



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Applied and Health Sciences

DEPARTMENT OF MEDICAL SCIENCES

DIPLOMA IN MEDICAL LABORATORY SCIENCES
(DMLS 12M)

AML 2300: MEDICAL MYCOLOGY

SPECIAL/SUPPLEMENTARY: EXAMINATIONS

SERIES: OCTOBER 2013

TIME: 2 HOURS

INSTRUCTIONS:

You should have the following for this examination

- *Answer booklet*

This paper consists of **TWO** sections.

Answer all questions in **Section A** and **B**. ½ marks deducted for any wrong answer in **Section A**.

This paper consists of 9 PRINTED pages
SECTION A (40MARKS)

1. Fungi is divided into

- a) Mycelia
- b) Mounds
- c) Yeast and moulds
- d) None of the above

(1mark)

2. One common feature of blastomyetes is

- a) It's a mould
- b) It's a yeast
- c) When outside the body it's a mould and when inside the body it changes into a yeast
- d) Single cells organism
- e) A and D

(1mark)

3. Factors that increase fungal virulence are listed except

- a) Adhesion factors and capsules
- b) Mycotoxins
- c) Yeast
- d) Thermal dimorphism
- e) A and B

(1mark)

4. An example of a superficial cosmetic fungal agent include

- a) Histoplasma capsulateum
- b) Blastomycosis dermatitidies
- c) Cryptococcus neoformans
- d) Cryptococcus meningitis

e) Tinea pedis

(1mark)

5. Which of the following is not a fungal diagnostic technique

- a) Gene gun
- b) Serology
- c) Direct microscopy
- d) Culture
- e) B and C

(1mark)

6. The common use of 10% potassium hydroxide (KOH) is

- a) Culture
- b) Digestion of specimen
- c) Nutrients
- d) Microscopy
- e) None of the above

(1mark)

7. The primary isolation media common used in fungal culture is

- a) Blood agar
- b) Cled media
- c) SDA containing antibiotic with 5% sheep blood
- d) TCBS agar
- e) None of the above

(1mark)

8. Mycotoxins is aflatoxins derived from

- a) Cryptococcus meningitis
- b) Blasto mycosis dermatitidis

- c) Tinea capitis
- d) Aspigellu fluvur
- e) Cryptococcus neoformans

(1mark)

9. The following two are mycotoxine

- a) Tinea corporis
- b) Tinea rubrums
- c) Aflatoxins
- d) Ochrtoxin
- e) Tinea capitis

(2marks)

10. The three types / methods used to detect aflatoxins are listed below except

- a) Elisa
- b) Inoculation
- c) Radio immune assay
- d) A and B

(1mark)

11. Yeast cells multiply by

- a) Mitosis
- b) Budding
- c) Binary fission
- d) Mieosis
- e) None of the above

(1mark)

12. The other name for conidia is

- a) Yeasts

- b) Moulds
- c) Spores
- d) Mitosis
- e) None of the above

(1mark)

13. The most commonly used fungal diagnostic laboratory technique include

- a) Culture
- b) Direct microscopy
- c) Serology
- d) PCR
- e) Inoculation

(1mark)

14. Histoplasmosis a fungal disease associated with

- a) Liver
- b) Capitis
- c) Body
- d) Reticular endothelial system (RES)
- e) None of the above

(1mark)

15. The following drugs are used to manage fungal infections except

- a) Mystatin
- b) Fulcanazole
- c) Quinine
- d) A and b
- e) Ketoconazole

(1mark)

16. Ring worm is caused by dermatophyte moulds of the genera

- a) *Aspigelus*
- b) *Blastomyces*
- c) *Microsporum*
- d) *Rubrum*
- e) None of the above

(1mark)

17. Tinea inguinalis is a cosmetic fungal infection associated with

- a) Body
- b) Foot
- c) Head
- d) Nails
- e) None of the above

(1mark)

18. The main superficial mycosis infection is

- a) *Cryptococcus meningitis*
- b) *Cryptococcus neoformans*
- c) *Histo plasmosis*
- d) A and B
- e) *Malassezia* infection caused by *malassezia furfur*

(1mark)

19. What is a lipophilic yeasts

- a) One that requires proteins to grow in culture
- b) One that requires lipids to grow in culture
- c) One that requires fats to grow in culture

