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**Barasat, Kolkata -700125**

**Term End Examination 2025-2026**

**Programme – B.Optomtry-2021/B.Optomtry-2022/B.Optomtry-  
 2023/B.Optomtry-2024**

**Course Name – Ocular Microbiology and Pathology****Course Code - BOPTOE305A****( Semester III )****Full Marks : 60****Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

**Group-A****(Multiple Choice Type Question)****1 x 15=15**1. *Choose the correct alternative from the following :*

- (i) Zeihl Neelsen Staining helps to interpret \_\_\_\_\_.
  - a) Mycobacterium tuberculosis
  - b) Mycobacterium leprae
  - c) Nocardia
  - d) All of these
- (ii) Identify the Gram-negative diplococci.
  - a) Neisseria gonorrhoea
  - b) Proteus mirabilis
  - c) Klebsiella pneumoniae
  - d) Escherichia coli
- (iii) VDRL Test is done for the detection of \_\_\_\_\_.
  - a) Enteric fever
  - b) Syphilis
  - c) Influenza
  - d) AIDS
- (iv) Treponema pallidum can be detected by \_\_\_\_\_.
  - a) WIDAL Test
  - b) ASO Test
  - c) VDRL Test
  - d) CRP Test
- (v) Black Urine is basically excreted in \_\_\_\_\_ condition.
  - a) Phenol poisoning
  - b) Food poisoning
  - c) Alkaptonuria
  - d) Phenylketonuria
- (vi) Microorganisms that are harmful to their host are known as \_\_\_\_\_.
  - a) Commensals
  - b) Pathogens
  - c) Vectors
  - d) None of these
- (vii) Skin Biopsy is considered as sample for \_\_\_\_\_.
  - a) Superficial Mycoses
  - b) Suncutaneous Mycoses
  - c) Systemic Mycoses
  - d) All of these
- (viii) Acid-fast bacteria resist decolorization during staining due to the presence of \_\_\_\_\_.

- a) Thick peptidoglycan layers  
b) Thin lipid membranes  
c) Mycolic acids in their cell walls  
d) High motility
- (ix) Polyuria means \_\_\_\_\_.  
a) Abnormal increase in urine Volume > 2500 ml/24 hours  
b) Abnormal increase in urine volume > 1500 ml/24 hours  
c) Decrease in urine volume < 500 ml/24 hours  
d) Abnormal increase in urine Volume < 2500 ml/24 hours
- (x) \_\_\_\_\_ is a clinical condition where urine is milky in colour.  
a) Chyluria  
b) Alkaptonuria  
c) Polyuria  
d) Phenylketonuria
- (xi) The presence of \_\_\_\_\_ type of cells in urine sediment is suggestive of a urinary tract infection (UTI).  
a) Epithelial Cells  
b) Pus Cell  
c) Squamous cells  
d) Red Blood Cells
- (xii) H Antigen is basically found in \_\_\_\_\_.  
a) Flagella  
b) Capsule  
c) Cell membrane  
d) Pili
- (xiii) The fungi frequently responsible for Athlete's foot disease is \_\_\_\_\_.  
a) T. rubrum  
b) T. mentagrophytes  
c) E. floccosum  
d) All of these
- (xiv) Which class of fungi most commonly causes fungal infections of the eye?  
a) Ascomycetes  
b) Basidiomycetes  
c) Zygomycetes  
d) Chytridiomycetes
- (xv) A bacterial infection that often leads to the formation of a corneal ulcer is basically caused by \_\_\_\_\_.  
a) Streptococcus pneumoniae  
b) Pseudomonas aeruginosa  
c) Staphylococcus aureus  
d) Mycobacterium tuberculosis

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**Group-B**  
(Short Answer Type Questions)

3 x 5=15

2. Discuss about Bacterial Flagella. (3)
3. What are the nutritional requirements for Bacterial growth? (3)
4. Differentiate between Sterilization and Disinfection. (3)
5. Differentiate between Active and Passive Immunity. (3)
6. Compare and contrast between VDRL and RPR. (3)

OR

Discuss about the Serological Test employed for the detection of Syphilis. (3)

**Group-C**  
(Long Answer Type Questions)

5 x 6=30

7. Write a short note on various types of Culture media, classified on the basis of their physical state. (5)
8. Describe the External defence System of the body. (5)
9. With the help of suitable illustrations describe the structure of Antibodies. (5)
10. Define antigen-antibody reaction. List various serological methods to demonstrate antigen-antibody reaction in vitro along with examples. (5)
11. Identify the Serological screening test for Syphilis. Explain the procedure of that Test. (5)
12. Describe the principles behind autoclaving as a sterilization method. Discuss the advantages and limitations of autoclaving compared to other sterilization techniques such as chemical (5)

disinfection or radiation sterilization.

OR

The Ziehl-Neelsen stain is widely used to detect acid-fast bacteria, notably *Mycobacterium* species. Explain the principles of this staining method and discuss its role in diagnosing tuberculosis. (5)

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