C 62600 (Pages : 3) Name.....

Reg. No.....

SECOND SEMESTER (CUCBCSS-UG) DEGREE EXAMINATION MAY 2019

B.Sc. Microbiology

MBY 2B 02—MICROBIAL PHYSIOLOGY AND TAXONOMY

Time : Three Hours Maximum : 80 Marks

Section A

Answer all *questions.*
Each question carries $^1/_2$ *mark.*

1. Which among the following is an enriched medium ?

   (a) Nutrient agar. (b) Citrate medium.

   (c) Blood agar. (d) Nitrate media.

2. Fimbriae are seen in :

   (a) Gram positive bacteria. (b) Gram negative bacteria.

   (c) Mycoplasma. (d) Yeast.

3. A culture started with 4 cells and ended with 128 cells. How many generations did the cells go through :

   (a) 64. (b) 32.

   (c) 5. (d) 4.

4. Both aerobic and anaerobic growth is seen in :

   (a) Streak plate. (b) Spread plate.

   (c) Pour plate. (d) Lawn culture.

Fill in the Blanks :

5. _____ is a unicellular fungus.
6. Mac Conkey is _____ type of media.
7. Two substances are transported in the same direction is _____
8. _____ is used as common media for isolation of fungi State whether the following statements are True *or* Flase.

Turn over

9. Protoplast is obtained when Gram-ye cells are treated with lysozyme.
10. Temperate phages follow both lytic and lysogenic cycle.
11. Passive diffusion occur by a specific protein carrier called permeases.
12. Cluster of flagella at one end is called polar flagella.

(12 x $^1/_2$ = 6 marks)

Section B

Answer all *questions.*
Each question carries 2 *marks.*

13. Define Phototroph.
14. Inorganic inclusion bodies present in prokaryotes?
15. Different pattern of flagella arrangement.
16. Define Myxotroph.
17. What is CFU ?
18. What is biofilim ?
19. Binomial nomenclature.
20. Thermoplasma.
21. Siderophore.
22. Dimorphic fungi.

(10 x 2 = 20 marks)

Section C

Answer any six *questions.*
Each question carries 5 *marks.*

23. Discuss various classification systems employed for grouping bacteria.
24. Explain different viral quantification methods.
25. Explain microbial growth curve and its significance ? Describe how generation time calculated.
26. Explain the structure and function of bacterial cell membrane.
27. Discuss about different external structures present in bacteria.

28. Explain the structure and stages of sporulation.

29. Describe mode of phage replication.

30. Discuss steady state culture, synchronous culture and diauxic culture and their application.

(6 x 5 = 30 marks)

Section D

Answer any two *questions.*

Each question carries 12 *marks.*

31. Write in detail the nutrient transportation in bacteria.

32. Discuss the classification scheme for fungi proposed by Alexopoulos.

33. Describe different culture media used in isolation and characterization of microbes.

(2 x 12 = 24 marks)