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BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Optomtry-2022/B.Sc.(CCT)-2022/B.Sc.(MRIT)-2022/B.Sc.
(OTT)-2022/B.Optomtry-2023/B.Sc.(MRIT)-2023/B.Optomtry-2024/B.Sc.
(MRIT)-2024/B.Optomtry-2025/B.Sc.(MRIT)-2025

Course Name – General Microbiology

Course Code - GEBT202

(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 group Spirulina belongs to
 - a) Xanthophyceae
 - b) Cyanophyceae
 - c) Rhodophyceae
 - d) Pheophyceae
- (ii) Recall the name person that first gave the small pox vaccine
 - a) Robert Koch
 - b) Louis Pasteur
 - c) Lister
 - d) Edward Jenner
- (iii) Define the term that is used to describe a disease that affects many people at different countries at the same time
 - a) Sporadic
 - b) Pandemic
 - c) Epidemic
 - d) Endemic
- (iv) Recall the enzyme that is involved in biological nitrogen fixation
 - a) Amylase
 - b) Nitrogenase
 - c) Cellulase
 - d) Sulphatase
- (v) Determine the following organisms have thick peptidoglycan in their cell wall?
 - a) Gram-negative bacteria
 - b) Gram-positive bacteria
 - c) Yeast
 - d) Molds
- (vi) Identify the year when autoclave was first demonstrated
 - a) 1882
 - b) 1887
 - c) 1884
 - d) 1886
- (vii) Cite phagocytosis was discovered by
 - a) Koch
 - b) Chamberlandt
 - c) Metchnikoff
 - d) Petri
- (viii) Indicate the appropriate vector for sleeping sickness

- a) Housefly
 c) Sand Fly
 (ix) Identify cell containing many nuclei are called
 a) Hyphae
 c) Sporophore
 (x) Cite the first phase of a growth curve is
 a) Log phase
 c) Y phase
 (xi) Recall the next step when a viral DNA is integrated within a bacterial genome
 a) Plasmid
 c) Bacteriophage
 (xii) Judge the truth about the biological membranes
 a) they are symmetric bileafet structure
 c) they are rigid assemblies of protein, lipid and carbohydrates
 (xiii) Predict the nature of association between a higher plant and a fungi
 a) Fungistasis
 c) Antibiosis
 (xiv) Identify the process by which a bacteriophage transfer gene from one cell to another
 a) Recombination
 c) Transduction
 (xv) Indicate the type of white blood cells that are attacked by the Human Immunodeficiency Virus to cause AIDS
 a) CD4
 c) CD8
- b) TseTse Fly
 d) Fruitfly
 b) Mycelium
 d) Coenocyte
 b) Lag phase
 d) Both a and b
 b) Plaque
 d) Gene
 b) their constituent lipid and protein moieties are held together by covalent interactions
 d) their lipid moieties are have hydrophobic and hydrophilic characters
 b) Amensalism
 d) Mutualism
 b) Conjugation
 d) Transformation
 b) CD3
 d) None of these

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Recall the person who proposed Germ Theory and brief the theory. (3)
3. Describe the meaning of pure culture method and write the purpose of pure culture bacteria. (3)
4. Difference between Disinfection vs Sterilization (3)
5. Explain the four phases of the bacterial growth curve (3)
6. Define mutualism with examples. (3)

OR

Report a short note on various types of biofertilizers. List down the application of biofertilizers (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain briefly the process of bacterial conjugation (5)
8. Explain the lytic cycle of lambda bacteriophage. (5)
9. Describe the working principle of a light microscope. (5)
10. Explain why mycobacterium can't be stained with Gram stain. (5)
11. Explain Vesicular Arbuscular Mycorrhizae and its role in soil fertility. (5)
12. Explain briefly specialized transduction with suitable illustration. (5)

OR

Explain the process of HFR transfer and its significance in bacterial genetics. (5)