1. **Enzyme Kinetics.**

Enzyme Kinetics. **Enzymes** are protein catalysts that, like all catalysts, speed up the rate of a chemical reaction without being used up in the process. They achieve their effect by temporarily binding to the substrate and, in doing so, lowering the activation energy needed to convert it to a product.

2. **Acrolein Test**

Acrolein test. **Acrolein test** is used to detect the presence of glycerol or fat. When fat is treated strongly in the presence of a dehydrating agent like potassium bisulphate ($KHSO_4$), the glycerol portion of the molecule is dehydrated to form an unsaturated aldehyde, **acrolein** that has a pungent irritating odour

3. **Nucleotides Composition**

Nucleotides are the building blocks of **nucleic** acids; they are composed of three subunit molecules: a **nitrogenous base**, a five-carbon sugar (ribose or **deoxyribose**), and at least one **phosphate** group. A nucleoside is a**nitrogenous base** and a 5-carbon sugar.

4. **Hydrogenation Of Fats**

Hydrogenation converts liquid vegetable oils into solid or semi-solid **fats**, such as those present in margarine. Changing the degree of saturation of the**fat** changes some important physical properties, such as the melting range, which is why liquid oils become semi-solid.

5. **N Glycosidic Bond**

A glycosidic bond or glycosidic linkage is a type of covalent bond that joins a carbohydrate molecule to another group, which may or may not be another carbohydrate

6. **Enzymes Classification?**

There were six classes of **enzymes** that were created so that **enzymes** could easily be named. These classes are:Oxidoreductases,Transferases, Hydrolases, Lyases, Isomerases, and Ligases. This is the international **classification** used for **enzymes**.

7. **Primary Structure Of DNA**

In **DNA** double helix, the two strands of **DNA** are held together by hydrogen bonds. The nucleotides on one strand base pairs with the nucleotide on the other strand. The secondary **structure** is responsible for the shape that the nucleic acid assumes. The bases in the **DNA** are classified as purines and pyrimidines.

8. **Nucleotide?**

Nucleotides are organic molecules that serve as the monomer units for forming the nucleic acid polymers deoxyribonucleic acid and ribonucleic acid, both of which are essential biomolecules within all life-forms on Earth

9. **Tags Physical Properties?**

Physical properties • Neutral fats are 1. colourless, 2. odorless and 3. tasteless substances

10. Buffer Defn And Its Composition?

A **buffer** solution (more precisely, pH **buffer** or hydrogen ion **buffer**) is an aqueous solution consisting **of** a mixture **of** a weak acid and **its**conjugate base, or vice versa. **Its** pH changes very little when a small amount **of** strong acid or base is added to it.

11. Nucleic Acid Medical Application?

Applications of **nucleic acid** testing in diagnosis and therapy. **Nucleic acid** testing or **nucleic acid** amplification testing, often abbreviated as NAT or NAAT, is a technique that involves amplification and detection of genetic material—the **nucleic acids**, DNA or RNA—for diagnosis or to provide guidance on therapy.

12. Write The Composition Of Triacyglycerols?

The Chemistry of Triglycerides. A triglyceride is a lipid molecule made up of one unit of **glycerol** and three **fatty acids**, hence the tri- prefix, which means three. A triglyceride looks a little bit like a creature with three tails. The head is **glycerol**, which is a simple sugar alcohol compound.

13. Write Two Examples Of Cyclic Nucleotide?

Cyclic nucleotide has three components. It contains a nitrogenous base (meaning it contains nitrogen): for **example**, adenine in cAMP and guanine in cGMP. It also contains a sugar, specifically the five-carbon ribose. And finally, a **cyclic nucleotide**contains a phosphate.

14. Differentiate Between Oxidative And Hydrolytic Rancidity?

Oxidative rancidity is a natural process that affects fats and oil.

Hydrolytic rancidity refers to the odor that develops when triglycerides are hydrolyzed and free fatty acids are released. This reaction of lipid with water may require a catalyst, leading to the formation of free fatty acids and glycerol. In particular, short-chain fatty acids, such as butyric acid, are malodorous

15. What Do You Know About Km Of Micheals Menten Equation?

In biochemistry, Michaelis–Menten kinetics is one of the best-known models of enzyme kinetics.

