function

(iv) Protein synthesis.

(c) Write the names of any *two* opportunistic infections that may occur in an HIV positive person.

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3. (a) Write the name of the disease and infectious agent associated with the following conditions : 2×6=12

(i) Oral Thrush

(ii) Negri bodies

(iii) Flaccid paralysis

(iv) Koplik spots

(v) Break bone fever

(vi) Blackening of skin.

(b) Discuss various virulence factors responsible for bacterial infections. 6

4. Discuss the symptoms, transmission, prophylaxis and treatment of any *three* of the following diseases : 3×6=18

(i) Tuberculosis

(ii) COVID-19

(iii) Syphilis (primary and secondary)

(iv) Polio.

5. (a) Differentiate between the following : 3×5=15

(i) Hepatitis A and Hepatitis B

(ii) Gresiofulvin vs Amphotericin

(iii) Bird flu and Swine flu.

(b) Expand the following terms—

MRSA, NDM-1, ESKAPE

1×3=3

6. (a) Discuss the mode of action of cholera and tetanus toxin. 5
- (b) Elaborate the significance of microbiome in human health. 4
- (c) Describe different pathotypes of *E.coli* causing diarrheal diseases. 6
- (d) Explain how septic shock leads to multiorgan failure. 3