

**FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2016**

(CUCBCSS-UG)

Complementary Course

BCH 4C 04 – BIOCHEMISTRY IV

Time : Three Hours

Maximum : 80 Marks

**Section A***Answer all questions.**Each question carries 1 mark.*

- \_\_\_\_\_ is the rate limiting enzyme of cholesterol biosynthesis.
2. \_\_\_\_\_ is a thyroid hormone.
  3. Rickets is caused by the deficiency of \_\_\_\_\_
  4. Vitamin \_\_\_\_\_ is involved in blood clotting.
  5. Fatty acid oxidation takes place in \_\_\_\_\_
  6. \_\_\_\_\_ is a **ketogenic** amino acid.
  7. What is the co factor in **carboxylation** reactions?
  8. \_\_\_\_\_ is a fat soluble vitamin.
  9. \_\_\_\_\_ is a peptide hormone.
  10. \_\_\_\_\_ is a **phospholipid**.
  11. Give an example of a ketone body.
  12. What is the precursor of steroid hormones?
  13. Bile is produced in \_\_\_\_\_  
(liver, pancreas, small intestine, mouth)
  14. \_\_\_\_\_ stimulate the release of hormone sensitive lipase.  
(epinephrine, **glucagon**, growth hormone, insulin)
  15. Where does Urea cycle takes place?  
(liver, pancreas, small intestine, kidney)
  16. \_\_\_\_\_ is the co factor involved in fatty acid synthesis.  
(NAD, NADP, FMN, TPP)

(16 x 1 = 16 marks)

**Turn over**

**Section B**

Answer any **eight** of the following.

Each question carries 3 marks.

17. What are **proteolytic** enzymes? Give *two* examples.
18. What is **decarboxylation** reaction? Give an example
19. What are the physiological functions of pyridoxine?
20. What is scurvy? What are its symptoms and contributing factors?
21. What are the sources of Vitamin E?
22. What are the functions of **glucagon**?
23. What are second messengers? Give an example.
24. What is  $\beta$ -oxidation?
25. Write down the reaction catalysed by **arginase**.
26. How **ornithine** is formed in urea cycle?

(8 x 3 = 24 marks)

**Section C**

Answer any **four** of the following.

Each question carries 5 marks.

27. What is **carnitine**? Explain its role in  $\beta$ -oxidation.
28. Explain the regulation of cholesterol biosynthesis.
29. Explain the biological roles of potassium.
30. Explain the classification of hormones with suitable examples.
31. Explain the physiological functions of Vitamin A.
32. Explain the physiological functions of **phospholipids**.

(4 x 5 = 20 marks)

**Section D**

Answer any **two** of the following

Each question carries 10 marks.

33. Explain the digestion and absorption of lipids.
34. Explain fatty acid synthesis and its regulation.
35. Explain urea cycle.

(2 x 10 = 20 marks)