The **Michaelis-Menten equation** can then be rewritten as V= Kcat [Enzyme] [S] / (**Km** + [S]). Kcat is equal to K2, and it measures the number of substrate molecules "turned over" by enzyme per second. ... Taking the reciprocal of both side of the **Michaelis-Menten equation** gives: To determined the values of K_M and Vmax.

16. Write Three Functions Of Cgmp?

Cyclic guanosine monophosphate (**cGMP**) is a cyclic nucleotide derived from guanosine triphosphate (GTP). cGMP acts as a second messenger much like cyclic AMP. Its most likely

mechanism of action is activation of intracellular protein kinases in response to the binding of membrane-impermeable peptide hormones to the external cell surface

17. Write Hydrogenation Process With Respect To Fats?

During **hydrogenation**, vegetable oils are reacted with hydrogen gas at about 60°C. A nickel catalyst is used to speed up the reaction. The double bonds are converted to single bonds in the reaction. In this way unsaturated fats can be made into saturated fats – they are hardened.

18. Write Five Properties Of Nitrogenous Bases?

1. **Tautomerism:** • All these bases can exist in keto-enol or amine-imine form. • At physiologic pH keto and amine form is predominant.
2. **UV light absorbance:** The conjugated double bonds of purine and pyrimidine derivatives absorb ultraviolet light
3. **Hydrophobicity:** • The purine and pyrimidine bases are hydrophobic and relatively insoluble in water at the nearneutral cell pH
4. **Weak Bases:** Purines or pyrimidines with an – NH2 group are weak bases
5. **Heterocyclic:** • They are heterocyclic i.e. structures that contain other atoms in addition to carbon, such as nitrogen in the ring structure
6. **Aromatic:** The Nitrogen containing bases are aromatic i.e. they have alternate double bonds

19. What Are Enzymes? Write Its Classification With Example?

A several complex protein that are produced by cell and act as catalysts by specific biochemical reaction.

There were six classes of **enzymes** that were created so that **enzymes** could easily be named. These classes are:Oxidoreductases,Transferases, Hydrolases, Lyases, Isomerases, and Ligases. This is the international **classification** used for **enzymes**.

20. Five Properties Of Waxes?

Waxes are insoluble in water, but • soluble in fat solvents and are • negative for acrolein test. • very resistant to rancidity. Waxes are not easily hydrolyzed as the fats • and are indigestible by lipases (enzymes responsible for fat digestion in body) • Thus they are of no nutritional value

21. Role Of Nucleotides As Coenzyme And Intermediate Carrier?

ATP, an adenine **nucleotide**, is a universal energy currency in the cells of biological systems. Adenine**nucleotides** are components of three major**coenzymes**, NAD^+, FAD, and CoA, organic molecules that assist in various biochemical reactions by serving as carriers. **Nucleotides** also function as regulators of metabolism.

22. Difference Between Thymine And Uracil?

Thymine becomes thymidine and deoxythymidine, Thymine is 2,4-dioxy-5- methyl-pyrimidine, Thymine (T)—only in DNA. Uracil (U) becomes uridine and deoxyuridine, Uracil is 2,4-

dioxypyrimidine, Uracil (U) —only in RNA. T and U differ by only one methyl group, which is present on T but absent on U.

23. Characters Of Vldl?

HDL-C (high-density lipoprotein): **HDL** cholesterol is also known as the "good cholesterol." **HDL** cholesterol helps clear **LDL** cholesterol away from blood vessel walls, decreasing the risk of developing heart disease and stroke. **VLDL**-C (very-low-density lipoprotein): **VLDL** cholesterol is made in the liver.

24. Bee Wax?

Bees-wax is secreted by the honeybees that use it to form the combs. • It is a mixture of waxes • chief constituent is myricyl palmitate

25. tRNA?

