

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2022  
(Fourth Semester)

Branch – NUTRITION FOOD SERVICE MANAGEMENT AND DIETETICS

**BIOCHEMISTRY**

Time: Three Hours

Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 1 = 10)

- 1 Which of the following is a non-reducing sugar .  
(i) Glucose (ii) Maltose  
(iii) Lactose (iv) Sucrose
- 2 Glycogen breakdown leads to formation of  
(i) Glucose (ii) lactic acid  
(iii) Glucose & lactic acid (iv) Glycoprotein
- 3 Fatty acid oxidation occurs in  
(i) Cytoplasm (ii) Microsomes  
(iii) Mitochondria (iv) All of the above
- 4 High content of cholesterol is present in  
(i) Coconut oil (ii) Egg yolk  
(iii) Hydrogenated fat (iv) Ghee.
- 5 Which of the following amino acid is involved in Gluconeogenesis .  
(i) Glycine (ii) valine  
(iii) Cysteine. (iv) All
- 6 The nitrogen of the body is supplied by  
(i) Triacyl glycerol (ii) proteins  
(iii) glucose (iv) lipids
- 7 DNA double helix is bound by .  
(i) Covalent bond (ii) hydrogen bond  
(iii) di sulphide linkage (iv) Vander wall forces
- 8 End product of purine metabolism is  
(i) Creatinine (ii) uric acid  
(iii) Xanthine (iv) Phosphates
- 9 Name of the enzyme is \_\_\_\_  
(i) carbohydrate (ii) protein  
(iii) Lipid (iv) Nucleic acid
- 10 Pick the odd one out.  
(i) Lactose (ii) maltose  
(iii) Sucrose . (iv) Cellulose

Cont...

**SECTION - B (35 Marks)**

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 7 = 35)

- 11 a Discuss the chemical properties of glucose and fructose.  
(OR)  
b Explain the significance of HMP shunt.
- 12 a Analyze the structure of lecithin and cephalin.  
(OR)  
b Oxidation of substrates is coupled to the phosphorylation of ADP- Explain it.
- 13 a How do you classify proteins based on solubility?  
(OR)  
b Summarize the fate of deaminated amino acids.
- 14 a Explain the structure and function of ATP.  
(OR)  
b Narrate the functions of 't'-RNA.
- 15 a Describe the factors influencing the rate of enzyme action.  
(OR)  
b Explain the applications of paper chromatography.

**SECTION - C (30 Marks)**

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Compare the properties of starch and glycogen.
- 17 Enumerate the synthesis of cholesterol.
- 18 Summarize the physical and chemical properties of amino acids.
- 19 Examine the synthesis of Haemoglobin.
- 20 Elaborate on the co-enzymic role of B vitamins in carbohydrate metabolism.

Z-Z-Z

END