Lesson 1
NUTRITION - THE FOOD SUPPLYING SYSTEM

1 Mark Questions

1. Write the difference between Autotrophs and Hetrotrophs?

Ans.

Autotrophs	Hetrotrophs
1. Organisms which prepares thier own food material are called Autotrophs. eg : Plants	1. Organisms which depends on other organisms to get their food Material are called Hetrotrophis. eg : Animals

2. What are the end products of Photosynthesis?

Ans. 1. Carbohydrates
2. Water
3. Oxygen

3. Which structures are useful in gaseous exchange among Plants? Give some other examples for gaseous exchange?

Ans. Gaseous exchange occur through 'Stomata' among plants. The sponge tissue of stem and roots also participate is gaseous exchange.

4. Which enzymes undergoes reaction among Carbohydrates / Which enzymes are helpful in Carbohydrate metabolism?

Ans. Amylase (Ptyalin).

5. Which enzyme influences the proteins and made them into simpler substances?

Ans. Pepsin enzyme turns the proteins into amino acids.

6. From which complex structure fatty acids and glycerol will form?

Ans. Fats. Lipase converts the fats into fatty acids and glycerol.

7. Define assimilation?

Ans. Transportation of the end products of digestion from the intestine to blood stream in called assimilation.

8. What are the substances that are needed in micro quantities to our body? How they are available to us?

Ans. Vitamins.
1. Through food we do got these micro nutrients.
2. By the intestinal bacteria we do get micronutrients.

9. Write the chemical reaction phases of photosynthesis in grana and stroma?

Ans.

Grana	Stroma
1. Light reaction occurs in Grana	2. Dark reaction occurs in stroma.

10. Write the importance of Cyanocobalamin?

Ans. It occurs in the Digestive system. Cyanocabalamin is called B_{12} Vitamin.

2 Marks Questions

1. Write the Van Neil equation. What does the phenomenon it explains?

Ans. $6CO_2 + 12H_2O \xrightarrow[\text{Chlorophyll}]{\text{light}} C_6H_{12}O_6 + 6H_2O + 6O_2\uparrow$

This is the equation of phytosynthesis that occur in plants.

2. Who named chlorophyll? Label the parts of chloroplast?

Ans. Pelletier and Caventon named the green substance of the plants as chlorophyll.

Page - 10 fig. 8

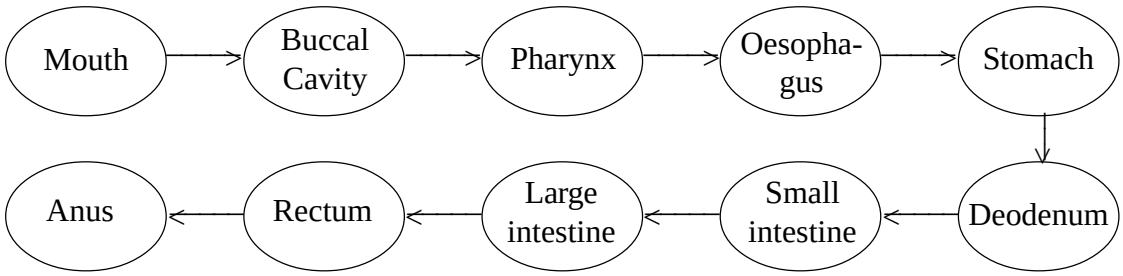
3. Write differences between Haemogloben and Chlorophyll.

Ans.

	Haemoglobin	**Chlorophyll**
1.	Blood pigment	Pigment of Chloroplast
2.	Useful in respiration	Useful in Photosynthesis.
3.	The element present in Haemoglobin is Fe.	Element present in chloroplast is Mg.

4. Write the parts of Digestive system in the sequential order (flow chart form)

Ans.



5. Gather the information of Kwashiorkor disease.

Ans. 1. This is a deficiency disease. It occurs due to the protein deficiency.
2. Body parts are swollen (Edema) due to the accumulation of water in the intercellulor spaces.
3. Dry skin & Dry hair.
4. Poor muscular development.

6. Write the symptons of Marasmus.

Ans. 1. It is due to the deficiency of Protein and Calorie.
2. It is seen those when there is an immediate second pregnancy or repeated child birth.
3. Swollen limbs, Protruded ribs.
4. Lean and weak, diarrhoea.

7. What suggestions to you give to the persons who are suffering from indigestion?

Ans. 1. Having simple, well balanced meal.
2. Eating with leasure, mastigate thouroughly.
3. Avoid taking violent exercise soon after eating food.
4. Take plenty of water and fibre rich food.

8. Classify Vitamins :

Ans. Depending upon the solubility
Vitamins are two kinds.
1. Fat Soluble Vitamins : A, D, E & K Vitamins.
2. Water Soluble Vitamins : B, C Vitamis.

9. What is saprophytic nutrition? Give some examples of saprophytes.

Ans. 1. Saprophytes break down the food material outside the body and then absorb. It is called saprophytes nutrition.
Eg. Yeast cells, Mushrooms, Bread molds.

10. Explain the nutrition in Amoeba

Ans. 1. Amoeba takes the food using temporary finger like extensions called Pseudopodia.
2. When these pseudopodia encircles the food and forms food Vacuole.
3. Complex substances are broke down into simple ones and diffused into cytoplasm.
4. The remaining undigested food in moved to surface and thrown out.

4 Marks Questions

1. Which gas is evolved during photosynthesis?
How do you identify that gas with the help of experiment.

Ans. 1. Take the hydrilla plants.
2. Arrange them in the glass funnel which contains short stem.
3. Place the test tube invertedly and keep the whole apparatus in water beakar.
4. Ensure the water level of the lest tube.
5. Keep the experiment in sunlight for 2, 3 houses.
6. Bubbles of the glass funnel ends at the tip of the test tube.
7. Empty place of glass test tube in filled with gas.
8. Keep the insent stick at the mouth of the testtube.
9. Sticks glow with brightness.
10. It reveals the presence of Oxygen.

Fig 5 Page-7

2. How do you confirm the presence of starch in leaves with and experiment.
How do you identify that gas with the help of experiment.

Ans. 1. Take a potted plant. Remove one leaf from the plant.
2. Place the leaf in the methylated spirit and boil in hot water bath.
3. Chlorophyll is be moved by the heat.
4. Leaf becomes pale or de colored.
5. Place the Leaf in watch glass and pour the drops of Iodine, or Betadine solution.
6. Blue black substance indicates the presence of starch.

page 3 fig 2(a)

3. Write down the importance of Biosynthetic phase.

Ans. 1. It is also called dark reaction.
2. H+ ions produced in photolysis are immediately picked up NADP to form NADPH.
3. The Hydrogen of NADPH is used to combine it with CO_2 by utilizing ATP energy and to produce Glucose.

4. By passing some series of reactions glucose in converted to starch.

4. Write down the sub vitamins of B-Complex vitamin. Write down the deficiency diseases and the sources of vitamin.

Ans.

Vitamin	Deficiency disease	Source
B_1 - thyamin	Beri beri	Cereals, Milk, Meat, Fish, Egg
B_2 - Riboflavin	Glossitis	Milk, egg, liver
B_3 - Niacin	Pellagra	Kidneys, meat, Eggs, fish
B_6 - Pyridoxin	Anaemia	Cereals, Vegetables, eggs.
B_{12}-Cyanocobalamin	Pernitius anaemia	Microorganisms of small intestine

5 Marks Questions
Diagrams

1. Draw a well labelled diagram of Leaf T.S.

Ans. Page 09, Fig &(a)

2. Draw a neatly labelled diagram of Buccal cavity

Ans. Page 14, Fig 12

3. Draw the T.S. of Chloroplast

Ans. Page 10, Fig 8.

2. RESPIRATION - THE ENERGY RELEASING SYSTEM

1 Mark Questions

1. What is respiration?

Ans. Respiration is the process by which food is brokendown for release of energy.

2. What will happen if the respiratory tract is not moist?

Ans. If the respiratory tract is not moist, the dirt Particles in the inhaled air will not be removed from air in the nasal cavities and reaches lungs and create problems to lungs.

3. What is the function of epiglottis?

Ans. Epiglottis is a flap like valve that protects the windpipe by arresting entry of food and the air traffic is kept properly channeled.

4. How oxygen is carried in the blood?

Ans. Oxygen is carried in the blood by binding to haemoglobin, a protein present in the red bloodcells.

5. What is cellular respiration?

Ans. The term cellular respiration refers the the pathway by which cells release energy from the chemical bonds of food molecules that enter them. It provides that energy for the essential processes of life.

6. A person took a walk and runs to reach a certain distance. In which situation, his legs pain? why?

Ans. The person felt pain in his legs when he took a run this is because of lactic acid accumulation in leg muscles.

7. Where does gaseous exchange takes place in lungs?

Ans. Gaseous exchange takes place in tiny air sacs of lung called alveoli.

8. What is energy currency?

Ans. The energy released by the breaking down of glucose is stored in the form of ATP. This is known as energy currency.

9. Why does oxidation of fatty acids give more energy?

Ans. Oxidation of fatty acids gives more energy due to the presence of more carbon atoms in them.

2 Marks Questions

1. Distinguish between aerobic and anaerobic respiration?

Ans.

Aerobic respiration	Anaerobic Respiration
1. Takes place in the presenceof Oxygen.	1. Takes place in the absence of oxygen.
2. End products are CO_2 and water.	2. End Products are either ethylalcohal or lactic acid and CO_2
3. Lot of energy is liberated	3. Relatively small energy is liberated
4. $C_6H_{12}O_6+6O_2 \rightarrow 6CO_2+6H_2O+686$ K.Cal	4. $C_6H_{12}O_6 \rightarrow 2C_2H_5OH+2CO_2+56$ K.Cal

2. This is a flow chart showing pathway of air in human beings. Fill the empty blocks

Nostrils ⇆ [ ] ⇆ [ ] ⇆ Larynx

↓↑

Alveolus ⇆ [ ] ⇆ Bronchus ⇆ [ ]

↓↑

Ans. Nasal Cavity, Pharynx, trachea, Bronchioles

3. After a vigorous exercise or work we feel pain in muscles. What is the relationship between Pain respiration?

Ans. 1) During vigorous exercise, oxygen gets used up faster in the muscle cells that can be supplied by the blood.

2) When an aerobic respiration takes place in human muscles, glucose is converted into lactic acid with the release of a small amount of energy.

3) The accumulation of lactic acid in the muscles causes muscular pains or cramps.

4. Write a short note on ATP

Ans. 1) From the breakdown of glucose, the energy is released stored up in a special compound known as ATP (Adenosine triphosphate)

2) It is a small Parcel of chemical energy and is Capable of supplying energy whereever needed within the cell.

3) Each ATP molecule gives 7,200 calories of energy.

4) This energy is stored in the form of Phosphate bounds. If the bond is broken, the stored energy is released.

5. Ravi told, deep breaths helps to restore energy in our body. Do you agree with him? Why / Why not?

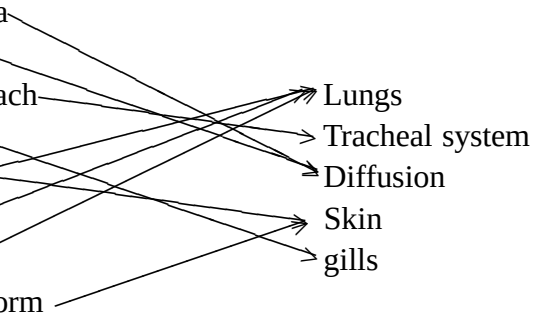
Ans. I agree with Ravi as deep breath helps us to restore energy in our body. Taking deep breaths is known as 'Pranayama'.

Because of these deep breaths, more amount of oxygen available to brain and tissues of the body will be more active.

6. Match the following organisms with the respiratory systems / organs with arrow marks.

1)	Amoeba	
2)	Hydra	
3)	Cockroach	Lungs
4)	Fish	Tracheal system
5)	Frog	Diffusion
6)	Eagle	Skin
7)	Man	gills
8)	Earthworm	

Ans.



7. We know that the gaseous exchange takes place in the stomata which are present in the leaves of plants. Are there any other areas in plants where gaseous exchange takes place?

What are they?

Ans. 1) Gaseous exchange takes place in the stomata of leaves and also
2) Lenticles on stem and surface of roots.
3) Some plants have specialized structures like breathing roots of mangrove plants.
4) Tissue in orchids that produces oxygen.

8. What adaptations are seen in plants grown in marshes like mangroves plants regarding gaseous exchange?

Ans. 1) Most plants can aerate their roots by taking in the oxygen through the lenticles or through the surface of their root hairs. They obtain oxygen from the air spaces existing between the soil particles.
2) But, Plants which have their roots in very wet places, such as ponds or marshes are unable to obtain oxygen.
3) So mangrove tree of the tropics forms aerial roots above the soil surface and takes in oxygen through there roots.
4) Another most usual adaptation is to have a hollow stem.

9. Why does a deep sea diver carry oxygen on his / her back?

Ans. 1) Oxygen is present in dissolved state in water.
2) Human beings cannot utilise the dissolved Oxygen.
3) Moreover as we go deep down in water, the oxygen level starts decreasing.
4) So a deep sea diver carries an oxygen cylinder when he/she goes under the sea water.

4 Marks Questions

1. Write different steps in respiration in the form of block diagram and explain it?

Ans.

Breathing

Air movement into and out of lungs

↓

Gaseous exchange at lungs level

Exchange of gases between alveoli and blood.

↓

Gas transport by blood

↓

Transport of oxygen from blood capillaries of alveoli to body cells and return of carbon dioxide

↓

Gaseous exchange at tissue level

Exchange of oxygen from blood into the cells and carbondioxide from cells into the blood

↓

Cellular Respiration

Using oxygen in cell processes to produce carbondioxide and water, releasing energy to be used for life processes.

2. Observe the following table and answer the following questions

Gas	Percentage in inhaled air	Percentage in exhaled air
Oxygen	**21**	**16**
Carbondioxide	**0.04**	**4**
Nitrogen	**79**	**79**

a) When exhaled air is compared with inhaled air, is there any difference in composition?

b) Why does the amount of oxygen vary between exhaled and inhaled air?

c) What has raised the percentage of carbondioxide in exhaled air?

d) Which gas needs to be removed during exhalation? Where does the extra amount of gas come from?

Ans. a) Exhaled air contains oxygen-16%, CO_2 - 4%, Nitrogen - 79%.
Inhaled air contains oxygen-21%, CO_2 - 0.04%, Nitrogen - 79%
Difference in Exhaled air is Oxygen - 5% less, CO_2 3.46% more, Nitrogen equal.

b) Some amount of Oxygen is utilized during cellular respiration in the body. So the amount of oxygen is decreased in exhaled air.

c) CO_2 is released from all cells in the body in respiration and is added in the exhaled air. So the amount of CO_2 in exhaled air is raised.

d) Carbondioxide gas needs to be removed during exhalation. The extra amount of gas (CO_2) comes from breaking of glucose to release energy in the mitochondria.

3. Observe the following diagram and answer the questions.

Alveolus
Diagram
Pg.No. 31
Fig-8 in
E.M. Text book

a) This diagram is related to which system?

b) The alveili and capillaries are associated with which systems?

c) The alveoli and capillaries are associated with which system?

d) What is happening in this diagram?

Ans. a) This diagram is related to respiratory system.

b) The alveoli are the units of lungs.

c) Alveoli are related to respiratory system and capillaries are related to blood circulatory system.

d) In this diagram gaseous exchange takes place by diffusion from the alveoli to blood capillaries and vice versa The CO_2 in the blood is exchanged for oxygen in the alveoli.

4) What procedure you follow to understand anaerobic respiration in your school laboratory?

Ans. **Aim :** To prove that CO2 is released during anaerobic respiration.

Apparatus : Thermos flask, Spitted corks, thermometer, wash bottle, glass tubes, liquid paraffin, glucose solution, yeast cells, bicarbonate solution.

Procedure :

(1) Remove dissolved oxygen from glucose solution by boiling it in thermos flask for a minute and then cooling it without shaking.

(2) Now add some yeast to the gluose solution and fix-two holed rubber stopper to the flask.

(3) The supply of oxygen from the air can be cut off by pouring a 1cm layer of liquid paraffin into the Thermos flask. see the end of thermometer kept inside the solution.

(4) Insert one end of the thermometer into the Thermos flask. See the end of thermometer kept

inside the solution.

(5) Arrange for any gas produced by the yeast to escape through a wash bottle containing bicarbonate solution or lime water as shown in the figure.

(6) Add a few drops of diazine green (James Green B) solution to the yeast suspension before you pour liquid liquid paraffin over it.

(7) The blue diazine green solution turns pink when oxygen is in short supply around it.

(8) Warm the apparatus to about 37^{o}F in order to speed up the test.

(9) Keep the appartus undistrubed for one or two days.

Observations :

(1) After two days it can be observed that lime water of the wash bottle turns into milky white precipitate.

(2) Increase in temperature noted on yeast cells respire and release energy.

(3) Alcohol smelll given off from the flask.

Results :

Three observations indicate that yeast cells respire anaerobically converting glucose solution into CO_2, Ethyl alchol and releasing heat energy.

5 Marks Questions

1. Draw and label Mitochondria

Ans. Fig No. 10; Page No. 34

2. Respirating system of Man

Ans. Fig No. 4; Page No. 27

3. TRANSPORTATION - THE CIRCULATORY SYSTEM

1 Mark Questions

1. What is transport system?

Ans. The system which transports the materials from where they are produced and to the place where they are needed is called transport system.

2. You might have observed a doctor holding the wrist of the patient and looking at his watch for a minute. What is that he is trying to find out from the watch and the wrist of the Patient?

Ans. He is counting the heart beat of the patient which is also known as pulse.

3. What happens to the pulse rate when you are aftraid or exited?

Ans. The Pulse rate increases.

4. Name the structure which in pear shaped, triangle in out line, wider at the anterior end and narrower at the posterior end?

