F.Y. Bio-chem-I 2015-16

Q.P. Code:- SC2BC010316 Sem II PG-3 50

Note : 1) All questions are compulsory.
2) Figure to right indicate marks.
3) Draw diagrams whenever necessary.

Q. I **A) Answer the following questions in one sentence. (Any 4)** 8

1) What is unsaturated fatty acid ?
2) What is saturated fatty acid ?
3) List the products obtained from hydrolysis of simple Lipids.
4) Give two examples of sphingolipids.
5) What are two parameters used for nomenclature of lipids ?
6) What is indicated by Iodine value ?
7) Name the lipid involved in cell membrane.
8) What is the difference of physical between saturated and unsaturated fatty acids ?

B) Answer the following in brief. (Any 2) 6

1) Draw general structure of steroid.
2) Give Bloor's classification of lipid.
3) Give Biochemical significance of Derived lipids.
4) Explain Triglycerides with examples.

C) Answer the following in detail. (Any 1) 6

1) Give functions of lipid.
2) What are compound lipids ? Explain with two examples.

Q. II **A) Answer in one sentences. (Any 4)** 8

1) What is nucleotide ?
2) Which technique joins two nucleotides of Nucleic acids ?
3) Which technique was used for determination of DNA structure ?
4) Give the width and length of DNA having 10 bp.
5) List two models of tRNA.
6) Write number of Hydrogen bonds between 'A' and 'T' & 'G' and 'C'.
7) How long is Haploid Human genome in base pairs ?
8) What is the wavelength of light in which DNA shows maximum absorbtion ?

B) Answer the following in brief. (Any 2) 6

1) Give general structure of Purine.
2) List the difference between Uracil and Thymine.
3) Explain the role of mRNA.
4) What is rRNA and give its significance ?

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C) Answer in detail. (Any 1)

1) Explain structure of DNA with diagram.
2) List and explain any three physical properties of DNA.

Q. III A) Answer in one sentences. (Any 4)

1) What is calorie ?
2) What is SI unit of heat ?
3) Define BMI.
4) Which instrument is used to measure calorific value of food ?
5) Which vitamin is called as Ascorbic acid ?
6) Enlist water soluble vitamins.
7) Which is an universal solvent ?
8) Which food has highest calorific value ?

B) Answer the following in brief. (Any 2)

1) Explain any four factors affecting BMR.
2) Enlist source of vitamin A, D, E and K.
3) What are calorific values of proximate principles ?
4) What is nutritional significance of carbohydrates and lipids ?

C) Answer the following in detail. (Any 1)

1) How BMR is measured ?
2) What is specific dynamic action ?

Q. IV 1. A) Write short note. (Any 1)

1) Saponification 2) Rancidity of lipids

B) Fill in Blanks. (Any 3)

1) _____ is found only in Plants and Not in Animals.
(Saturated / Unsaturated / Both saturated & unsaturated)
2) The higher temperature causes increase in _____ of lipids.
(Covalent bond / Rancidity / Iodine value)
3) _____ bond joins glycerol to fatty acid. (Phosphodiester / Peptide / Ester)
4) If a fatty acid chain is removed from triglyceride and replaced by Phosphate , it is called as _____
(Phospholipid / Glycolipids / Lipoprotein)
5) Long alcohol chain with fatty acid is found in _____
(Simple / compound / Derived)
6) _____ lipids are not Triglycerides. (Simple / Compound / Derived)

2. **A) Write short note on (Any 1)** 2

1) Chargaff's rule 2) Hydrogen bond.

B) Fill in the blank. (Any 3) 3

1) _____ is found only in RNA and not in DNA. (Deoxyribose / Ribose / Phosphate)
2) The increase in temperature results in breaking of _____ bond of DNA. (Covalent bond / phosphodiester bond / Hydrogen bond)
3) The tRNA helps in _____ (Reptication / Transcription / Translation)
4) In DNA, the distance between rungs is _____ (0.34Å / 3.4Å / 34Å)
5) The increase in absorbance by single stranded DNA is called as _____ (Hyperchromism / Hypochromism / Isochromism)
6) The X-ray crystallographic structure was determined by _____. (JD watson / Francis Crick / Rosalind Franklin)

3. **A) Write short note on. (Any one)** 2

1) Energy Balance 2) Respiratory Quotient

3. **B) Fill in blanks. (Any 3)** 3

1) Running for an hour burns _____ calories. (2600, 1450, 600)
2) _____ are rich in fibres. (Leaves, fruits, flowers)
3) RDA for fats is _____ (55g, 78g, 70g)
4) To calculate BMR, height is measured in _____ (inches, centimeters, feet)
5) 4.5 is protein efficiency ratio for _____. (Egg protein, whey protein, rice protein)
6) Over nutrition is concern of _____. (Developed countries, Gulf Countries, Poor countries)

—— The End ——