



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

MEDICAL LABORATORY SCIENCES

AML 2306 : MEDICAL MYCOLOGY

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2016

TIME: 2 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** choose Sect/Quest. Attempt ALL questions.

Circle the correct answer in section A.

SECTION A

1. Which of the following fungi is most likely to be found within reticuloendothelial cells?
 - a. *Histoplasma Capsulatum*
 - b. *Sporothrix Schenckii*
 - c. *Cryptococcus neoformans*
 - d. *Candida albicans*
2. Aspergillosis is recognized in tissue by the presence of
 - a. Metachromatic granules
 - b. Psuedohyphae
 - c. Septate hyphae
 - d. Budding cells

3. Fungi often colonize lesions due to other causes. Which of the following is least likely to be present as colonizer
 - a. *Candida*
 - b. *Sporothrix*
 - c. *Mucor*
 - d. *Aspergillus*

4. A girl who pricked her finger while pruning some rose bushes develops a local pustule that progresses to an ulcer. Several nodules then develop along the local lymphatic drainage. The most likely agent is
 - a. *Aspergillus fumigatus*
 - b. *Sporothrix schenckii*
 - c. *Cryptococcus neoformans*
 - d. *Candida albicans*

5. Immunocompromised persons are suffered from several fungal diseases. Which of the following is the least frequently associated
 - a. *Cryptococcus neoformans*
 - b. *Aspergillus fumigatus*
 - c. *Malassezia furfur*
 - d. *Mucor* species

6. Each of the following statements concerning *Cryptococcus neoformans* are correct EXCEPT
 - a. Its natural habitat is the soil, especially associated with pigeon feces
 - b. Budding yeasts are found in the lesions
 - c. The initial site of infection is usually the lung
 - d. Pathogenesis is related primarily to the production of exotoxin A.

7. Fungal cells that reproduce by budding are seen in the infected tissues of patients with
 - a. Candidiasis, cryptococcosis, and sporotrichosis
 - b. Mycetoma, candidiasis and mucormycosis
 - c. Tinea corporis, tinea unguium, and tinea versicolor
 - d. Sporotrichosis, mycetoma and aspergillosis

8. Which of the following is not the characteristics of histoplasmosis
 - a. Person to person transmission
 - b. Specific geographic distribution
 - c. Yeasts in tissue
 - d. mycelial phase in the soil

9. Infection with dermatophytes is most often associated with
- intravenous drug abuse
 - inhalation of the organism from contaminated bird feces
 - adherence of the organism to perspiration moist skin
 - Fecal-oral transmission
10. Each of the following statements concerning *Candida albicans* is correct except
- C. albicans* is a budding yeast that forms pseudohyphae when it invades tissue
 - C. albicans* causes thrush
 - C. albicans* is transmitted primarily by respiratory aerosol
 - Impaired cell mediated immunity is an important predisposing factor to disease
11. The following statements are true on *Candida albicans* except it...
- Is multicellular
 - Produced by budding
 - Cause oral thrush
 - Dimorphic
12. Fungal toxins are called
- mycotoxins
 - antimicrobials
 - verotoxins
 - pseudotoxins
13. The basic unit of fungus is the
- Spore
 - Mycelium
 - Septum
 - Hyphae
14. Each of the following is an example of an asexual spore except
- Conidiospore
 - Arthrospore
 - Clamydospore
 - Ascospore
15. Morphological features used in identification of *Candida* species is
- Germ tube
 - hyphae
 - Ascus
 - pseudohyphae

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16. Which of the following infection is also referred to as gardener's disease

- a. Sporotrichosis
- b. Madurella
- c. Mycetoma
- d. Moniliasis

17. The main route of infection for dermatophytes is

- a. Inhalation
- b. Contact
- c. Ingestion
- d. Oral – fecal

18. the role of potassium hydroxide in fungal examination is

- a. To enhance sporulation
- b. To fragment the hyphae
- c. To provide a basic PH
- d. To clear the specimen

19. The commonly used media for isolation of fungi is

- a. Sabaroud agar
- b. Inhibitory mould agar
- c. Nutrient agar
- d. Dermatophyte test media

