B.Sc. Part—II (Semester—IV) Examination

4S : MICROBIOLOGY

(Medical Microbiology)

Time : Three Hours] [Maximum Marks : 80

Note :— (1) **ALL** questions are compulsory.

(2) Draw well labelled diagrams wherever necessary.

1. (A) Fill in the blanks : 2

(i) _____ is the departure from normal state of health.

(ii) Widal test is employed for the diagnosis of _____ disease.

(iii) The long form of ELISA is _____ .

(iv) A disease that occurs primarily in animals but can be transmitted to humans is called as _____.

(B) Choose the correct alternative : 2

(i) A living agent that transfers a pathogen is known as _____.

(a) Vehicle

(b) Vector

(c) Fomites

(d) None of the above

(ii) _____ is an antiviral agent.

(a) Penicillin

(b) Streptomycin

(c) Azidothymidine

(d) Tetracycline

(iii) Hydrophobia is caused by _____.

(a) E.Coli

(b) Rabies virus

(c) E. histolytica

(d) C. albicans

(iv) Incomplete antigen is called as _____.

(a) Allergy

(b) Epitope

(c) Paratope

(d) Hapten

(C) Answer in one sentence :

(i) What is attenuation ?

(ii) Define fomite

(iii) Define cross infection

(iv) Write the name of causative organism of Typhus fever. 4

2. (a) Define Epidemiology and give its scope. 4

(b) Differentiate between Exotoxins and Endotoxins. 4

(c) Describe vector transmission with suitable examples. 4

OR

(d) Describe the normal flora of respiratory tract. 4

(e) Define the terms :

(i) Disease

(ii) Epidemiology

(iii) Toxoid

(iv) Nosocomial infection. 4

(f) Differentiate between pathogenicity and virulence. 4

3. (a) Differentiate between active and passive immunity. 4

(b) Enlist the cells and organs of immune system. 4

(c) Explain phagocytosis in brief. 4

OR

(d) Differentiate between immediate and delayed hypersensitivity. 4

(e) Define the terms :

(i) Serum

(ii) Innate immunity

(iii) Allergen

(iv) Inflammation. 4

(f) Explain in brief physiological barriers. 4

4. (a) Explain the structure and characteristics of IgG. 4

(b) Describe in brief precipitation reaction with one application. 4

(c) What is antigen ? Give four properties of antigen. 4

OR

(d) Describe the structure of Immunoglobulin. 4

(e) Differentiate between precipitation and agglutination reaction. 4

(f) Define the terms :

(i) Epitope

(ii) Auto-antigen

(iii) Haptens

(iv) Complement. 4

5. Describe in detail morphology, cultural characteristics, laboratory diagnosis and pathogenecity caused by M. tuberculosis. 12

OR

What do you mean by pyogenic infection ? Describe in detail morphology, cultural characteristics, laboratory diagnosis and pathogenicity of *S. aureus*. 12

6. Give the full form of HIV and AIDS. Describe in detail structure, transmission and symptoms caused by HIV. How is the disease detected serologically ? 12

OR

What is poliomyelitis ? Describe in detail morphology, pathogenicity and prohylaxis of polio virus. 12

7. (a) Give characteristics of ideal chemotherapeutic agent. 4

(b) Describe the structure and mechanism of AZT. 4

(c) Define the terms :

(i) MIC

(ii) Interferon

(iii) Antiseptic

(iv) Broad spectrum antibiotics. 4

OR

(d) Explain disc diffusion method of antimicrobial susceptibility testing. 4

(e) Define antimicrobial spectrum and give the clinical use of any two antibiotics. 4

(f) Give any two examples of antibacterial, antifungal and antiviral agents. 4