REV-01
MMB/01/03

2025/12

SET A

M.Sc. MICROBIOLOGY
FIRST SEMESTER (REPEAT)
GENERAL MICROBIOLOGY & BACTERIOLOGY
MMB-101

[USE OMR FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

Objective

Time: 30 min. **Marks: 20**

1X20=20

Choose the correct answer from the following:

1. Adgal is found in which type of reproduction in bacteria
   a. Conjugation
   b. Transformation
   c. Generalized transduction
   d. Specialized transduction

2. The four aminoacids bonded by each NAM in order are
   a. Glutamine-lysine-alanine-tryptophan
   b. Glutamine-lysine-alanine-tryptophan
   c. Alanine-glutamine-lysine-Alanine
   d. Alanine-glutamine-lysine-Alanine

3. Mapping in Bacteria is generally followed by which method
   a. F+ F- conjugation
   b. F' conjugation
   c. HfR conjugation
   d. None

4. Find out the resolving power of microscope travelling in 530 nm in air
   a. 272nm
   b. 266nm
   c. 265nm
   d. 365nm

5. Find out the magnifying power of the microscope when objective lens is 100 X and ocular lens is 20 X
   a. 1000X
   b. 2000X
   c. 500X
   d. 5X

6. Endospore is made up of
   a. Mycolic acid
   b. Teichoic acid
   c. Dipicolinic acid
   d. Chitin

7. Fluorochrome dye is used for which type of microscope
   a. Phase Contrast
   b. TEM
   c. Bright Field
   d. Fluorescent

8. Streptococcus pneumoniae is differentiated by which type of media
   a. SS agar media
   b. Blood agar media
   c. Mackonkey agar media
   d. PDA

9. Living cells are clearly observed with the difference in refractive index of the object by

a. Dark field microscope
b. Phase contrast microscope
c. Bright field microscope
d. SEM

10. Bernard Davis experiment proved which type of reproduction in bacteria
a. Transduction
b. Transformation
c. Binary fission
d. Conjugation

11. A bacterial cell is having 10^3 is increased to 10^9 cells in 10 hours , find out the growth of the bacteria
a. 0.5min
b. 2min
c. 1.5 min
d. None

12. Saccharomyces cereviseae is _____
a. Unicellular
b. Multicellular
c. Multinucleate
d. Both b) and c)

13. Glycogen and fat is storage food in
a. bacteria
b. Protista
c. Fungi
d. Algae

14. unicellular and colonial eukaryotes is a characteristics of
a. Protista
b. Monera
c. Animalia
d. None of the above

15. Ingestive type of mode of nutrition is observed in
a. Monera
b. Protista
c. Planate
d. Animalia

16. Protein coat of virus is known as
a. Capsomeres
b. capsid
c. envelop
d. cellwall

17. Mad cow disease is caused by
a. Virus
b. Prions
c. Viroids
d. Virusoids

18. Prophage is found in the life cycle of
a. Bacteria
b. algae
c. Virus
d. fungus

19. Bdellovibrio is a good example of _____interaction
a. Mutualistic
b. Parasitism
c. Amensalism
d. Predative

20. Penicillium produces penicillin which kills harmful bacteria. What type of interation it is

a. Amensalism
b. Predation
c. Competition
d. Mutualism

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(Descriptive)

Time : 2 hrs. 30 min. Marks : 50

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

1. Explain the mechanism of specialized transduction with a neat diagram 2+8=10

2. Explain competent cell? Describe the mechanism of transformation with a neat diagram 8+2=10

3. a)Define the different phases of growth curve
   b)Derive mathematically the relation of growth kinetics and generation time 5+5=10

4. Explain the phase contrast microscope and fluorescent microscope with a neat diagram 5+5=10

5. Explain the phase contrast microscope and fluorescent microscope with a neat diagram 5+5=10

6. **Write short notes on** 5+5=10
   a. Viroids
   b. Predation and competition

7. Discuss the rules of binomial nomenclature system. Write a note on the criteria for five kingdom classification. 5+5=10

8. Write general characteristics of a Virus with a neat labelled diagram. Discuss the lysogenic cycle of virus with neat labelled diagram. 5+5=10

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