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BRAINWARE UNIVERSITY

Term End Examination 2023
Programme – B.Optometry-2022/B.Sc.(CCT)-2022/B.Sc.(MRIT)-2022/B.Sc. (OTT)-2022/B.Sc.(FND)-Hons-2022/B.Sc.(PSY)-Hons-2022
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) Cite the method by which infrared radiation for sterilization is carried out

a) Dry heat b) Moist heat
c) Chemical method d) Mechanical method

(ii) Determine to what group Streptococcus viridans belongs

a) Gram-negative cocci b) Gram-positive cocci(Y)
c) Gram-positive bacilli(d) Gram-negative bacilli

(iii) Explain where the dikariyon Stage is generally shown in

a) Asexual stage of Fungal reproduction b) asexual reproduction of Bacteria
c) Sexual stage of Fungal reproduction d) Sexual reproduction of Bacteria

(iv) Determine which of the following techniques are used in Transmission Electron Microscopy (TEM) for examining cellular structure?

a) Negative-Staining b) Ultrathin Sectioning
c) Shadow Casting d) All of the above

(v) Recall the name who developed Anthrax vaccine

a) Koch b) Laveran
c) Lister d) Pasteur

(vi) Determine which of the following belongs to virus

a) Cell membrane b) Cell wall
c) DNA d) DNA or RNA

(vii) Recall in context of Pasteur, which one of the following is true

a) Living organisms discriminate between stereoisomers
b) Fermentation is a aerobic process
c) Living organisms doesn't discriminate between stereoisomers
d) Both a and b

(viii) Cite who demonstrated recombination in bacteria

a) Lederberg and Tatum
b) Luria and Delbruck
c) Joshua and Lederberg
d) Luria and Tatum

(ix) Indicate the type of white blood cells that are attacked by the Human Immunodeficiency Virus to cause AIDS

a) CD4
b) CD3
c) CD8
d) None of the above

(x) Identify which of the following is used as a solidifying agent for media

a) Beef extract
b) Peptone
c) Agar
d) Yeast extract

(xi) Identify the method to quantify bacteria

a) Spread Plate
b) Pour Plate
c) Streak plate
d) Pour Plate and Spread Plate

(xii) Identify which of the following organisms have thick peptidoglycan in their cell wall?

a) Gram-negative bacteria
b) Gram-positive bacteria
c) Yeast
d) Molds

(xiii) Identify the beneficial partners in a lichen

a) bacteria and fungi
b) fungi and algae
c) fungi and roots of legume plant
d) bacteria and roots of legume plant

(xiv) Identify which type of spores are produced sexually?

a) Conidia
b) Sporangiospores
c) Ascospores
d) None of these

(xv) Identify which of the following has a higher bioavailability as a result of Mycorrhizal activity

a) N
b) P
c) K
d) Mg

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Examine in brief Pasteur's work on microbial fermentations. (3)
3. Define the different parts of a bright field compound microscope (3)
4. Explain the structure of bacterial cell with the aid of a neatly labelled diagram. (3)
5. Explain the difference between mutulism and commensalism (3)
6. Determine the cultivation media and method for fungi? (3)

OR

Describe and explain Griffith's experiment originating bacterial transformation. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Explain symbiotic nitrogen fixation. (5)
8. Explain the Koch's postulates and why are they important? (5)
9. Write the role of microorganism in mycorrhizae. (5)

10. Examine Whittaker's five kingdom classification and explain each group with suitable examples (5)
11. Describe the different stages of the bacterial growth curve with a suitable diagram (5)
12. Explain the meaning of the resolving power of a microscope. Depending on this resolving power which microscope is more powerful bright field or electron microscope (5)

OR

What is a mordant. Determine the purpose of using a mordant in Gram staining. Give an example of a commonly used mordant. (5)

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