



MAR IVANIOS COLLEGE (AUTONOMOUS)
THIRUVANANTHAPURAM

Reg. No. :.....

Name :.....

Third Semester Career Related B.Sc. Degree Examination, November 2016

First Degree Programme under CBCSS

Complementary Course – III: (for Botany and Biotechnology)

AUBB331: Physiological aspects in Biochemistry

Time: 3 Hours

Max. Marks: 80

SECTION – A

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

1. Define BMR.
2. Name the disease caused by the deficiency of Vitamin B1 and B12.
3. Define clotting time.
4. Differentiate between plasma and serum.
5. What is the significance of glycosylated hemoglobin ?
6. Name any two steroid hormones.
7. What is the partial pressure of various gases in alveolar air ?
8. Give one function of oxytocin ?
9. What is caloric value ? Mention the caloric value of carbohydrates and fats.
10. What is the function of platelets ?

(10 × 1 = 10 Marks)

SECTION – B

Answer any EIGHT questions, not exceeding a paragraph.

11. Compare metabolic acidosis and alkalosis.
12. What are the different types of lymphocytes ? Mention its function.
13. What is the significance of Calcium, Phosphorus, Sodium and Potassium in the body ?

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14. Comment on any two abnormal hemoglobin.
15. Name any four abnormal constituents of urine.
16. How are vitamins classified according to solubility ?
17. Draw the structure of nephron.
18. What do you mean by Bohr effect ?
19. Explain the formation of bile pigments.
20. What is the chemical basis of blood groups ?
21. Give an example for metabolism of foreign compounds in the liver by conjugation.
22. What is hemophilia ?

(8 × 2 = 16 Marks)

SECTION – C

Short essay type : Answer any SIX questions.

23. Give brief description of the different buffers in blood.
24. Describe about the exchange and transport of O₂ and CO₂ in blood.
25. What are anticoagulants ? Give two examples of commonly used anticoagulants in lab and give their mechanism of action.
26. What is erythropoiesis ?
27. Explain oxygen – hemoglobin dissociation curve.
28. Explain the organisation of endocrine system.
29. Briefly explain the formation of urine.
30. Give a brief description of LFT.
31. Write short notes on structure and function of hemoglobin.

(6 × 4 = 24 Marks)

SECTION – D

Long essay type : Answer any TWO questions.

32. What is the biochemical function of iron ? **(5 Marks)**
Describe the absorption, transport and storage of iron. **(10 Marks)**
33. Write an essay on the different types of blood cells.
34. What are the characteristics, pathophysiology and risk factors in atherosclerosis ?
How can it be managed ?
35. Detail the events occurring during blood coagulation.

(2 × 15 = 30 Marks)

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