Ans. Heart.

5. If we tie a tornquit on the hand and block the views, which part of the hand bulges? Why?

Ans. The part of the hand bulges which is away from the heart. Because the blood is trying to flow towards the heart and accumulated just below the block as it simply could not flow to the heart.

6. Accumulation of cholosterol si not good for health. Why?

Ans. Blocking of arteries occurs by cholesterol which leads to heart attack.

7. In which organisms, most of the body is occupied by digestive and excretory systems?

Ans. In platyhelmenthes (eg. Fasciola hepatic), the digestive system is highly branched and occupied by most of the body.

8. What is the role of xylem and phloem in plants?

Ans. Water travels through xylem vessels and food material travels through phloem tissues.

9. Phloem is a food source for some animals. Justify this statement by giving one example?

Ans. Some mammals scratch the bark of trees to get the food stored in the phloem, especially during hard winters when food in scarce.
Eg. : Volves damage young saplings at ground level.

10. In a field trip the students notied some levels are sticky and ants are lingering over those leaves. What the teacher might explained about those leaves?

Ans. Leaves are sticky due to honey dew which is excreted by the aphids. These aphids absorb so much sugar from the phloem they cannot assimilate all of it and excretes out of the body as a sticky syrup called honey dew on the leaves.

2 Marks Questions

1. Fig 9 a,b Pg No. 56
Observe these diagrams. What do they represent? Write any four differences between them?

Ans. These diagrams represent (a) atrery (b) Vein

	Artery	Vein
a)	The wall is elastic.	a) The wall is tough.
b)	Consists of thick muscle layer.	b) The muscle layer is thin.
c)	Lumen is small.	c) Large lumen is present.
d)	Oxygenated blood flows in arteries.	d) Deoxygenated blood flows in arteries

2. Draw a flow chart to show the stages of cardiac cycle?

Ans.

Relaxation of atria and ventricles
↓
Blood flows into atria
↓
Contraction of atria and flow of blood into Ventricles
↓
Contraction of Ventricles
Blood flows into arteries
↓
Relaxation of ventricles

3 . What is the reason for the lub-dub sounds of the heart?

Ans. 1) During Ventricular systole, the aperture between the atria and the ventricles is closed by valves, when the valves are closed forcibly, we can listen to the sound “Lubb”.
2) During ventricular diastole, the valves which are present in the blood vessels are closed to prevent backflow of blood into the ventricles. Then we can listen to a dull heart sound “dubb”.

4. Rama Rao, who is 64 years of age took a long journey in sitting position without moving. After his journey, he felt his foot wear little tight. Why he felt like that?

Ans. 1) After long journey, his legs might have swollen which is called edema.
2) The reason for swelling of legs is blood circulation is interrupted and intercellular spaces are filled with fluids.

5. After reading this lesson, what precautions would you suggest to your elders about edema?

Ans. 1) Getting up and stretching the legs once in a while when travelling in a bus for long time.
2) Massage the swollen legs with firm pressure towards the heart.
3) Practicing low slat diet can prevent or reduce swelling.

6. Why are the artery walls very strong and elastic?

Ans. Artery walls are very strong and elastic because
1) They are carrying blood away from the heart to every cell of the body tissue.
2) This should be done with lot of pressure.
3) So the walls aret thick to enable it to do its job and they are elastic,

7 . How is the human heart protected from shocks or injuries?

Ans. 1) Heart is located between two lungs protected by rib cage.

2) Heart is covered by tow layers of membrances which are called pericardial membranes which are called pericardial membranes.

3) The space between the pericardial layers is filled with pericardial fluid.

4) The pericardial membranes and pericardial fluid protects the heart from physical shocks and injuries.

8. Forest areas have a higher rainfall than areas nearby. Explain with an example.

Ans. Forest often have a higher rainfall. This can be explained with the example of an oak tree.

An oak tree can transpire as much as 900 litres per day. It follows therefore that areas of forest significantly affect the degree of saturation of the air above them. so that when air currents bring air which is already nearly saturated to the forest area, it becomes fully saturated and comes down as rain.

9. What is haemophilia? Why does this occurs?

Ans. 1) In some people, because of genetic disorder the blood may not coagulate. This type of disorder is called haemophilia.

2) Haemophilia is common disorder in the children who have born from marriages between very close relatives.

4 Marks questions

1 . observe the following table and answer the following questions

S.No.	Name	Age	B.P.	Remarks
1.	Raju	38	120/80	N.B.P.
2.	Sateesh	36	90/70	L.B.P.
3.	Sunil	40	140/110	H.B.P.
4.	Ravi	45	150/120	H.B.P.

a) What is the normal B.P.? What does the denominator, and numerator indicates?

b) What is the realationship between age and blood pressure?

c) What are the consequences of High B.P.?

d) How B.P. is measured?

Ans. a) Normal B.P. is 120/80. 120, the denominator denotes systolic pressure, while 80, the numerator denotes diastolic pressure.

b) B.P. increases with the age.

c) Due to High blood pressure, the vital organs like kidney, heart will be damaged.

d) B.P. is measured with sphygmomanometer.

2 . Write the differences between arteries and veins.

Ans.

	Arteries		**Veins**
1.	Arteries carry blood from heart to body parts.	1.	Veins carry blood from body to heart.
2,	Walls are thick and elastic.	2.	Walls are thin and rigid.
3.	Valves are absent	3.	Valves are present.

4.	Blood pressure is high	4. Blood pressure is low
5.	Oxygenated blood is transported	5. De-oxygenated blood is transported.
6.	Arteries have small lumen	6. Veins have large lumen.

3 . Prepare a flow chart showing the differnt stages involved in the process of a blood clot?

Ans.

Blood flows out

↓

enzyme thrombokinase is released from platelets.

↓

Thrombokinase acts on prothromb in converting it into thrombin.

↓

Prothrombin $\xrightarrow{\text{thrombokinase}}$ thrombin

↓

thrombin acts on fibrinogen and converting into insoluble fibrin

↓

Fibrinogen $\xrightarrow{\text{thrombin}}$ fibrin

↓

blood cells entangle in fibrin fibers

↓

Formation of clot.

4 . What is your inference about experiments with aphids?

Ans. 1) Aphids feed on the plant juices of young stems.
2) Aphid uses its long needle like organ proboscis to extract plant juices from phloesm tissue
3) The juices extracted by aphid contains sugars and amino acids.
4) Aphids absorb so much sugar from the phloem but cannot assimilate all of it and passes out of the anus as a sticky syrup called honey dew.

5 Marks Questions

1 . Draw and label the internal structure of heart.

Ans. Fig No. 5 ; Page No. 52

2. Draw and label the diagrams showing single and double circulations.

Ans. Fig No. 11(a), 11(b) ; Page No. 59

PART - B

1) The term cardiac refers to which organ in the body ( )
a) Heart b) Vein c) Lymph d) Capillary

2) On which side of the human heart is low in oxygens? ( )
a) Left ventricle b) Right ventricle c) Left atrium d) Right atrium

3) Which structures of the heart control the flow of blood? ( )

a) Arteries b) Veins c) Valves d) Capillaries

4. Oxygenated blood is supplied to the body parts through __(i)__ , where as the deoxygenated blood is supplied to the lungs through __(ii)__. ( )
   a) (i) aorta (ii) cavalveins b) (i) aorta (ii) Pulmonary vein
   c) (i) aorta (ii) Pulmonary artery d) (i) aorta (ii) Inferior vena cava
5. Write in orderly manner of cardiac cycle in human being ( )
   1. Ventricular contraction 2. Atrial contraction
   3. Ventricular relaxation 4. Atrial ventricular relaxation
   a) 1, 2, 3, 4 b) 2, 1, 4 c) 1, 2, 3 d) 4, 2, 3
6. Read the following sentences. Which are correct? ( )
   1) Blood vessels that carry blood to body parts are called veins.
   2) Arteries are less rigid than veins.
   3) Pulmonary artery carries blood from heart to lungs.
   4) Inferior venacava collects blood from the upper parts like head, neck.
   a) 1, 2 b) 2, 3 c) 3, 4 d) 1,3
7. An aphid pierces its proboscis into the _____ to get plant juices ( )
   a) Xylem b) Phloem c) Cambium d) Vascular bundle
8. When Rani cut off her finger, it took lot of time to clot. What could be the reason? ( )
   a) Deficiency of Vitamin D b) Deficiency of Vitamin K
   c) More blood in Rani's body d) Less blood is present in Rani's body
9. Heart is the important part of the circulatory system for ( )
   the proper functioning of heart, one should
   a) taking nutritious food b) doing exercise
   c) developing the habit of smoking d) a and b
10. The thin protective layer, pleura cover lungs, ( )
    unlike the Protective layer of heart is called.
    a) Hyper Cardium b) Pericardium c) Epicardium d) Myocardidum
11. The Large blood vessel which originates from ( )
    the upper part of the left ventricle of heart.
    a) Pulmonary artery b) Coronary artery c) Systemic aorta d) Inferior Venacava
12. Sponges utilize _____ for blood circulation ( )
    a) fresh water b) blood c) Sea water (brine) d) body fluids
13. One of the main reasons of water transportation in xylem vessel ( )
    a) Root pressure b) Xylem pressure c) External Circulation d) None
14. The substance that contains blood without solid particles _lymph ._
15. _Thalassemia_ is a serious Inherited Blood disorder.
16. _Rene Lennac_ discovered the first stethescope.
17. In some people blood may not coagulate due to genetic disorder This is called _Haemophilia_.
18. The Straw yellowish colured fluid portion after formation of the clot is _Serum_.
19. _Capillaries_ establish continuity between arteries and veins.

4. EXCRETION

1 Mark Questions

1. What is meant by Excretion?

Ans. Due to metabolism several harmful exeretory products are formed and process of removing toxic waste from the body is called execretion.

2. What is meat by homeostasis?

Ans. In Human body varies parts of body solutions concentration is stability is called homeostasis.

3. Why the Risht kidney below the left kidney what is the reason?

Ans. Because due to the presence of liver above.

4. What substance are in the blood?

Ans. Glucose, Sodium, Potassium, Chlorides, Criyatinin, Uric Acid, Total Chlolestral, Triglizarides Calcium, Phospherous, Bilrabin, Proteins, Albumins.

5. What substances are in the Urine?

Ans. Proteins, Criotinins, Calcium, Phospherous, Uric acid, Salts, Sodium, Potassium, Asmalarity, Glucose, Chlorides, Urea.

6. What is meant by Podocyte cells?

Ans. In kidney Bowmens capsule which accomnodates one glomerulus is lined by a single layer of squamous epithelial cells called podocyte cells.

7. What is Malpighian body?

Ans. The Bowmen's capsule and glomerulas together called malpighian capsule a rened capsule.

8. Why the diameter of the efferent orteriole is less than that of afferent arteriole?

Ans. Because of the narrower out let pressure exerts in the glomerulus. It function as a filtration unit.

9. What are the stages involved in formation of urine?

Ans. Formation of urine involves four stages.

1) Glomerular filtration
2) Tubalar reabsorption
3) Tubular secretion
4) Concentration of Urine

10. After the age of 40 years How the Nephrons functived?

Ans. After the age of 40 years the number of functioning Nephrons usually decreases by about 10% in every 10 years.

11. What is the use of to release Vasopressin?

Ans. If the concentration urine excreate the harmone of Vasopressin is released.

12. Why the Vasopressin not released to dirnk excess of water?

Ans. Of the Vasopressin is not released the kidney execreate less concentration urine. If you drink water promptly.

13. Is the drink excess water to excreate excess urine?

Ans. Yes to excreate for the reason to drink excess water it is reach to blood. The water is filtered and form urine. Excreate substances are excreate many times from Urine.

14. What is Urethra? How it is form in Male and Females?

Ans. It is a tube that takes urine from urinary bladder to outside urethra is 4cm long in females and about 20 cm long in males.

15. What is Micturition?

Ans. The sending of urine from urinary bladder through urethra to outside the body is called Micturition.

16. What is the reason the urine colour is yellow? (amber)

Ans. Urine has Amber color due to presence of urocrome.

17. What happend when the two kidneys are not functioned?

Ans. Complete and irreversible kidney failure is called end stage re nd disease [ESRD]. If kidneys stop working completely, our body is filled with extra water and waste products, this condition is called uremia. Our hands or feet may swell. You feel tired and weak because your body needs clean blood to function properly.

18. What is Primary urine?

Ans. Filtrate from glomerular is also called Primary Urine.

19. In which place the kidneys fixed in the patient from the donar?

Ans. The donar's kidney is fixed below the destroy kidney and above the urinary bladder connect with blood tubes

20. What is heamodialosis?

Ans. Dialysismechine is used to filter the blood of a person when both kidneys are damaged. The process is called 'haemodialysis'.

21. Is there any long term solution for kidney failure patients?

Ans. The best long term solution for kidney failure is kidney transplantation.

22. In Unicellular animals the system of excreation?

Ans. The system of excreation is in unicellular cnimals are diffussion method.

23. What is osmosis?

Ans. To transport the water molecules from low concentration to hight concentration and the concentration is equal two sides without using Energy is called osmosis.

24. What is 'Latex'?

Ans. Latex is a sticky, milky white substance secreted by plants. It is stored in latex cells or latex vessels.

2 Marks Questions

1 . a) Write the differences of the following.

Ans.

	Functions of PCT	Functions of DCT
1.	It absorbs all the useful components of primary urine like Glucose, Vit-C and 75% of Water	Secretion of wastes like K^+, Na^+ Cl^- and H+ takes place here.
2.	Selective reobsorption does not takes place in this region	PH and Concentration of Urine is maintained here. Selective reabsorption takes place here.

B)

	Excretion	Secretion
1.	Excretion is the removal of materials from a living being	Secretion is movement of materials from one point to other point.
2.	Excretion is active in nature.	Secretion if passive in nature.
3.	Excretion in man includes tears, urine, carbondioxide	Secretion in man includes harmons, enazymes, and saliva.
4.	Excretion in plants is through roots into it sarroundings and fuelling off bark and leaves.	Secretions occur in the plant body in the form of latex, resins, gums etc.

25. How plants manage the waste materials?

Ans. Plants can getrid of excess of water by a process like transpiration and guttation.

26. How plants excrete waste products?

Ans. Plants excrete waste products from root around the land. Some plants dead leaves, bark and ripe fruits full off from the tree then waste products in them are got rid of.

27. What is Diabetes insipidus?

Ans. Deficiency of Vasopressin causes excessive, repeated dilute urination called diabetes insipidus.

28. What happend when the waste products are not excreate from body? Guess it?

Ans. The main aim of excreation is to maintain the Ioins condidition in body. If the waste products are not excrete they are to destroy the human body.

29. What are the uses of gums?

Ans. 1. Economically gums are Valuable. They are used as adhesives and binding agents in the preparation of the medicines, food etc.,

2. Plants like neem, Acacia, Secretes good quality gums when their branches are cut.

2. To keep your kidneys healthy for long period what questions will you ask a nephrologist?

Ans. I shall ask the following questions to the nephrologist.

1) What precautions should we take to prevent kidney dieseases?
2) What are the food materials that keep the kidneys alwasy healthy?
3) How should we prevent the stones forming in the kidneys?
4) Suggest the exedcises that can bring the activeness in the functioning of kidneys?
5) What are the ill-effects of unnecessary using of antibiotics and steroids on kidneys?

3. We people have very less awareness about organ donation to motivate people write slogans about organ donation.

Ans. 1) Organ donation - A gift for life.
2) Eye donation - keeps you for the next generation.
3) Open not only money banks - But also organ banks.
4) Organ donar - Evidence of real banks humanity.
5) If you are a normal person - you will have one life

4. Write about chewing gum?

Ans. It is a type of gum for chewing made dates back. Modern chewing gum originally made of chicle, natural latox from plant.

4 Marks Questions

1. Name different excretory organs in human body and excretory meterial generated by them?

Ans. 1) **Kidneys :** i) These are the chief exeretory organs of human body the waste products generated in various organs of the body are filtered and removed by them and sent out in the form of urine. ii) Urine contains 96% of water 2.5% of organic substances and 1.5% of inorganic solutes.
2) **Skin :** i) Skin contain of a large number of sweat glands rich by supplied with blood capillaries, from and fatty acids.
3) **Liver :** i) Liver Produces bilepigments, which are metabolic waster of haemoglobin of dead RBC's. ii) Bilerabin, Bileverdin, Cholesterol and derivates of steroid harmones, extra drag - Vitamins and alkaline salts are the main wastes produced by the liver. iii) Urochro..... is elimenated through urine.
4) **Lungs :** In respiratory process lungs remove carbondioxide and water.
5) **Intestine :** Excess salts of calcium, magnesium and Iron are excerted by epithelial cells for elimination along with the faeces.

2. Deepak said that "Nephrons are functional units of kidneys" how will you support him?

Ans. 1) I support Deepak's statement.
2) Nephrons are the structural and fundamental units of kidney. These are responsible for urine formation.
3) In human kidney there are about 1 million nephrons are present.
4) These nephrons filters the deoxygenated blood along with nutrients and the useful nutrients are reobsorbed and wastes are sent out in the form of urine.
5) Otherwise toxic materials accumalate in the body, water content may increase and Ionic balance may be distrubed and this leads to the death of a person. Nephrons filter the impure blood and send the Nitrogenous waste materials outside the body.
6) Hence Nephrons are called structural and fundamental units of kidney without which impurities can't be eliminated.

3. Why do some people need to use a dialysis mechine? Explain the principle involved?

Ans. 1) Dialysis is used to filter the blood of a person whose kidneys are damaged. This process is

also known as haemodialysis.

