

Q-2. Essay Type Question. [10X 1=10] (ANY ONE)

- Explain in detail about the antibiotic stewardship and antimicrobial resistance.
- What is the 5S system? Give a detailed explanation.

Q-3. Short Answer Question [3X5=15] (ANY THREE)

- Describe disinfection and sterilization with examples.
- Explain the techniques of specimen collection and types and transportation of sample.
- What is waste segregation, laundry management process and different categories of color-coded waste containers and infection prevention?
- Explain the types of Isolation system and standard precaution and transmission based precaution.
- Explain different types of emergency codes in hospital?

Q-4. Very Short Answer Question. [3X 2=6] (ANY THREE)

- What Is Hazardous Material Safety, Its Types In Spill & Managements?
- What Is Fire Safety And List Down Types And Classification Of Fire?
- What Is Ipsg (International Patient Safety Goal)?
- What Is Radiation Safety? What Are The Safety Measure And Types?
- What Is Cold Chain? What Are The 4r Of Cold Chain?



ARKA JAIN
University
Jharkhand



End Semester University Examination – July, 2025

Subject: Applied Microbiology Infection Control Including Safety
Program: B. Sc. Nursing
Semester: III
Full Marks: 75
Time: 3 Hours

Instructions to the Candidates:

- Read the question paper very carefully.
- Start writing from 2nd page onwards; don't write on the 1st Page Backside.
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SECTION–A (Microbiology) [Marks-37]

Q-1. Multiple Choice Question: - [6x1=6]

- Which of the following is a Gram-negative bacterium?
a) *Staphylococcus aureus*
b) *Streptococcus pyogenes*
c) *Escherichia coli*
d) *Bacillus subtilis*
- Which microorganism is most commonly associated with hospital-acquired urinary tract infections (UTIs)?
a) *Pseudomonas aeruginosa*
b) *Escherichia coli*
c) *Staphylococcus aureus*
d) *Candida albicans*
- In the chain of infection, breaking the mode of transmission can be achieved by:
a) Vaccination
b) Isolation of patients
c) Hand hygiene
d) Use of antibiotics
- Which of the following best describes the term "fomite"?
a) Microorganism causing disease
b) Inanimate object carry infection
c) A vector transmitting infection
d) Disinfectant used on surfaces

SECTION-B (Infection Control Including Safety) [MARKS- 38]

Q-1. MULTIPLE CHOICE QUESTIONS:- [7x1=7]

- i. What is the primary purpose of hand hygiene in infection control?
- To remove visible dirt
 - To kill all bacteria on hands
 - To moisturize the skin
 - To prevent the spread of infection
- ii. Which of the following methods is used for sterilizing surgical instruments?
- Pasteurization
 - Autoclaving
 - Disinfection
 - Refrigeration
- iii. What is the ideal concentration of alcohol in hand sanitizers for effective disinfection?
- 10%
 - 40%
 - 60-70%
 - 90-100%
- iv. Which type of microorganism always requires a host to live?
- Virus
 - Fungi
 - Protozoa
 - Bacteria
- v. The minimal time to determine nosocomial infection is?
- 12 hours
 - 24 hours
 - 72 hours
 - 6 hours
- vi. An infection control committee includes.
- Infection control nurse
 - Infection control physician
 - Infection control laboratory
 - All of the above
- vii. What is the most important measure of standard precautions?
- Hand washing
 - Isolation
 - Disinfection of equipment
 - Environmental disinfection

- v. Which is an example of a blood borne pathogen?
- Cytomegalovirus
 - M. tuberculosis
 - Group A strep
 - Varicella virus

vi. What is the function of autoclaving in infection control?

- Kills only viruses
- Sterilizes by dry heat
- Moist heat kill all forms of microbes
- Disinfects surfaces

Q-2 - Essay Type Questions:-[10x1=10] (ANY ONE)

- i. Describe the various modes of transmission of infection with morphological types and the nursing measures to prevent them.
- ii. Explain the about staining techniques and the types of staining?

Q-3 - Short Type Questions: - [3x5=15] (ANY THREE)

- Explain Immunoglobulin structure and types.
- Define Immunity and describe about the various types of immunity.
- Latest immunization schedule.
- What is the use of ELISA in microbiology and list down the types of ELISA and its advantages?
- Define nosocomial infection and explain the types of nosocomial infection.

Q-4 - Very Short Type Questions: - [3x2=6] (ANY THREE)

- Explain the mechanism of action of antibiotics and why misuse leads to resistance.
- Mention any two methods of microbial culture
- What are the recommendation for the MMR vaccine for healthcare workers?
- Name two microorganism that is part of the normal skin flora but can become pathogenic.
- Why is hand hygiene considered the most effective method in preventing hospital-acquired infections (HAIs)?



