Code/N/155 A & B

B.Sc. Nursing Third Semester Examination October - 2026

Subject – Applied Microbiology and Infection Control Incl. Safety

[Time : Three Hours] **[Maximum Marks: 75]**

Section A: Applied Microbiology Max. Marks: 37

1. Describe in detail the structure and function of the cell wall and cell membrane of Gram-Negative bacilli with the help of a well-labelled diagram. (10 Marks)
2. Short Answer Questions - (5X3 = 15 Marks)
   (a) Describe the Morphological Classification of Fungi.
   (b) Explain Host factors and Environmental factors in infectious disease causation.
   (c) Explain ELISA Test, its Principle and Types. Enumerate its advantages and disadvantages.
3. Very Short Answer Questions (Any three) (2X3 = 6 Marks)
   (a) Culture Media (b) Mutation (c) Host (d) Hypersensitivity
4. Multiple Choice Questions (MCQs) (1 X 6= 06 Marks)
   (a) Mycology is the study of:
   (i) Bacteria (ii) Fungi (iii) Protozoa (iv) Virus
   (b) Who is called as "Father of Microbiology"?
   (i) Robert Koch. (ii) Edward Jenner (iii) Louis Pasteur (iv) Ernst Ruska
   (c) Yolk sac inoculation of embryonated hen's egg is used for isolation of:
   (i) HIV (ii) Influenza Virus (iii) Hepatitis B virus (iv) Rickettsia and Chlamydia
   (d) Largest secondary Lymphoid organ is:
   (i) Spleen (ii) Lymph nodes (iii) Thymus (iv) Bone marrow
   (e) Which antibody crosses the placenta?
   (i) IgA (ii) IgG (iii) IgE (iv) IgM
   (f) The person who harbors the infectious agents in the absence of any clinical symptoms and sheds the organisms to others is called:
   (i) Patient (ii) Carrier (iii) Reservoir (iv) Infectious

Section: B Infection Control & Safety Max. Marks: 38

1. (a) Define Hospital Acquired Infection?
   (b) Briefly describe the various methods for prevention and control of Hospital Acquired Infection along with the responsibilities of infection control team? (2+8= 10 Marks)
2. Short Answer Questions (Any three): (5X3=15 Marks)
   (a) Write down the steps involved in Biomedical Waste Management.
   (b) What do you mean by WHO hand hygiene promotion?
   (c) Brief the principles of specimen collection.
   (d) What are the five rights of medication administration?
3. Very Short Answer Questions (Any three): (2X3=6 Marks)
   (a) Define Patient Safety and patient identifiers.
   (b) What are the goals of Antimicrobial Stewardship?
   (c) Differentiate Stochastic health effects & non-stochastic health effects.
   (d) Benefits of annual check up of employees.
4. Multiple Choice Questions: (1X7 Marks)
   (a) Moist heat sterilization under steam in the temperature range of:
   (i) 100°C- 110°C (ii) 150–170°C (iii) 121–134°C (iv) 200°C -225°C
   (b) The best time to collect a sputum specimen is:
   (i) First thing in morning (ii) Before the lunch (iii) After dinner (iv) No specific time
   (c) The waste sharps (needle) should be disposed in _____
   (i) Red polythene bag (ii) Yellow bag (iii) White container (iv) Blue container
   (d) _____ denotes careful and responsible supervision of something in order to take care of it is:
   (i) Surveillance (ii) Monitoring (iii) Stewardship (iv) Care
   (e) In which country was 5S invented _____
   (i) India (ii) Japan (iii) Vietnam (iv) Norway
   (f) _____ color code is used to denote aggressive, combative or abusive behaviour.
   (i) Red (ii) Blue (iii) Grey (iv) Green
   (g) HIV post exposure prophylaxis should be started within_____
   (i) 14 hours (ii) 24 hours (iii) 48 hours (iv) 72 hours