

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMEISTER END THEORY EXAMINATION, B.TECH. (D.T.) Degree Course 2017-18

Semester	: II (New Syllabus)	Academic Year	: 2017-2018
Course No.	: DC-204	Course Title	: Biochemistry and Human Nutrition
Credits	: 2+1=3	Total Marks	: 50
Day & Date	: Tuesday, 19.06.2018	Time	: 11.00 to 13.00 Hrs.

- Note :** 1) All questions from **Section 'A'** are compulsory.
2) Solve **Any Five** questions from **Section 'B'**.
3) Draw neat and well labelled diagram wherever necessary.

SECTION – 'A'

Q. 1 A) Choose the most appropriate answer from the options given below. (05)

- i) Lactose intolerance is due to the deficiency of
 - a) Lipase
 - b) Peptidase
 - c) Esterase
 - d) Beta-galactosidase
- ii) Z form of DNA is
 - a) Left handed
 - b) Right handed
 - c) Both a) and b)
 - d) None of these
- iii) Diabetes is caused by lack of a hormone called
 - a) Oxytocin
 - b) Vasopressin
 - c) Insulin
 - d) Hemoglobin
- iv) Net production of ATPs on complete oxidation of one mole of glucose under aerobic condition is
 - a) 8
 - b) 12
 - c) 2
 - d) 38
- v) The deficiency thiamine leads to
 - a) Scurvy
 - b) Beri-beri
 - c) Osteoporosis
 - d) Night blindness

B) Define the terms: (05)

- i) Gluconeogenesis
- ii) Apoenzyme
- iii) Hormone
- iv) Additives
- v) Nucleotides

Q. 2 A) Elaborate the following (05)

- i) EMP
- ii) NADP
- iii) RDA
- iv) IUPAC
- v) MRL

(P.T.O.)

- B) State "True or False", If False, rewrite the statement after making necessary corrections. (05)
- i) Bile is produced by Golgi apparatus.
 - ii) Organochloro insecticides are the more persistent and bio accumulative.
 - iii) In non-competitive enzyme inhibition the V_{\max} remains constant.
 - iv) All enzymes are proteins in nature.
 - v) Carotenoids are the precursors of vitamin D.

SECTION – 'B'

- Q. 3 What are the functions of DNA and RNA? Explain Watson and Crick model of DNA structure. (06)
- Q. 4 What is Kreb's cycle? Describe various steps along with the enzymes involved in the process. (06)
- Q. 5 Define enzymes. Write the classification of enzyme and discuss the mechanism of enzyme action. (06)
- Q. 6
- a) Write note on heavy metals. (02)
 - b) Write short notes on competitive enzyme inhibition. (02)
 - c) Discuss in brief "Urea cycle" (02)
- Q. 7
- a) Explain in brief Hexose Mono Phosphate (HMP) pathway. (03)
 - b) Discuss in brief the biological significance of vitamin D and E. (03)
- Q. 8
- a) Write short notes on antibiotics residues in milk and milk products. (02)
 - b) Briefly discuss β -oxidation of fatty acid. (02)
 - c) Briefly explain the milk synthesis in mammary gland. (02)
- Q. 9
- a) What do you understand by protein hypersensitivity? (02)
 - b) Discuss in detail the digestion, absorption and assimilation of nutrients in human body. (04)
