



All India Institute of Medical Sciences, Kalyani
B.Sc.(Hons) Nursing Second Year Examination, August 2024

Time: 3 Hrs.

MICROBIOLOGY

Marks: 75

INSTRUCTIONS:

- Draw diagram wherever necessary

SECTION-A

Answer any THREE of the following:

[3×10=30]

1. What are nosocomial infections? Enumerate various nosocomial infections. Discuss the bundles of care for the prevention of Central line-associated bloodstream infections. (2+2+6)
2. A 23-year-old female presented to the hospital emergency with complaints of burning micturition, dysuria, increased frequency & urgency of urination, and fever for the last 2 days. (2+2+1+5)
 - a) What is your provisional diagnosis?
 - b) What are the common etiological agents responsible for this condition?
 - c) What sample will you collect to make a lab diagnosis of this condition?
 - d) Discuss the various tests done for the lab diagnosis of this condition.
3. Define Sterilization and give the classification of sterilization. What is the principle of autoclave & three items are sterilized using an autoclave. (1+3+3+3)
4. Enumerate the malaria parasites infecting humans. Draw a labeled diagram on the life cycle of the malaria parasite & discuss the laboratory diagnosis of malaria. (2+3+2+3)

SECTION-B

Answer any FIVE of the following:

[5×5=25]

5. Morphological classification of fungi.
 6. Standard precautions.
 7. Mechanisms of antimicrobial resistance.
 8. Lab diagnosis of hepatitis B virus infection.
 9. Foodborne diseases.
 10. List five classes of Immunoglobulins and describe one function for each.
 11. Describe the procedure of Gram stain.
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Enrollment No. _____

Invigilator sign: _____

SECTION C (MICROBIOLOGY)

INSTRUCTIONS:

- Section C should be answered in first 20 minutes of the Exam duration and handed over to the invigilators.
- Put one tick (✓) mark to only one answer that you consider correct for each question.
- Mark your tick (✓) in pen.

Multiple Choice Questions (MCQs):

[20×1=20]

1. Gram negative bacteria appear _____ colour on gram stain
 - a) Violet
 - b) Red
 - c) Yellow
 - d) apple green
2. The following bacteria does **not** satisfy Kochs postulates
 - a) *Bacillus anthracis*
 - b) *Mycobacterium tuberculosis*
 - c) *Lepra bacilli*
 - d) *Clostridium tetani*
3. Father of antiseptic surgery is
 - a) Joseph Lister
 - b) Robert Koch
 - c) Louis Pasteur
 - c) Ronald Ross
4. Which of the following vaccines is given orally?
 - a) Tetanus vaccine
 - b) Hepatitis B vaccine
 - c) Rotavirus vaccine
 - d) BCG vaccine
5. Best disinfectant for Bronchoscope is
 - a) 70% alcohol
 - b) 2% glutaraldehyde
 - c) 2% Formaldehyde
 - d) 1% sodium hypochlorite
6. Selective Media used for shigella dysentery is
 - a) Blood agar
 - b) Nutrient agar
 - c) XLD agar
 - d) CLED Agar
7. 19-year-old male patient comes to the emergency department with complaints of an ulcer of the penis, 1 week after having unprotected sex. Dark ground microscopy of the ulcer exudate shows spirochaetes. What is the diagnosis?
 - a) Syphilis
 - b) Gonorrhoea
 - c) Donovanosis
 - d) Genital HSV
8. All of the following are used for antimicrobial susceptibility testing **except**
 - a) Disc Diffusion
 - b) Agar Dilution
 - c) Broth concentration
 - d) E strip
9. Which is **not** a fungal disease
 - a) Candidiasis
 - b) Taeniasis
 - c) Cryptococcosis
 - d) Aspergillosis
10. Immunoglobulins are produced by
 - a) Plasma Cells
 - b) T Cells
 - c) Neutrophils
 - d) Macrophages
11. Virus-infected cells are killed by
 - a) Cytotoxic T cells
 - b) Plasma Cells
 - c) B cells
 - d) Neutrophils

12. Nonparenteral Hepatitis is
- a) Hepatitis A
 - b) Hepatitis B
 - c) Hepatitis E
 - d) Hepatitis C
13. An HIV mother delivers a baby. All are true **except**
- a) Transmission risk is 90%
 - b) Can be transmitted during delivery
 - c) Can be transmitted by breastfeeding
 - d) Cannot be diagnosed by serological tests
14. Rotavirus is detected by :
- a) Histopathology
 - b) Antibody in serum
 - c) Stool culture
 - d) Antigen in stool
15. Which of the following viral infections is **not** spread by mosquito?
- a) Chikungunya virus
 - b) Dengue
 - c) Rabies virus
 - d) Japanese encephalitis
16. Antigenic shift is seen in
- a) Influenza viruses
 - b) Parainfluenza virus
 - c) Respiratory Syncytial virus
 - d) COVID-19 virus
17. All are true regarding the monkeypox virus **except**:
- a) It is a zoonotic infection
 - b) RNA virus
 - c) Spreads by touching/kissing/Sex
 - d) Diagnosed by PCR
18. All these viruses caused pandemics **except**
- a) HIV
 - b) Covid 19
 - c) Influenza
 - d) HSV
19. Oocyst of toxoplasma is found in :
- a) Cow
 - b) Cat
 - c) Mosquito
 - d) Dog
20. Which infection is spread by thorn pricks?
- a) Mycetoma
 - b) Medulloblastoma
 - c) Myxoma
 - d) Myiasis
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