



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

DMLS

AML 2306 : MEDICAL MYCOLOGY

SPECIAL/ SUPPLIMENTARY EXAMINATIONS

SERIES: SEPTEMBER 2018

TIME: 2 HOURS

DATE: Pick Date Sep 2018

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. Who among the following is described as the father of mycology
 - a. Darling
 - b. Sabouraud
 - c. Fleming
 - d. Koch
2. In 1900, the pathogenic fungus *Histoplasma capsulatum* was characterized by
 - a. Darling
 - b. Sabouraud
 - c. Fleming
 - d. Koch
3. Which of the following is not a taxonomical group of fungus
 - a. Zygomycetes
 - b. Ascomycetes
 - c. Deuteromycetes
 - d. Arthromycetes

4. Which of the following groups of fungi is characterized by aseptate and rarely septate hyphae
- Zygomycetes
 - Ascomycetes
 - Deuteromycetes
 - Basidiomycetes
5. Which fungi are also called “fungi imperfecti”
- Zygomycetes
 - Ascomycetes
 - Deuteromycetes
 - Basidiomycetes
6. Fungi with two distinctly different morphological forms and are temperature dependent are called
- Fungi imperfecti
 - Yeast
 - Mould
 - Diphasic
7. Water soluble pigments are
- Pigments that impart a dark colour to the microscope structures
 - Pigments that do not diffuse into the medium
 - Pigments that diffuse into the medium
 - Discrete pigments
8. Which of the following is not a structure of the yeast?
- Blastoconidia
 - Sporangium
 - Pseudohyphae
 - Hyphae
9. Molds reproduce sexually via the following except
- Sporangiospores
 - Ascospores
 - Basidiospores
 - Zygosporangia
10. Fungi store their energy sources in form of
- Glucose
 - Maltose
 - Glycogen
 - Sucrose
11. Asexual spores with thick walls are called
- Sporangiospores

- b. Arthrospores
 - c. Conidia
 - d. Chlamyospores
12. Factors that favor the infection process and the pathogenesis of fungi are called
- a. Virulence factors
 - b. Antigenic factors
 - c. Toxic factors
 - d. Invirulence factors
13. Which of the following is not a thermotolerant fungus?
- a. *Cryptococcus var neoformans*
 - b. *Cryptococcus var gatti*
 - c. *Histoplasma capsulatum*
 - d. *Spirothrix Schenckii*
14. Which of the following fungi has melanin component which interferes with the oxidative metabolism of phagocytes?
- a. *H. capsulatum*
 - b. *C. neoformans*
 - c. *P. brasiliensis*
 - d. *B. dermatitidis*
15. Which of the following fungi has the ability to degrade the human plasma proteins?
- a. *H. capsulatum*
 - b. *C. neoformans*
 - c. *P. brasiliensis*
 - d. *B. dermatitidis*
16. Which genus of fungi is associated with the production of aflatoxins?
- a. *Candida*
 - b. *Spirothrix*
 - c. *Aspergillus*
 - d. *Coccidioides*
17. Yeast reproduces asexually in a process called
- a. Simple binary fission
 - b. Multiple binary fission
 - c. Budding
 - d. Conjugation

18. Which of the following is true about saprophytic fungi?
- Engulf their food in order to break it down
 - Secure their food from dead organic materials
 - Both a and b
 - None of the above
19. Which of the following does not represent a human disease caused by fungi
- Ring worm
 - Kalaazar
 - Jock itch
 - Cryptococcosis
20. Fungi are important to food web because
- They are photoautotrophs
 - They have prokaryotic cell structure
 - They serve as key decomposers of dead organic matter
 - They generate antibiotics that kill competing plants and animals
21. Which of the following will exhibit yeast like growth at human temperatures and mold like growth at room temperatures?
- Dimorphic fungi
 - Black bread mold
 - Water mold
 - Sac fungi
22. The fungi responsible for ergotism belongs to which fungal divisions
- Oomycota
 - Deuteromycota
 - Zygomycota
 - Ascomycota
23. Fungi in the division deuteromycota are characterized by the fact that
- They form sexual spores called deuterospores
 - They are incapable of sexual reproduction
 - They only reproduce sexually
 - A method of sexual reproduction has not been identified
24. Ecologically fungi are important because
- They are a major cause of plant diseases
 - They act as decomposers and aid in nutrient recycling
 - Both a and b
 - None of the above
25. Which of the following antifungal agents is a member of a class of antibiotics?
- 5-fluorocytosine
 - Azole antifungal agent

