NBL-003-001214 Seat No. _____

B. Sc. (Sem. II) (CBCS) Examination

April / May - 2017

Biochemistry : Paper - 201

(Biomolecules)

Faculty Code : 003

Subject Code : 001214

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Select the correct answer for the questions from the given choices : **20**

(1) Define anomer.

(2) State major difference between cellulose and starch.

(3) Name the compound formed by reaction of galactose to conc HNO_3 ?

(4) Draw structure of D- Glyceraldehyde.

(5) Name the phospholipids found in egg.

(6) Which essential fatty acids are found in Flax seeds?

(7) Give major difference between saturated and unsaturated fatty acids.

(8) Name the precursor for synthesis of Vitamin D present in skin.

(9) Give importance of Edman degradation.

(10) Which form of amino acid is predominantly present in nature?

(11) Name the amino acid which is optically inactive.

(12) Define pI.

(13) Give role of CTP.

(14) State different types of RNA found in eukaryotes.

(15) Which of the following ratio is constant in the DNA of all the species A+G / C+T or A+C / T+G ?

(16) Name the scientist who demonstrated that DNA is the genetic material of the T2 phage?

(17) In heme synthesis in mammalian cells how is Porphobilinogen.

(18) Name two conditions where levels of direct bilirubin is found to be raised.

(19) Name the vitamin essential for RBC formation.

(20) Name the disease caused by Vitamin D deficiency in children and adults.

2 (a) Answer any three of the following questions : **6**

(1) Write a difference between homopolysaccharides and heteropolysaccharides.

(2) Define derived lipids giving suitable examples.

(3) Define derived protein with example.

(4) Name the organism and the scientist who said there is transforming principle.

(5) Write the changes in level of bilirubin found in all 3 types of jaundice.

(6) Give the function of Vitamin D.

(b) Answer any three of the following questions : **9**

(1) What do you mean by oxidation reaction? Explain how aldonic acid is formed.

(2) Write importance of fat in human body.

(3) Write a note on peptide bond.

(4) Draw well labelled diagram of dATP.

(5) Write about porphyria.

(6) Write the deficiency manifestation of Vitamin C.

(c) Answer any two of the following questions : **10**

(1) Write a detail note on structural isomer.

(2) Draw structures of different glycerophospholipids and show the sites of action of different phospholipases and their products.

(3) Write a note on aromatic amino acids with structures.

(4) Giving experimental evidences Prove that DNA is the genetic material.

(5) How waste of haemoglobin is removed from the body?

3 (a) Answer any three of the following questions : **6**

(1) Write the functions of the carbohydrates.

(2) Describe chemical nature of waxes and its uses.

(3) Define essential amino acids.

(4) Define Tm value of DNA.

(5) Write nomenclature of porphyrin.

(6) Write the function of Vitamin K.

(b) Answer any three of the following questions : **9**

(1) What do you mean by epimers? Explain the example of any epimers.

(2) Describe essential fatty acids with their examples.

(3) Write a note on beta pleated sheet.

(4) Briefly explain packaging of prokaryotic DNA.

(5) Write classification of jaundice.

(6) Write the source and RDA of Vitamin B_{12}.

(c) Answer any two of the following questions : **10**

(1) Write a detail note on disaccharides.

(2) Describe different biochemical tests used to test purity of fats and oils and detect adulteration.

(3) Explain denaturation of protein.

(4) Giving diagram explain packaging of eukaryotic DNA.

(5) Write the source, RDA, and function of Thiamine.
