5235

M.Sc. (Sem-I) Examination, Dec. 2017

CHEMISTRY

Paper 1.4

CHEM-514 (B)

Biology for Chemists

and

INDUSTRIAL CHEMISTRY

Paper 1.4

IND-CHEM 514

Biology for Chemists

Time Allowed : Three Hours

Maximum Marks : 70

Minimum Pass Marks : 28

This question paper will be divided into ***three*** *sections as under :*

Section-A ***Max. Marks-10***

Will carry 10 marks with 1 compulsory question comprising 10 short answer type questions (maximum 20 words answer) taking two questions from each unit. Each question shall be of ***one*** *mark.*

Section-B ***Max. Marks-***

Will carry ***25*** *marks with equally divided in five long answer type questions (answer about in 2 words). Students are instructed to attempt* ***five*** *questio by selecting* ***one*** *question from each unit.*

Section-C ***Max. Marks-3***

Will carry ***35*** *marks with five long answer ty questions comprising one compulsory question (questio no.7) of* ***15*** *marks and four questions of* ***10*** *marks eac Students are instructed to attempt total* ***three*** *question with* ***one*** *compulsory question (answer about in 50 words) and any* ***two*** *more questions (answer about i 400 words) out of remaining four questions.*

SECTION-A

1. (i) Who gave the cell theory ?

(ii) Name *two* aromatic amino acids.

(iii) What is peptidoglycan ?

(iv) Name *two* Disaccharides.

(v) What are spingolipids ?

(vi) How does a micelle differ from a lipid bilayer ?

(vii) Name the scientists who identified the secondary structure of protiens.

(viii) Name the most abundant substance in living systems.

(ix) Draw the structure of adenine.

(x) What is a nucleoside ?

SECTION-B

UNIT-I

2. Diagrammatically differentiate an animal and a plant cell.

Or

Briefly discuss the various theories about the origin of life.

3. Enumerate the pentose phosphate pathway.

Or

Describe the role of sugars in biological recognition.

https://www.uokonline.com

4. Why do animals that live in colder regions generally have more polyunsaturated fatty acid residues in their membranes than do animals living in warm climates ?

Or

Differentiate between 'Good' and 'Bad' cholesterol. Also write about different types of lipoprotiens.

5. Write short notes on :

(i) Structure of Protiens.

(ii) Classification of protiens

Or

Explain the chemistry of oxytocin and tryptophan releasing hormone (TRH).

6. Justify "Replication of DNA is semiconservative".

Or

Throw light on the properties of the genetic code.

https://pyqlelo.com

SECTION-C

7. Describe the double helix model of DNA. Explain the chemical and enzymatic hydrolysis of nucleic acids.

8. Enumerate the functions of Endoplasmic reticulum and mitochondria.

9. Explain the methods used to determine the sequence of amino acids.

10. Comment upon glycogenesis and glycogenolysis.

11. Explain the involvement of carnitine in beta oxidation. Also calculate the approximate yield of ATP molecules after the complete oxidation of hexanoic acid (C_6 O).

https://www.uokonline.com