

SECTION - C

Short answer questions. Answer any five of the following. Each carries a weightage of 1.

15. Give the significance of Krebs cycle.

16. What do you understand by Km value?

17. Write what you know about allosteric.

18. What is the role of ATP in plant metabolism?

19. Explain the steps of TCA pathway in aerobic respiration.

20. Write about the properties of fatty acids.

(5x=25)

SECTION - D

Short answer questions. Answer any six of the following. Each carries a weightage of 1.

21. Explain the difference between the following examples.

22. Explain the difference between the following examples.

23. Explain the difference between the following examples.

24. Explain the difference between the following examples.

25. Explain the difference between the following examples.

26. Explain the difference between the following examples.

27. Explain the difference between the following examples.

28. Explain the difference between the following examples.

29. Explain the difference between the following examples.

30. Explain the difference between the following examples.

31. Explain the difference between the following examples.

32. Explain the difference between the following examples.

33. Explain the difference between the following examples.

34. Explain the difference between the following examples.

35. Explain the difference between the following examples.

(5x=25)



Reg. No. :

Name :



V Semester B.Sc. Degree (CCSS – Reg./Supple./Imp.)

Examination, November 2014

CORE COURSE IN BOTANY/PLANT SCIENCE

5B08 BOT/PLS : Biochemistry and Intermediary Metabolism
(2012 Admission)

Time : 3 Hours

Total Weightage : 30

SECTION – A

1. Choose the correct answer. **Each** bunch of **four** questions carries a weightage **1** :

i) Co-enzymes

a) FAD and NADP

b) FAD and ATP

c) GTP and NADH

d) ATP and CoA

ii) Allosteric inhibition is due to

a) Enzymes

b) Substrate

c) End products

d) Inhibitors

iii) Enzyme involved in amino acid synthesis.

a) Nitrate reductase

b) Nitrite reductase

c) Nitrogenase

d) Transaminase

iv) Factor that does not influence enzyme action.

a) Temperature

b) Substrate concentration

c) pH

d) CO₂ concentration2. State **true** or **false** :

i) Reduced FAD releases 3 ATP in respiration.

ii) Glycolysis occurs in the mitochondrion.

iii) TCA cycle is Krebs's cycle.

iv) Glycerol is a trihydric alcohol.



3. Fill in the blanks :

- i) EMP pathway is also called _____
- ii) _____ inhibitor occupies the active site of the enzyme.
- iii) _____ is the first amino acid formed in plants.
- iv) _____ is a disaccharide.

4. Answer in **one** or **two** sentences :

- i) Product of glycolysis-from one molecule of glucose.
- ii) Co-enzymes are derivatives of what substances.
- iii) Amphoteric compounds that are body builders.
- iv) Glycosidic bonds occur in which compounds ?

5. Rearrange column B and C to match column A.

A	B	C
Phospholipid	Serine	Animal membrane
Terpenoid	Fruits	Vit. A
Wax	Structural lipid	Water barrier
Sphingolipid	Beta carotene	Membranes

(5×1=5)

SECTION – B

Answer **any four**. Differentiate the following. **Each** carries a weightage of **1** :

6. Lactic acid fermentation and alcoholic fermentation.
7. Activation energy and free energy.
8. Competitive and non competitive inhibition.
9. Reductive amination and transamination.
10. Symbiotic and asymbiotic N fixation.
11. Reducing and non reducing sugars.

(4×1=4)



SECTION – C

Short answer questions. Answer **any five** of the following. **Each** carries a weightage of **1** :

12. Give the significance of Kreb's cycle.
13. What do you understand by Km value ?
14. Write what you know about starch.
15. What is the role of ATP in plant metabolism ?
16. Explain the energetics of EMP pathway in aerobic respiration.
17. Write notes on nitrogenous bases of nucleic acids.
18. Write about the hydrolysis of fats.

(5×1=5)

SECTION – D

Short answer questions. Answer **any six** of the following. **Each** carries a weightage of ?

19. Explain the role of co-enzymes with examples.
20. Describe the breakdown of fatty acid by β -oxidation.
21. Explain the direct oxidation pathway and add a note on its significance.
22. What is the role of GS/GOGAT pathway ?
23. Write what you know about the types of RNA.
24. What are the functions of proteins ?
25. Give an account on the properties of enzymes.
26. Explain the chemiosmotic coupling.

(6×2=12)

SECTION – E

Essay questions. Answer **any one** of the following. (Weightage of **4**) :

27. Explain the process of root nodule formation in leguminous plants consequent to rhizobium infection and describe the biochemistry of N fixation.
28. Write an account on the secondary metabolites in plants and discuss their role.
29. Write on the classification of enzymes and illustrate the theories related to enzyme action.

(1×4=4)