



ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION



Submitt - Sun
14/8

Second Term Test - 2019

Sub: Life Science Class: 9 F. M. 75

Duration: 2:30 hr Model Answer Date: 09.08.2019

Group A

1. Write the answer in complete sentence by choosing the correct answer for each question with respective serial number. (1x13=13)
 - 1.1 Simple eyes of arthropods which act as sensory organs are called _____.
 - a. Mantle
 - b. Radula
 - c. **Ommatidia**
 - d. None of these
 - 1.2 Callus pad is found in _____.
 - a. Sieve cell
 - b. Sieve plate
 - c. **Sieve tube**
 - d. Companion cell
 - 1.3 The vitamin which functions as an anti-oxidant is _____.
 - a. Vitamin A
 - b. Vitamin D
 - c. **Vitamin E**
 - d. Vitamin K
 - 1.4 Which of the following structure is not present in plant cell?
 - a. Cell wall
 - b. Cell membrane
 - c. **Centriole**
 - d. Plastid
 - 1.5 After 120 days, RBC s are destroyed in _____.
 - a. liver
 - b. **spleen**
 - c. kidney
 - d. None of these
 - 1.6 _____ is the source of Oxygen in Glucose formed during Photosynthesis.
 - a. water
 - b. **Carbon dioxide**
 - c. Both a & b
 - d. None of these.
 - 1.7 Formula of chlorophyll a molecule is
 - a. $C_{55}H_{70}O_4N_5Mg$
 - b. **$C_{55}H_{72}O_5N_4Mg$**
 - c. $C_{50}H_{70}O_4N_5Mg$
 - d. $C_{50}H_{70}O_4N_3Mg$
 - 1.8 Which organelle is called the suicidal bag of the cell?
 - a. ER
 - b. **Lysosome**
 - c. Golgi bodies
 - d. Ribosome
 - 1.9 Chemical composition of chromosomes are _____.
 - a. Protein
 - b. DNA
 - c. **DNA & protein**
 - d. RNA
 - 1.10 Annelids respire through _____.
 - a. Lungs
 - b. **Body surface**
 - c. Gills
 - d. Trachea
 - 1.11 _____ is formed in anaerobic respiration in higher plants.
 - a. **Ethanol**
 - b. Lactic acid
 - c. Nitrite
 - d. Pyruvate
 - 1.12 End products of light phase are
 - a. Ethanol
 - b. ADP
 - c. **ATP & NADPH₂**
 - d. H₂
 - 1.13 First stable product of C₃ pathway is
 - a. Phosphoglycolic acid
 - b. **PGA**
 - c. PEP
 - d. RUBISCO

Group-B

- 2.1 Fill in the blanks with proper words in the following sentences: - 1x4=4
- CITRIC** is the first acid formed in Kreb's cycle.
 - LACTIC** is the product of anaerobic respiration in muscles of human beings.
 - The formula of chlorophyll b is **C₅₅H₇₀O₆N₄ Mg**
 - CARBON DIOXIDE** converts RuBP to PGA in C₃ Cycle.
- 2.2 State whether the following statements are True or False:- 1x4=4
- Anabas* has accessory respiratory organ. **TRUE**
 - The wavelength of light that is important for photosynthesis is 535nm-492 nm. **FALSE**
 - Water acts as a hydrogen donor in the reduction of CO₂ during photosynthesis. **TRUE**
 - Lymph is a type of epithelial tissue. **FALSE**
- 2.3 Match the words in column A with those which are most appropriate in Column B and re-write the correct pair mentioning the serial numbers of both the columns: 1x4=4
- | Column A | Column B |
|-----------------------|-----------------------------|
| i. Macrophage | b) CONNECTIVE TISSUE |
| ii. Neuroglia | c) NERVOUS TISSUE |
| iii. Unsaturated fats | d) DOUBLE BOND |
| iv. Tapeworm | a) ACOELOMATE |
- 2.4 Answer in a single word or in a single sentence: 1x5=5
- Name an essential amino acid. **TRYPTOPAN**
 - Name an organism whose caudal fin is heterocercal. **SHARK**
 - Write the exception in vascular bundles of gymnosperms **NO XYLEM VESSEL IN STEM**
 - What is metaxylem? **LATER FORMED XYLEM IS METAXYLEM**
 - What is action spectrum? **ACTION SPECTRUM IS A GRAPH OF THE ROLE OF PHYSIOLOGICAL ACTIVITY PLOTTED AGAINST WAVELENGTH OF LIGHT**