2) In this process blood is taken out from the main artery, mixed with and anticoagulant such as heparin and then pumped into the apparatus called dialyzer.
3) In this apparatus blood flows through channels in tubes. There tubes are embedded in the dialyzing fluid.
4) The selectively permeable membrance separated the blood flowing inside the tube and dialyzing fluid which has the same composition as that of plasma, except the nitrogenous wastes.
5) As Nitrogenous wastes are absent in dialysing fluids these substances from the blood move out freely there by cleaning the blood of its wastes. This whole process is called dialysis.
6) The cleaned blood is bumped back to the body through a vein after adding Govt..... heparin.
7) Each dialysis session lasts for 3 to 6 hours.

4. Give reasons.

A) Always vasopression is not secreted

Ans. Vasopression is secreted only when concentrated urine is to be passed out if a person drink lot of water there is no need to be concentration of urine ..... vesopression is not secreted.

B) When urine is discharged in beginning it is acidic in nature later it become alkaline :

Ans. The urine is acidic in the beginning and becomes alkaline on standing because of decomposition of urea to form ammonia.

C) Diameter of afferent artariole is bigger than efferent arteriole :

Ans. 1) Diameter of afferent arteriole is bigger than efferent arteriole.
2) Because of the narrower outlet pressure exerts in the glomerulas function us a filteration unit.
3) There are fine pores between prodocyte cells to allow passage of materials filtered out of glomerulus.

D) Urine is sightly thicker in summer thanin winter.

Ans. 1) Generally in summer more amount of water is exerted out in the form of sweat.
2) The body has to retain the water against the heat of the sum. Vasopression is secreted by the Adrenclin gland which helps in the formation of concentrated Urine and prevents the excess lost of water from the body.

Multiple choice Questions

1) The excretory unit in the human excretory system is called ( )
   a) Neuron b) Nephron c) Nephridia d) Flamecell
2) The way of urine in human body is ( )
   i) Kidneys ii) Uretors iii) uretra iv) Urinary bladder
   a) i, ii, iv, iii b) i, ii, iii, iv c) iv, iii, ii, i d) ii, iii, i, iv
3) Malphigiam tubes are excretory organs in ( )
   a) Earth worm b) House fly c) Flat worn d) Hen
4) The urine is in Amber color what is the reason ( )
   a) Urocrome b) Bilurubin c) Bila vardin d) chlorides

5) Sequence of urine formation in nephron is ( )
   a) Glomerular filtration, tubular reabsorption, Tubular secretion
   b) Tubular reabsorption, Tubular Secretion, Glomerular filtration.
   c) Tubular secretion, Glomerular filtration, Tubular reabsorption
   d) Tubular reabsorption, concentration of Urine, Tubular Secretion.
6. Biodiesel is prepared by the following plant ( )
   a) Pines b) Neem c) Jatropha d) Acaslia
7. The quantity of urine excreate per day is ( )
   a) 10 lit b) 18 lit c) 1.6 - 1.8 lit d) 20 lit
8. The capacity of urinary bladder is ( )
   a) 700 - 800 ml b) 1000-1200 ml c) 1500 ml d) 2000 ml
9. The excretory substance in birds and Mammels is ( )
   a) Urea b) Ammonic c) Uric Acid d) Phospherum
10. The PH value of urine is ( )
   a) 2 b) 3 c) 6 d) 7
11. The function of DCT is ( )
   a) Absorption b) Filteration c) Secretion d) Excretion
12. The name of the scientist to exchange kidneys ( )
   a) Harvey b) Hab Nasel c) Copernicus d) Y.V. Subbarao

Fill in the blanks

1. The excreatory organs in Earthworm _____.
2. The lenght of Uretra in Males _____.
3. Reabsorption of useful product takes places in _____.
4. Rubber is produced from _____ of Heaven branzillensis.
5. The Principle involved in dialysis is _____.
6. The alkaloid used for melaric treatment is _____.
7. Dialysis is invented by _____.
8. Glomerulus is lined by a single layer of squmons epithelial cells called _____.
9. In Nephron reabsorption place is _____.

5 Marks Diagrams

1) Excretory system - Fig 4 Page No. 78.
2) Internal Structure of Kidney - Fig 5, Page No. 79.
3) Structure of Nephron - Fig. 6, Page No. 79.

5. COORDINATION - THE LINKING SYSTEM

1 Mark Questions

1. What is stimulus?

Ans. It is a signal of change. It comes from surroundings.

2. Is it identify the Axons and dendrites in brain and spinal chord on the bases of length?

Ans. On the bases of length in brain and spinal chord we are not identify the axons and dendrites. We are not identify the Axons and dendrites. We identiry the axons and demdrites are cover with mylin sheeth. But in brain and spinal chord they are not have mylin sheeth.

3. What is synapse?

Ans. Demdrites of one nerve cell connect to the other or to the axons of the other nerve cell through connections called as a “Synapse”.

4. What is knee jerk?

Ans. Strike the area below the knee cap sharply, while firmly grasping the front part of the thigh with the other hand. Note the changes in shape of the thigh muscles.

5. What is a reflex arc?

Ans. A single pathway going upto the spinal cord from detectors and returning to the effectors is a reflex arc.

6. What is the weight of the brain?

Ans. The brain weight approximately 400 gm. It is little than 2% of the body and utilises 20% of the Whole body energy.

7. What are nissel granules?

Ans. Nissel granules are the groups of ribosomes and are made up of RNA and Proteins. They are found in the Cytoplasm of the cell body of neuron.

8. What are mixed Nerves?

Ans. The sensory neurons and Motor neurons are connected each other are called mixed nerves.

9. How to identify the Axons and Dendrites?

Ans. 1. The Axon is very lengthy and only one in Nueron.
2. Dendrites are one or and many with short branches.

10. How many layers to cover the brain?

Ans. There are 3 layers to cover the brain.
i) Dura matter 2) Arachnoid Membranes 3) Piamatter

11. In Cranial Nerves why the Vagus Nerve is main nerve?

Ans. The Vagus nerve to control the heart beat and pancreas recreation.

12. What are Fight Harmones?

Ans. The Chemicals are produced in plant, to control the actions is called Fight harmones.

13. What are the uses of creeperent winning?

Ans. The creeper ent winnings are useful for weak plants to climb the trees.

14. What is Nastic movement?

Ans. The direction of stimuli in plants. This type of response of the plant is called nastic movement.

15. What is Thigmotropism?

Ans. This type of response to make contact or touch is called thigmo tropism.

16. What is chemical tropism?

Ans. This type of response to chemicals is called chemical tropism.

17. What is the body nerve cell?

Ans. It is found in grey matter in brain.

18. What is reflex Arc?

Ans. A single pathway going upto the spinalcord from detectors and returning to the effector is a reflex arc.

19. What is brain decade?

Ans. 1990 to 2000 decade is called brain decade.

2 Marks Questions

1. Fill in the missing section in the following flowcharts

Stepon sharp edged object		Brain enalyse information and send commands		

Ans. 1) Step on a sharp edged object.
2) The sensory neurons in the foot carry the signals to the brain.
3) Brain analyses in formation and send commands.
4) The motor neuron passes the impulse to the muscles in the foot.
5) The muscle them contract and pull our leg away from the sharp edged object.

2. Write the differences

Ans.

Stimulus	**Response**
1. Stimules is a signal of Charge	1. An effect of a change in the environment of the organisam.
2. Stimulus Comes from surroundings	2. Response comes from the Nervous system of body.

3.

Efferent Nerves	**Afferent Nerves**
1. They are also called motor nerve	1. They are also called sensory Nerves
2. They carry impulses from brain on spinal cord to effector organs.	2. They carry information from the sense organs and receptors to specific areas in brain and spinal cord.

4.

Receptor	**Effector**
1. It is cell or group of cells in a sense organ which is sensitive to the a	1. It is a cell or group of cells in the body part which responds to the stimuus of the

particular type of stimulus like light, taste, heat, pressure.

environment.

5. Is the endocrainal system is only useful to control and co-ordination of the body?

Ans. 1. It is not possible only endocranial system
2. Tubeless glands secrete solutions into the body they are response of the outside reaction.
3. So endocranial system is not control and co-ordination of the body.

6. How the brain is protected?

Ans. 1. It is in a box of skull.
2. The meninges of three layers to cover the brain.
3. The layers have a fluid and protect brain from accidents.

4 Marks Questions

1. Do you think baby's team work maintains of function of our body? Justify your body?

Ans. 1. Yes statement is correct.
2. The heat is sensed by a heat receptor in our hand. The receptor trussers enimpalscim a sesnsory murein, Which transmit the message to the spinal cord.
3. The impulse is passed on to a relay neuron and passes it to a motor neuron. This passes the impulse to a muscle in our arm.
4. The muscles them contracts and pulls our hand away from the hot plate. The muscle of arm is an effector because it responds to the stimulus.
5. Thus the coordination is bornsht by the team work of all systems.

2. Give and example of coordination in your body where both hormonal and nervous controls function together.

Ans. 1. The adrenaline harmone prepares our body to function at maximus efficiency during emergency situation like danger, anger, excitement.
2. When we are faced with a dangerous situation like being chased by a ferocious dog.
3. then our nervous system stimulates like adrenal glands to secrete more adrenaline hormones into our body.
4. All these actions of adrenaline harmone produce a lot of energy in our body very very quickly.
5. This energy helps us to run away very fast from the dog to save ourselves.

3. What is synapse? How it is useful in trensfer information?

Ans. 1. Synapse is a functional region of contact between two neurons, where information from one Neuron is transmitted or relayed to another neuron.
2. Synapse ensure that nerve impulses travel in only one direction.
3. These synapse are mainly found on the brain and spinal cord and armed the spinal cord.
4. Synapse are the region of minute gaps and essentially nervous do not have any protoplasmic Connection between them yet information is passed form the nerve cell to another through these gasps either in the form of chemical or electrical impulse.

4. Man is the most intelligent animal. What could be the fact that helped us to reach sucha a conclusion.

Ans. 1. Man is the most intelligent animal. This is because of the fact that the brain in human beings is performing wonderful things which is most occuring in the remaining animals.

2. The main thinking part of the brain is cereberum. It is the site of learning reasoning intelligence, personality and memory.
3. All our thoughts, sensations, actions, and movement are controlled by cerebrum.
4. The association areas of cerebrum which control thinking and memory they also store information and experiences.
5. There are sensory areas where information is received from senses and give us the sensation or feelings.

5. Take a cock feather touch smoothly at different parts of your body. Find out which protion of the body hashish sensation in this similar during sleep?

Ans. 1. When a cock feather is touched smoothly on different body parts, the body has hish sensation near lips, ears, tip of the nose, novel, palms, middle of the foot.
2. We feel the same sensation during sleeping also even in sleeping also our body receptor cells perform their function and transmit the stimulus to the spinal cord and reflex action takes place.

6. Its very Interesting to watch a creeper entwing its temdril to the Support. Is not is? How do you express your feelings in this situation

Ans. 1. Tendrils are positively thigmo tropic which means that they grow to wards things they happen to touch.
2. The stem tendrils or leaf tendrils often climb up artificial supports or other plants very easily.
3. The plants such as bitter ground. bottle gourd, grape vine have stem tendrils are positively thigmotropic and make those plants to climb up by winding around various types of supports.
4. It seems to be so admiring and gives us pleasure on watching the winding of tendrils around various supports
5. I feel much delight on observing these tendrillar windings.

7.

	Central Nervous system	**Peripheral Nervous system**
1.	It consists of brain and spinal cord	1. It consists of all the nerves of the body like cranial nerves, spinal nerves and viseral Nerves.
2.	The largest part of the body ‘brain’ is present inhard body box called cranium.	2. PNS has dorsal roots and Ventral roots.
3.	CNS controls and coordinates all the body parts and it is the sight of mental abilities thinking memory reasoning, emotions and speech.	3. PNS controls several functions like our internal organs blood vessels smooth and cardiac muscle.
4.	CNS is the centre for reflex contre for muscular activities and co-ordinates reflexes like swallow by coughing, sneezing and vomitting.	4. PNS controls muscles of some areas of skin and the skeletal muscle.
5.	Spinal cord is not only the road from instructions from brain but also a control centre.	5. It also controls the involuntary actions V like increase of diameter of pupil etc.

Multiple choice Questions

1) A Person has loss of control on emotions which part of brain stops it's function (**A**)
   a) Cerebrum b) Dience phalon c) Mid brain d) Cerebellum
2) Leaf movement in mimosa helps to (**B**)
   a) Reduce photosyn thesis b) Protect from greazers
   c) Releasing photohormones d) Regulate it's growth
3) Water loss from plants is prevented by a harmone ( )
   a) GA b) NAA c) IAA d) ABA
4) Dicoty ledonous weeds are destrozed by a chemical called ( )
   a) IAA b) 2 - 4 - D c) ABA d) Napthalene Acetic acid
5) What is the mediation for endo crimal system and Nervous system ( )
   a) Adremeal gland b) Prostaste gland c) Male gland d) Pitutory gland
6) In disease like polio the cells that get destroyed virus are ( )
   a) Monocytes b) RBC c) Motor Neurons d) Sensory Neurons
7) Neuron receive nutrients from ( )
   a) RBC b) Glial cells c) Monocytes d) Blood platelets
8) In human the number periperal Nerver are ( )
   a) 41 b) 42 c) 43 d) 44
9) The Number of pairs of cranial nerves in man are ( )
   a) 10 b) 11 c) 12 d) 13
10) The Number of pairs of spinal nerves in man are
   a) 30 b) 31 c) 32 d) 33

Fill in the blanks

1. _____ Phytohormon is responsible for cell elongation and differentiation of shoots and roots (Anxious)
2. In polio disease which nerves destroyed _____ .(Motor Nerurons)
3. In body the parts of the impulses are reached to the brain _____ Nerver used. (Sensory Nuerons)
4. The Weight of brain in the human body is _____ . (2%)
5. The weight of brain is _____ . (400 gms)
6. Now a day the scientist fond the nervous system is _____ Nervous system. (Digestive)
7. Fight or Flight Hormone is _____. (Adrenaline)
8. Vasomotors Nervous are _____. (to react on blood cells and _____ Vessels.

Match the following

1.

Group - A		**Group - B**
1. ABA	[B]	A) Cell elongation
2. Anxious	[A]	B) Seed dormancy
3. Cytokinins	[D]	C) Ripening of fruits
4. Ethylene	[C]	D) Promotes celldivises
5. Gibberellin	[F]	E) Fromatin of ruits
		F) Sprontiny of buds

2.

Group - A		**Group - B**
1. Cerebrum	[F]	A) Controls reflexation
2. Diencephalon	[E]	B) Cordimater swelloring Coxshiny
3. Mid brain	[D]	C) Maintainsposture and equillbriaum
4. Cerebellum	[C]	D) Relay station
5. Medulla oblongate	[B]	E) Reflex centre for muscular activity
		F) Seat of metal abilities and rescuing

3.

Group - A		**Group - B**
1. Fore brain	[A]	A) Cerebrum
2. Mid brain	[B]	B) Optic lobes
3. Hind brain	[C]	C) Cerebellum medulla
4. IAA	[E]	D) Ascorbic Acid
5. ABA	[D]	E) Anxious
		F) Cytokinins

2 Marks Diagram

1) **Sensory Neuron** - Page No. 97, Fig 5

2) **Motor Neuron** - Page No. 98, Fig. 6

5 Marks Diagram

1) **Nerve cell** - Page No. 96, Fig. 3

2) **Brain** - Page No. 100, Fig. 10

3) **Reflex are** - Page No. 99, Fig 9

6. REPRODUCTION - THE GENERATING SYSTEM

1 Mark Questions

1. What is reproduction?

Ans. The production of new organisms from the existing organisms of the same species is known as reproduction.

2. What are Male cells and Female cells? In which they are produced?

Ans. Stamens produce male sex cells in the pollen grain carpels produce female sex cells in ovales inside ovaries.

3. What is Zygote?

Ans. The conjugation of Male and female gemeter in formed Zygote

4. What is budding?

Ans. A small part of the body of the parent organism grows out as a “Bud” Which then detaches end becomes a new organism.

5. In bees, ants and wasps what is strange kind of reproduction?

Ans. This strange kind of reproduction occurs in bees, ants and wasps is called part hemogenesis. The Zygote might develop from fertilized egg of by part hemogenisis.

6. What is regeneration?

Ans. Many organisms have the ability to give rise to new individual organisms from their body parts.

7. What is External fertilization?

Ans. The fertilization will be held out side of the body animal is called External fertilizaion.

8. What is Internal fertilization?

Ans. The fertilization will held in the body of the animal is called Internal fertilizaiton.

9. What are graffian follicles?

Ans. the ova develop in tiny cellular structures called follicles, which at first look like cellular bubbles in the ovary. They are called Grafficn follicles.

10. What is ovulation?

Ans. The discharge of ovum from the ovariam follicle is called ovulation.

11. What is foetus?

Ans. Embryo from the third month wards is called Foetus.

12. What is gestation period?

Ans. Pregenancy lasts on an overage, 9 months or 280 days. This is called gestation period.

13. How the leaves propagation? How it is useful for plants?

Ans. In Bryophyllum, small plants grow at the edge of leaves. They are useful in plants for vegetative reproductions.

14. What Totipotency?

Ans. One Plant cell give complete energy plant is called Totipotency.

2 Marks Questions

1. Why do fish and frog produce a huge number of eggs each year?

Ans. 1. Fish and frogs are oviparous animals.
2. They lay eggs in water which results in external fertilization.
3. There is highrisk in external fertilization and minimises the chance of fertilization due to external factors.
4. If they lay eggs in little quantities, there will be no chance of fertilization. Because of some of them may be washed away or become pay predators.

2. Write the differences between Stameon and Carpel

Ans.

Stameon	Carpel
1. It produce male sex cells in the pollen grain.	1. It produce female sex cells in ovules inside ovaries.
2. These constitute male reproduction part of the flower.	2. These constitute female reproductive part of the flower.

3. What is the job of the amniotic sae ?

Ans. 1. The amnion grows around the embrzo itself.
2. The cavity with in the amnion becomes filled with a blind called aminiotic fluid.
3. the embroyo develops in the comniotic cavity which keep the embrzo moist and protects from minor mechanical injury.

