

Write the following information in the first page of Answer Script before starting answer

ODD SEMESTER EXAMINATION: 2020-21

Exam ID Number _____

Course _____ Semester _____

Paper Code _____ Paper Title _____

Type of Exam: _____ (Regular/Back/Improvement)

Important Instruction for students:

1. Student should write objective and descriptive answer on plain white paper.
2. Give page number in each page starting from 1st page.
3. After completion of examination, Scan all pages, convert into a single PDF, rename the file with Class Roll No. (2019MBA15) and upload to the Google classroom as attachment.
4. Exam timing from 10am – 1pm (for morning shift).
5. Question Paper will be uploaded before 10 mins from the schedule time.
6. Additional 20 mins time will be given for scanning and uploading the single PDF file.
7. Student will be marked as ABSENT if failed to upload the PDF answer script due to any reason.

B.Sc. BIOTECHNOLOGY
THIRD SEMESTER
GENERAL MICROBIOLOGY
BBT - 302

Duration : 3 hrs.

Full Marks : 70

(**PART-A: Objective**)

Time : 20 min.

Marks : 20

Choose the correct answer from the following:

1×20=20

1. Method used for preservation of plant species
 - a. Freezing
 - b. Saline solution
 - c. Herbarium
 - d. None of the above
2. Which of the following criteria do not belong to Whittaker's five kingdom classification
 - a. Cell structure
 - b. Mode of nutrition
 - c. Phylogenetic lifestyle
 - d. Genetic modification
3. 'Germ Theory of disease' is postulated by
 - a. E. Jenner
 - b. Robert Koch
 - c. Louis Pasteur
 - d. A. Flemming
4. In Fed-batch culture
 - a. addition of fresh growth medium is not required
 - b. substrates are added at short time intervals during fermentation
 - c. fresh growth medium is added continuously
 - d. None of the above
5. _____ is considered to act as a good genetic indicator of evolution of one organism
 - a. DNA
 - b. rRNA
 - c. mRNA
 - d. tRNA
6. Bacterial membrane consists of
 - a. Diacyl glycerol diesters
 - b. Aryl diesters
 - c. Glycerol diether
 - d. All of the above
7. Carl Woese's system of Classification is based on
 - a. Phenotypic characters
 - b. genetic characters
 - c. evolutionary relatedness
 - d. both b) and c)
8. Animalcules are
 - a. Motile unicellular life
 - b. Non-motile unicellular life
 - c. Both a) and b)
 - d. None of the above
9. High efficiency particulate air filter is present in
 - a. Autoclave
 - b. Laminar Air Flow
 - c. Hot air oven
 - d. PCR

10. Barrier filter blocks
- a. Red light
 - b. Blue light
 - c. White light
 - d. All of the above
11. Mesophilic non spore forming bacteria are killed by
- a. Pateurization
 - b. Autoclaving
 - c. Tyndallization
 - d. Solar disinfection
12. An example of thermal radiation is
- a. Autoclave
 - b. UV radiation
 - c. Infrared radiation
 - d. Hot air oven
13. Primary aim of microbial culture preservation is
- a. To maintain organisms alive
 - b. To keep uncontaminated
 - c. Only b
 - d. Both a) and b)
14. Greater microbial activity takes place in
- a. Soil
 - b. Rhizosphere soil
 - c. Non-rhizosphere soil
 - d. All of the above
15. Protists and yeasts can be directly counted with _____
- a. Coulter Counter
 - b. hemocytometers
 - c. Petroff-Hausser counting chambers
 - d. Grit chamber
16. Smoking is used for preservation of
- a. Fruits and vegetables
 - b. Meat and meat products
 - c. Milk and milk products
 - d. None of the above
17. Sugar is an example of
- a. Perishable food
 - b. Semi-perishable food
 - c. Non-perishable food
 - d. None of the above
18. Secondary metabolites are formed during
- a. Lag phase
 - b. Log Phase
 - c. Stationary phase
 - d. Death phase
19. The Rumen ecosystem is an example of
- a. Mutualism
 - b. Competition
 - c. Predation
 - d. Protocooperation
20. Rhizosphere ratio equal to 1 indicates
- a. Greater microbial activity
 - b. No rhizosphere effect
 - c. Inhibition of activity in rhizosphere
 - d. Selective stimulation

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(PART-B : Descriptive)

Time : 2 hrs. 40 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. Describe briefly the various microbial interactions found in soil with suitable examples 10

2. Write a note on : 5+5=10
 - a. Spontaneous generation vs. biogenesis.
 - b. Basics of Bergey's manual

3. Write short note on the following: 2×5=10
 - a. Virus
 - b. Three domain system of classification

4. What is basic difference between a Dark-field and Bright-field microscopy? Describe briefly the principle of Fluorescence microscopy and its applications. 2+8=10

5. Discuss briefly the Heat sterilization methods used in preparation of culture media. 10

6. Explain briefly how various environmental factors effects the microbial growth. 10

7. Write a note on physical methods of food preservation techniques. 10

8. Write a note on the following 5+5=10
 - a. Microbial growth curve
 - b. Application of yeast in food industry

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