Once at the ribosome, an initiator **tRNA** binds the amino acid to the ribosome to start translation. It carries the amino acids and binds to the Messenger RNA (mRNA) to form proteins. ... Each**tRNA** can be used repeatably to be transcribed from DNA in nucleus.

26. Spermaceti

Spermaceti • is a wax that is most often found in the head cavities of the sperm whale. • Fatty esters are formed essentially of • cetyl palmitate and • cetyl myristate. It was used in cosmetics, pharmacy and also in candles • recent international regulation concerning whale captures, has stopped its use. It is now replaced by synthetic cetyl palmitate.

27. Lipoxins

Lipoxins, an acronym for lipoxygenase interaction products, are bioactive autacoid metabolites of arachidonic acid made by various cell types.

28. Lipoprotein

Combinations of lipid and protein (lipoproteins) serve as the means of transporting lipids in the blood, Importantly, lipids provide the hydrophobic barrier that permits partitioning the aqueous contents of cells and subcellular structures as; phospholipids and sterols are the major structural elements of biological membranes.

29. Examples Of Coenzymes?

FAD, (Flavin Adenine Dinucleotide), NAD+ (Nicotinamide adenine Dinucleotide) and NADP+ (Nicotinamide adenine Dinucleotide Phosphate)

30. Properties Of Glycerol

It has the following properties: • Colorless • Viscous oily liquid with • sweet taste.

31. Regulation of compound or carrier of intermediates and co enzyme?

ATP, an adenine **nucleotide**, is a universal energy currency in the cells of biological systems. Adenine**nucleotides** are components of three major**coenzymes**, NAD^+, FAD, and CoA, organic molecules that assist in various biochemical reactions by serving as carriers. **Nucleotides** also function as regulators of metabolism.

32. What is meant by rancidity and what is rancidity of fats?

Rancidity is a very general term and in its most general **meaning**, it refers to the spoilage of a food in such a way that it becomes undesirable (and usually unsafe) for consumption. When people say that a food has "gone bad," what they're usually talking about is **rancidity.**

Rancidification. **Rancidity** is the complete or incomplete oxidation or hydrolysis of **fats** and oils when exposed to air, light, moisture or by bacterial action, resulting in unpleasant taste and odor. ... When these processes occur in food, undesirable odors and flavors can result.

33. What is the composition of bile?

The **composition** of gallbladder **bile** is 97% water, 0.7%**bile** salts, 0.2% bilirubin, 0.51% fats (cholesterol, fatty acids, and lecithin), and 200 meq/l inorganic salts.

34. What is the interactions of DNA?

DNA-binding proteins are proteins that have **DNA**-binding domains and thus have a specific or general affinity for single- or double-stranded **DNA**. Sequence-specific **DNA**-binding proteins generally **interact** with the major groove of B-**DNA**, because it exposes more functional groups that identify a base pair.

35. What is enzyme kinematics?

Enzyme kinetics involves the measurement of the rate at which chemical reactions that are catalyzed by enzymes occur. Knowledge about the kinetics of an enzyme can reveal useful information about its catalytic mechanism, role in metabolism, factors that impact its activity, and mechanisms of inhibition

36. Five Function cAMP?

cAMP, cyclic AMP, or 3',**5**'-cyclic adenosine monophosphate) is a second messenger important in many biological processes.**cAMP** is a derivative of adenosine triphosphate (ATP) and used for intracellular signal transduction in many different organisms, conveying the **cAMP**-dependent pathway.

37. TAGs Store in Plant and Vertibrate?

Triacylglycerols (TAGs), which consist of three fatty acids bound to a glycerol backbone, are major storage lipids that accumulate in developing seeds, flower petals, pollen grains, and fruits of innumerous plant species. These storage lipids are of great nutritional and nutraceutical value and, thus, are a common source of edible oils for human consumption and industrial purposes

38. Two Example of Purine bases?

two purine bases, adenine and guanine,

39. Three Example of Pyridimine?

thymine, cytosine, and uracil,

40. Two Example of Unnatural Pyrimidine?

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