



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – B.Sc.(OTT)-2022/B.Sc.(OTT)-2023/B.Sc.(OTT)-2024

Course Name – Clinical Microbiology

Course Code - BOTTC201

(Semester II)

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) Identify the Gram-negative bacilli.

- a) Staphylococcus aureus
- c) Salmonella typhi

- b) Streptococcus pyogenes
- d) Mycobacterium tuberculosis

(ii) H Antigen is basically observed in _____.

- a) Cell membrane
- c) Pili

- b) Capsule
- d) Flagella

(iii) Which following test used to diagnose HIV ?

- a) X-Ray
- c) Chromatography

- b) ELISA
- d) CT scan

(iv) Choose the mismatch related to normal flora of Gastrointestinal tract.

- a) E.coli
- c) Shigella

- b) Enterococci
- d) Lactobacilli

(v) Identify the media associated with Citrate Utilization Test.

- a) Glucose Phosphate broth
- c) Simmons agar

- b) Tryptophan broth
- d) Peptone broth

(vi) Identify the media associated with Indole Test.

- a) Glucose Phosphate broth
- c) Simmons agar

- b) Peptone broth
- d) Christensen agar

(vii) Identify the chemical used for purification of swimming pools.

- a) Alcohol
- c) Chlorine

- b) Iodine
- d) Both Alcohol and Chlorine

- (viii) Which of the following test is used to diagnose HIV?
- | | |
|------------|----------------------|
| a) ELISA | b) PCR |
| c) CT scan | d) None of the these |
- (ix) Identify the factors in which Spores are killed.
- | | |
|----------------------------|-------------------|
| a) Boiling at 100 degree C | b) Pasteurization |
| c) Autoclave | d) Filtration |
- (x) From the following which is not a chemical method for killing microbes?
- | | |
|-------------|------------|
| a) UV | b) Ozone |
| c) Chlorine | d) Bromine |
- (xi) Identify the body sites which has the highest bacterial density in the normal human microflora.
- | | |
|---------------|-----------|
| a) Skin | b) Mouth |
| c) Intestines | d) Vagina |
- (xii) Choose the bacterial genera commonly found in the female genital tract.
- | | |
|------------------|------------------|
| a) Lactobacillus | b) Escherichia |
| c) Pseudomonas | d) Mycobacterium |
- (xiii) Select the example of a mechanical method of disinfection.
- | | |
|----------------|-----------------|
| a) Autoclaving | b) UV radiation |
| c) Filtration | d) Hot Air Oven |
- (xiv) Identify the antibody which is found in the highest concentration in human blood.
- | | |
|--------|--------|
| a) IgA | b) IgD |
| c) IgE | d) IgG |
- (xv) Select the test which is used to diagnose COVID-19.
- | | |
|---|------------------|
| a) Polymerase chain reaction (PCR) test | b) Antibody test |
| c) Chest X-ray | d) All of these |

Group-B

(Short Answer Type Questions)

3 x 5=15

- Define Bacteria. Outline different cellular structure of Bacteria. (3)
- Briefly categorize different methods of Sterilization. (3)
- Enumerate the most common microorganisms causing Hospital acquired Infection. (3)
- Prepare a list of clinical specimens associated with Microbiological lab diagnosis. (3)
- For the identification of Bacteria, explain the procedure of Ziehl-Neelsen Staining. (3)

OR

Explain the steps involved in performing an antibiotic susceptibility test. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

- Enumerate some etiological agents of UTI. Explain the pathophysiology of UTI. (5)
- Explain the most common respiratory tract infections. Mention the common pathophysiology of Respiratory tract infections. (5)
- Compare and contrast among different types of Immunoglobulins. (5)
- Classify Hepatitis . Which clinical signs and symptoms are faced by a Hepatitis patient? (5)
- "Illustrate different types of antibiotics. Explain how they are used to treat different types of bacterial infections." (5)

12. Analyze and plan the proper method of sterilization which would be appropriate for each of the following? A. Water B. Nutrient Agar media C. Packaged food D. Milk E. Heat stable micro tips (5)

OR

How would you diagnose a urine specimen for detection of UTI? (5)

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