

E 1538

(Pages : 2)

Reg. No.....

Name.....

**B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2018**

**Fourth Semester**

**Complementary Course—BIOCHEMISTRY METABOLISM-II**

(Common for all Programmes Having Biochemistry as Complementary Subject)

[2013 Admission onwards]

Time : Three Hours

Maximum Marks : 60

**Part A**

*Answer all questions.*

*Each question carries 1 mark.*

Comment on the following :

1. Alternative name of Fe-protein in  $N_2$  fixation.
2. Phospholipids.
3. Nucleotide.
4. Peptidase acting on disulfide bonds.
5. Disaccharide bonds.
6. Reduction.
7. Intron.
8. Name a diamino amino acid.

(8 × 1 = 8)

**Part B (Brief Answers)**

*Answer any six questions.*

*Each question carries 2 marks.*

9. Deficiency disorders of Vitamin B.
10. Structural peculiarities of tRNA.
11. Functions of cell membrane.
12. Genetic code.
13. Anaplerotic reactions.
14. Energy yield in a 16 C fatty acid digestion.
15. Energy requirement in  $N_2$  fixation.

Turn over

16. Mechanism of action of epinephrine.
17. Ribosomal proteins.
18. RNA polymerase (DNA dependent).

(6 × 2 = 12)

### Part C (Short Essays)

*Answer any four questions.  
Each question carries 4 marks.*

19. What are the post translational modifications of proteins.
20. How proteins are digested and adsorbed.
21. Explain the chemiosmotic theory of ATP generation.
22. Describe different types of phosphorylation processes.
23. Fermentation as a metabolic process.
24. Protective mechanisms preventing oxygen damage to nitrogenase enzyme.

(4 × 4 = 16)

### Part D (Essays)

*Answer any two questions.  
Each question carries 12 marks.*

25. Explain the process of DNA replication in detail. How the errors are minimised by various mechanisms.
26. Describe in detail the biochemical reactions involved in Nitrogen fixation.
27. Explain the details of conversion of one mol of glucose through oxidative processes under aerobic conditions resulting in complete oxidation forming CO<sub>2</sub> and energy.
28. Explain the process of protein synthesis.

(2 × 12 = 24)