

C 5606

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Name.....

Reg. No.....

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2016

(CUCBCSS—UG)

Core Course

MBY 2B 02—MICROBIAL PHYSIOLOGY AND TAXONOMY

Time : Three Hours

Maximum : 80 Marks

Section A

*Answer all questions.*

*Each carries ½ mark.*

Choose the correct answer :

1. Which among is Penicillin resistant micro-organism :  
(a) Mycoplasma. (b) Staphylococcus.  
(c) Mycobacterium (d) E.coli.
2. Which type of media is blood agar :  
(a) Transport media. (b) Defined media.  
(c) Selective media. (d) Enriched media.
3. Cell wall of Gram +ve bacteria possess :  
(a) Lipopolysaccharide. (b) Mycolic acid.  
(c) Teichoic acid. (d) Penicilloic acid.
4. Thermophile has growth optimum at :  
(a) 20-45°C. (b) 0-15°C.  
(c) 55-65°C. (d) 20-30°C.

Fill in the blanks :

5. Bacterial membrane contain sterol like molecules called \_\_\_\_\_
6. Flagellar filament is made up of a protein known as \_\_\_\_\_

Turn over

7. **Photoautotrophs** used \_\_\_\_\_ as their energy source and \_\_\_\_\_ as their carbon source
8. ABC transporters is an example of \_\_\_\_\_ transport system.

State whether the following statements are True or False :

9. Yeast is a unicellular fungus.
10. **E.coli** is an obligate anaerobe.
11. Blood agar is a complex media.
12. **Barophiles** grow at high temperature.

(12 x ½ = 6 marks)

### Section B

Answer **all** questions.

Each carries 2 marks.

13. Explain the structure and function of capsule.
14. Distinguish **spheroplast** and **protoplast**.
15. Discuss the function of **mesosome**.
16. What is **PHB** ?
17. What is mean by selective differential media? Give *one* example.
18. What is **Diauxic** culture ?
19. Explain group **translocation**.
20. What are **osmophiles** ? Give *one* example.
21. What is mean by **chemo organotroph** ? Give *one* example.
22. Distinguish fission and budding.

(10 x 2 = 20 marks)

### Section C

Answer any **six** questions.

Each carries 5 marks.

23. Explain both **lytic** and **lysogenic** cycle of bacteriophages.

24. Describe how bacteria is grouped based on nutritional requirements ?
25. Explain bacterial photosynthesis.
26. Explain microbial growth curve and its significance? Describe how generation time calculated.
27. Give an account on different anaerobic culture methods.
28. Discuss about different external structures of bacteria.
29. Explain the cell wall structure of **archaeobacteria**.
30. Explain the structure of **Endospore** ? Describe the stages of **sporulation**.

(6 x 5 = 30 marks)

#### Section D

*Answer any two questions.*

*Each carries 12 marks.*

31. Explain different quantitative measurement of bacterial growth.
32. Describe different culture media used in isolation and. purification of microbes.
33. Write an essay on different classification systems in bacteria and various criteria used in classification.

(2 x 12 = 24 marks)