4. What are the adventages of sexual Reproductions?

Ans. 1. Sexual reproduction leads to a great variety in population.
2. Sexual reproduction promotes diversity of characters in the offsprings by providing genetic variation.
3. Sexual reproduction plays an important role in the origin of new species having different Characteristics.
4. This genetic variation leads to the continuous evolution of various species to form better and still better organisms.

5. How does reproduction help in providing stability to population of species?

Ans. 1. The production of new organisms from the existing organisms of the same species is known as reproduction
2. Reproduction is essential for the survival of a species on this earth
3. The process of reproduction ensures continuity of life on earth.
4. Reproduction by human beings ensures that the human species will continue to exist on the earth for all the time to come.

4 Marks Questions

1. What are the different modes of a sexual reproduction write them with examples?

Ans. In organisms the following methods of a sexual reproduction takes place.

a) Fission :

1) In unicellualr organisms like paramecum and bacteria, reproduce by splitting into two on more offsprings.

2) This usually occurs in a symmetrical manner. They split into two by binary fission. When more cells are formed it is called "multiple fission"

3. This is the only mode of reproduction in these organisms.

b) Budding :

1) A growth on the body as a bud that grows to form a mearly copy of parent.

2) When the bad totally grows them it separates from the parent and survives independent Ex. yeast Hydra

c) Frgmentation :

1) In flat worms moulds, lichem, spirogyra etc. fragmentation take place. A seperate piece of parent organism can grow into a seperate individual.

2) Fragementation G C common mode of reproduction in algae, fungi and may land plants.

d) Parthenogenesis :

1) This is a process of reproduction. There is a shift from sexual to asexual mode of reproduction.

2) In this process generally the female gemates develops into zygote with out fertilization.

3) The same process is utilised in setting seedles fruits.

4) In bees, wasps and ants when egg divides and develops moles are formed while an undivided egg gives rise to female.

e) Regeneration :

1) Many organisms have the ability to give rise to new individual organisms from their body parts.

2) If the individual is some bow cut on brokenup into many pieces, these pieces grow into seperate individuals. this is similar to fragmentation.

2. Write the differences between Sexual, Asexual reproduction ?

Ans.

Sexual reproduction	Asexual reproduction
1. Male and Female gametes are formal	1. There is no production of gametes.
2. It involves one (or) two oftanisms	2. It involves a single organism
3. It involves male and female gametes	3. There is no fausion of gametes.
4. It requires meiotic followed by mitotic division	4. It requires of mitotic division.
5. Offspring will have some characters from male parent and others from female parent some charecters may not be present ineither of the parents.	5. Offspring produced by this way are identical to the parent.
6. It is not very vital for natural selector in evolution of specis	6. It is not very useful for natural selection on evolution of species
7. It occurs the pollination and fertilization	7. It occurs by budding fissiueh

3. How are sperms cells adapted for their function?

Ans. 1. Sperms are the male gametes.

2. Million of sperms are produced by the testes.

3. These are microscopic and single celled.

4. Each sperm has a head, a middle piece and a tail.

5. The head bears a nucleus, It sets energy from mitochondria present in the middle piece.
6. Tail helps in swimming to reach the ovary.
7. Millions of sperms compete to fertilize the ovary.
8. Gemen provides nutrients for sperm to keep alive and helps as a medium for the movement of sperms.

4. Write the differences between mitosis and meiosis.

Ans.

Mitosis	Meiosis
1. Occurs in sonatic cells.	1. Oggurs in germ cells.
2. Nucleus divides only once.	2. Nucleus divides twice.
3. Two daughter cells are formed.	3. Four daughter cells are formed.
4. Daughter cells are diploid.	4. Daughter cells are haploid.
5. Occurs more frequently.	5. Occurs less fequently.

5. What are the changes in Uterus at the time of menstrual cycle?

Ans. 1. On Menstrual cycle the first 12 to 14 days the follicle the falopian tube, uterus, cervix, cells are divide in mitosis division and form varies numbers.
2. The quantity of Uterus is increased. The Lazer of the uterus are smooth and thick layers formed. They secrete the mumidity solution. The blood circulation is also increase. It is ready for empryonic occupent.
3. It fertilization is not formed when the corpuslutium the uterus wall cells are seperate and discharged with blood out side the body.

6. All unicellular organisms under go only mitotic cell division during favourable conditions? Do you support this statement? Why?

Ans. 1. Yes, I agree with the statement.
2. When Single celled organisms such as paremecium and bacteria reproduce by spiliting into two or more offsprings. This usually occurs in a symmetrical manner.
3. When cells divide the daughter cells always have the same number of chromosomes as the parent cell.
4. This is often the only mode of reproduction in these unicellular animals.

7. Rama's father wants to grow a single plant having two desirable characters colourful flower and big fruits what method will you suggest him and why?

Ans. 1. I will suggest her to follow "grafting method" to get the plant with disered characters.
2. In this method, two plants with desired characters are joined together in such a way characters are joined together in such a way that two stems and grow as a single plant.
3. The plant which is attached to the soil in called stock and the cut stem of anther plant without roots is called scion.
4. Both the stock and scion are tied withthe help of a twine thread and covered by a polythene cover.
5. Grafting is used to obtain a plant with desired desirable charecters.
6. This techinique is very useful in propagating improved varieties of various flower and fruit.

8. What would be the consequences if there is no meiosis in organisms that reproduce sexually?

Ans. 1. If meiosis not occurs the chromosomal number will be doubled in the formed Zygote.
2. The charecters of the offspirngs are unusual and it may leads to the death of the individual and eventually extinction of that speicies takes place but the situation is not like that.

9. How will you appreciate cell division that helps in perpetuation of life?

Ans. 1. Continuation of life starts from cells either those of the general body or the gametes.
2. Cells arises from the pre-existiig cells through cell division.
3. The characters of the parents are inherited through chromosomes which participates in the cell division.
4. In cell division the cell divides into two halves with equal number of chrosomes which are similar to parent cell and are not diploid in nature all the somatic organs of our body are built through this division called meiosis.
5. Meiosis helps to maintain the same number chromosomes in daughter cells and inheriting chracters in the gametes.
6. Thus from Zygote to the complete body formation cell division paly ver important role which result inperpetuction of life.
7. Hence, we have to really appreciate the role of cell division in the continuation of life on the earth.

10. What precautions will you take to keep away from various sexually transmitted disease.

Ans. 1. We should avoid unsave sexual contacts.
2. We should avoid using of infected devices.
3. We should avoid the infected blood transfusion.
4. We should use condom and diaphrafans which can prevent not only pregnancy but alos some sexually trensmitted diseases like gonorrhoea, syphills end AIDS.

Multiple choice Questions

1) The part of the female reproductive system that produces the eggs [ ]
a) Ovary b) Epididymis c) Cervix d) Follopian tube

2) The term that we use to describe a sperm cell fusing with an egg cell? [ ]
a) Fragmentation b) Fermentation c) Fertilisation d) Fusion

3) Which part of the male reproductive system produces the sperm cells? [ ]
a) vasdiference b) Epididymis c) Bladder d) Scrotum

4) How does the sperm break through the egg cell membrane [ ]
choose the option you think is right.
a) Tears a hole in the membrane. b) Dissolves the membrance with chemicals.
c) Bites through the membrance with teeth. d) Squeezer through gaps in the membrene

5) Which of these things will effect the way a foetus grows? [ ]
Choose the option you think is right.
a) Chemicals in cigarette smoke b) Alcohol
c) Drugs d) All of the above

6) Which of the follosing is the correct sequence of steps in the human life cycle? [ ]
Choose right option
a) babyhood, childhood, adolesence, adulthood
b) Childhood, babyhood, adulthood, adolescence
c) Adolesccnce, babyhood, adulthood, childhood
d) None of these.

7) Acros one of sper matozoa help sin [ ]
a) Digestion b) Locomotion c) Excretion d) Ferilisation

8) Root part is represented in nature embogo by [ ]
a) Plumble b) Radicle c) Chalaze d) Cotyledons

9) In Horticulture and ornemental plants are produced by which reproduction
a) Binary fission b) Budding c) Vegetative reproduction
d) Multifussion

10) Which plant conduct vegetative reproduction on through root cutting [ ]
a) Rose b) Carrot c) Mango d)

11) In females the release eggs number is [ ]
a) 3 b) 2 c) 4 d) 1

12) Which part to connect the foctus to the mother uterus [ ]
a) Placenta b) Umbilical cord c) Folophian tubes d) Dpidicimes

13) How to get energy loss in the binary fussion of paremecium [ ]
a) Conjugation b) vegetative reproduction
c) Pollen grain development fertilization d) Internal

14) The status of cotyle dons Nueclues [ ]
a) n b) 2n c) 3n d) 4n

15) Pollen mother cell status is [ ]
a) n b) 2n c) 3n d) 4n

Fill in the blanks

1) Budding can be seen in _____.
2) Organisms capable of giving rise to off springs by the process of _____.
3) Regenaration can be observed in _____.
4) Vegetative propagation through leaves canbe observed in _____.
5) “Bread Mould” _____.
6) The leaf of fern is called _____.
7) External fertilization takes place in _____.
8) The period of life of spermis _____.
9) Meiosin is invented by _____.
10) The term spermicides are _____.
11) The foetus is connected with uterus wall is _____.
12) The third mouth of pregenancy the embryo is called _____.

13) In human the prostaste grands found in _____ reproductive system.

14) The 3n Nuecleus in embroyo sac _____ Nuecleus. of mole Neucleus emingated.

15) Synerged is called _____.

Match the following

1.

Group - A			**Group - B**
1. Sporulation	[	]	A) Euglena
2. Fission	[	]	B) Rhizopus
3. Budding	[	]	C) Spirongyra
4. Regeneration	[	]	D) Yeast
5. Fragmentation	[	]	E) Potato
			F) Plamaria

2.

Group - A			**Group - B**
1. Stolon	[	]	A) Chrysenthemum
2. Sucker	[	]	B) Strawberry
3. Bulb	[	]	C) Potato
4. Tuber	[	]	D) Onion
5. Runner	[	]	E) Radish
			F) Grass

3.

Group - A			**Group - B**
1. brayopillcm	[	]	A) Explant
2. Layering	[	]	B) Leaf buds
3. Aspergilus	[	]	C) Rose
4. karivabaku	[	]	D) Konidium
5. Yeast	[	]	E) Root buds
			F) Buding

4.

Group - A			**Group - B**
1. Ovulation	[	]	A) Blood test
2. Identify HIV	[	]	B) 13-55 year in female
3. Theact of child marriage	[	]	C) To cut the falopian tubes
4. The female family control method	[	]	D) 1978
5. Gustation period	[	]	E) 1963
			F) The period of embrgo in Mother.

5 Marks Diagrams

1) **Male Reproductive system -** Fig. 13, Page no. 123.
2) **Female Reproductive system -** Fig. 14, Page no. 124.
3) **Structure of flower -** Fig. 18, Page no. 127.
4) **Fertilization -** Fig. 21, Page no. 130.

2 Marks Diagrams

1) **Pollen grain - Fig 19, Page No. 129**
2) **Female game to phote Fig. 22, Page No. 130**

7. COORDINATION IN LIFE PROCESSES

1 Mark Questions

1. What stimulates hunger?

Ans. Smell of food, taste of food, sight of food, being tired and exhausted, need of food and thought of food.

2. Which system do you think would send the signals to make us realise that we are hungry?

Ans. i) Nervous system sends the signals.
ii) In the Nervous system the diencephalon in fore brain and vagus nerve play an important role in carrying the signals.

3. Can you suggest any 4 systems involved in the process of generating hunger sensation?

Ans. i) Endocrine system ii) Nervous system iii) Muscular system and iv) Digestive system.

4. What plays a major role to identify stale food?

Ans. Smell plays a major role to identify stale food.

5. What happens when we put a food material in our mouth?

Ans. When we put a food material in our mouth, then saliva is secreted by three pairs of salivary glands.

6. How many food materials you have identified correctly?

Ans. We identified 7 food materials.

7. What happens to your taste sensation while sipping hot milt or tea?

Ans. We find something more tasty while we sipping hot milk or tea.

8. What is your dental formulae?

Ans. Dental formulae is 2/2, 1/1, 2/2, 3/3.

9. In what kind of PH do you think salivary amylase acts well?

Ans. In alkaline medium that is PH beyond 7.

10. What is peristalsis?

Ans. The involuntary contraction and relaxation of the muscles of oesophagus, stomach, and intestine is called peristalsis.

11. What happens if the direction of peristalsis is reversed?

Ans. Food moves in the backward direction.

12. Why do you think small intestine is long and coiled?

Ans. For the remain of food longer there by enhancing absorption.

13. What controls the exit of stool from the body?

Ans. Anai sphincter controls the exit of stool from the body.

14. What could be the range of temperature for us to relish food items?

Ans. 41^{o} F to 140^{o} F.

15. Rafi said smell is also increases our appetite. Can you support this statement. Flow?

Ans. Yes smell increases our appetite. However interactions between the senses of taste and smell exhance our appetite.

2 Marks Questions

1. What do you mean by hunger pangs?

Ans. i) Hunger pangs are the hunger contractions that occur in the stomach due to hunger generation signal that reach the brain from the stomach due to the secretion of hormone 'Ghrelin'.

ii) Ghrelin is secreted from certain cells in the walls of the stomach.

iii) increase in ghrelin levels nesuit in senstion of hunger and motivation to consume food.

2. Write the differences between Bolus and chyme ?

Ans.

Bolus	Chyme
1. Food that is mashed in the mouth.	1. It is the digested food in the stomach.
2. Alkaline in nature	2. Acidic in nature.
3. Teeth & saliva turn food in to bolus	3. Stomach digests food by peristalsis in to chyme.
4. Food going from mouth to stomach	4. Food going from stomach to small intestine.

3. Write the differences between Mastication and Rumination ?

Ans.

Mastication	Rumination
1. Grinding Chewing and striding of food in the mouth by teeth.	1. It is the chewing of food that come from a part of the animal to its mouth.
2. It occurs only one time in the oral cavity.	2. It allows food to undergo mastication more than once.
3. This is also called chewing the food.	3. This is also known as chewing the cud.
4. It occurs in mammals. eg. Human being	4. It occurs only in Ruminate animals & Cow.

4. How can you say that mouth is a munching machine?

Ans. i) The circular muscles of the mouth enable the food to be pushed in to the oral cavity and to be moved around.

ii) The teeth help in cutting and grinding.

iii) Tongue movements evenly spread out the food and help in mixing it with saliva.

iv) Hence we can say that mouth is a munching machine.

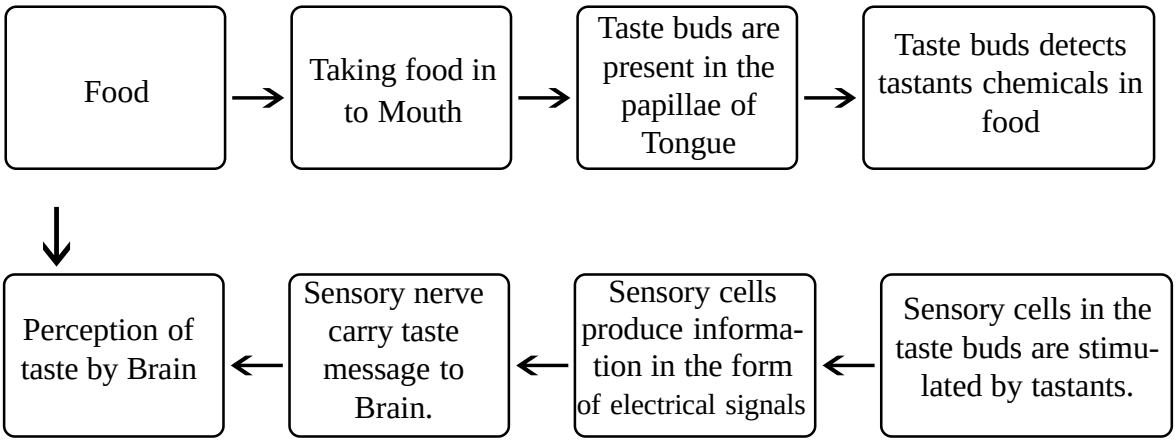
5. Rajesh feels hungry upon seeing food sheela says no more food as she is not hungry. What makes Rajesh hungry and what suppresses Sheela's hungry?

Ans. i) Increase in ghrelin levels in the stomach of Rajesh results in sensation of hunger and motivation to consume food.

ii) Secretion of hormone 'lepton' in the stomach of sheets suppresses hunger her.

6. Draw the block diagram showing sensation of taster from food material to Brain?

Ans.



7. How do you appreciate stomach as a churning machine. How does this coordination go on?

Ans. i) Mixing of food in stomach occurs by peristalsis.
ii) This allows the mass of food to further mix with digestive enzymes.
iii) Due to charring of food in stomach to form chyme.
iv) So stomach as a churring machine.

8. Suggest any two important habitual actions to your friend while eating food?

Ans. i) Masticate the food thoroughly in the mouth.
ii) Do not swallow food withour chewing properly.
iii) Eat small quantities of food at regular intervals of efficient digestion.

4 Marks Question

1) What is Mastication? Explain the role of different sets of teeth in this process?

Ans. Mastication is the process by which food is crushed and ground by teeth.

Role of teeth :

i) There are four types of teeth in human beings. They are incisors, canines, Premolars, and molars each for a specific function.
ii) Incisors : eight in number to help the food to bite.
iii) Canines : Four in number used for tearing the food.
iii) Premolars - Eight in number used for chewing and grinding food.
iv) Molars - Eight in number - used for chewing and grinding.

2) How can you justify the enteric nervous system as the second brain of the gut?

