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 :

(i) _____ is caused by Treponema pallidum.

(ii) Immunity acquired during life time is _____.

(iii) Coagulase is produced by _____.

(iv) The long form of AIDS is _____. 2

(b) Choose the correct alternative :

(i) Study of antigen-antibody reaction in-vitro is known as :

(a) Phycology (b) Mycology

(c) Zoology (d) Serology

(ii) Cholera is _____ borne disease.

(a) Air (b) Water

(c) Soil (d) Vector

(iii) When more than one organism causes infection then it is known as :

(a) Primary infection (b) Mixed infection

(c) Focal infection (d) None of the above

(iv) Serum hepatitis is transmitted by :

(a) Infected syringe (b) Infected pen

(c) Infected mobile (d) None of the above 2

(c) Answer in **one** sentence each :

(i) Define Antigen.

(ii) Name the antibody that can cross placenta.

(iii) Name the causative agent of candidiasis.

(iv) Give the full form of VDRL and RIA. 4

2. (a) Define the terms :

(i) Virulence

(ii) Quarantine

(iii) Disease

(iv) Attenuation. 4

(b) Define Commensal. Explain the normal microbial flora of genitourinary tract. 4

(c) Explain the preventive measures for controlling communicable disease in general. 4

OR

(d) Describe vehicle transmission with suitable example. 4

(e) Define the terms :

(i) Pandemic

(ii) Vector

(iii) Cross infection

(iv) Immunization. 4

(f) Differentiate between Exotoxin and Endotoxin. 4

3. (a) Explain the structure and function of spleen. 4

(b) Describe Serum Sickness in brief. 4

(c) Define and classify Immunity. 4

OR

(d) Explain the role of T-lymphocytes in immunity. 4

(e) Differentiate between immediate and delayed Hypersensitivity. 4

(f) Differentiate between Active and Passive immunity. 4

4. (a) Draw neat and well labelled diagram of IgG. 4

(b) Give any four properties of IgA and IgD. 4

(c) Explain applications of precipitation reactions in brief. 4

OR

(d) Explain ELISA test in brief. 4

(e) What is Antigen ? Describe in brief factors affecting antigenecity. 4

(f) Discuss IgM in brief. 4

5. (a) Describe in detail morphology, mode of transmission, pathogenesis, laboratory diagnosis of *Clostridium tetani*. 12

OR

(b) Describe in detail morphology, pathogenesis and laboratory diagnosis of *Salmonella typhi*. 12

6. (a) Give the full form of AIDS and structure of HIV. 4

(b) What is Hydrophobia ? Explain the morphology of Rabies Virus. 4

(c) Define the terms :

(i) Jaundice

(ii) Amoebiasis

(iii) Typhus fever

(iv) Salk vaccine. 4

OR

(d) Explain pathogenecity of Hepatitis A virus. 4

(e) Draw diagram of life cycle of *E.histolytica*. 4

(f) Define Poliomyelitis. How the disease is controlled by using immunizing agents ? 4

7. (a) Give the basic mechanism of antibiotic action. Explain antimicrobial susceptibility testing by broth microdilution method. 12

OR

(b) What do you mean by Chemotherapeutic agent ? Give ideal characteristics of chemotherapeutic agent. Explain any one antibiotic with its mode of action. 12