



BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – B.Sc.(CCT)-2022/B.Sc.(CCT)-2023
Course Name – Microbiology
Course Code - BCCTC201
(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 correct name for bacterial chromosome
 - a) ssDNA
 - b) nucleoid
 - c) nucleus
 - d) mesosome
- (ii) Name the mordant used in Gram staining procedure
 - a) Crystal violet
 - b) Iodine
 - c) Saffranin
 - d) Alcohol and Acetone
- (iii) Select the terms which refers to a prokaryotic cell that is comma shaped?
 - a) Coccus
 - b) Vibrio
 - c) Bacillus
 - d) Palisade
- (iv) Select the composition of breast milk
 - a) IgG
 - b) IgE
 - c) IgD
 - d) IgA
- (v) Choose among the following and decide for which TAB vaccine is useful
 - a) Polio
 - b) Diptheria
 - c) Pertussis
 - d) Typhoid
- (vi) Select the sexually transmitted bacterial disease
 - a) AIDS
 - b) Syphilis
 - c) Herpes
 - d) Hepatitis
- (vii) Choose among the following and select which is not a chemical
 - a) UV
 - b) Ozone
 - c) Chlorine
 - d) Bromine
- (viii) Name term used to describe a cluster of spherical bacteria

- a) Streptococci
c) Diplococci
- b) Staphylococci
d) Bacilli
- (ix) Name the term for an exaggerated immune response to a harmless substance
- a) Hypersensitivity
c) Immunodeficiency
- b) Autoimmunity
d) Immunization
- (x) Select the type of hypersensitivity reaction which is also known as delayed-type hypersensitivity
- a) Type I
c) Type III
- b) Type II
d) Type III
- (xi) Name the term used for a severe and potentially life-threatening allergic reaction
- a) Anaphylaxis
c) Immunodeficiency
- b) Autoimmunity
d) Immunization
- (xii) Name the test used to diagnose HIV
- a) ELISA
c) CT scan
- b) PCR
d) None of these
- (xiii) Name the virus that causes COVID-19
- a) SARS-CoV-1
c) MERS-CoV
- b) SARS-CoV-2
d) None of the these
- (xiv) Choose the common cause of uncomplicated urinary tract infections in women
- a) Escherichia coli (E. coli)
c) Streptococcus pyogenes
- b) Staphylococcus aureus
d) Pseudomonas aeruginosa
- (xv) Choose among the following which is a common cause of viral encephalitis
- a) Streptococcus pneumoniae
c) Clostridium botulinum
- b) Herpes simplex virus (HSV)
d) Salmonella enteritidis

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Distinguish between disinfection and Sterilization process. (3)
3. Describe the terms Vibrio and helical according to bacterial morphology (3)
4. Discuss the structure of IgM (3)
5. Explain how antibiotic resistance develop and what are the consequences (3)
6. Women are more prone to UTI than men- analyze and explain the statement (3)

OR

Penicillin is effective more in Gram positive bacteria but not in Gram negative bacteria- Explain (3)
the proper reason using suitable example of bacteria

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain each steps involved in the ZN staining process with proper justification of each step (5)
8. Differentiate active TB and latent TB (5)
9. Illustrate phagocytosis as an innate immunity parameter with a suitable diagram (5)
10. Write down the advantages and disadvantages of using phenol as a disinfectant with mentioning mode of action of phenol (5)
11. Discuss the role of antibodies in immunity to infectious diseases. How do they contribute to the clearance of pathogens (5)

12. Antigen 1 with 25000D molecular weight with tyrosine as a component of the antigen protein (5)
structure. Antigen 2 with 5000D molecular weight with lipid molecules in structure. Analyze
the immunological power of the two antigens with proper explanation

OR

Describe the concept of viral antigenic variation. Analyze this phenomenon challenges the (5)
development of effective vaccines against certain viruses.
