



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

DEGREE

AML 4307 : MEDICAL MYCOLOGY

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2016

TIME: 3 HOURS

DATE: Pick Date Dec 2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **TWO** Section(s). Attempt ALL questions.

Circle the correct answer in section A.

Section A

1. Which of the following is added to inhibit bacteria in mycological media?

- a) Starch
- b) Agar
- c) Chloramphenicol
- d) Peptone
- e) Yeast digest

2. The following is true about Mycotoxicosis except_____

- a) Can cause cancer
- b) Less common in developed countries
- c) Occur seasonally
- d) Can be detected in the laboratory
- e) Symptoms do not cause fatal illness

3. Production of keratinase by some fungi is associated with
- Fermentation
 - Production of antimicrobials
 - Phagocytosis
 - Sporulation
 - Pathogenicity
4. Which of the following Fungi cause subcutaneous mycosis?
- Penicillium
 - Sporothrix
 - Penicillium
 - Aspergillus
 - Rhizopus
5. The poisonous *Amanita muscaria* is differentiated from the edible mushroom by_____
- Cryptococcus neoformans
 - Sacharomyces cereviae*
 - Fusarium* species
 - Agaricus bisperus*
 - Amanita muscaria*
6. The first antimicrobial compound to be discovered is_____
- Gentamicin
 - Cephalosporin
 - Tetracycline
 - Penicillin
 - Ampicillin
7. The gelatinous capsule of *Cryptococcus neoformans* protect the fungi from_____
- Phagocytosis
 - hydrolysis
 - Indian Ink
 - Antifungal drugs
 - dimorphism
8. Which one of the following fungal infection is called athlete's feet?
- Tinea capitis
 - Tinea pedis
 - Tinea uingium
 - Mucocutaeneous candidiasis
 - Onychomycosis

9. Which of the following is transmitted through inhalation?

- a) *Coccidioides immitis*
- b) *Cryptococcus neoformans*
- c) *Histoplasma capsulatum*
- d) *Trichophyton rubrum*
- e) *Blastomyces dermatitidis*

10. Which one of the following media is not used in the diagnostic mycology laboratory?

- a) Nutrient agar
- b) Sabouraud agar
- c) Sabouraud agar with 2% cyclohexamide
- d) Corn meal agar
- e) Chrome agar

11. Which of the following is used to counter stain Gram positive yeast cells?

- a) Crystal violet
- b) Iodine
- c) Lactophenol blue
- d) KOH
- e) Safranin

12. The following is true about mycotoxins except, the toxin are _____

- a) Heat stable
- b) Carcinogenic
- c) Can cause fatal illness
- d) Toxins affect human beings only.
- e) Can be detected in stored grains

13. Optimum growth of dimorphic fungi is achieved at _____ °C

- a) 25°C only
- b) 37°C only
- c) 4°C
- d) 25°C and 37°C
- e) 65°C

14. *Agaricus bisporus* and *Aminata* species share the following properties except _____

- a) Production of basidia
- b) Both are edible
- c) Macroscopic features
- d) Both are Basidiomycetes
- e) Sexual reproduction

15. Aggregation of hyphae is called _____

- a) Mycelia
- b) Colonies
- c) Mychorrhiza
- d) Septa
- e) Filamentous body

16. The following is true about opportunistic fungi except _____

- a) Are mainly from virulent strains
- b) Infect immunocompromised persons
- c) Can occur as normal flora
- d) Can cause systemic infections
- e) Can cause serious illness

17. Virulent fungi are handled in Biosafety cabinet to avoid infection through _____

- a) Accidental pricking of hands
- b) Trauma
- c) Inhalation of spores
- d) Ingestion
- e) Splashing the eyes

18. The germ tube test is based on _____

- a) Gram stain
- b) Capsule staining
- c) Cell aggregation in protein medium
- d) Germination of yeast cell
- e) Carbohydrate fermentation

19. Assimilation of different carbohydrates by fungi in the laboratory is detected by _____

- a) Using starch only
- b) Adding indicator in the media
- c) Gas production
- d) Detecting sweet smell
- e) Fermentation

20. Which one of the following chemicals is used to extract fungi from tissues?

- a) 10% Potassium hydroxide
- b) Acetic acid
- c) 70% Alcohol
- d) Peptone
- e) Lactophenol

21. Fungi can feed through the following methods except _____

- a) Parasitism
- b) Mutualism
- c) Absorption
- d) Saprophytic
- e) Ingestion

22. Which of the following is not a factor which may lead to Candidiasis?

- a) Increased Vaginal Lactobacilli
- b) Pregnancy
- c) Prolonged use of Antibiotics
- d) Decrease in Vaginal Lactobacilli
- e) HIV/AIDS

23. Laboratory acquired mycosis infection can be prevented by _____

- a) Using a fan to blow away conidia
- b) Growing fastidious fungi in a moist incubator
- c) Taking antifungal drugs routinely
- d) Using a Biosafety cabinet
- e) Using large Petri dishes to culture fungi

24. Subcutaneous mycosis can be acquired through _____

- a) Sexual contact
- b) Ingesting mycotoxins contaminated meals
- c) Accidental pricking of skin
- d) Wet towels
- e) Cleaning Chicken sheds

25. A debilitating disease caused *Mucor* or *Absidia* is _____

- a) Dermatomycosis
- b) Cryptococcosis
- c) Tinea corporis
- d) Onchomychosis
- e) Zygomycosis

26. Which of the following specimen is analyzed for fungemia?
- a) CSF
 - b) Blood
 - c) Lung aspirate
 - d) Stool
 - e) Biopsy tissues
27. Diphasic medium which is used for blood culture is _____
- a) Buffered medium
 - b) Use to isolate mixed fungi
 - c) Media made up of an agar phase and a broth phase
 - d) Media containing selective and enrichment compounds
 - e) Media used for isolation of bacteria and fungi from one specimen
28. What is the function of phenol in lactophenol fungal stain?
- a) It acts as a mordant
 - b) It kills the fungi
 - c) It buffers the reaction
 - d) Dries the hyphae
 - e) Acts as a stabilizer
29. Which of the following are motile fungal spores?
- a) Sporangiospores
 - b) Ascospores
 - c) Zoospores
 - d) Conidia
 - e) Chlamydospores
30. Which one of the following is referred to as the Cave disease?
- a) *Coccidioidomycosis*
 - b) Histoplasmosis
 - c) Blastomycosis
 - d) Cryptococcosis
 - e) Zygomycosis

Section B

31.

- a) Discuss in brief the classification of Mycosis (10 Marks)
- b) Explain how mycotoxicosis can be prevented (10 Marks)

32.

- a) Describe the identification of *Candida albicans* in the laboratory (10 Marks)
- b) Discuss in brief how fungal infections are acquired and transmitted (10 Marks)