

2406000102030702
EXAMINATION JANUARY 2024
BACHELOR OF MEDICINE AND BACHELOR OF SURGERY
(SECOND YEAR)
MICROBIOLOGY (PAPER - II) (NEW) (OMR)

[Time: As Per Schedule]

[Max. Marks: 100]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination : **BACHELOR OF MEDICINE AND BACHELOR OF SURGERY (SECOND YEAR)**
- b. Name of the Subject : **MICROBIOLOGY (PAPER - II) (NEW) (OMR)**
- c. Subject Code No : **2406000102030702**

2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

Microbiology: Paper-II

Section 1

Q.1 MCQ

20

1. The fungus that exhibits septate hyphae with dichotomous branching on KOH mount is:
 - a. Cryptococcus
 - b. Mucor
 - c. Penicillium
 - d. Aspergillus
2. Rhinosporidiosis is characterized by all the following except:
 - a. It is caused by a fungus.
 - b. The fungus is usually found in dirty water.
 - c. It manifests as polyps that bleed easily.
 - d. It can be cultured easily in the laboratory.
3. Total number of categories in Biomedical Waste are:
 - a. 10
 - b. 8
 - c. 4
 - d. 2

4. Which medium is preferred for culturing *Mycobacterium tuberculosis*?
- a. MacConkey agar
 - b. Lowenstein-Jensen medium
 - c. Chocolate agar
 - d. Sabouraud's agar
5. Buruli ulcer is caused by:
- a. *M. xenopi*
 - b. *M. malmoense*
 - c. *M. scrofulaceum*
 - d. *M. ulcerans*
6. *Neisseria gonococcus* is primarily associated with which of the following conditions?
- a. Genital infections
 - b. Pharyngitis
 - c. Meningitis
 - d. Skin abscess
7. *Ecthyma gangrenosum* is caused by:
- a. *Brucella*
 - b. *H. influenzae*
 - c. *Pseudomonas*
 - d. *Bordetella*
8. Which of the following intestinal parasites migrate to the lung in their lifecycle, except:
- a. *Trichinella spiralis*
 - b. *Ancylostoma duodenale*
 - c. *Ascaris lumbricoides*
 - d. *Strongyloides stercoralis*
9. Gram-stain morphology of *Bacillus anthracis* is:
- a. Tennis racket appearance
 - b. Bamboo stick appearance
 - c. Drumstick appearance
 - d. Spectacle glass appearance
10. Epstein-Barr virus is associated with the following malignancies, except:
- a. Nasopharyngeal carcinoma
 - b. Burkitt's lymphoma
 - c. Carcinoma of the cervix
 - d. Non-Hodgkin lymphoma
11. Which of the following is vector for leishmaniasis:
- a. Sandfly
 - b. Reduvid bug
 - c. *Anopheles* mosquito
 - d. Tsetse fly
12. *Cryptococcus neoformans* is most likely to cause:
- a. Pulmonary infection
 - b. Meningitis
 - c. Skin infections
 - d. Bone infections
13. MGIT used in tuberculosis diagnosis is:
- a. Automated culture
 - b. Biochemical test
 - c. Microscopic method
 - d. None of the above

14. Which of the following fungus DOES NOT infect nail:
- | | |
|-----------------|---------------------|
| a. Trichophyton | b. Epidermonhvton |
| c. Microsporium | d. Candida albicans |
15. The amplifier host for Japanese B Encephalitis is:
- | | |
|-----------------|-----------|
| a. Ardeid birds | b. Pigs |
| c. Forests | d. Herons |
16. Neisseria meningitidis primarily causes:
- | | |
|-----------------|----------------|
| a. Meningitis | b. Urethritis |
| c. Endocarditis | d. Pharyngitis |
17. The fungus that causes mucormycosis most commonly belongs to which genus?
- | | |
|-----------------|----------------|
| a. Rhizopus | b. Candida |
| c. Cryptococcus | d. Aspergillus |
18. Which of the following statements about the shape of the virus is correct?
- | |
|--|
| a. Rotavirus - Wheel-shaped |
| b. Tobacco Mosaic Virus - Filamentous-shaped |
| c. Ebola Virus - Rod-shaped |
| d. Adenovirus - Brick-shaped |
19. MRSA is mediated due to
- | | |
|-----------------|--------------|
| a. Plasmid | b. mecA gene |
| c. .Transposons | d. None |
20. All of the following antimicrobial agents act on cell membrane, except
- | | |
|----------------|---------------|
| a. .Gramicidin | b. Daptomycin |
| c. Polymyxins | d. Vancomycin |

Section 2

Q.2 Essay –

12

A 35 year old female from a village of Bihar came to the hospital with history of fever on and off for the past one year and recently developed unilateral swelling of the left lower limb. Her blood sample was sent for peripheral blood smear examination which revealed worm like structures, 240 um in length with pointed tail tip.

1. Name the disease and its etiological agent. **2**
2. Describe the life cycle, pathogenesis and laboratory diagnosis of this condition. **5**
3. Explain prevention and treatment of this clinical condition. **5**

Q.3 Answer in Brief (Any 4 out of 5) **28**

1. Cutaneous fungal infections.
2. Overview of zoonotic infections affecting the musculoskeletal system.
3. Pyogenic infections in skin and soft tissues.
4. BCG vaccine.
5. Streptococcal pharyngitis.

Section 03

Q.4 What are catheter-associated urinary tract infections (CAUTIs)? **12**

Explain their causes, symptoms, and preventive measures.

Q.5 Answer in Brief (Any 4 out of 5) **28**

1. Mechanisms of antimicrobial resistance in hospital-acquired infections.
2. Laboratory diagnosis of bacterial meningitis.
3. Role of *Candida albicans* in bloodstream infections.
4. Nongonococcal urethritis.
5. Cryptococcus Meningitis