Q- 3. Short type Questions: - [5*5=25 Marks] (Any FIVE)

- Describe about COPD.
- Immunization Schedule
- Explain about Diabetes Mellitus
- Nursing management of patient with wound healing
- Explain about the Fracture
- Duties and responsibilities of the nurses in OT.

Q- 4. Very short questions-[4*2=8 Marks]

- Hyperparathyroidism
- Eczema
- Meningitis
- Leukopenia
- cardiopulmonary arrest
- Maintenance of the therapeutic environment in OT

End Semester University Examination - July- 2025

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Including BCLS Module
Program: B. Sc. Nursing
Full Marks: 75
Semester: III
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Q- 1. Multiple Choice Question: - [12*1=12 marks]

- What is the normal range of serum phosphate in human body?
 - 5.5- 9.5mg/dl
 - 10.5-16.5 mg/dl
 - 2.5-4.5mg/dl
 - 20-50mg/dl
- Which hormone is responsible for setting the basal metabolic rate and for maturation of the brain?
 - Cortisol
 - ACTH
 - TSH
 - Thyroxine
- A patient states he is having intense itching between the fingers with brown linear lines presenting. Based on your nursing knowledge the best describes what condition?
 - Ring worm
 - Scabies
 - Psoriasis
 - Eczema
- A patient with diverticulitis is prescribed a clear liquid diet. What is the primary purpose of this dietary restriction?

- a) To reduce inflammation
- b) To prevent constipation
- c) To manage diarrhoea
- d) To promote bowel rest

v. An older patient who sustained a fractured hip and femur in a motor vehicle accident is to be in Traction for a several weeks. What should be the focus of care for the nurse?

- a) Offering frequent distractions
- b) Encouraging nutrition
- c) Offering pain relief
- d) Preventing deep Vein thrombosis

vi. A patient is experiencing chest pain. What is the nurse's first action?

- a) Administer pain medication
- b) Assess the patient's ECG
- c) Call for emergency assistance
- d) Ask the patient to describe the pain

vii. What does the acronym "Hib" stand for in the of immunization Schedule

- a) Hepatitis Influenza B
- b) Haemophilus influenzae type b
- c) Human Immunodeficiency Virus
- d) Haemoglobin Iron Binding

viii. Which of the following is NOT a recommended practice for preventing needle stick injuries

- a) Using safety engineered devices
- b) Recapping needles
- c) Proper disposal of sharps in designated containers
- d) Regular training on sharps safety

ix. Which condition occurs when the heart is unable to pump enough blood to meet the body's needs?

- a) Heart attack
- b) Heart failure
- c) Hypertension
- d) Arrhythmia

x. In which of the following sign/symptom is highly subjective?

- a) Fever
- b) Pain
- c) Edema
- d) Dyspnea

xi. Which of the following is considered to be inflammatory bowel disease?

- a) Haemorrhoids
- b) Ulcerative colitis
- c) Stomatitis
- d) Gastritis

xii. What is the primary cause of dehydration in adults?

- a) Insufficient fluid intake
- b) Excessive fluid loss
- c) Both a and b
- d) None of the above

Q- 2. Essay type Question: - [2*15=30 Marks] (Any TWO)

i. A 65-year-old patient with a history of hypertension and hyperlipidemia presents with chest pain radiating to the left arm. The ECG shows ST-segment elevation in leads II, III, and aVL. What is the most likely diagnosis?

- a) Describe pathophysiology with clinical manifestation. (3 marks)
- b) List the diagnostic test that could confirm the diagnosis. (3 marks)
- c) Enumerate the aspects of medical management. (4 marks)
- d) Write nursing management of patient with Acute Myocardial Infarction. (5 marks)

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ii. a) Define Peptic Ulcer (2 marks)

- b) Enlist the causes, sign and symptoms, pathophysiology and diagnostic evaluation of peptic ulcer. (5 marks)
- c) Describe the management of peptic ulcer patient. (8 marks)

iii. Mr. Ramesh, a 58-year-old man with Type 2 Diabetes Mellitus, is admitted for pneumonia. He is on insulin therapy. One morning, he becomes drowsy, sweaty, and his blood sugar reads 48 mg/dL.

- a) Define Diabetes mellitus? List down the types of Diabetes (2 marks)
- b) Enumerate risk Factor/causes and Clinical features of Diabetes mellitus (5 marks)
- c) Explain the medical, Surgical and Nursing management of Diabetes (8 marks)