

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2015 – 2016 & thereafter)

SUBJECT CODE: 15BI/PC/BC14

M. Sc. DEGREE EXAMINATION, NOVEMBER - 2016
BIOINFORMATICS
FIRST SEMESTER

COURSE : CORE
PAPER : BIOCHEMISTRY
TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS:

(20X1=20)

- Cholesterol molecule has _____ carbon atoms
i) 27 ii) 21 iii) 15 iv) 12
- Nucleic acids can be detected by absorbance at 260 nm which is due to the presence of
i) proteins ii) purines and pyrimidines iii) ribose iv) deoxyribose
- The end product of hydrolysis of starch by amylase is
i) soluble starch ii) glucose iii) dextrans iv) maltose
- Which of the following is *not* a high energy compound?
i) ATP ii) creatinine phosphate iii) PEP iv) glucose 6 phosphate
- The first member of cytochrome accepting electron in the respiratory chain is
i) cytochrome a ii) cytochrome b iii) cytochrome c₁ iv) cytochrome c
- The simplest of aldoses is
i) glucose ii) arabinose iii) glyceraldehyde iv) ribose
- The reagent used for distinguishing a reducing monosaccharide from a reducing disaccharide is
i) Benedict's reagent ii) Barfoed's reagent iii) Fehling's reagent iv) Selivanoff's reagent
- What is the site for β – oxidation of fatty acids?
i) nucleus ii) mitochondria iii) lysosome iv) cytosol
- Codons are in
i) DNA ii) mRNA iii) tRNA iv) rRNA
- pH of 1 N HCl assuming complete ionization is
i) 1 ii) 0 iii) 4 iv) 10
- Collagen structure is associated with
i) YellapragadaSubba Rao ii) CV Raman iii) GN Ramachandran iv) HJ Bhaba
- The H⁺ ion concentration is 10⁻⁸ gram ions/ litre of a solution. The pH is
i) 10 ii) 8 iii) 6 iv) 4
- Osmosis is the flow of
i) solution ii) solvent iii) solute iv) ions only
- LDL fraction is relatively rich in
i) TAG ii) cholesterol iii) free acids iv) phospholipids
- Histones are absent in _____ DNA
i) bacterial ii) fungal iii) algal iv) human

16. Acetyl CoA is not used for the synthesis of
i) fatty acid ii) cholesterol iii) pyruvic acid iv) citric acid
17. Coenzyme A contains the vitamin
i) riboflavin ii) pantothenic acid iii) pyridoxine iv) thiamine
18. Pyruvate dehydrogenase is a/an
i) isomerase ii) lyase iii) ligase iv) oxido reductase
19. Steroid is known as sterol when it contains
i) – OH group ii) – COOH group iii) – CHO group iv) none of the above
20. Ketones are formed in
i) kidney ii) liver iii) heart iv) intestine

SECTION- B**ANSWER ANY FOUR QUESTIONS****(4X10=40)**

21. List out the classification of enzymes with examples.
22. Elucidate the pathway of glycolysis.
23. Write notes on the β – oxidation of fatty acids.
24. Give a short note on the types of carbohydrates.
25. Discuss the Ramachandran plot.
26. Give an account on Michelis – Menten kinetics.
27. Write short notes on signal transduction.

SECTION – C**ANSWER ANY TWO QUESTIONS****(2X20=40)**

28. Give a detailed account on the oxidative phosphorylation pathway.
29. Describe in detail the four levels of protein structure.
30. Discuss the glycogen metabolism.
31. Write in detail the factors affecting enzyme activity.