Group- C

3. Answer the questions given below: 2x10=20
- 3.1 Write two factors affecting photosynthesis. **LIGHT, WATER AND CARBON DIOXIDE**
 - 3.2 When does C₂ Pathway occur and where is it formed? **PHOTORESPIRATION TAKES PLCE IN CHLOROPLASTID**
 - 3.3 Describe the potassium - infiltration theory. **POTASSIUM ION COMES OUT OF GAURD CELL, MALIC ACID IS REGENERATED, GUARD CELL BECOMES FLACID AND STOMATA CLOSES**
 - 3.4 How does transpiration pull affect the ascent of sap? **TRANSPIRATION HELPS IN ASCENT OF SAP. IT IS DIRECTLY PROPORTIONAL**

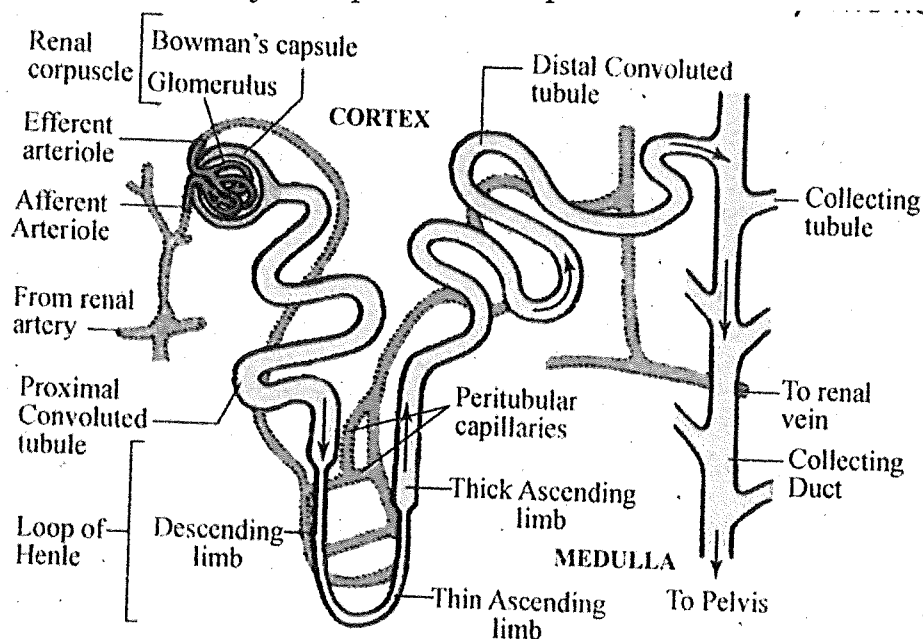
- 3.5 What is the importance of respiratory organs? **RESPIRATORY ORGANS HELP IN GASEOUS EXCHANGE IN THE ORGANISMS**
- 3.6 What is lenticular transpiration? **WATER LOSS IN THE FORM OF WATER VAPOUR THROUGH LENTICLES OF WOODY STEM AND FRUIT WALLS IS CALLED LENTICULAR TRANSPIRATION**
- 3.7 Differentiate between simple and stratified epithelium. **SIMPLE EPITHELLIUM CONTAINS ONE TYPE OF CELL IN SINGLE LAYER BUT STRATIFIED EPITHELLIUM CONTAINS MORE THAN ONE LAYER OF CELL**
- 3.8 Write any two differences between lysosome and ribosome. **LYSOSOME HOLDS ENZYMES THAT DIGESTS THINGS IN CELL. PRESENT IN EUKARYOTIC CELL. RIBOSOME HELPS TO SYNTHESISE PROTEIN BUT 50S & 30S PRESENT IN PROKARYOTIC CELLS AND 60S & 40S UNITS ARE PRESENT IN EUKARYOTIC CELL**
- 3.9 Write any two characteristics of cephalochordate with examples. **MYOTOMES AND MYOCAME IS PRESENT. MAINLY MOUINE ANIMALS**
- 3.10 Why is *Spirogyra* considered to be an alga? **CONTAINS CHLOROPHYLL AUTOTROPHIC. STORED FOOD IS MAINLY STARCH. ALTERNATION OF GENERATION IS FOUND**

