

D 92276

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Name

Reg. No.....

**THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2015**

**(CUCBCSS—UG)**

**Bio** Technology

BT 3B 03—BIOCHEMISTRY

Time : Three Hours

Maximum : 80 Marks

**Section A**

*Answer any **two** out of **four** questions in about 1500 words.*

*Each question carry **10** marks.*

1. Give an idea about different types of chromatographic techniques used for the separation of **Biomolecules**.
2. Write an essay on the nature and function of electron carriers in Electron Transport Chain.
3. What are the factors that affect enzyme action ? Derive **Michaelis-Menten** equation.
4. Describe the salient structural features of B-DNA.

**Section B**

*Answer any **seven** out of **fourteen** questions in about 750 words.*

*Each question carries 5 marks.*

5. Write a note on physiological **bufers**.
6. What do you know about shuttle systems ? Give an example.
7. Give an idea about **Cytokinins**.
8. Classify **aminoacids** based on their polarity.
9. Discuss about fatty acid oxidation.
10. Give an idea about the stabilizing forces present in proteins.
11. Distinguish between lactate fermentation and alcoholic fermentation.
12. Write a note on **homopolysaccharides**.
13. Discuss about the structure and function of ATP **synthase**.
14. Give a brief idea about the six major classes of enzymes.
15. Discuss about the uses of Native-PAGE and **SDS-PAGE**

**Turn over**

16. Explain the role of **Allosteric** enzymes in metabolic regulation.
17. Discuss about the action of insulin.
18. Distinguish between  $\alpha$ -helix and  $\beta$ -pleats .

### Section C

Answer **all** questions in about 300 words.

Each question carries 3 marks.

19. Draw the structure of cholesterol and mention its biological function.
20. What do you know about **mutagenesis** ?
21. What are **isoenzymes** ? Give examples.
22. Mention any *two* major functions of vitamin A.
23. What are **multienzyme** complexes ?

### Section D

Answer **all** questions in about 200 words.

Each question carries 2 marks.

24. What is the significance of **Pentose** Phosphate Pathway ?
25. Distinguish between globular and fibrous proteins.
26. Name the **pyrimidines** present in RNA.
27. Mention *two* functions of growth hormones.
28. What are **anomers** ? Give examples.