



# RAN-2406000102030702-S

## Microbiology - 2<sup>nd</sup> Year (M.B.B.S.) Examination October - 2025 Set-I (Paper-II)

Time: 3 Hours ]

[ Total Marks: 100

### સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.  
Fill up strictly the above details on your answer book

Seat No.:

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Student's Signature

### Section I

#### MCQ (1 X 20 = 20 Marks)

- Infective form and invasive form of *Entamoeba histolytica* are
  - Trophozoite and Quadri nucleated cyst
  - Quadri nucleated cyst and Trophozoite
  - Both Trophozoite
  - Both Quadri nucleated cyst
- Site of action of tetanus toxin:
  - Presynaptic terminal of spinal cord
  - Postsynaptic terminal of spinal cord
  - Neuromuscular junction
  - Muscle fibers
- Causative agents of non-gonococcal urethritis are all EXCEPT
  - Chlamydia trachomatis*
  - Mycoplasma hominis*
  - Ureaplasma urealyticum*
  - Neisseria gonorrhoea*
- Most common cause of Community and Hospital acquired UTI is
 

|                            |                                |
|----------------------------|--------------------------------|
| A. <i>S. paprophyticus</i> | B. <i>Enterobacter</i> species |
| C. <i>E.coli</i>           | D. <i>Proteus</i> species      |
- Definitive host in echinococcosis is
 

|        |          |
|--------|----------|
| A. Pig | B. Sheep |
| C. Dog | D. Man   |
- The most common cause of Neonatal meningitis is
 

|                                   |                                  |
|-----------------------------------|----------------------------------|
| A. <i>Streptococcus agalactae</i> | B. <i>Neisseria meningitidis</i> |
| C. <i>H. influenza</i>            | D. <i>Klebsiella pneumoniae</i>  |

7. Which of the below statement is INCORRECT
  - A. CSF is collected aseptically by lumbar puncture
  - B. If there is a delay then CSF should be refrigerated
  - C. CSF should be divided into 3 portions
  - D. In viral meningitis the predominant cell type is Lymphocyte
8. In CSF Gram stain, if Gram negative capsulated diplococcus are seen with adjacent sides flattened (lens shape) then it could be?
  - A. Streptococcus pneumoniae
  - B. Streptococcus agalactiae
  - C. Neisseria meningitidis
  - D. Staphylococcus aureus
9. Different modes of transmission of Tetanus are all EXCEPT
  - A. Road traffic accidents
  - B. Surgery done without proper asepsis
  - C. Unhygienic practices during delivery
  - D. Needle stick injuries
10. Cryptococcus neoformans is most likely to cause:
 

|                        |                    |
|------------------------|--------------------|
| A. Pulmonary infection | B. Meningitis      |
| C. Skin infections     | D. Bone infections |
11. Asymptomatic bacteriuria is significant in is all EXCEPT
  - A. Pregnant women
  - B. Catheterized patient
  - C. People undergoing prostatic surgery
  - D. Other Urological procedures
12. Shape of rabies virus is
 

|                  |                 |
|------------------|-----------------|
| A. Rod shape     | B. Bullet shape |
| C. Space vehicle | D. Filamentous  |
13. Neisseria meningitidis primarily causes:
 

|                 |                |
|-----------------|----------------|
| A. Meningitis   | B. Urethritis  |
| C. Endocarditis | D. Pharyngitis |
14. The fungus that causes mucormycosis most commonly belongs to which genus ?
 

|                 |                |
|-----------------|----------------|
| A. Rhizopus     | B. Candida     |
| C. Cryptococcus | D. Aspergillus |
15. 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
16. MRSA is mediated due to
 

|                |               |
|----------------|---------------|
| A. Plasmid     | B. Mec A Gene |
| C. Transposons | D. None       |

17. The characteristic lesions seen in the case of primary syphilis is
  - A. Condyloma lata
  - B. Chancre
  - C. Chancroid
  - D. Beefy red ulcer
18. Name the organism that causes gas gangrene:
  - A. Clostridium perfringens
  - B. Clostridium difficile
  - C. Clostridium tetani
  - D. Escherichia coli
19. The agent of primary atypical pneumonia is
  - A. Legionella pneumophila
  - B. Klebsiella pneumoniae
  - C. Mycoplasma pneumoniae
  - D. Streptococcus pneumoniae
20. Which of these is the culture medium for M. Tuberculosis?
  - A. Wilson blair medium
  - B. Lowenstein Jensen Medium
  - C. Mac Conkey Medium
  - D. Blood Agar

### Section II

- Q.2. Essay** **12**
- A 28-year-old lady having a month-old baby came to hospital with complain of painful large swelling in the right breast with history of pus like discharge from it. On examination skin was red and swelling was tender. Pus was aspirated from that area and sent to microbiology lab for gram stain and culture sensitivity tests. Gram stain revealed Gram positive cocci scattered amongst pus cells, culture on blood agar showed golden yellow beta haemolytic colonies. Answer the following
1. What is the clinical diagnosis and most probable organism? **2**
  2. Enlist various virulence factors of the organism. **4**
  3. Enumerate various infections caused by this organism and write briefly on laboratory diagnosis. **6**
- Q.3. Answer in Brief (Any 4 out of 5)** **28**
1. Laboratory diagnosis of pulmonary Tuberculosis
  2. Cutaneous Larva Migrans.
  3. Streptococcus pharyngitis.
  4. DPT Vaccine.
  5. Superficial fungal Infections.

### Section III

- Q.4. Essay** **12**
- A 38-year-old man attended OPD with painless ulcer on penis for last 10 days. On examination it was cartilaginous, a single, firm, non tender ulcer with indurated edges is noted on glans penis. No inguinal lymphadenopathy is detected. Patient gave h/o multiple sex partners (2+5+5)
1. Enlist various sexually transmitted diseases.
  2. What are various stages of this causative agent ?
  3. What are various diagnostic tests for this causative agent?
- Q.5. Answer in Brief (Any 4 out of 5)** **28**
1. Hand Hygiene.
  2. Post exposure prophylaxis of Rabies.
  3. Laboratory diagnosis of Acute Bacterial meningitis
  4. Hydatid Disease- Etiopathogenesis and Laboratory Diagnosis.
  5. Congenital Infections.