Ans. i) Entire nervous system, the second brain consists of sheaths of neurons embedded in the walls of the long tube of our gut.
ii) The second brain measures about 9 meters.
iii) Enteric nervous system contains mass of neural tissue filled with important neurotransmitters.
iv) This reveals that much more than merely handle digestion.

v) It stimulates that much more than merely handle digestion.
vi) It stimulates and coordinates the breaking down of food absorbing nutrients and expelling waste.

3) During the journey of food from mouth to stomach through oesophagus, how muscular system coordinate in this process?

Ans. i) The muscular system co ordinates the journey of food from mouth to stomach through oesophagus.
ii) The circular muscles of the mouth enable the food to be pushed in to the oral cavity.
iii) The surface muscles of the jaw help in biting and chewing actions.
iv) Contraction and relaxation of circular and Longitudinal muscles of oesophagus bring in a ware like motion that propels the food in to stomach by the action called peristalsis.
v) Peristalsis is involuntary and under the control of autonomous nervous system.
vi) The muscle of the upper part of stomach relaxes to accept the swallowed food.

4) How are taste and smell related?

Ans. i) Taste and smell are intimately related. So we perceive the flavors of food.
ii) Sivere cough and cold can not make out the differences in the taste of certain food items.
iii) Taste itself is focussed on distinguishing. chemical that have a sweet, salty, sour, bitter taste.
iv) However interactions between the senses of taste and smell enhance our perceptions of the foods, we eat.
v) Smell of the food flavor gives a similar taste to food.

5) How do you appreciate stomach as a churning machine. How does this co ordination go on?

Ans. i) The stomach acts like a washing machine, churning the food around to break it into even smaller pieces.
ii) Mechanical mixing of food in stomach occurs by peristalsis which in waves of muscular contractions. That move along the stomach wall.
iii) This allows the mess of food to further mix with the digestive enzymes.
iv) Due to churning of food in stomach a mixture that resembles thick cream called chyme.
v) Hence we can call stomach as a churning machine.

Fill up the Blanks

1. _____ of the following situation you can taste quickly.
(Press the tongue, slowly against the palate).
2. _____ is under control of autonomous nervous system peristalsis
3. Sphincter that helps in opening of stomach in to duodenum _____ (Pyloric)
4. The region in brain portion that controls hunger signals _____ (dience phalon)
5. Glucose and aminoacids are absorbed through the _____ part of villus. (Epithetical cells)

6. Sensation of hunger and motivation to consume food occurs due to _____ (increase in ghrelin levels)
7. Russian scientist Parlor conducted experiments on _____ (Conditimed reflex)
8. Which of the component of our food is digested by an enzyme present in shaliva _____ (Carbohydrates)
9. Dental formula _____ ($\frac{2}{2}$, , ,)
10. As a result chewing food forms into a slurry mass called _____ (Bolus)
11. If the PH Value of a substance is Beyond 7 then it is _____ (Alkaline)
12. Saliva sevreted by us per day is _____ (1 to 1.5 liters)
13. Digestive juice secreted by the walls of stomach contains _____ acid (Hydrochloric acid)
14. The nature of food when it enters the intention _____ (acidic)
15. Water and nutrients are absorbed in _____ (large intestine)
16. Process is required for oxidation of food and release of energy _____ (Respiration)
17. PH of saliva is _____ in nature (alkaline
18. The hormone that is responsible for suppression of hunger _____ (Leptons)
19. The muscles of the lower jaw are controlled by _____ (Fifth cranial nerve)
20. Saliva is released from salivary glands under the action of _____ nervous system (Autonomous)
21. The Partly digested food in the stomach is called _____ (Chyme)
22. Surface area of the small intestine for absorption in increased by _____ (Villi)
23. The second brain contains about _____ million neurons (100)
24. The energy has to obtained from food it has to be _____ (Oxidized)
25. Acidic nature of chyme initiates the production of _____ hormones (Secretion, Cholecystokinin)

Diagrams

2 Marks

1. Schematic diagram of a Villus Fig. No. 9, Page No. 157.

8. HEREDITY FROM PARENT TO PROGENY

1 Mark Questions

1. What is the law of independent Assortment?

Ans. In the inheritance of more than one pair of characters, the factors for each pair of character assorts independently of the other pairs. This is known as law of independent assortment.

2. What is Phenotype ratio?

Ans. i) The characters which can be seen is known as phenotype and the ration is called pheno type ratio.

ii) The pehnotype ration in F_2 generation of monohybrid crosses 3:1 ration

3. What is genotype ratio?

Ans. The genetic makeup of an individual with reference to a specific character under consideration is called genotype and their ration is called 'genotype ration'. The genotype ration in F_2 generation of monohybrid cross is 1:2:1.

4. State the law of Segugation?

Ans. Every individual posses a pair of allees for any particular trait and that each parent passes a randomly selected copy of only one of these to its off springs.

5. What is inheritance?

Ans. The process in which traits are passed from one generation to another generation is called inheritance.

6. What are autosomes?

Ans. Chromosomes whose number and morphology do not differ between males and females of a species are called autosomes. In humans there are 22 pairs of autosomes.

7. What is alyssums?

Ans. Sex detumining chromosomes are called allosomes or sex chromosomes. In humans there is a pair of allosomes one is 'X' and second one is 'Y'.

8. What are genes?

Ans. The factors which are responsible for a character or trait of an organism.

9. What is genetic drift? (drift)

Ans. Some times accidents changes frequency of genes in a small population called Genetic drift.

10. What are analogous organs?

Ans. Analogous organs are those that perform similar functions but have entirely different Embryonic origins.

Eg. : Wing of a bird and wing of a bat.

11. What are fossils?

Ans. Fossils are evidence of ancient life forms or ancient habitats which have been preserved by natural processes.

12. What is divergent evoluation?

Ans. The evolutionary process through which homologous organs develop is called divergent evolution.

13. What is convergent evolution?

Ans. The evolutionary process through which analogous organs develop is called convergent evolution.

2 Marks Questions

1. One Experimenter cut the tails of parent rats, what could be the traits in off springs? Do the daughter rats contain tails or not? Explain your argument?

Ans. i) August us weisemenn did this experiment on rats to test the theory of "Inheritance of acquired characters" proposed by Lamark.
ii) He removed tails of Parental rats.
iii) He observed its off springs which have normal tail.
iv) He has done it again for twenty two generations but off springs are with normal tails.
v) Thus he proved that the bodily changes which may occur due to environment won't be passed to its off spring.

2. What are variations? Explain with a suitable example?

Ans. i) Difference in characters with in very closely related group of organisms are refered to as variations.
ii) Often a new character in a group maylead to variation that are inherited.
iii) If we observe parents and off springs. There will be some similar features in the off spring of the parents.
iv) At the same time we find differences between parents and off springs in their features.
v) These differences one an example of variations.
vi) Variations are quit apparent among closely related group of organisms.
vii)If we take roses as an another example. We observe number of varies in them.
viii) But we can still find some characters Similar to all plants.
ix) Thus these rose plants have similar, physical features at the same time they have different in characters like flower, colour, number of petals leaf size, stem, spines etc.
x) These differences in features are variations.

3. What are the characters mendal selected for his experiments on pea plant?

Ans. Mendal selected the following seven characters for his experiments on per plant.

Flower colour	-	Purple and white.
Flower Pasition	-	Axil and Terminal
Seed colour	-	Yellow and green.
Seed shape	-	Round and wrinkled.
Pod shape	-	Inflated and constricted
Pod colour	-	Green and Yellow
Stem length	-	Talla nd Dwarf.

4. Write a brief note on analogous organs?

Ans. i) The organs which are structurally different but funetionally similar are known as Analogous organs.
ii) Wings of birds and bats - are example for analogous organs.
iii) The wings of bats are skin folds stretched mainly between elongated fingers.
iv) But the wings of birds are a feathery covering all along the arm.
v) The designs of the two wings their structure and components are different.
vi) They look similar because they have common use for flying but their origins are not common. "This makes the analogous characters"

5. If the Theory of inheritance of acquired characters proposed by Lamark was true, How will be world be?

Ans. If the theory of inheritance of acquired characters proposed by lamark was correct.
i) All the organisms which lost some of their body parts should give birth to the offsprings without the lost parts.
ii) Rat which lost their tail should give birth to tailless rats.
iii) A handi capped who lost their legs in an accident should give birth to babies, without legs.
iv) A body builder's children should be body builders.
"But all these are not happening because Bodily Changes won't be passed to its offspring".

4 Marks Questions

1. What are variations? How do they help organisms?

Ans. i) Differences in characters with in very closely related groups of organisms are referred to as Variations.
ii) Variations develop during reproduction in organisms.
iii) Sexual reproduction and errors in DNA copying leads to variations in off springs in a population.
iv) Variations are passed from parent to offspring through heredity.
v) Beneficial variations are selected by the nature in Evolution.
vi) These variations increase the survival chance of the organisms.

2. One student wants to cross pure tall plant (TT) with pure dwarf (tt) plant, what would be the F_1 and F_2 generation?

Ans. i) When a pure tall plant (TT) is crossed with pure dwarf plant (tt), all the off springs in F_1 generation are tall.
ii) Pure tall plant has both the factors of the same type 'TT'.
iii) Pure dwarf plant has both the factors of the same type 'tt'.
iv. The breed after cross pollination will have one of the factors from pure breed tall (TT) and one from pure breed dwarf (tt).

♀ \ ♂	t	t
T	Tt	Tt
T	Tt	Tt

v. One self Pollination of thesem the new breed can have any combination of T and t.

♀ \ ♂	T	t
T	TT	Tt
t	tT	tt

vi. So in F2 generation 75% of plants are tall and 25% of plants are dwarf - Thus the phonotype ration is 3%

vii. Among 75% of tall plants only 25% Plants are pure tall (TT) or homozygous tall remaining 50% plants are heterozygous Tall (Tt, tT).

viii. So the genotype ratis is 1:2:1.

3. What is the law of Independent assortment? Explain with an example?

Ans. i. In the inheritance of more than one pair of characters the factors for each pair of characters assorts independently of the other pairs. This is known as 'Law of independent assortment'

ii. When we cross two sets of pure pea plants one with yellow seeds with smooth skin and green seedswith wrinkled cover. in the F1 generation we will get yellow and smooth seeds. each pea will have Yy Rr factors.

♀ \ ♂	yr	yr
YR	YyRr	YyRr
YR	YyRr	YyRr

iii. On self pollination of these seeds we will get somooth yellow. (Yy Rr or YYRR) seeds. some seeds smooth & green (yyRR or yyRr) some seeds are wrinkled and yellow (Yyrr or Yyrr) and some seeds were wrinkled and green (yyrr).

♀ \ ♂	RY	Ry	ry	rY
RY	RRYY	RRYy	RrYy	RrYY
Ry	RRYy	RRyy	Rryy	RrYy
ry	RrYy	Rryy	rryy	rrYy
ry	RrYY	RrYy	rrYy	rrYY

iv. In the Dihybrid cross Parient produced offsprings containing the factors of yellow, round, and wrinkled green qppeared in F_2 generation.
Round and Yellow are 9
Round and green are 3
Wrinkled and Yellow are 3
Wrinkled and green are 1

From the abover results the factors are independent to each other passes to its offsprings this shows "Law of independent assortonent".

4. In what way mendal used the word "Traits'? Explain with on example?

Ans. i. Trait is a separate variant of an Organism.
ii. Mendal hypothesiezed that characters were carried as taits.
iii. He also hypothesiezed that distinguishing traits of the same character were present in a population of an organism.
iv. He assumed that the traits shown by the tea plants must be in the seeds that produce them.
v. The seeds must have obtained these traits from the parent plants.
vi. The factors which are responsible for character or trait of an organism are now named as "genes".
vii. By all these we can assume that mendal used the word 'taits' for indicating the variant of an organism expressed by a pais of factors or genes.
viii. For example height is a character of pea plant while the tallness is a trait expressed by a pair of factors either TT or Tt and dwarfness is another trait expressed by a pair of factors it.

5. Mendal selected a pea plant fox his experiments mention the reason in your point of view?

Ans. Mendal selected pea plant for his experiments. Because
i Pea plant have short life cycle, they reproduce fast and mature right away.
. They exhibit seven pair of contrasting characters which are easily recognisable such as smooth or wrinkled seeds. Short or tall, height etc.
. Hybrids and their off springs are fertile, that is continious cross and self fertilization were possible.
. They are highly naturally self pollinated because the reproductive parts of the flower are covered by the keel (petals) which only opens after pollination has been completed.
. Although the cross pollination methods are some what complicated, the results are largely successful.
. These plants are easy to grow either on the grand.
. These plants have short maturity and can produce large number of seeds in a single generation.

Fill up the Blanks

1. The process of acuqiring characters from parents is called _____ (Heridity).
2. The pair of genes which are responsible for character is called _____ (alleie).
3. Characters that are developed during the life time of an organism are called _____ (acquired characters).
4. Small changes within the specis is known as _____ (Micro Evalution).
5. The process of evolution through which new specias are formed known as _____ (macro evolution).
6. The study of the development of an organism from egg to adult stage called _____ (Embryology).

7. Ancient habitats which have been preserved by natural processes called _____ (fossils)
8. The study of fossil is called _____ (Palaentology)
9. Carbon dating is used to determine _____ (age of the fossil)
10. Organs which are not useful in animal are called _____ (Vestigial organ)
11. Who was the 1st person to propose the theory of Evolution _____ (Jean Baptist Lamarck)
12. Who proposed the theory of Natural setection _____ (Charles Darwin)
13. How many Vestigial organs are there in human beings _____ (180).
14. _____ Organism is said to be a moving museum of vestigial organs (Human being).
15. The phenotype ratio in monohybrid cross is _____ (3:1)
16. The genotype ration in monohybrid cross is _____ (1:2:1)
17. Augustus weisemann conducted his experiments on _____ (Rats)
18. Number of Pairs of auto somes in humans _____ (22)
19. Wing of bird wing of bat are the exaple for _____ (anologous organs)
20. Homosapiens came from _____ continent (Africa)
21. TT of YY, Tt or Yy are responsible fro _____ Character (Dominent)
22. Number of chromosomes present in each human cell _____ (46).
23. The birds identified by Darwin in Galapagous islanda _____ (Finch birds)
24. Genetic drift provides _____ (diversity in the Population)
25. Homo habilus lived between _____ million years ago (1.6 - 2.5)
26. Present man appeared about _____ thousand years ago (40)
27. Dinosaurs are collected from _____ in Adilabad district (Yaminipalli)
28. Dinosaurs fossil is preserved in _____ Hyderabad (BM Birla Science Centre)
29. Charles Darwin Voyaged in a ship the name of two ship is _____ (HMs Beagle)
30. The Book “Principles of Geology’ was written by _____ (Charles lyep).

9. OUR ENVIRONMENT - OUR CONCERN

1 Mark Questions

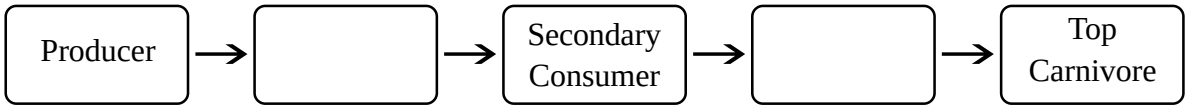
1. What is an Environment?

Ans. The sum of physical and biological factors along with their chemical interations that affect an organism is called environment.

2. How ecological balance in effected?

Ans. One organism cannot completely defy the balance to suit one's need. It would in some way or the other affect the balance in such a way that the survival of the organism affecting the damage be at stake.

3. Fill the empty blocks?



Ans. Primary consumer, teritiary consumer.

4. What is a niche?

Ans. Animals fit into special positions with in the food web. That position is called its Niche.

5. What does the word niche denote?

Ans. The term niche denotes

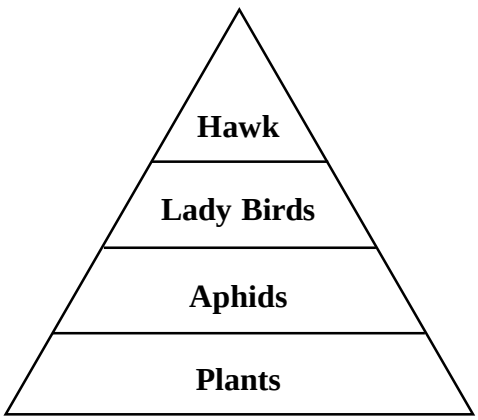
a) Animals position in the food web
b) What it eats and
c) Its mode of life

6. What is ecological pyramid?

Ans. The graphic representation of the feeding level of an ecosystem by taking the shape of pyramid is called ecological pyramid.

7. Draw pyramid of numbers for the following food chain?
Plants →Aphids→ lady birds → hawk

Ans.



8. What is the position of producers in an ecological pyramid?

Ans. The producers always occupy the bottom of the pyramid.

9. What is biomass?

Ans. Any type of Plant or animal material that can be converted into energy is called biomass.

2 Marks Questions

1. Grass, sanke, hawk, grasshopeer, frog.
Read the list of above organisms, and answer the following questions.

a) Arrange the above organisms in the form of a food chain.

b) What does the arrows marked by you points?

c) Name the Primary consumer in the above food chain.

d) What happen to the number of organisms as we move from first level to lass level?

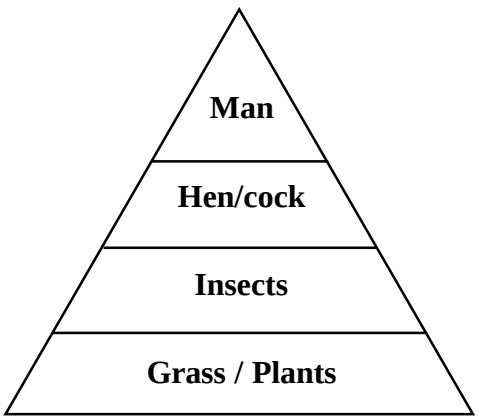
Ans. a) Grass → Grasshopper → Frog → Snake → Hawk.
b) The arrows always point the organisms from the food to the feeder.
c) Grass hopper is the primary consumer.
d) The number of organisms get decreased.

