



MAR IVANIOS COLLEGE (AUTONOMOUS)
THIRUVANANTHAPURAM

Reg. No. :.....

Name :.....

Second Semester Career Related B.Sc. Degree Examination, June 2016

First Degree Programme under CBCSS

Vocational Course – II: (for Botany and Biotechnology)

AUBB251: Microbial Metabolism, Genetics and Diseases

Time: 3 Hours

Max. Marks: 80

SECTION – A

Answer ALL the following in a word or one or two sentences.

1. What is the function of mesosomes ?
2. Another name for glycolytic pathway.
3. What are the sources of energy for microorganisms ?
4. Define conjugative plasmid.
5. What is the advantage of having overlapping genes in prokaryotes ?
6. What is the role of F pilus ?
7. Name the gene transfer mediated through viruses.
8. Name the causative organism for Tuberculosis.
9. What is the expansion of MDR with respect to drugs ?
10. Name one water borne deadly viral disease transmitted also by blood transfusion.

(10 × 1 = 10 Marks)

SECTION – B

Answer any EIGHT questions, not exceeding a paragraph.

11. Explain Bacterial Growth Curve.
12. How biofilm help bacteria to survive ?
13. What is peptidoglycan ?
14. Briefly explain endospore in bacteria with a diagram.

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15. How microorganisms are classified according to temperature range of growth ?
16. How many NADH molecules are produced in glycolysis from one molecule of glucose ? Write the reaction equation.
17. What are Facultative anaerobes ?
18. Explain the structure of Flagella.
19. What is the composition of cholera toxin ?
20. Distinguish Prokaryotic and Eukaryotic cell.
21. How uncontrolled stimulation of skeletal muscle occurs in tetanus ?
22. Write about the symptoms of anthrax.

(8 × 2 = 16 Marks)

SECTION – C

Short essay type : Answer any SIX questions.

23. What are the functions of prokaryotic structures ?
24. Briefly describe the factors affecting the growth of bacteria.
25. Write a note on Glycolytic pathway.
26. Write notes on transposons ?
27. Discuss about a disease caused by virus belonging to Togaviridae.
28. How Griffith did an experiment to prove that there is a transforming principle ?
29. Explain Plasmids and different types of Plasmids.
30. What is botulism ?
31. Write about mycobacterial diseases.

(6 × 4 = 24 Marks)

SECTION – D

Long essay type : Answer any TWO questions.

32. Explain the role of microbes in Nitrogen cycle.
33. Explain the different methods of gene transfer in bacteria.
34. Describe the mechanism of lambda phage transduction in E. coli ?
35. Write about four food borne and waterborne viral diseases.

(2 × 15 = 30 Marks)
