

ALAGAPPA UNIVERSITY
DIRECTORATE OF DISTANCE EDUCATION
KARAIKUDI – 630 003

M. Sc. Zoology I – Year – I Semester (Academic Year 2023-2024)
Theory Assignments (35012 – BIOCHEMISTRY)

| S.No | Enroll number | Topic |
|------|---------------|--|
| 1 | 2023023500001 | Carbohydrates: Functions, classification (Mono, di and polysaccharides). |
| 2 | 2023023500002 | Structural aspects of monosaccharide, disaccharides and polysaccharides. |
| 3 | 2023023500003 | Lipids: Classification and functions of lipids, fatty acids, essential fatty acids. |
| 4 | 2023023500004 | Triacylglycerols, Phospholipids, Glycolipids, lipoproteins and steroids, Properties of fats and waxes. |
| 5 | 2023023500005 | Structure and Functions of Proteins and amino acids (Primary, Secondary, tertiary and quaternary structure). |
| 6 | 2023023500006 | Classification and properties of proteins. General structure, classification and chemical properties of amino acids. |
| 7 | 2023023500007 | Nucleic acids: Functions and components of nucleic acids. |
| 8 | 2023023500008 | Structure and nomenclature of nucleotides. |
| 9 | 2023023500009 | Structure of DNA (Watson and Crick model), Different forms of DNA double helix and organization of DNA in the cell. |
| 10 | 2023023500010 | Enzymes: Nomenclature and classification of enzymes, Active site, factors affecting enzyme activity. |
| 11 | 2023023500011 | Mechanism of enzyme action (Lock and key model, Induced fit model, Substrate strain model). |
| 12 | 2023023500012 | Isoenzymes |
| 13 | 2023023500013 | Regulation of enzyme activity in living system, |
| 14 | 2023023500014 | Enzyme kinetics (MM equation, Line-Weaver and Burk plot). |
| 15 | 2023023500015 | Vitamins: Classification of vitamins, Chemistry, sources, biochemical functions, |
| 16 | 2023023500016 | Recommended dietary allowances (RDA), deficiency, symptoms and hypervitaminosis. |
| 17 | 2023023500017 | Hormones: General classification, mechanism of action, |
| 18 | 2023023500018 | Hormones: origin and major functions of hormones - Pituitary and Gonadal. |
| 19 | 2023023500019 | Glycolysis and Citric acid cycle, |
| 20 | 2023023500020 | Glyconeogenesis and Glycogenesis, |
| 21 | 2023023500021 | Glycogenolysis and hexose monophosphate shunt, |
| 22 | 2023023500022 | Uronic acid pathway. |
| 23 | 2023023500023 | Fatty acid oxidation and Ketogenesis, |
| 24 | 2023023500024 | Biosynthesis of fatty acids, metabolism of cholesterol. |
| 25 | 2023023500025 | Aminoacid metabolism: Amino acid pool, transamination. |
| 26 | 2023023500026 | Deamination, metabolism of ammonia, urea cycle. |
| 27 | 2023023500027 | Fate of carbon skeleton of amino acids. |

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| 28 | 2023023500028 | Nucleotide metabolism: Biosynthesis and degradation of purine and pyrimidine ribonucleotides. |
| 29 | 2023023500029 | Diabetes mellitus and Diabetes insipidus. |
| 30 | 2023023500030 | Glycogen storage diseases and Ketoacidosis. |
| 31 | 2023023500031 | Hyperlipoproteinemia, fatty liver. |
| 32 | 2023023500032 | Artherosclerosis; phenylketonuria, |
| 33 | 2023023500033 | Maple syrup urine disease, glutaric acidemia type I, |
| 34 | 2023023500034 | Carbamoyl phosphate synthetase I deficiency. |
| 35 | 2023023500035 | Alcaptonuria; Lesch-Nyhan syndrome; |
| 36 | 2023023500036 | Gout; lipid congenital adrenal hyperplasia |
| 37 | 2023023500037 | Kearns-Sayre syndrome; Zellweger syndrome |
| 38 | 2023023500038 | Gaucher's disease, Niemann Pick disease. |
| 39 | 2023023500039 | Carbohydrates: Functions, classification (Mono, di and polysaccharides), |
| 40 | 2023023500040 | Structural aspects of monosaccharide, disaccharides and polysaccharides. |
| 41 | 2023023500041 | Lipids: Classification and functions of lipids, fatty acids, essential fatty acids, |
| 42 | 2023023500042 | Triacylglycerols, Phospholipids, Glycolipids, lipoproteins and steroids, |
| 43 | 2022023500009 | Properties of fats and waxes. |
| 44 | 2022023500010 | Carbohydrates: Functions, classification (Mono, di and polysaccharides). |