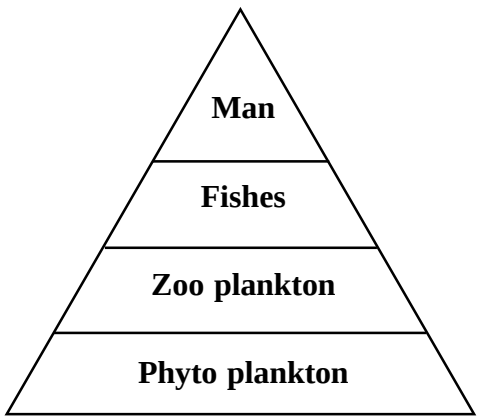
2. Why do most of the food chains consist of four steps?

Ans. 1) Food chain shows that how the energy is passed from one organism to another.
2) At each transfer, a large proportion of energy is dissipated as heat produced during the process of respiration and other ways.
3) Thus above three steps in a food chain very little energy is still available for living organisms to use.
4) So most of the food chains consists of four steps.

3. Draw any two pyramids of numbers considering yourself as a top level consumer?

Ans.





4. Why the water holding capacity of kolleru lake is greatly reduced?

Ans. 1. In 1996 almost entire lake was brought under cultivation and bunds were constructed to keep water out to protect the cops.
2. This divertion affected the natural flow system of the lake.
3. The water holding capacity of the lake is also found significantly reduced.

5. What is the reason of explosive weed growth in kolleru lake?

Ans. 1. The drains and rivulets carry substantial quantity of various types of pollutants into the lake.
2. These Pollutants include agro chemicals, fertilizers etc.
3. Excessive nutrien addition, especially from anthropogenic sources, led to explosive weed

growth. Eg. Eichornia.

(or)

6. Eichornia is a weed grows in Kolleru lake. Why it grows explosively?

Ans. 1. Due to pollution many agricultural run off containing residues of various agrochemicals, fertilizers are added to the lake which contain plant nutrients.
2. Excessive nutrient addition, especially from anthropogenic sources, led to explosive weed growth especially Eichornia.

7. Why the pyramid of energy is always upright?

Ans. 1. The quantity of energy available for utilization in successive tropic levels is always less in any ecosystem.
2. This is because there is a loss of energy in each transfer.
3. Hence the pyramid of energy is always upright.

8. Define Bio accumulation, Bio magnification.

Ans. 1. The process of entering of pollutants in a food chain is known as Bio accumulation.
2. The tendency of Pollutants to concentrate as they move from one tropic level to the next is called bio magnification.

9. Fish are considered to be the bio indicators of metal contamination. Why?

Ans. 1. The aquatic biota is being contaminated with heavy metals due to industrilization and anthopogenic activities.
2. Heavy metals in water samples accumulates in various tissues of fish.
3. The heavy metals could find their way into human beings through food chain which cause various physiological disorder such as hypertension, sporadicfever, renal damage, nausea etc.
4. So fishes are considered to be the bio indicators of metal conamination.

4 Marks questions

1. Arrange the following organisms in the form of a food web? Aphids, Lady birds, Hawks, Grass, Frog, Crane, Vallisnaria, Planktons, Tiger, Trees, Small fish, Plants, Large fish, Snake, goat, Fox, Insectivorous birds.

Ans.

Tiger

Hawks Snake Crane

Insectivorous birds Frog Fish Fox

Lady birds

Aphids insects Plankton Goat

Grass Plants Vallisnaria Trees

2. Observe the following pyramid of biomass and answer the following Questions?

a) This pyramid shows adecrease in the biomass as we go up. Where the biomass is lost?

b) What are the producers in this pyramid?

c) How much food is lost at each step roughly?

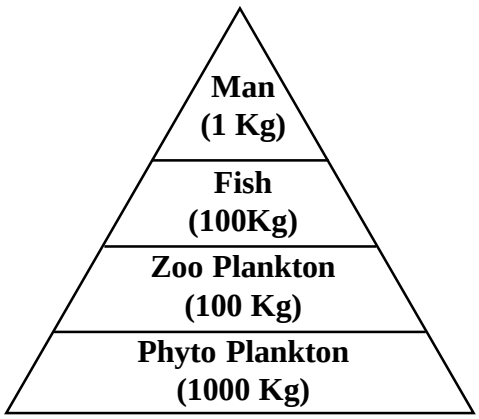
d) Where do producers get the energy from?

Ans. a) When animals eat, only a small Proportion of their food is converted into new tissue. Remaining food is either not digested, or used to provide the energy

b) Photo plank tons.

c) Nearly 90% of the food is lost is lost in each step.

d) Producers get the energy from sunlight.



PYRAMID OF BIOMASS

3) Observe the given data and answer the following questions?

Classes	**Area in 1967 (Km^2)**	**Area in 2004 (Km^2)**
Lake - Water spread area	**70.70**	**62.65**
Lake with sparse weed	**0**	**47.45**
Lake with dense weed	**0**	**15.20**
Lake liable to flood in rainy season	**100.97**	**0**
Aqua culture ponds	**0**	**99.74**
Rice fields	**8.40**	**16.62**
Settlements	**0.31**	**1.37**
Total	**180.38**	**180.38**

a) In which year lake-water spread area is more? Why?

b) What are the reasons for decrease in the Lake area?

c) How was the threat due to pollution discovered?

d) What could be the reason for the migration of birds to this lake?

Ans. a) In 1967, lake water spread areas is more because there is no pollution.

b) Because of aqua culture ponds and Rice fields in the lake.

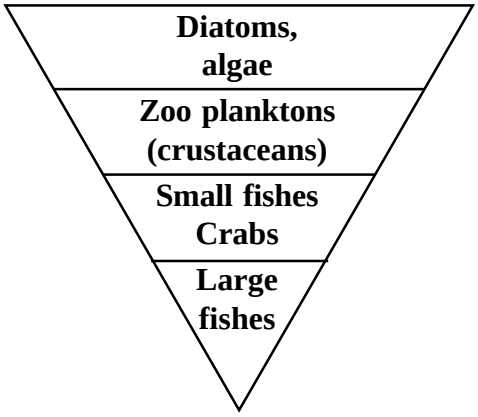
c) This water lake shrunk in size and faced great threat due to pollution in the last three decades as revealed by satilite pictures.

d) During rainy season, most of the birds from far away Places migrate to kolleru lake for food and shelter.

4) Why do the pyramid of biomass is inverted in quatic eco system? Draw a pyarmid of

biomass in aquatic eco system taking your own examples.

Ans. i. In an aquatic ecosystem, the biomass of phytoplanton is quite negligible as compared to that of crustaceans and small herbivorous fish that feed on these producers.
ii. The biomass of large carnivorous fish lifing on small fishes still greater.
iii. This makes the pyramid of biomass inverted.



PART - B

1) What does a food chain always start with? [c]
a) The herbivore b) The carnivore c) The producer d) None of these

2) Ban all pesticides, this means that [c]
a) Control on wage of pesticides b) Prevention of pesticides
c) Promote ecofriendly agricultural practices c) Stop biochemical factories

3) Which countrydestroyed sparrows, as they are causing huge damage and lessening the corp yield? [c]
a) India b) Pakistan c) China d) Japan

4) What happended to kolleru lake, when the water become alkaline, and turbid. [c]
A) Low in dissolved oxygen
B) High in bio chemical oxygen demand and affects the aqutic animals.
a) A only true b) B only true c) both are true d) none

5) Niche denotes [d]
a) Animal position in food chain b) What it eats
c) Its mode of life d) All the above

6) The concept of Ecological pyramid was first introduced by [a]
a) charles ELTON b) Slobodkin c) Linde man d) Steele

7) In an aquatic ecosystem, the pyramid of biomass is [b]
a) Upright b) Inverted c) Partly inverted d) None

8) Grass → Frog → Snake. Find out the missing organism in this food chain [ ]
a) Grasshopper b) Lion c) Goat d) Amoeba

9) The percentage of the biomass is transferred from one tropic level to the next in a food chain. [c]
a) 40 - 50 b) 80 - 90 c) 10 - 20 d) 30 - 40

10) Special positions with in the food web, in which animals fit in is decribed as its [c]

a) Tropic level b) Eco level c) Niche d) None of the above

11) The fish selected from Edulabad Resevoir for investigation, Which is rich is proteins and with low cost is cyprinus carpio .

12) Sunlight is the main source of energy for an ecosystem.

13) Flow of materials between organisms and their environment is called bio geo chemical cycles .

14) The process of entering of pollutatnts in a food chain si known as bio accumulation .

15) Organic material of biological origin is called biomass .

16) Match the following

1. Pyramid of food	[b]	a)	Ecological graph.
2. Pyramid of number	[d]	b)	Based on food chain.
3. Pyramid of biomass	[e]	c)	Based on chemical energy.
4. Pyramid of energy	[c]	d)	Based on organisms no.
5. Pyramid of Ecology	[f]	e)	Based on the mass.
		f)	Energy transfer.

17)

1. Hawk ↑	[c]	a)	Producers.
2. Shake ↑	[d]	b)	Primary consumers.
3. Frog ↑	[b]	c)	Top cornivores.
4. Grasshopper ↑	[b]	d)	Teritiary consumers.
5. Grass	[a]	e)	Secondary consumers.

10. NATURAL RESOURCES

1 Mark Questions

1. What are micro irrigation techiniques?

Ans. Drip irrigation, sprinklers are micro irrigation techniques.

2. Expand Icrisat?

Ans. International Crop Research Institute for Semi Arid Tropics. is in Hyderabad

3. What is Gliricidia? Where is it grown? What are the uses?

Ans. a) Gliricidia is a leguminous plant adapted to grow in dry areas.
b) It is grown on field bunds.
c) Three plants strengthen the field bunds and make the Soil Nitrogen rich.

4. What are the methods should used by farmers to conserve soil, water and fertilizer application?

Ans. Board bed furrow, land form contour planting and field bunding etc are used by farmers to conserve soil, water.

5. There is a water scarcity in a place. Which irrigation methods you sugges to the farmers of that place?

Ans. I suggest Micro irrigation methods like Drip irrigation and Sprinklers.

6. Name a place continent there are no forests?

Ans. Antarctica.

7. What serve as a lung for the world?

Ans. Forests serve as a lung for the world.

8. Why are fossil fuels non-renewable?

Ans. Fossil fuels are non-renewable. This is because it takes a long time for their formation while their consumption occurs very quickly.

2 Marks Questions

1. Saroja bought a new house having borewell. She observed that very less amount of amount of water is coming from borewell. What is the reason? Are there any methods to improve the amount of water?

Ans. 1) The reason for less amount of water is ground water level is low in that area.
2) The ground water level can be increased by constructing recharge pits or percolation tanks.

2. Now a days, open dug wells aer very less compared to borewells what might be the reason ? What might be the reason? What are the advantages of bore wells than the reason? what are the advantages of bore wells than the open dug wells?

Ans. i. Bore wells can reach the greater depths of ground water Zones.
ii. Reduce the loss of water by surface evaporation. So most of the open wells are not seen now a days.

3. How do you think we can use water judiciously?

Ans. i. Using only required quantity of water.
ii. Reusing once used water.
iii. Recharging the ground water.
iv. Adapting micro irrigation techniques in agriculture.

4. People in kothaplally village through proper guidence could make optimum use of available water in the village. Who guided them? What are the measures?

Ans. i. International Crop Research Institute for Semi Arid Tropics (ICRISAT) guided them.
ii. They educated the villages on water management techniques.
iii. Provided technical support for cost - efficient water storage and soil conservation structures.
iv. Thus sustainable management was carried out.

5. Cropselection and cultivation should be based on availability of water. prepare a slogan to make aware of farmers about this?

Ans. **Slogans :**
i. Today's rain water is tomorrow's life saver.
ii. Save water.
iii. Waste water today - live in desert tomorrow.
iv. "Jal hai, to Kal hai".

6. What is sustainable development? How is it useful in natural resource management?

Ans. When we use the environment in ways that ensure we have resources for the future, it is called sustainable developement.
Uses : 1) Sustainability can be used to manage and conserve the natural resources.
2) To save the natural habitats of living organisms.

4 Marks Questions

1. Here is a news strip. Read it carefully and answer the following questions.

Villagers oppose sand mining project Santha - bommali (Srikakulam) People of more than 20 villages in two mandals of Srikakulam have raised a banner of revolt against the proposed beach sand mining project by a Private company and threatened to intensity their agitation if the govt. doesnot cancel the project. The sand mining is being taken up to extract rich minerals from the area. The villages are located around the forest belt were mining is initiated.

a) Do you think the villagers are doing a right thing to agitate? Why?

b) What resources are the villagers trying to save by their agitation.

c) Will the villagers be benified by the rich minerals extracted from sand?

d) Why does the Private company want to carry out mining in the area.

Ans. a) Yes. Because beach sand mining leads to destruction of natural beaches and the ecosystems.
b) Sea water resourses.
c) No, the villagers will not be benefited by the rich minerals extracted from sand.
d) For their benefits, to earn money.

2. Observe the following table and answer the following questions ?

AREA UNDER IRRIGATION

Village	Total area (acres)	Persentage area irrigated	Number of wells	Sample size
Vanaparthy	3791	25	155	25
VAddicherla	2970	15	175	25

a) What is the total irrigated area in acres, in vanaparthy?

b) If one needs to irrigate all the land in vanaparthy, how many wells would be required?

c) Through the number of wells is less in vanaparthy, the area under irrigation is more as compared to vaddicherla. How is this Possible?

d) Do you think the area under irrigation will change due to rise in population?

Ans. a) In vanaparthy, the total irrigated area is 947.75 acres.

b) If one needs to irrigate all the land in vanaparthy, 620 wells would be required.

c) Percolation tank is there which helps in increasing the ground water level.

d) Due to rise in population, the area under irrigation should be increased.

3. Ramu is studying X class. His father promised to gift him a bike if he gets 'A' Grade. On the same day his teacher taught the lesson - fossil fuels. So he said that he well go to college by bus only. why do you think he take such decision?

Ans. i. This teacher may taught him the importance of conservation of fossilfuels.

ii. Bike runs by petrol. Petrol is a fossil fu -renewable resource.

iii. Fossil fuels are good reasons for pollutio

iv. It is better to prefer public transport sys train inslcad of travel in personal vehicles.

v. So Ramu rejected bike as he wanted to c uels by using them carefully.

4. Observe the follosing logo.

What this logo shows? Explain in detail?

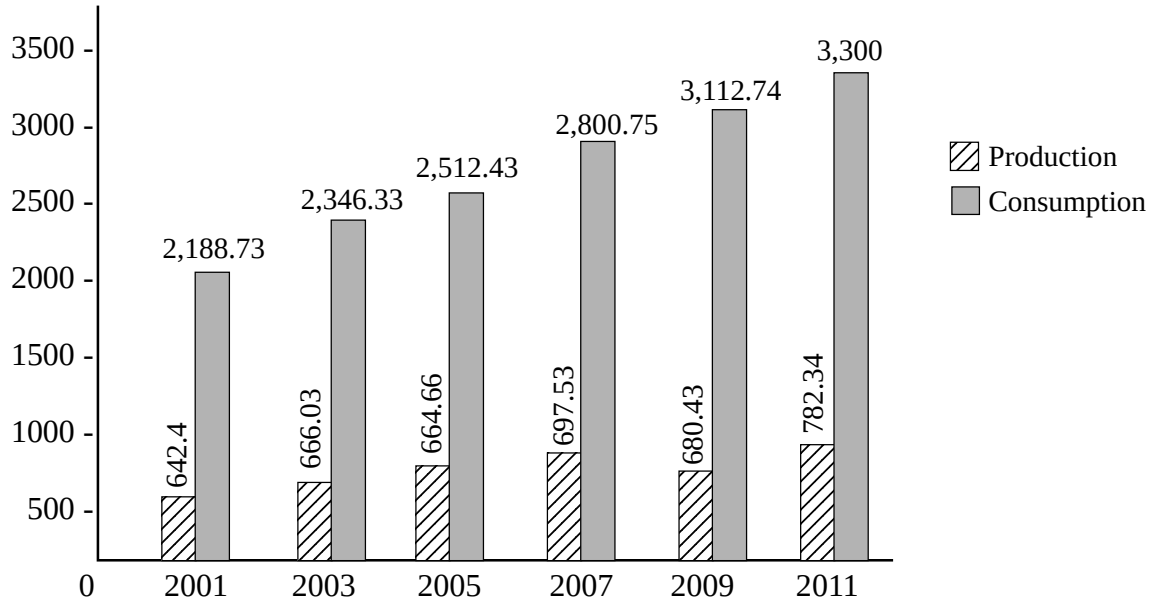
Ans. This is Recycling logo. It shows 3 'R's.

i. **Reduce :** Avoiding wastage of resources by repairing leakly taps and switching of unnecessary lights and fans.

ii. **Reuse :** We can reuse thing that we often throw away, like paper and wrapping papers. This would save plants and minimise pollution.

iii. **Recycle :** Things should be recycled if possible like plastics.

5. Observe the follosing graph showing oil consumption in India and answer the follosing questions.



a) Does the production meet consumption in India?

b) During which period of time shows highest increase in consumption rate?

c) Why will you say happened to production from past ten years, for example 2001 to 2011.

d) Suggest some ways to bring down consumption of petroleum?

Ans. a) No, the production does not meet consumption of India.

b) During 2005 to 2011, the consumption rate is highest.

c) The consumption population but production rate is not increasing.

d) Every one can help conserve fuels by using them carefully. 1) walk, ride a bicycle and use public transport when ever possible.

2) Continuous check of vehicles saves fuel.

