



BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – B.Sc.(Ag)-Hons-2022/B.Sc.(Ag)-Hons-2023
Course Name – Agricultural Microbiology
Course Code - CC-BAG275(T)
(Semester II)

Full Marks : 50

Time : 2:0 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 20=20

1. *Choose the correct alternative from the following :*
- What is the term used for sterilization by discontinuous heating ?
 - Inoculation
 - Tyndallization
 - Ionization
 - Heat sterilization
 - Choose the right type of ribosome that is present in prokaryotic organism
 - 70S
 - 80S
 - 50S
 - 30S
 - Choose the correct option for the primary stain that is used in gram staining technique
 - Safranin
 - Crystal violet
 - Fuschin
 - Iodine
 - What is the size of prokaryotic cell?
 - 10-12micrometer
 - 50micrometer
 - 1-10micrometer
 - 2-6 micrometer
 - Select the correct option for the generation time of E. coli
 - 13hrs
 - 24hrs
 - 20hrs
 - 32hrs
 - What are the different growth phases of bacteria?
 - Lag and Log phase
 - Death phase
 - Stationary phase
 - all of them
 - Choose the correct answer: Thiobacilli can be classified into the group of
 - Denitrifying bacteria
 - Sulphur oxidizing bacteria
 - PSB
 - None of these
 - Who was the discoverer of the microbial world?

- a) Antony von Leeuwenhoek
c) Needham
- b) Pasteur
d) Spallanzani
- (ix) Choose the right type of ribosome that is present in prokaryotic organism
- a) 70S
c) 50S
- b) 80S
d) 30S
- (x) What is the name of the primary stain that is used in gram staining technique?
- a) Safranin
c) Fuschin
- b) Crystal violet
d) Iodine
- (xi) What is the name of the layer present in gram+ve bacterial cellwall?
- a) Murin
c) Mucopeptide
- b) Peptidoglycan
d) Lipoprotein
- (xii) Which type of organism that depends on organic compound for the supply of carbon and nitrogen
- a) Chemoautotroph
c) Autotroph
- b) Heterotroph
d) Chemolithotroph
- (xiii) Fixation of atmospheric nitrogen is by what means.....
- a) Biological process
c) UV ray
- b) Lightening
d) all of them
- (xiv) Select the associative symbiotic N₂ fixer in non-legumes
- a) Rhizobium
c) Azotobacter
- b) Azospirillum
d) Derxia
- (xv) Indicate the process that converts NH₄⁺ to NO₃⁻ is called
- a) Nitrogen fixation
c) Denitrification
- b) Ammonification
d) Nitrification
- (xvi) What is the useful term that denotes Flagella distribution over entire cell wall ?
- a) Monotrichous
c) Lophotrichous
- b) Atrichous
d) Peritrichous
- (xvii) Choose the correct option: The viral protein coat is called
- a) Capsid
c) Capsule
- b) Capsomere
d) Envelope
- (xviii) Choose the correct answer: Nigrosin is used in
- a) Acid fast staining
c) Gram staining
- b) Flagella staining
d) Negative staining
- (xix) Which genus of BGA is commonly inoculated to paddy field as biofertilizer?
- a) Azolla
c) Salvinia
- b) Marsilea
d) Anabaena
- (xx) What is the right option: Amount of dissolved oxygen consumed in 5 days by biological process breaking down organic matter
- a) BOD
c) COL
- b) AOL
d) DOL

Group-B

(Short Answer Type Questions)

2.5 x
10=25

2. Explain about the structure of the bacterial flagella with the suitable illustrations. (2.5)
3. Explain bacterial growth curve and enumerate factors affecting growth. (2.5)

4. Interpret various types of Nitrogen Fixation. (2.5)
5. What is Plasmid? (2.5)
6. Write a brief note on Phyllosphere. (2.5)
7. Describe briefly about the Bacterial cellwall. (2.5)
8. Describe the Gram-staining method briefly. Name two phytopathogenic gram-ve bacteria. (2.5)
9. Write short note on food preservation (2.5)
10. Organize a brief description about 'Flagella'. (2.5)
11. Determine the significance of Bacteria, Cyanobacteria and fungi used as bioinoculants. (2.5)

OR

Explain the merits and demerits of biofertilizer (2.5)

Group-C

(Long Answer Type Questions)

5 x 1=5

12. Explain nitrogen cycle with the examples of microorganisms involved. (5)

OR

Summarize the definition of the following: Pyrolysis, Methanogenesis, Parasitoids. (5)
