Biology (New Book) - 9th Class Biology Urdu Medium Short Question Preparations

Q1. Write down equation for Photosynthesis.

Ans 1: $6CO_2+12H_2O$ +Photons ----------$C_6H_{12}O_6 + 6O_2 + 6H_2O$
Carbon dioxide +water +light energy..... Glucose + Oxygen+ Water

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Q2. Difference between the following:
i. Tissue and organ

Ans 1: Tissue:
In multicellular organism. cells make tissue. A tissue is a group of similar cells that work together to perform one or more specific functions.
Example: Muscle tissue, epithelial tissue.

Ans 2: Organ: An organ is a structur emade up of related tissues working together to perform specific function.
Example: Stomach, heart and kidney

Q3. Difference between guard cells and epidermal cells.

Ans 1: Guard cells:
A pair of guard cells form a stoma, which is involved in the gas exchange of plants.

Ans 2: Epidermal cells:
Epidermal cells provide a protection to the plant from the xternal environment.

Q4. What were the shortcomign of three kingdom classfication system.

Ans 1: i. Some taxonomists disagreed about athe positio of fungi in kingdom planatae
ii. Fungi resemble platns in many ways but ar eheterotrophs Which get their food by absorption
iii. They do not have cellulose in their cell wall but posses chitin

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Q5. What do mesophyll cells do in plant leaves.

Ans 1: i. They are specialized for photosynthesis
ii. They contain large numebr of chloroplasts, which contain the green pigment chlorophyll necessary for capturing light energy
iii. Their shape and arrangement in leaves is suitabel for maximum absorption of light

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Q6. Which kingdom includes organismsm tha tare multicellular, heterotrophic and lack cell walls.

Ans 1: The Kingdom nimallia of eukaryotes includes organism which are eukaryotic, multicellular heterotrophic and lack cell

walls.They develop from embryos. They ingest food and digest it within their bodies.

Q7. Define Orgenelle

Ans 1: Molecules combine in specific ways and make the subcellular level i.g. orgenelle Each organelle is specialized to do a particular function.
Example: Mitochondria are responsible for cellular respiration and ribosomes are speciealized for protein synthesis.

Q8. Differenc between nutrition and nutrients.

Ans 1: Nutrition:
Nutrition means the processes in whch food is prepared or obtained and converted into body substances for growth and energy

Ans 2: Nutrients:
Nutrients are teh substances required by organisms for energy, growth, repair , and maintenances.

Q9. Define an enzyme. What is its role in metabolism.

Ans 1: Define: Enzymes are biologicla catalysts that speed up chemical reactions in living organisms without being consumed in the process. They ar eprimarily proins and highly specific to their substrates.

Ans 2: Role:Enzymes play an important role in controlling cellular metaboiism. An enzyme function sby lowering the activation enery of a chemicla reaction inside the cells. Activation enery is the minimum amount of energy needed to from or break chemical bounds and convert reactants to products.

Q10. Difference between Monosaccharides and Disaccharides.

Ans 1: Monosaccharides:
Monosaccharides are madeof single sugar molecue. They are easily soluble in water and have sweet taste. They may have 3 to 7 carbon atoms. Pentoses (5C) and hexoses (6C)

Ans 2: Example: Ribose and deoxyribose pentoses
Gluose, fructose, and galactose and hexoses

Ans 3: Disaccharides.:
They are made of two monosaccharides untis. they are less soluble in wate rand are less sweet in taste.
Example:
Sucrose is made of two monosaccharides i.e. Glucose and fuctose.
Maltose is made of two glucose moleucles.

Q11. What is the role of nitrogen and magnesium in plant growth?

Ans 1: Role of Nitrogen:
i. Nitrogen is a necessary part of all proteins, enzymes and nucleic acids.
ii. It is also a part of chlorophyll.
iii. Plant roots absorb nitrogen in the form of nitrates.
iv. Carnivorous plants trap and digest small animals. Such plants fulfil their needs of nitrogen from the prey animals.

Ans 2: Role of Magnesium:
i. Magnesium is part of the chlorophyll.
ii. It also activates many plant enzymes needed for growth.
iii. It also helps in fruit formation and germination of seeds.
iv. Platn roots absorb magnesium in ionic form.

Q12. Difference between Macronutrients and Micronutrients.

Ans 1: The minerals which are required in larger quantities are calle dmacronutrients e.g. carbon. hydrogen, oxygen, phosphorus, potassium, nitrogen sulphur, calcium, and magnesium.

Ans 2: Micronutrients:
The minerlas which are required in lower quantities are called micronutriensts e.g. iron, molybdenum, boron, copper, mangnaese, zinc, chlorine, and nickel.

Q13. How primary structure of protein is important.

Ans 1: The primary stucture of a protein is important because it determines the protein's three dimensional shape, which is turn determines its function.

Q14. Enlist the level of organization form cells to organ systems.

Ans 1: The levels of organization from cells to organ system are as follows.
1. Cell
2. Tissue
3. Organ
4. Oran system.

Q15. Enlist the events that occur during the G1 Phase of interphase.

Ans 1: During G1 phase of interphase followign events occur.
i. Cell makes proteins and organelles and so grow in size.
ii. Cell also makes enzymes required in S-phase for replication of DNA.

Q16. Difference between Epidermal and mesophyll tissue.

Ans 1: Epidermal Tissue:
The outermost layer of leaf is made of epidermal tissue
The upper epidermis is usually covered by waxy cuticle which reduce water loss and provides protection
The lower epidermis oftern contains guard cels.Two guard cells enclose a Stoma whcih are tiny pores that regulate gas exchagne and water vapour loss.

Ans 2: Mesphyll tissue:
This tissue lies between the upper and lower epidermis
It consists of cells rich in chloroplasts
It is the site of photosynthesis it is divided into two distinct regions palisade mesophyll and spongy mesophyll

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Q17. Why are the followign scientists famous for?Aristotle, Carolus Linnacus, Carl Woese

Ans 1: Aristotle: The greek philosopher Aristole was the first person who classified the living organisms.

Ans 2: Carolus Linnaeus:He grouped speices according to similar physical characteristics. According to earlier classified into two kingdoms, then three kingdom and then five-kingdom system. He also introduced binomial nomenclature

Ans 3: Carl Woese:In 1990 Carl Woese introduced a three domatin system of classificaton the three domains of life are.i. Arehaeaii. Bacteriaiii. Eukarya

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Q18. What is computational biology?

Ans 1: Definition : In Computational Biology, scientists use mathematical models, algorithms, and computer simulations to understand biologicla system and relationships.

Ans 2: Role of Computational Biology:
It involves analysisng biological data, such as sequence fo amino acids in a proteins.

Q19. Inquisitive Questions:
1. Why is it importnat to classify biology into differente brahcnes such as botany.

Ans 1: Classigying biology into branches like botany, zoolyogy, and microbiology helps scientists to focus on specific area, making research deeper and more effective. For example botanists study plants, zoologist stdy animals, and microbiologists, study tiny organismsm like bacteria. This specialization leads to better discoveries,like nw medicines, way to protect endangered species, or crops that grow in tough conditions. It also allows by dividing biology into smallesr branches, scientists can learn more, solve real-world issues, and make life better for everyone.

Q20. What are differente plant sources of proteins.

Ans 1: Plant seeds are most common source of proteins like beans, lentils, peas, nuts.