- d) One that required fatty acid to grow in culture
- e) None of the above

(1mark)

20. The following are clinically manifestations of malassezia infection except

- a) Fungemia
- b) Neurological disorders
- c) Seborrhic dermatitis
- d) Pityriasis folliculitis
- e) Pityviasis versicolor

(1mark)

21. The following are the most commonly used fungal specimens except

- a) Hair
- b) Salaira
- c) Nails
- d) Skin strippings
- e) Skin scrapings

(1mark)

22. One of following is an anatomical Barrier of the body that prevents entry of fungal infection

- a) Blood
- b) Skin
- c) Serum
- d) Plasma
- e) None of the above

(1mark)

23. Give two sites the fungi enter the body

- a) Eye

- b) Mucus membrane
- c) Cutaneous coats
- d) A and b
- e) None of the above

(2marks)

24. Dermatophytes colonises

- a) Eye
- b) Skin
- c) Stomach
- d) A and b
- e) None of the above

(1mark)

25. Hair specimen is frequently associated with

- a) Body fungal infection
- b) Scalp ring worm infection
- c) Nail infection
- d) Foot infection
- e) A and B

(4marks)

26. CSF (celebral spinal fluid) is collected through

- a) Blood
- b) Skin
- c) Plasma
- d) Lumbar puncture
- e) None of the above

(1mark)

27. What is fungemia

- a) Presence of Cryptococcus in blood
- b) Presence of malassezia furfur in blood
- c) Presence of histoplasmosis infection
- d) A and B
- e) None of the above

(1mark)

28. Ring worm infections acquired from active ringworm lesions on humans are called

- a) Zoophylic
- b) Anthropophylic
- c) A and b
- d) Geophylic
- e) None of the above

(1mark)

29. Osteoaticula blastomycosis affects

- a) Eye
- b) Blood
- c) Plasma
- d) Head
- e) Long bones

(1mark)

30. The following is the importance of fungi except

- a) Food spoilage
- b) Medicine
- c) Food industry

- d) DNA and RNA formation
- e) Fermentation

(1mark)

31. In human cryptococcus neoforma affects

- a) New borns
- b) Animals
- c) Immunocompressed hosts
- d) Children
- e) None of the above

(1mark)

32. A flatoxins B₁ and B₂ are so named because

- a) They produce toxins
- b) Produce dyes
- c) Produce blue fluorescence under UV light
- d) A and B
- e) None of the above

(1mark)

33. The purpose of adding antibiotics and 5% sheep blood in SDA culture media is for

- a) Increase proteins
- b) Increase nutrients and avoid bacterial contamination
- c) Increase plasma
- d) B and C
- e) None of the above

(1mark)

34. Zygomycetes produce

- a) Aflatoxins
- b) Plasma
- c) Zygosporos
- d) A and b
- e) None of the above

(1mark)

35. Dimorphic fungi exists as

- a) Yeast
- b) Moulds
- c) Yeas and moulds
- d) A and B
- e) Spores

(1mark)

36. Fungi yeast form can be more invasive than hyphae forms because

- a) They mature faster
- b) Use more nutrients
- c) Grow more rapid and spread quickly through tissue and blood
- d) Require much nutrients
- e) None of the above

(1mark)

37. Systemic mycosis is also known as

- a) Cosmetic mycosis
- b) Superticial mycosis
- c) Deep mycosis
- d) Plasma mycosis

e) Skin mycosis

(1mark)

38. The following are major fungal infection except

- a) HIV and aids
- b) Pulmonary aspergillosis
- c) Dermatophyte infection
- d) Cryptococcal meningitis
- e) Tinea pedis

(1mark)

SECTION B
Answer ALL questions in this section

1. Discuss in details the fungal laboratory diagnostic techniques **(20marks)**
2. (i) Briefly discuss specific factors that increase fungal virulence **(10marks)**
(ii) Explain FIVE anatomical barriers of the body that prevent entry of fungal pathogens **(10marks)**
3. Discuss collection storage and transport of fungal specimens under the following
 - i) Skin scrapings
 - ii) Skin strippings
 - iii) Nails
 - iv) Hair

(20marks)