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20. The infection of beard hair is referred to as

- a. Capitis
- b. Barbae
- c. Cruris
- d. Versicolor

21. Which of the following is a member of human gastrointestinal flora

- a. Sporothrix
- b. Fusarium
- c. Candida
- d. Veillonella

22. The gold standard for diagnosis of Histoplasmosis is

- a. Microscopy
- b. Indian ink
- c. Culture
- d. Serology

23. Which of the following fungi is associated with the discovery of antibiotics
- Mucor
 - Cephalosporium
 - Aspergillus
 - Penicillium
24. A patient presenting with thick, deformed and discolored nails is most likely to suffer from
- Onchomycosis
 - Zygomycosis
 - Mycotoxicosis
 - Tinea pedis
25. Which one of the following fungi is cultivated for food
- Sacharomycespombe
 - Pencillumcamemberti
 - Aspergillus glaucus
 - Agaricus biosporus
26. Cryptococcosis is
- Superficial mycosis
 - Cutaneous mycosis
 - Subcutaneous mycosis
 - Systemic mycosis
27. Indian ink can effectively be used to detect
- Cryptococcus neoformans*
 - Hisoplasma capsulatum*
 - Candida albicans*
 - Aspergillus fumigates*
28. An animal attendant must always wear a surgical mask, covering the mouth and nose while cleaning bird cages to avoid
- Aspergillosis
 - Bad smell
 - Histoplasmosis
 - Candidiasis
29. Which of the following fungi cause fatal disease in amphibians
- Basidiomycetes
 - Deutromycetes
 - Chytridiomycetes
 - Zygomycetes

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30. The Kirby – Baur is routinely employed to test the drug sensitivity pattern of the following species
- Candida
 - Penicillium
 - Agaricus
 - Rhizopus
31. Coenocytic fungi is differentiated from non coenocytic by the presence of
- Fragment
 - Septum
 - Chitin
 - Pseudohyphae
32. The extracellular keratinase, lipase and elastase are common in
- Dermatophytes
 - Aspergillus
 - Commensal yeasts
 - Mycotoxin producing fungi
33. Which of the dyes is commonly used in wet mount preparation for mycelia
- Safranin
 - Crystal violet
 - Lactophenol blue
 - Indian ink
34. Fungi imperfectum means fungi that
- Produce basidium
 - Produce asci
 - Have asexual spores but sexual spores are unknown
 - Have known sexual and asexual spores
35. Which of the following infection is also referred to as moniliasis
- Candidiasis
 - Mucormycosis
 - Mycetoma
 - Aspergillosis
36. Each of the following statement is correct about fungal metabolism except, fungi
- Are saprophytes
 - Are photosynthetic
 - Produce exoenzymes
 - Can ferment sugars

37. The function of lactic acid in lacto phenol blue is to
- Provide low P.H
 - Preserve fungal structures
 - Kill microorganisms
 - Remove air bubbles
38. Infection with dermatophyte is Which of the following is not the characteristics of histoplasmosis
- Person to person transmission
 - Specific geographic distribution
 - Yeasts in tissue
 - mycelial phase in the soil
39. What is the primary focus of infection for systemic mycoses
- Lung
 - Heart
 - Skin
 - Liver
40. Infection with dermatophytes is most often associated with
- Intravenous drug abuse
 - inhalation of the organism from contaminated bird feces
 - adherence of organisms to perspiration moist skin
 - Fecal – oral transmission

SECTION B

- 41 (a) Give five differences between bacterial and fungal cells (10 mks)
- (b) Explain five predisposing factors that lead to fungal infections (10 mks).
42. With examples explain the classification of mycoses (20 mks)
43. a) Match the following (5 arks)
- | | |
|-------------------|-------------------------|
| i) Tinea corporis | a) scalp |
| ii) Tinea capitis | b) athlete's foot |
| iii) Tinea pedis | c) Jock itch |
| iv) Tinea barbae | d) Beard |
| v) Tinea cruris | e) Hairy and body parts |
- b) Describe mycotic keratitis (10 mks)
- c) Describe three types of hyphae (5 mks)