PART - B

1) Percolation tanks helps to [c]
   a) Supply water for agriculture b) Increase ground water level
   c) Preserve rain water d) Prevent over flow of water from tanks during rainy season
2) Which of the following practice is suitable for farmer with less water resources [b]
   i) Select short term crops ii) cultivate commercial crops
   iii) adapt drip system iv) crop holiday
   a) i, ii b) i, ii, iii c) i, iv d) iii, iv
3) Sustainable development means [c]
   a) Prevention of wastage b) Stable growth
   c) development without damaging d) high yeildings in less time
4) Sanju is using cotton bags instead of polythene covers for shopping. It is [d]
   a) Recycling b) minimizing c) Saving d) reuse
5) Read the two statement and put correct answer in the bracket. [c]
   i) Total Volume of water on earth has 97% of fresh water.
   ii) On earth, fresh water has 0.7%-0.8% of ground water.
   a) i, ii are true b) i true ii false c) ii true i fase d) i, ii both are false
6) Reason for releasing harmful chemical into the surrondings in huge quantities [d]
   a) Industries b) Mines c) Insecticiedes d) Modern technology
7) UNDP means [b]
   a) United Nations Drought Programme b) United Nations Development Programme
   c) United Nations Development Plan d) United Nations Director of Planning
8) Which is not related 3R of natural conservation [d]
   a) Making leaf plates with bark of banana tree
   b) Using only the grass bags
   c) Lessening the usage of use and throw articles.
   d) Making undrground drinage system.
9) In a village, much water scarity prevails If a farmer wants to cultivate paddy crop, what suggestion do you give? [b]
   a) Appreciate b) Shift to jowar cultivation
   c) Not to do cultivation d) Undecide
10) Which of the fossil fuel reserves decrease more rapidly in India? [d]
    a) Natural gas b) Coal c) Petroleum d) All

11) __Jatropha__ Plants are used for production of bio fuel.

12) Cultivation of Paddy is suitable for __more water__ areas.

13) Expand ICRISAT - International Crop Research Institute for Semi Arid Tropics.

14) to strenghten the field bunds __Gliricidia__ Plants wer cultivating.

MODEL QUESTION PAPER
Biological Science
English Medium

PART - A

Class X **Max Marks : 35** **Time : 2 hrs.**

Section - I (Marks 4)

Note : 1. Answer any FOUR of the following questions.
2. Each Question Carries one Mark.

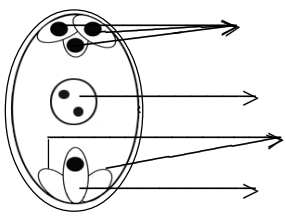
1. Which enzyme influences the proteins and made them into simple substances?
2. What are the sites of cellular respiration?
3. What are tendrils? What is thier use?
4. Why do fish and frog produce a huge number of eggs each year?
5. Guess what happens If mucus does not secreteon the walls of oesophagus?
6. What is bio magnification?

Section - II (Marks 10)

Note : 1. Answer any FIVE of the following questions. Choosing atleast two from each group A and B
2. Each Question Carries 2 Marks.

Group A

7. Why do deep sea drivers carry oxygen cylinders with them for breathing when they go under the sea?
8. Write the differences between Xylem and Pholem.
9. Label the following with 4 parts.



Embryo sac

10. Suppose the wells and ponds are dried up in your village what might be the reason? Suggest some measures to increase the water level.

Group B

11. In the experiment with yeast to show anaerobic respiration?
    a) Why liquid paraffin is pored on to the mixture?
    b) Bicarbonate solution in changed to which colours, Why?

12. Name the following?
    a) Where the photosynthesis occurs?
    b) The process in which complex food material is transformed into simple food material is transformed into simple food material.
    c) The part after the long intestine.
    d) The disease occurs with the deficiency of Vitamin - K.

13. Vasu is conducting an experiment but he is weak as he is feeling hungry occurs? How do we feel hunger?

14. Forests are important natural resources. Justify this statement with 4 Sentences.

Section - III (Marks 16)

Note : 1. Answer any FOUR of the following questions. Choosing atleast two from each group A and B
2. Each Question Carries 4 Marks.

Group A

15. How do you confirm the presence of strach in leaves with an experiment.

16. How does sexdetermination take place in human? Explain with example.\.

17. Write the differnces between Arteries and Veins.

18. Explain the process of fertilization in plants?

Group B

19. Why do the pyramid of biomass is invented in aquatic ecosystem? Draw a pyramid of biomass in aquatic ecosystem taking your own example?

20. Imagine what happens if waste materials are not sent out of the body from time to time?

21. Write the pathway of air entering the body in the form of a flow chart and explain it.

22. Write the functions of various parts of the brain?

Section - IV (Marks 5)

Note : 1. Answer any ONE of the following questions.
2. Each Question Carries 5 Marks.

23. Draw a neat labelled diagram of Nerve cell.

24. Draw a well labelled diagram of T.S. of Kidney

Model Paper - 1

Part - B

Max marks : 15 Time : 30 Minutes

Instructions : 1. Put correct letter in the brackets given belos

2. Each Question Carries 1/2 Marks.

A. Multiple Choice :

1. Main causes of AIDS explosion in our country is by [ ]
   1) Unsafe Sex 2) Blood Transfusion 3) No proper awareness 4) More traditional and Orthodoxy
   a) 4 only b) 2, 3 c) 1, 2 d) 1,2,3,4
2. After taking meal some people get the sensation of Urination
   Which Hormone is responsible for this stimulus? [ ]
   a. Pressure of stomach over the urinary bladder
   b. Solid material converts into liquid material
   c. Amount of water Consumed during meal.
   d. Relaxing condition of the Sphincter muscles.
3. Which hormone causes goose bumps when we are afraid of? [ ]
   a. Somatotropin b. Insulin c. Adrenalin d. Estrogen
4. What is the advantage of folding of leaves in Mimosa [ ]
   a. to devrease the rate of photosythesis
   b. Rescue from grazing animals.
   c. For the release of phyto hormone
   d. For Growth control.
5. Excess usage of Chemical ferilizers are causing Natural Imbalance. [ ]
   Hence the remedy is
   a. Ban the chemical Fertilizer Factories.
   b. to stop the cultivation
   c. use excess chemical fertilizers
   d. eco fiendly cultivate methods are useful
6. In a village much water scarcity prevails. If a farmer wants to cultivate [ ]
   paddy crop, What suggestion do you give?
   a. Appreciate b. Shift o jowar cultivation c. Not to do cultivation d. Undecided
7. After keeping the potted plant 48 hours in dark room, Light experiment [ ]
   (Light is essential for Photysynthesis) will be done. Why?
   a. To remove Chlorophyll b. To remove starch material
   c. Photosynthesis doesn't occur d. Confirm that there is no starch in the leaves.
8. By burning test of Sugar, What do we know? [ ]
   1. Sugar also burns. 2. Energy will release in the form of heat.
   3. As Carbon-di-oxide is formed, lime water turns into milky fluid.

4. Water also forms from sugar

a. 1 only b. 1, 2, 3 c. 1, 2, 3, 4 D. only 4th

9. One research man cross pollinated the PURE TALL (TT) plant with PURE DWARF (tt) which kind of plants will grow in the F_1 generation? [ ]

a. All are Dwarf plants b. All are Tall Plants.

c. Some are long, some are dwarf, d. intermediate / moderate plants.

10. Why does the Ovum is bigger than sperms [ ]

A. More cells in egg. b. Nutrients are present.

c. Hard shell is present around the egg. d. Large cell is present in it.

11. Doctor examined Padma and told that Leucocytes count is less. He suggested taking Vitamin rich food. What could be that vitamin? [ ]

a. Folic Acid b. Pntothenic acid c. Ascorbic Acid d. Aspartic Acid

12. Separation method of Ethanol from Sugar Yeast Solution? [ ]

a. Removing with hand b. Fractional Distllation

c. Mixing Distilled water d. To filter the Sugar

13. The large blood vesse which originates from the upper part of the left ventricle of heart [ ]

a. Pulmonary artery b. Coronary artery

c. Systemic arch d. Inferior Vena cava

14. Sponges utilize this for body circulation

a. Fresh water b. Body fluids c. Seawater (brine) d. Blood [ ]

15. One of the main reasons of water transportation in Xylem vessel [ ]

a. Root pressure b. Xylem pressure c. External Circulation d. None

16. The process in which the concentrations of fluids in different parts of the body is constant [ ]

a. Haemo dialysis b. Homeostasis c. Haemoglobin d. Heparin

17. This organ is useful to send out the waste material from the body of Amoeba Paramecium like Protozoan [ ]

a. Short term crops b. Commercial crops c. Drip irrigation d. Announcing Crop Holiday

18. Observe the figure. You known that this experiment was done by F.W. Went. What did he reveal with this experiment? [ ]

Fig

a. Oxygen b. Hydrogen c. Auxin d. Naphthalene

19. Man has 23 pairs of Chromosomes. After Madan's marriage with Roja, [ ]
they got a girl child, Sulekha. What is the Chromosomal Number? of Sulekha?
a. 23 pairs b. 22 pairs c. 11 pairs + 1 pair d. 12 pairs
20. Function of Coli Systokinin? [ ]
a. To activate and secrete gastric juices b. Converts the Proteins into Amino Acids
c. To improve the function of Epiglotis d. Causing belchining.

B. Fill in the blanks :

21. When diagene green solution is placed in Glucose solution, if it turns into pink color, indiates les availability of _____.
22. Look at the paramecium in the figure. Food reaches to _____.
23. Cells that cause grey color to the outer and white color to the inner layers of the brain.
24. If the Phenotype ration is 3:1, the genotype ration in F_1 generation _____.
25. The fossil found in Yamanapally of Adilabad district is said to be of 160 years ago. To estimate the aging of fossils _____ study is helpful.

C. Matching :

Set - A		**Set - B**
26. Cell Cycle	( )	A. DNA Synthesis
27. G1 Stage	( )	B. Cytokinesis
28. S stage	( )	C. Miotic Stage
29. G2 Stage	( )	D. Transition Stage
30. M Stage	( )	E. Inter stage
		F. Prophase

Model Paper - I

BIOLOGY

Part - B

Max marks : 15 Time : 30 Minutes

Instructions : 1. Put correct letter in the brackets given below.

2. Each Question Carries 1/2 Marks.

A. Multiple Choice :

1. Which of the following is not the factor to convert the light energy into chemical compound among Autotrophis [ ]
   a. Oxygen b. Carbon dioxide c. Stomata d. Water

2. [ ]

List - 1		List - II
i) Grana	( )	A. Synthesis of Glucose
ii) Stroma	( )	B Absorption of Light Energy
iii) Thylakoid	( )	C. Pile of thylakoids

   a. i-C; ii-A; iii-b b. i-a; ii-b; iii-c; c. i-b; ii-a; iii-c d. i-b; ii-c, iii-c

3. A single pipe like pharynx bifurcaes and forms [ ]
   i. Stomach, Duodenum. ii. Trachea, alimentary canal
   iii. Epiglotis, Palate iv. Larynx, epiglotis
   a. i only b. i, ii c. ii only d. i & iv

4. Element present in the chlorophyll [ ]
   a. iron b. Magnesium c. Sulpher d. Potassium

5. You feel that your heart beats very rapid after your fast run. How about your pulse rate? [ ]
   a. Very less b. No change c. very fast d. remains same

6. The nephron part which lies in the outer region of kidney [ ]
   a. Henley's loop b. firs convoluted tubule
   c. second convoluted tubule d. Bowman's capsule.

7. The alcholoid present in neem leaves [ ]
   a. Nimbin b. Morphine c. Quinine d. Caffeine [ ]

8. It is absent in non myolinated neurons [ ]
   a. Cyton b. Ganglion c. Axon d. None of the above

9. Use of leaf folding in Mimosa (Touch-me-not plant)
   a. To lessen the photosynthetic rate b. Protection from grazing animals
   c. Releasing or phyto hormones d. To control growth

10. Chandra went to fruit market to get seedless fruits but his daughter amazed and asked how do we get fruits without seeds? Getting seedless fruits is by [ ]
    a. Removal of seeds b. Parthenogenesis c. Androgenesis d. No seedless fruits

11. Which is the correct sequence of stages in human life? pick the correct option [ ]
    a. Boyhood → Childhood → Adolascence → Adulthood
    b. Childhood → Babyhood → Adulthood → Adolascence
    c. Adolascence → Babyhood → Adulthood → Childhood
    d. None of the above

12. The part that controls the symptoms of hungry in brain [ ]
    a. Medulla b. Diencephalon c. Cerebrum d. Mid Brain
13. Movement of Peristalysis [ ]
    a. Clockwise b. Anti clockwise c. Monomastigatory
    d. Both clockwise and Anti clockwise
14. Hregory John Mendel belogs to _____ Country. Her used [ ]
    _____ for his investigation.
    a. Germany, Forensic Science Lab b. Austria, Church Garden
    c. Austria, Royal Science lab d. Germany, Church garden
15. The Sex Chromosome among males is in _____ form, whereas among females [ ]
    the chromosome is in _____ form
    a. XX, YY b. YY, XX c. XXX, XY d. XY, XX
16. Product that converts the living substance into energy _____
    a. Bio energy b. Bio Energy Mass c. Evolution d. Bio Volume
17. Ban all Pesticides, this means [ ]
    a. Control on the usage of pesticides
    b. Prevention of pesticides
    c. Promote Eco-friendly agricultural practices.
    d. Stop bio chemical factories
18. Practice suitable to farmer with less water resources [ ]
    i. Select short term crops ii. Cultivate commerciala\
    iii. adapt drip system iv. Crop
19. Which country destroyed Sparrows, as they are causing huge damage and [ ]
    lessening the crop yield.
    a. India b. Pakistan c. China d. Japan
20. Manju is using cotton bags instead of Polythene covers for shopping it is [ ]
    a. Recycling b. Minimizing c. Saving d. Reuse

B. Fill in the blanks :

21. Renal artery enters into Kidney through Hylus .
22. A patient lost his sensation on hand as he was injured on neck.
    Even then his hand movements are normal. It's the Gallen's medical observation.
    According to him Sensory nerves nerves might have been damaged.
23. Base is the convenient substrate to react with the salivary Amylase.
24. Tadpole larva resembles with that of Fish larva but not the frog. It is the Ovulation evidence.
25. Hampaiah, the politician did not take timely meal as he is busy. with election canvassing.
    Ulcers forms inside his stomach and causes indigestion.

C. Matching :

Set - A		**Set - B**
26. Intestinal juices	( )	A. Trypsin
27. Saliva	( )	B. Peptidases
28. Pancreatic juice	( )	C. Pepsin
29. Gastric juice	( )	D. Vasopressin
30. Bile	( )	E. Ptyallin
		F. Fat emulsification

Model Paper - II

BIOLOGY

Part - B

Max marks : 15 Time : 30 Minutes

Instructions : 1. Put correct letter in the brackets given below.

2. Each Question Carries 1/2 Marks.

A. Multiple Choice :

1. Percolation pitis useful [ ]
   a. To supply water for cultivation
   b. To increase the ground water levels
   c. To store the rain water
   d. To check the floods during rainy season
2. Read the two follosing i, ii statements [ ]
   i. Chloroplast converts the simple inorganic substances into complex organic substances.
   ii. Choloroplast usitlize light energy
   a. i, ii are true b. i true b false c. ii true, i false d. i, ii both are flase
3. Farmer based method [ ]
   a. Making canals b. Cultivation under water tanks
   c. Contour cultivation d. Utilizing excess water
4. Animals are not able to prepare [ ]
   i. Carbohydrates, ii. Cellulose, iii. Lipid, iv. protein
   a. i only b. i, ii, only c. iii onldy d. iii, iv only
5. observe the experiment of anaerobic respiration in the diagram. For which aspects this experment is meant for?
   a. Photosynthesis b. Mechanical respiration c. Heat, Carbondioxide
   d. Oxygen, Heat
6. Respriration is a Catabolic process because of [ ]
   a. Breakdown of food molecules. b. Convertion of high energy
   c. Synthesis of Chemical energy d. Energy Storage
7. Oxygenated blood is supplied to the body parts through _____, [ ]
   where as the deoxygenated blood is supplied to the lungs through _____.
   a. i. Aorta, ii. Caval veins b. i. Aorta ii. pulmonary vein
   c. i. Aorta, ii. Pulmonary artery d. i. Aorta, ii. inferior vena cava
8. Which part of the heart chamber contains less oxygen? [ ]
   a. Right Atrium b. Right Ventricle c, Left Atrium d. Left Ventricle.
9. Which of the following is the correct path taken by urine in our body
   a. Kidney → Ureter → Bladder → Urethra bladder
   b. Kidney → Ureter → Bladder → Urethra
   c. Kidney → Ureter → Bladder → Cloaca.
   d. Kidney → Bladder → Ureter → Urethra
10. Padma saw a snake on the way to home. She was afraid and ran to home [ ]
    by screaming. The reason is
    a. She is weak hearted
    b. Adrenalin harmone released into her body and bring the changes.
    c. Excitement due to the release of vasopressin harmone

d. To tell about the snake to her parents at home.

