



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Optomtry-2021/B.Optomtry-2022

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) Which Stain is related to diagnosis of fungal Infection
 - a) India Ink Preparation
 - b) Nigrosin Preparation
 - c) Lactophenol cotton blue Staining
 - d) All of these
- (ii) 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
- (iii) A Patient may be interpreted as "Oliguria" when there is
 - a) Decrease in urine volume < 2500 ml/24 hrs
 - b) Complete suppression of urine formation as in renal failure
 - c) Decrease in urine volume < 500 ml/24 hrs
 - d) Abnormal increase in urine volume > 2.500 ml/24 hrs
- (iv) In tuberculosis, the Mantoux tuberculin skin test measures a person's:
 - a) Antibody levels against the tuberculosis bacterium.
 - b) Cellular immune response to tuberculosis infection.
 - c) Viral load of tuberculosis in the blood.
 - d) Risk of developing leprosy.
- (v) The presence of which 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
- (vi) Introducing small dose of Tuberculin can develop
 - a) Type I Hypersensitivity
 - b) Type II Hypersensitivity
 - c) Type III Hypersensitivity
 - d) Type IV Hypersensitivity
- (vii) Which of the following is not a type of white blood cell?
 - a) Neutrophil
 - b) Erythrocyte
 - c) Lymphocyte
 - d) Monocyte
- (viii) Presence of Bile Salt in Urine can be determined by

- a) Fouchet Test
c) Heat Acetic Acid Test
- b) Hey Sulphur Test
d) Benedict Test
- (ix) A bacterial infection that often leads to the formation of a corneal ulcer is basically caused by:
a) Streptococcus pneumoniae
c) Staphylococcus aureus
- b) Pseudomonas aeruginosa
d) Mycobacterium tuberculosis
- (x) Which of the following is not a function of inflammation?
a) Delivery of leucocytes
c) Initiate repair processes
- b) Concentration of toxins
d) Vasodilation
- (xi) Gram staining is related to
a) Simple Staining
c) Negative staining
- b) Differential Staining
d) Vital Staining
- (xii) Choose the secretory Immunoglobulin
a) IgD
c) IgA
- b) IgM
d) IgG
- (xiii) Which of the following is a commonly used method for sterilizing laboratory equipment and glassware?
a) Autoclaving
c) Disinfectant sprays
- b) Handwashing
d) UV radiation
- (xiv) A common parasitic infection of the eye that can lead to blindness and is transmitted by black flies is:
a) Trachoma
c) Toxoplasmosis
- b) Chagas disease
d) Onchocerciasis
- (xv) A patient presents with a painless sore on their genitals. What diagnostic test should be performed?
a) Blood test for syphilis antibodies
c) Throat swab
- b) Urine culture for Bacterial presence
d) Skin Biopsy

Group-B
(Short Answer Type Questions)

3 x 5=15

2. Compare and contrast between Gram Positive cell wall and Gram Negative cell wall structure. (3)
3. Mention the morphological features of Mycobacterium tuberculosis. (3)
4. Name the causative agent of Leprosy. How is the infection transmitted? (3)
5. Correlate disease condition with different colour of Urine. (3)
6. What is the primary purpose of examining a blood smear, and what kind of information can be obtained from it? (3)

OR

What interpretation can be assessed from Urine Specimen by examining a Diabetic Patient ? (3)

Group-C
(Long Answer Type Questions)

5 x 6=30

7. List different inflammatory diseases related to Eye. What are the important features of inflammations of the eye? (5)
8. Explain Precipitation Reaction with Clinical applications. Comment on the Mechanism behind Precipitation Reaction. (5)
9. What is viral conjunctivitis, and which viruses are commonly responsible for causing this eye condition? How is it diagnosed? (5)
10. Describe in detail the Laboratory diagnosis of Mycoses. (5)

11. Describe the procedures followed and examinations conducted in the Laboratory diagnosis of Syphilis. (5)
12. Explain the key differences between sterilization and disinfection, and provide an example of a situation where each method would be most appropriate for microbial control. Justify your choices. (5)

OR

Microbiological staining techniques, play a vital role in classifying bacteria. Discuss the specific steps involved in the Gram staining procedure and explain how it categorizes bacteria into Gram-positive and Gram-negative groups. Give examples of important pathogens belonging to each category. (5)
