

M.B.B.S. SECOND PROFESSIONAL EXAMINATION, FEBRUARY-2025**MICROBIOLOGY****PAPER - SECOND****[Time allotted: Three hours]****SET - A****[Max Marks: 100]****Q. 1. Multiple choice questions (Darken the single best response in OMR sheet. Time allotted 20 minutes) (20 x 1 = 20)**

1. Plague is transmitted by:
 - a. Rat flea
 - b. Soft tick
 - c. Louse
 - d. Hard tick
2. Wrong about bacterial vaginosis is:
 - a. Discharge has offensive smell
 - b. pH of vaginal discharge >4.5
 - c. Causative agent is Chlamydia trachomatis
 - d. Clue cell is diagnostic
3. What is significant bacteriuria?
 - a. Bacterial count >10⁵/ml
 - b. Bacterial count between 10⁴ and 10⁵/ml
 - c. Bacterial count <10³/ml
 - d. Bacterial count =10³/ml
4. Oocyst of Toxoplasma gondii are excreted in the feces of:
 - a. Human
 - b. Pig
 - c. Cat
 - d. Sheep
5. Rabies is identified by:
 - a. Guarnieri bodies
 - b. Negri bodies
 - c. Cowdry A bodies
 - d. Paschen body
6. All of the following are true for Japanese encephalitis **EXCEPT**:
 - a. It is caused by flavivirus
 - b. Transmitted by Aedes mosquito
 - c. Endemic in India
 - d. Man is the dead end host
7. A patient is presented with trismus and opisthotonus position. The probable causative agent is:
 - a. Clostridium tetani
 - b. Clostridium perfringens
 - c. Clostridium difficile
 - d. Clostridium botulinum
8. Production of early metachromatic granules can be seen best in which of the following media:
 - a. Lowenstein-Jensen media
 - b. Chocolate agar
 - c. Loeffler's serum slope
 - d. Potassium tellurite agar
9. Which of the following virus is the causative agent of chickenpox?
 - a. Epstein-Barr virus
 - b. Human herpes virus-6
 - c. Cytomegalovirus
 - d. Varicella-zoster virus
10. The agent of primary atypical pneumonia is:
 - a. Legionella pneumophila
 - b. Klebsiella pneumoniae
 - c. Mycoplasma pneumoniae
 - d. Streptococcus pneumoniae
11. All of the following can be given for the treatment of MRSA, **except**:
 - a. Vancomycin
 - b. Meropenem
 - c. Cotrimoxazole
 - d. Linezolid
12. Scalded skin syndrome is mediated by:
 - a. Hemolysin
 - b. Coagulase
 - c. Enterotoxin
 - d. Epidermolytic toxin
13. Malignant pustule is the term used for:
 - a. An infected malignant melanoma
 - b. A carbuncle
 - c. A rapidly spreading rodent ulcer
 - d. Anthrax of the skin
14. The correct sequence of manifestation seen in measles is:
 - a. Fever, koplik's spot, rash
 - b. Koplik's spot, fever, rash
 - c. Rash, fever, koplik's spot
 - d. Rash, koplik's spot, fever
15. Following rubella vaccination, pregnancy should be avoided for at least how many months?
 - a. 1 month
 - b. 2 months
 - c. 3 months
 - d. 6 months
16. New world leishmaniasis is caused by:
 - a. Leishmania donovani
 - b. Leishmania braziliensis
 - c. Leishmania tropica
 - d. Leishmania major
17. Organism that does not affect nail:
 - a. Trichophyton
 - b. Epidermophyton
 - c. Microsporum
 - d. Candida albicans
18. Germ tube test is diagnostic for:
 - a. Candida glabrata
 - b. Candida albicans
 - c. Cryptococcus
 - d. Coccidioides immitis
19. Epstein-Barr virus is associated with the following malignancies **except**:
 - a. Nasopharyngeal carcinoma
 - b. Burkitt's lymphoma
 - c. Carcinoma of cervix
 - d. Non Hodgkin lymphoma
20. Neonatal meningitis acquired through infected birth canal is due to:
 - a. S. pyogenes
 - b. S. agalactiae
 - c. Viridans streptococci
 - d. S. pneumoniae

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Note: Attempt all questions in sequence.
Draw suitable diagrams (wherever necessary)

- Q. 2. Give reasons why:** (5 x 2 = 10)
- Cerebral malaria occurs as a complication of Plasmodium falciparum infection.
 - Oral polio vaccine induces herd immunity.
 - VDRL is a non-treponemal test.
 - When pyogenic meningitis is suspected, CSF sample should never be refrigerated.
 - All beta lactam drugs should be avoided in case of MRSA infections.
- Q. 3. Problem based question:** (5 x 2 = 10)
- A 5 year old child was brought to emergency with complaints of high fever, pain in the throat, inability to swallow and in toxic condition. On examination, a white patch was found on the fauces, which started bleeding when touched. No history of immunization available.
- What is the clinical diagnosis?
 - Name the etiological agent causing this clinical condition.
 - Write in detail the pathogenesis of this condition.
 - How will you approach for the laboratory diagnosis of the above condition?
 - Write the treatment and prophylaxis of this condition.
- Q. 4. Write briefly on:** (4 x 6 = 24)
- Dermatophytoses
 - Laboratory diagnosis of pulmonary tuberculosis
 - Free living amoeba infections
 - Discuss the information that is needed to be written in the request form and the sample container of patient's sample.
- Q. 5. Structured question:**
- (i) Enumerate the most common four causes of pyogenic meningitis. Write down the pathogenesis of pyogenic meningitis. How will you differentiate between pyogenic and viral meningitis on the basis of CSF parameters? Describe laboratory diagnosis of pyogenic meningitis. (2+2+3+3=10)
- (ii) Name the causative agent of syphilis. Describe the pathogenesis and clinical manifestations of syphilis. Write down the laboratory diagnosis of syphilis. (1+2+2+5= 10)
- Q. 6. Answer as indicated:** (4 x 4 = 16)
- Difference between antigenic drift and antigenic shift.
 - Classify streptococci
 - Name the cutaneous infections caused by Staphylococcus aureus.
 - Enumerate four most common etiological agents of urinary tract infections