Group D

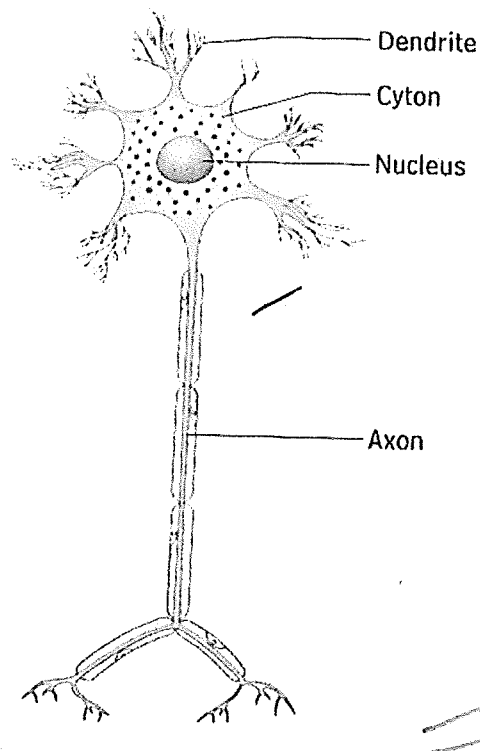
1. Answer the following:

5x5=25

- a. Define photosynthesis. What is photolysis? Why is it called the 'rate limiting step of photosynthesis'? **PHOTOSYNTHESIS IS ANABOLIC PHYSIOLOGICAL PROCESS BY WHICH GREEN PLANTS TRAP SOLAR ENERGY BY PLASTIDS TO PREPARE SOMPLE SUGAR AND RELEASE OXYGEN IN THE PROCESS AND USES CARBON DIOXIDE BREAKING DOWN WATER MOLECULE BY THE LIGHT ENERGY CALLED PHOTOLYSIS $H_2O \leftrightarrow H^+ + OH^-$. AS THE AMOUNT OF H^+ IS THE MAIN FACTOR OF FORMATION OF GLUCOSE AS IT IS NEEDED FOR THE REDUCTION OF CARBON DIOXIDE**
- b. Draw and label any four parts of a nephron.



- c. What are the significances of respiration? **RELEASE OF ENERGY - CATABATIC PROCESS - FOR PHYSIOLOGICAL FUNCTIONS - KEEPS BODY WARM - GLOW WORM EMITTING LIGHT - ELECTRIC RAY - ENERGY COMES THROUGH RESPIRATION - MAINTENANCE OF OXYGEN-CARBON DIOXIDE BALANCE**
- d. State the intermediate components of glycolysis. **GLUCOSE-6-PHOSPHATE, FRUCTOSE 1-6-BIPHOSPHATE, 1, 3 BIPHOSPHO GLYCERIC ACID, 3 PHOSPHOGLYCERIC ACID 2 PHOSPHOGLYCERIC ACID PYUVIC ACID**
- e. Draw the label any four parts of a neuron.



- f. Write about the significances of photosynthesis. **ANABOLIC PROCESS - STORES ENERGY - SYNTHESISES FOOD - CARBON DIOXIDE-OXYGEN BALANCE - SURVIVAL OF THE ENVIRONMENT DEPENDS OF PHOTOSYNTHESIS - ANIMALS DEPENDS FOR FOOD - CIVILISATION IS DEPENDENT ON PHOTOSYNTHESIS FOR FOOD, WOOD, RESIN, LATEX, ETC AND EVERY NECESSITY OF LIFE.**