

KISII UNIVERSITY
UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF THE DEGREE OF
BACHELOR OF SCIENCE IN NURSING
SECOND SEMESTER 2022/2023
[MAY-AUGUST, 2023]

NUR 122: MEDICAL MICROBIOLOGY II

STREAM: Y1S2

TIME: 2 HOURS

DAY: FRIDAY, 2:00 – 5:00 PM

DATE: 28/07/2023

INSTRUCTIONS

1. Do not write anything on this question paper.

SECTION A: (20 MARKS)

Answer ALL questions from this Section

1. Tinea cruris infection is associated with_____
 - a) Thighs
 - b) Head
 - c) Ears
 - d) Nails
2. A patient is admitted to hospital with lesions, skin tumour, flattened skin plaque, deep abscess and cystic lesions. Diagnosis reveals presence of sub-cutaneous fungal agents. The most likely fungal infection present is?
 - a) Candidiasis
 - b) Cryptococcosis
 - c) Chromomycosis
 - d) Penicillosis
3. Zygomycosis infection targets mainly the subcutaneous tissues of the skin. Identify the fungal species associated with this infection.
 - a. Trichophyton & Microsporum sp.
 - b. Mucor Sp.
 - c. Epidermophyton sp
 - d. Cryptococcus sp.

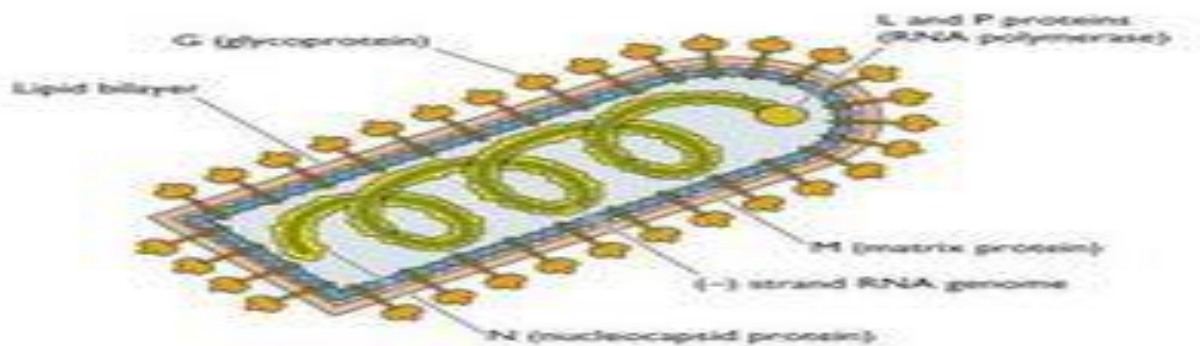
4. Identify the causative agent of the fungal infection shown below:



- a. *Epidermophyton floccosum*
 - b. *Microsporum canis*
 - c. *Malassezia species*
 - d. *Trichophyton rubrum*
5. One of the following is not antifungal agent for superficial mycoses:
- a. Ketoconazole
 - b. Gentomycin
 - c. Clotrimazole
 - d. Miconazole
6. Cryptococcosis mainly manifest through:
- a. Warty granuloma
 - b. Tumours on the skin
 - c. Chronic meningitis
 - d. Black pus
7. Is not one of the asexual spores produced by fungi:
- a. Conidiospores
 - b. Blastospores
 - c. Sporangiospores
 - d. Ascospores
8. One of the following dyes binds selectively to chitin in fungal cell wall for easy observation of fungal cells under a fluorescent microscope :
- a. Calcofluor
 - b. India ink
 - c. Giemsa stain
 - d. PAS

9. Caffeic acid agar media is mainly used for isolation and culturing of:
- Rhizopus species*
 - Cryptococcus neuformans*
 - Trichophyton rubrum*
 - Mucor species*
10. *Candida albicans* is one of the common opportunistic infections among AIDS patients. One of the following is the preferred sample taken from patients for diagnosis of suspected meningitis:
- CSF
 - Blood
 - Stool
 - Urine
11. One of the following is not a distinctive characteristic of viruses:
- Filterable
 - Lack of a continuous membrane separating them from host cells
 - Absence of protein synthesis systems
 - Do not replicate independent of a living system
12. Is a mode of viral transmission involving *Aedes sp.*:
- Mechanical transmission
 - Human to human transmission
 - Vector transmission
 - Vertical transmission
13. The following are portal of entry for viruses into the human body except:
- Respiratory tract
 - Alimentary canal
 - Genitourinary tract
 - Skin
14. Is a serological diagnostic test for viruses with a sensitive indicator system:
- Tube precipitation test
 - Complement fixation test
 - Ring interface test
 - Immuno-osmophoresis test
15. Is a virus that Manifest through plasma leakage and hypovolemic shock:
- Dengue fever virus
 - Smallpox virus
 - Measles virus
 - Mumps virus

16. The sketch below is of a viral particle that causes infection in the CNS, identify the virus



- a) Polio virus
b) Measles virus
c) Hepatitis B virus
d) Rabies virus
17. Measles virus is one of the highly contagious human virus identified mainly through :
- a) watery eyes, runny nose, koplik spots and raised rashes
b) meningitis
c) swelling and tenderness of parotid glands
d) Otitis
18. Common cold is among the oldest viral diseases known. Why is it difficult for a vaccine to be developed?
- a) The body immune system is able to clear the virus
b) Several antigenic types of common cold virus
c) Difficult to culture the virus
d) Faster mutation
19. The Variola virus manifest through the following signs except :
- a) Pustules
b) Macules
c) Pockmarks
d) Diarrhoea
20. Is responsible for disseminated viral infections:
- a) Rhinovirus
b) Herpes simplex virus
c) Human papilloma virus
d) Polio virus

SECTION B : (40 marks)

Answer ALL questions from this section

1. Describe with a sketch diagram specific sites for inoculation and isolation of viruses in embryonated egg (5marks)
2. Using a sketch diagram illustrate the reproduction cycle in fungi (5marks)
3. Distinguish between dematiaceous and hyaline fungi giving specific examples (5marks)
4. A patient is diagnosed with disseminated blastomycosis. Outline the clinical signs manifested by this patient. (5marks)
5. Discuss the mechanisms used by Viruses to evade the human immune system (5marks)
6. Explain the various clinical syndromes and signs of Paracoccidioidomycosis infection. (5marks)
7. A Nurse stationed at the casualty department developed signs of viral infection. Laboratory examination revealed Lassa fever virus infection, describe the clinical signs manifested by the nurse. (5marks)
8. Explain the mechanisms through which polio virus causes paralysis. (5marks)

SECTION C: (40 MARKS)

Answer ALL questions from this section

1. As a nursing student you have been invited to give a talk on Hepatitis B virus and Herpes simplex virus infections to College Students. Discuss the following areas to be covered in your presentation: (20 marks)
 - a. Transmission
 - b. Pathogenesis
 - c. Diagnosis
 - d. Prevention and management
2. Discuss the aetiology, pathogenesis, diagnosis and management of the following fungal infections: (20 marks)
 - a. Candidiasis
 - b. Cryptococcosis
 - c. Mucormycosis
 - d. Aspergillosis