



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 fungal structure absorbs nutrients from parasitized cells?

- a) Haustoria
- b) Mycelia
- c) Septum
- d) Hyphae
- e) Asci

2. Which of the following is carried out to release hyphae from tissue for staining?

- a) Fixing with di-methyl sulfoxide
- b) Heating in water bath
- c) Macerating the tissue
- d) KOH digestion
- e) Applying lactophenol blue

3. To minimize the spread of fungi in a laboratory, fungi is cultured in _____
- a) Broth media
 - b) Slant media
 - c) Plate agar media
 - d) Stab media
 - e) Tissue culture bottles
4. Removing jiggers using a contaminated thorn could lead to the following fungal infections _____
- a) Sporotrichosis
 - b) Staphylococcal infections
 - c) Onchomychosis
 - d) Tinea pedis
 - e) aspergillosis
5. Zygomycosis can be caused by the following fungi except _____
- a) *Rhizopus*,
 - b) *Rhizomucor*
 - c) *Absidia*
 - d) *Candida*
 - e) *Mucor*
6. Which of the following media is used to culture fastidious fungi?
- a) Corn meal agar
 - b) Starch agar
 - c) Bird seed agar
 - d) Sabouraud agar
 - e) Brain heart infusion agar
7. The following specimens can be examined for subcutaneous mycosis except _____
- a) Scrapings
 - b) Blood
 - c) crusts
 - d) Pus aspirates
 - e) Biopsy

8. Which of the following reagent in lactophenol prevent fungal cell from drying?

- a) Cotton blue dye
- b) Phenol
- c) Lactic acid
- d) Phosphate buffer
- e) Glycerol

9. Zoospores are produced by _____

- a) Basidiomycetes
- b) Zygomycetes
- c) Glomeromycetes
- d) Ascomycetes
- e) Chytridiomycetes

10. Which one of the following is referred to as the Cave disease?

- a) *Coccidioidomycosis*
- b) Histoplasmosis
- c) Blastomycosis
- d) Cryptococcosis
- e) Zygomycosis

11. Which of the following is added to solidify mycological media

- a) Cyclohexamide
- b) Calcium chloride
- c) Starch
- d) Peptone
- e) Agar

12. The following is true about mycotoxins except, the toxins

- a) Are produced by molds
- b) Can be found in animal feed
- c) Cause opportunistic infections
- d) Can be detected in the laboratory
- e) Can cause fatal illness

13. The change of fungi from hyphae to yeast form in the body is associated with

- a) Reproduction
- b) Virulence
- c) Fermentation
- d) Vaginal candidiasis
- e) Alcoholism

14. Which of the following Fungi are dermatophytes?
- a) Candida
 - b) Penicillium
 - c) Trichophyton
 - d) Sporothrix
 - e) Rhizopus
15. The poisonous *Amanita muscaria* is differentiated from the edible mushroom by_____
- a) Presence of basidia
 - b) It's red pigments
 - c) Propagation methods
 - d) Lack of mycelia
 - e) Motility
16. The first antibiotic was produced from_____
- a) Fusarium
 - b) Aspergillus
 - c) Alternaria
 - d) Mucor
 - e) Penicillium
17. Which of the following protect Histoplasma from phagocytosis?
- a) Cell wall
 - b) Chitin
 - c) Capsule
 - d) spores
 - e) Motility
18. Which one of the following is chronic infection of the nail bed commonly seen in toes?
- a) Tinea pedis
 - b) Tinea unguium
 - c) Mucocutaaneous candidiasis
 - d) Onychomycosis
 - e) Mycotoxicosis
19. Which of the following is considered to be the most virulent of fungal pathogens?
- a) *Coccidioides immitis*
 - b) *Cryptococcus neoformans*
 - c) *Histoplasma capsulatum*
 - d) *Trichophyton rubrum*
 - e) *Blastomyces dermatitidis*

20. Which one of the following media is used to differentiate species of *Candida*?

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

21. Which of the following is used to subculture mycelia?

- a) Pasteur pipette
- b) Applicator stick
- c) Forceps
- d) Wire loop
- e) Needle

22. The following are symptoms of mycotoxicosis except _____

- a) Antibiotic treatment is not effective
- b) The agent can be traced to contaminated food.
- c) Mycotoxins can be detected in food consumed by the patients.
- d) The symptoms are transmissible from person to person.
- e) The toxicity can be fatal

23. Specimens which are collected for fungal investigation are rapidly processed in the laboratory in order to _____

- a) Induce sporulation
- b) Avoid drying of media
- c) Check motile fungi
- d) Avoid overgrowth of contaminants
- e) Gram stain the fungi

24. The edible fungi *Agaricus bisporus* is _____

- a) Photosynthetic
- b) A basidiomycete
- c) Microscopic
- d) Mycotoxin producer
- e) An ascomycete

25. Lichens is an association of fungi with

- a) Algae
- b) Other fungi
- c) Plant roots
- d) Nematodes
- e) Bacteria

26 The following opportunistic fungi was considered to be a protozoa_____

- a) *Pneumocystis carinii*
- b) *Blastomyces dermatitidis*
- c) *Coccidioides immitis*
- d) *Candida tropicalis*
- e) *Entamoeba histolytica*

27. The main mode of acquiring dimorphism systemic fungal infection is through_____

- a) Contact
- b) Trauma
- c) Inhalation
- d) Ingestion
- e) Unknown mechanism

28. The following tests is used to identify *Candida albicans*

- a) Acid fast stain
- b) Sporulation
- c) Indian ink stain
- d) Germ tube
- e) Swarming

29. What color is observed when Urease producing fungi is grown in Christensen's urea agar?

- a) Yellow
- b) Dark pink
- c) Deep purple
- d) Green
- e) Black

30. Which one of the following methods is most sensitive for detecting fungi in body tissues?

- a) Fluorescent Antibody Stain
- b) Papanicolaou Stain
- c) Gram Stain
- d) Gridley Stain
- e) Mayer Mucicarmine Stain

Section B

- 31.
- a) Discuss in brief factors which contribute to fungal pathogenicity (10 Marks)
 - b) Explain the function of the various chemicals in Lactophenol cotton blue reagent (10 Marks)

- 32.
- Discuss the following diseases under Epidemiology, etiology, specimen collection, microscopy and culture (20 Marks)
- a) Candidiasis
 - b) Histoplasmosis