(e) Describe in brief method of Disc diffusion to determine antimicrobial susceptibility. 4

(f) Give any four examples of Antibacterial chemotherapeutic agent and give the mode of action of any one antibiotic. 4

AR – 573

Fourth Semester B. Sc. (Part – II) Examination

4 S MICROBIOLOGY

(Medical Microbiology)

P. Pages : 8

Time : Three Hours] [Max. Marks : 80

Note : (1) Question No. **1** is compulsory and carries **Eight (08)** marks without any alternate choice.

(2) Question No. **2** to **7** carries equal marks with internal alternate choice.

(3) Illustrate your answers with neat and labelled diagrams wherever necessary.

1. (A) Fill in the blanks :—

(a) A vaccine is the preparation of antigenic material to induce ———— against pathogens.

(b) Candidiasis is caused by the fungus ————.

(c) The ———— is invasion or colonization on the host by pathogenic micro-organisms.

(d) HIV belongs to the class Retroviruses and the family ————. 2

(B) Choose the correct alternative :—

(i) The term Rickettsia is given in honour of ————.

(a) Robert koch

(b) H. T. Ricketts

(c) Louis Pasteur

(d) Vinson.

(ii) Which of the following is not a member of family Enterobacteriaceae ?

(a) Salmonella

(b) Enterobacter

(c) Proteus

(d) Rhizobium

(iii) Which of the following is true for CD4 cells ?

(a) Work as receptors of HIV

(b) Keep away HIV

(c) Kill HIV

(d) None of the above. 2

OR

Give the long form of AIDS and describe in detail morphology mode of transmission, symptoms of AIDS and comment on control of HIV. 12

7. (a) Define the terms :—

(i) Chemotherapy

(ii) Interferon

(iii) Antibiotic

(iv) Sterilization. 4

(b) Structure and mode of action of streptomycin.

(c) What are the ideal characters of chemotherapeutic agents ? 4

OR

(d) Define the terms

(i) Minimum Inhibitory concentration

(ii) Narrow spectrum antibiotic

(iii) Antifungal agent.

(iv) Susceptibility. 4

OR

(d) What are the different types of Antigens ? Give their suitable examples. 4

(e) Describe in brief the structure and properties of IgM. 4

(f) Define the terms –

(i) Monoclonal antibody

(ii) Complement

(iii) Agglutination

(iv) Precipitation. 4

5. Describe in detail causitive agent of TB with respect to their morphology, mode of transmission and laboratory diagnosis. 12

OR

Describe in detail morphology, cultural characteristics, pathogenesis and Lab. diagnosis of S. aureus. 12

6. What do you mean by Typhus fever ? Give the detail account of R. Prowazekii with respect to mode of transmission, Pathogenesis, Lab diagnosis and preventive measures to control Typhus fever. 12

(iv) BCG vaccine is a type of ————.

(a) Killed vaccine

(b) Live attenuated vaccine.

(c) Recombinant vaccine

(d) All of the above

(C) Give the answer in **one** sentence :—

(i) Give the long form of MIC.

(ii) Which is the pentamer immunoglobulins ?

(iii) Define the term Bacteremia.

(iv) What is an antibody ? 4

2. (a) Define the terms :—

(i) Epidemiology

(ii) Commensal

(iii) Primary Infection.

(iv) Virulence. 4

(b) Give any four types of infection with their suitable examples. 4

(c) What is normal flora ? Give its significance. 4

OR

(d) Define the terms :—

(i) Transplacental Transmission

(ii) Communicable disease

(iii) Pathogenicity

(iv) Quarantine. 4

(e) Describe in brief various microbial virulence factors. 4

(f) Describe in brief modes of disease transmission. 4

3. (a) Define the terms :—

(i) Active immunity

(ii) Hypersensitivity

(iii) Immune response

(iv) Immunology. 4

(b) Describe in brief organs of Immune system. 4

(c) What are the General nonspecific facotrs ? 4

OR

(d) Define the terms-

(i) Passive Immunity

(ii) Phagocytosis.

(iii) Adjuvant

(iv) Humoral immunity. 4

(e) Describe active immunity in brief. 4

(f) Describe species and racial immunity in brief. 4

4. (a) Describe the structure and properties of IgA. 4

(b) Describe compliment fixation test with suitable example. 4

(c) Define the terms –

(i) Agglutination

(ii) Hapten

(iii) Epitope

(iv) Antigen. 4