- c. Amphotericin
 - d. Griseofulvin
26. Which antifungal agents below is effective against dermatophytes
- a. 5-fluorocytosine
 - b. Azole antifungal agent
 - c. Amphotericin
 - d. Griseofulvin
27. The dermatophyte associated with nail lesions is
- a. Tinea unguium
 - b. Tinea capitis
 - c. Tinea cruris
 - d. Tinea corporis
28. Which of the statements below is not true about sub cutaneous mycosis
- a. They are common among those who work with soil and vegetation
 - b. Almost always acquired through traumatic lacerations or puncture
 - c. They usually have human to human transmission
 - d. Sporotrix Schenckii is associated with the disease
29. The following are innate physiological barriers of systemic fungal infection. Which one is not
- a. Skin and mucus membrane
 - b. Tissue temperatures
 - c. The host age
 - d. The redox potential invivo
30. The following are associated with systemic fungal diseases, which one is not
- a. *Coccidioides immitis*
 - b. *Sporotrix Schenckii*
 - c. *Histoplasma capsulatum*
 - d. *Blastomyces dermatitidis*
31. Which of the following fungal infections is also known as cave disease
- a. Histoplasmosis
 - b. Candidiasis
 - c. Coccidioidomycosis
 - d. Blastomycosis
32. The primary infection of *Cryptococcus neoformans* is
- a. Liver
 - b. CNS
 - c. Lungs
 - d. Skin
33. Which genus of fungi has its species most commonly found in any environment

- a. Coccidioides
 - b. Sporotrix
 - c. Histoplasma
 - d. Aspergillus
34. Indian ink is used in the staining of
- a. Candida albicans
 - b. Cryptococcus antigen
 - c. Aspergillus antigen
 - d. Sporotrix antigen
35. Galactomannan antigen is used for testing
- a. Histoplasmosis
 - b. Aspergillosis
 - c. Coccidioidomycosis
 - d. Blastomycosis
36. Local therapy for example pessaries are used in the treatment of
- a. Vaginal candidiasis
 - b. Oral thrush
 - c. Severe diaper rash
 - d. Stomatitis
37. Gram stain in mycology is used for
- a. Staining the bacteria in mixed fungal and bacterial infections
 - b. Staining the capsule of Cryptococcus neoformans
 - c. Staining the mycelia
 - d. Staining the yeast cells
38. Tinea nigra presents with
- a. Pigmented lesions on the torso
 - b. Dark gritty deposits on the hair
 - c. Gray to black macular lesions often on the palms
 - d. Soft whitish granules along the hair shaft
39. Which of the following structures would NOT be associated with fungi?
- a. Mitochondria
 - b. cell walls
 - c. Chloroplasts
 - d. hyphae
40. A mycologist studying an organism in the Deuteromycota is studying an organism that has all the following EXCEPT
- a. cell walls with chitin
 - b. asexual spores.
 - c. absorptive nutrition.

d. ascospores, basidiospores, or zygospores.

SECTION B

- 41 a) Differentiate between asexual and sexual reproduction (10mks)
b) Describe these processes in fungi (10 mks)
- 42.a) Outline the composition and use of lacto-phenol cotton blue stain (5 marks)
b) Describe the direct specimen examination methods in mycosis (10 mks)
c) Outline five characteristics of fungi (5 mks)
- 43.a) Outline the importance of fungi in the ecosystem (10 mks)
b) Describe the structure of the molds (5 mks)
c) Describe three epidemiological groups of dermatophytes (5 mks)