11. A person has loss of Control on emotions [ ]
    Which part of the brain stops its function.
    a. Cerebrum b, diencephalon c. Miod brain d. Cerebellum
12. During unfavorable condition Amoeba undergoes encystment and [ ]
    divides into many segments is called
    a. Binary fission b. oblong binary fission
    c. Multiple fission d. Budding
13. If the tail of a lizard is out off, it regenerates, [ ]
    But if a monkey's tail is cut off, it cannot regenerate because
    a. Tail is essential for a lizard
    b. Monkey can survive even there is no tail
    c. Regeneration is less in monkey
    d. There is no relation between lizard and regeneration.
14. Person who observed the association between the lunch bell and the salivation [ ]
    a. Head master b. Ivan Pavlov c. Your friend d. Engelman
15. Which part of the male reproductive system produce sperm cells? [ ]
    a. Vas difference b. Epididymus c. Bladder d. Scrotum
16. Human organism is an "Internal Combustion machine" because [ ]
    a. Assimilation of energy from food b. Liberate CO_2 during respiration
    c. Expel waste food at the end state of digestion
    d. Secrete powerful digestive juices
17. According to Mendel, alleles have the following characters. [ ]
    a. Pair of genes b. Responsible for characters
    c. Production of gametes d. Recessive factors]
18. Study the i, ii statements and choose correct answer [ ]
    i. For food, shelter and reproduction the animals struggle among themselves
    ii. Only the strongest will survive in the struggle
    a. both i, ii are True b. i True, b False c. ii is True, i is False d. i, ii both are False
19. What happened to kolleru lake, when the water become alkaline, and turbid. [ ]
    i. low dissolved Oxygen
    ii. High in biochemical oxygen demand and affects the aquatic animals
    a. ii only true b. i only true c. both are true d. none.
20. Dora matched the Soril with Fern and Rhizopus with Spores. [ ]
    Is it a correct answer?
    a. Not correct b. Correct c. Undecided d. None

B. Fill in the blanks :

21. Chlorophyll 'A' is ble green in color where as the Chlorophyll 'B' is Yellow-green in color.
22. 'Respire' is derived from Latin language which means to Breath.
23. In male reproductive system, the accessory glands like Prostarte Gland and cowper's gland glandscollectively forms a secretion called semen.
24. In this diagram the cell wait got a constriction, and the nucleus is divided into two daughter nuclei, this Stage is called Telephase .
25. Any one character or trait that is transmitted from parental trait to the next generation. The principle is Law of segretation .

C. Matching :

	Set - A		**Set - B**
26.	( )	A.	Lungs
27.	( )	B.	Branchioles
28.	( )	C.	Pharynx
29.	( )	D.	Nostrils
30.	( )	E.	Food canal
31.	( )	F.	Trachea
		G.	Epilottis

Model Paper - III

BIOLOGY

Part - B

Max marks : 15 Time : 30 Minutes

Instructions : 1. Put correct letter in the brackets given below.

2. Each Question Carries 1/2 Marks.

A. Multiple Choice :

1. According to Charles Elton [ ]
   a. Carnivores are placed at the top of the pyramid
   b. Energy trapping is high at the top of the pyramid
   c. Producers are not placed at the top of the pyramid
   d. A and C
2. Read the following sentences
   i. Contours are being dug acorss the slopes
   ii. Gliricidia plants make the soil nitrogen rich
   iii. Crop yield is measured in TMC
   iv. Supply of water through sprinklers is called micro irrigation.
   Which of the above statements are correct? [ ]
3. These plants will grow at the Estuaries which will respire with aerial Roots? [ ]
   a. Seedless plants b. Mangrove plants c. Gliricidia plants. d. Monocotplants
4. Hill reaction is called as 'Photolysis' because [ ]
   a. Light splits the water molecule
   b. Light splits the Chloroplast
   c. Hydrogen ions of Water convert into Hydroxyl ions
   d. Hydrogen ions, Hydroxylions together from water.
5. Insulating layer of Axon [ ]
   a. Plasma lemma b. Neurolemma c. White matter d. brown matter
6. The network structure of Nephron is formed by the blood capillaries [ ]
   a. Malpighian body b. Bowman's capsule c. Glamerulus d. Henley's loop
7. [ ]

List - 1		**List - II**
i) Sunflower	( )	A. Phototropism
ii) Mimosa	( )	B Chemotropism
iii) Cucumber tendrill	( )	C. Thigmotropism

   Which one is wrongly matched
   a. 1 b. 3 c. 2 d. All are correct

8. Sequence of the Human respiratory Organs [ ]
   a. Nostrils → Pharynx → Trachea → Blood → Lungs
   b. Blood → Nostrils → Nasalcavity → Pharynx → Trachea
   c. Larynx → Trachea → Tracheoles → Nostrils
   d. Nostrils → Pharynx → Trachea → Trachioles → Alveoli
9. Which animal has less Chromosomes? [ ]
   a. Onion b. Monkey c. Ascaris d. Rat
10. Write in orderly manner of cardiac cycle in human being
    1. Ventricular Constraction 2. Atrial Constraction
    3. Ventricular relaxation 4, Atrial Ventricular relaxation
    a. 1,2,3,4 b. 2,1,4 c. 1,2,3 d. 4,2,3
11. Read the following symptoms and find the disease [ ]
    i. Due to Protein deficiency body parts became swollen by the accumulation of water
    ii. Suffers from dry skin, diarrhea
    a. Kwashiorkor b. Marasmus c. Pellagra d. Obesity
12. Find out who am I?
    i. I am a Vitamin ii. Wounds never heal iii. Bones become weak, brittle if you don't take me in diet. I well be present in leafy vegetables, Citrus fruits, Sprouted seeds.
    a. Rentinol b. Niacin c. Folic Acid D. Ascorbic acid
13. Substance which is not concerned with the Nutrition of Autotrophs. [ ]
    a. ATP b. NADP c. NADPH d. NAA
14. What happens when the rate of respiration among plants increases than the photosynthesis [ ]
    a. Live forever, but can't store the starch
    b. They will die
    c. Grows very fast
    d. Growth reduces and dies with hunger
15. Reason to get the 'lub dub' sound from the heart during circulation [ ]
    a. When Tricuspid and Bicuspid valves were closed
    b. When Aorta and pulmonary valves were closed
    c. Blood flows rapidly through valves
    d. Blood enters into Ventricles
16. Mixed gland which acts as exocrine and endocrine gland [ ]
    a. Pituitary Gland b. Thyroid Gland c. Parathyroid gland d. Pancreas
17. Best followed method of cultivation by the farmers where there were scanty water facilities.
    a. Short term crops B. Commercial Crops
    c. Drip Irrigation d. Announcing Crop Holiday

18. AFter the fertilization of egg, within how much time embryo fixen into the crypts of uterine walls of females ?

a. several months b. 3 weeks c. 1 month d. Approximately 7 days

19. Grass frog snake Findout the missing organism in this food chain [ ]

a. Grasshopper b. Lion c. goat d. Amoeba

20. Rate of Transpiration is speedy under these atmospheric conditions [ ]

a. Coodl, humid air b. Hot, humid, Dry c. Hot, humid d. Hot, Dry, Arir

B. Fill in the blanks

21. The fish selected from Edulabad Reservoir for investigation, which is rich in proteins and with low cost is _____

22. Expand ICRISAT _____

23. _____ Calories of energy are stored in each ATP

24. Observe this Diagram. It is Chloroplast. The Light absorbing substances are called _____

25. The natural movement in the protoplasm of Amoeba is called _____

C. Matching :

Set - A		**Set - B**
26. Brownian Movement	( )	A. Ascaris
27. Pseudo Coelome	( )	B. Octopus
28. Gastro Vascular Cavity	( )	C. Cockroach
29. Open Circulatory System	( )	D. Hydra
30. Closed Circulatory System	( )	E. Amoeba
		F. Ebola Virus

Model Paper - IV

BIOLOGY

Part - B

Max marks : 15 Time : 30 Minutes

Instructions : 1. Put correct letter in the brackets given below.
2. Each Question Carries 1/2 Marks.

A. Multiple Choice :

1. Chemical that is used to test the presence of Carbohydrate in leaf [ ]
   a. methylated spirit b. Iodine
   c. Methylated Spirit, Iodine d. Ethylene blue
2. Energy change that occurs in Photosynthesis [ ]
   a. Some energy converts into Heat energy
   b. Light energy converts into Chemical energy
   c. Light Energy converts into Electrical energy
   d. Heat energy converts into Chemical energy
3. The exhaled gas contains? [ ]
   a. Carbon-di-oxide b. Water vapour c. Nitrogen d. All the above
4. Which of the following is correct? [ ]
   a. The diaphragm contracts - Volume of Chest Cavity increases
   b. The diaphragm contracts Volume of chest cavity decreases.
   c. The diaphragm expands - Volume of the chest cavity increases.
   d. the diaphragm expands - Volume of the chest cavity decreases.
5. Read the following sentences [ ]
   1. Blood vessels that carry blood to body parts are called veins
   2. Arteries are less rigid than veins.
   3. Pulmonary artery carries blood from heart to lungs.
   4. Inferior Vena cava collects blood from the upper parts like Head, Neck. [ ]
   a. 1,2 b. 2, 3 c. 3, 4 d. 1, 3
6. An aphid pierces its proboscis into the ..... to get plant juices [ ]
   a. Xylem b. Phloem c. Cambium D. Vascular bundle
7. Major part of the Urine [ ]
   a. Urea b. Sodium c. Water d. Creatin
8. to filter the products [ ]
   a. i, ii both are true b. i True, ii Flase c. ii True, i False d. i, ii both False
9. Complete and irreversible kidney failure is called [ ]
   a. ESRD b. MSRD c. ASRD d. KSRD
10. Which part of the brain is being controlled by the pituitary Gland? [ ]
    a. Cerebrum b. Cerebellum c. Medulla Oblongata d. Hypothalamus

11. Example for the involuntary function of Autonomous Nervous System [ ]
    a. Contraction and Dilation of Iris.
    b. Respond immediately when thorn pokes into the feet.
    c. Controls the Sugar percentage in the blood.
    d. To control the heart beat.
12. The phenomenon of acquiring the characters from the parents to the off springs is called [ ]
    a. Inheritance b. Mutations c. Diversity D. Selection
13. Paleontologist is associated with [ ]
    a. Embryological evidences b. Fossil evidences
    c. Physiological Evidences d. Morphological evidences
14. Under which context we can taste sugar very quickly [ ]
    a. When sugar kept on tongue
    b. When sugar solution is poured on tongue
    c. When sugar on tongue is pressed against palate.
    d. Simply by swallowing sugar without munching
15. When did anticlockwise movement of Peristalsis occurs? [ ]
    a. When Bolus moves forward b. While Drinking Water
    c. While vomiting d. At starvation
16. Reason for releasing harmful chemical into the surroundings in huge quantities [ ]
    a. Industries b. Mines c. Insecticides d. Modern Technology
17. Read the two statements and put correct answer in the bracket [ ]
    A. Total Volume of Water on earth has 97% of fresh water.
    B. On earth, fresh water has 0.7-0.8% of ground water
    a. A, B are True b. A True, B False c. B True, A False d. A, B both are False
18. Read the following A, B Statements and answer the correct one. [ ]
    A. In terrestrial Eco system the Biomass is more.
    B. Structure of Biomass Pyramid is vertical.
    a. A, B are True b. A True, B False c. B True, A False d. A, B both are False
19. Important nerve related to sense of Taste [ ]
    a. 6th Cranial Nerve b. Optic Nerve c. 5th Cranial Nerve d. 10th Cranial Nerve.
20. Which part is missing in this diagram? [ ]
    a. Nourishing Cell b. Polar Cell c. Egg cell d. Secondary Nucleus

B. Fill in the blanks

21. Centrosome, containing rod like Centrioles divides and form Spindle shaped Structure occurs in _____ Stage of Cell Division.

22. The interest in conservation is not a sentimental one but the discovery of a truth is well known to our ancient sages. The Indian tradition teaches us that all forms of life human, animal and plant are so closely linked that disturbance of one gives rise to imbalance in the other. Indira Gandhi told these statement while launching _____ in India.
23. Each bar represents the _____ at each trophic level in the food chain.
24. Liquid portion that exists in the blood tissue is called _____.
25. Fish respires with gills. These gill layers are very thin and contains _____ to perform gases exchange.

C. Matching :

Set - A		**Set - B**
26. Pitutary Gland	( )	A. Testosterone
27. Thyroid Gland	( )	B. Oestradiol
28. Ovary	( )	C. Thyroxin
29. Testicles	( )	D. Insulin
30. Adrenal Gland	( )	E. Somatotrophic
		F. Adrenalin.

Model Paper - V

BIOLOGY

Part - B

Max marks : 15 Time : 30 Minutes

Instructions : 1. Put correct letter in the brackets given below.

2. Each Question Carries 1/2 Marks.

A. Multiple Choice :

1. Acid present in gastric Juice [ ]

   a. Sulphuric Acid b. Hydrochloric Acid c. Nitric Acid d. Phosphoric Acid

2. Observe the figure [ ]

   Fig.

   When the leaf undergoes Iodine test :

   a. Blue color will form where light is exposed on leaf.

   b. Blue color will form where the light is exposed on the leaf.

   c. Blue color will form in exposed and unexposed portions of leaf.

   d. No color will form in exposed and unexposed portions of lef.

3. Keep the potted plant horizontally on the soil and let it grow for few days. by observing the growth, which of the following diagram is correct? [ ]

   a. b.

   c. d.

4. Which option of matching is Correct? [ ]

List - 1	List - 2
1. Somatotropic Hormone ( )	a. Fight, flight purpose.
2. Adrenalin ( )	b. Growth of Bones.
3. Testosterone ( )	c. men.

   a. 1-a, 2-b 3-c b. 1-c, 2-b, 3-a c. 1-b, 2-c, 3-a d. 1-b, 2-a, 3-c

5. In an Eco system, the consumers are divided under the following factors. [ ]

   a. Type food taken b. Trophic level

   c. Food taken by the organism and Tropic level d. Energy

6. Energy storing place of the cell [ ]

   a. Nucleus b. mitochondria c. Ribosome D. Cell membrane

7. Which is the correct statement? [ ]

   a. Ramu told that Xylem and Phloem tissue is arranged like tubular manner.

   b. John told that Xylem and Phloem tissue is not separate tubules.

   c. Salma told that Xylem and phloem unite together and forms tubular

   d. Bowman’s capsule.

8. Outer part of the Nephron related to kidney. [ ]
   a. Henley's loop b. first convoluted tube
   c. second convoluted tube d. Bowman's capsule
9. A man lost his control over his emotions. Which part of his brain is not working [ ]
   a. Cerebrum b. Diencephalon c. Mid brain d. Cerebellum
10. Why does the Ovum is bigger than sperms [ ]
    a. More cells in egg b. Nutrients are present
    c. Hard shell is present around the egg d. Large cell is present in it.
11. Peristalic movement is caused by [ ]
    a. Contraction of the Oblong muscles.
    b. contraction of the Circular muscles.
    c. Controlling on Autonomous Nervous System.
    d. Effect of Gastric juices.
12. Standrad Progress means [ ]
    a. Control the Wastage b. Constant growth
    c. Development without any loss d. High yield within fewer periods.
13. In some kinds of cell division the Chromosomes number becomes half. [ ]
    Such cell division occurs in the following places of the body.
    a. Only in the Testicles b. Only in Ovary
    c. In both d. All vegetative cells.
14. During synthesis of Cell division this occurs in [ ]
    a. RNA b. RNA and Proteins c. DNA d. Glucose
15. When we go to doctor, he takes the wrist and tests the pulse rate. [ ]
    On which place of the wrist he pressed?
    a. Vein b. Artery c. Blood Capillaries d. Lymph nodes.
16. Match the following [ ]

	Set - 1		**Set - II**
i)	Charles Elton	( )	A. Respiration is a combustion process
ii)	Charles Darwin	( )	B. Eco system
iii)	Lavoisier	( )	C. Evolution

    a. i-B; ii-C; iii-A b. i-A; ii-B; iii-C; c. i-C; ii-A; iii-B d. i-B; ii-A, iii-C
17. Read the following sentence. Identify the mistake if any and correct it [ ]
    with the following word.
    "In unicellular organisms like Amoeba, the transport of material is by Brownian movement".
    a. No error in the sentence b. Paramecium
    c. Ingestion d. Respiration

18. Reason for the parasitic mode of nutrition in Cuscuta? [ ]
    a. Absence of leaves and chlorophyll. b. No root system
    c. Slender stem d. Cannot absorb the water from soil
19. Pathway of the Sperm after releasing from the Testes. [ ]
    a. Seminal Duct → Epididymis → Urethra
    b. Urethra → Epididymis → Seminal Duct
    c. Epididymis → Urethra → Seminal Duct
    d. Epididymis → Seminal Duct → Urethra
20. Look at the picture. During the exit of Stools at Rectum which muscles will control? [ ]

    a. Colon muscles. b. Rectal muscles c. Sphincter muscles d. Large Intestinal muscles

B. Fill in the blanks

21. Look at the picture aside. It shows the peripheral Nervous system of the spinal cord. In this dorsal horn, Ventral horn is present. The dorsal horn carries sensation, where s the Ventral Horn carries _____.
22. Eradicating the parasites (which feeds on disease causing organisms) by introducing nocturnal carnivores is called _____.
23. During the photosynthesis light energy converts into Chemical energy, carbon dioxide converts into Carbohydrates, Splitting of _____ Takes place.
24. Generally Carbon dioxide is transported into the blood in the form of _____.
25. Example for Unisexual flowers is Papaya. Where as the example for Bisexual flowers is _____.

C. Matching :

Set - A		**Set - B**
26. Coal	( )	A. 7%
27. Natural Gas	( )	B. 24%
28. Other gases	( )	C. 1%
29. Atomic Energy	( )	D. 29%
30. Wastes	( )	E. 42%
		F. 2%

Model Paper - VI

BIOLOGY

Part - B

Max marks : 15 Time : 30 Minutes

Instructions : 1. Put correct letter in the brackets given below.
2. Each Question Carries 1/2 Marks.

A. Multiple Choice :

1. Write the correct Answer [ ]
   a. Right kidney is slightly lower than the left kidney.
   b. Right kidney is slightly upper than the left kidney.
   c. Both right and left kidneys are in same height.
   d. Right and left kidneys both are beside the Vertebral column.
2. The rate of photosynthesis can be estimated by the production of Starch [ ]
   a. Starch is the intermediate product of photosynthesis.
   b. Glucose immediately converts into starch in Photosynthesis.
   c. Starct dissolves in water.
   d. Sugar cannot be tested.
3. The following process is not exactly related to excretion [ ]
   a. Releasing of Carbondioxide b. Defecation
   c. Sweat d. Elimination of Urea
4. Green Chlorophyll is essential for the leaves because [ ]
   a. To split the water molecule into Hydrogen and Oxygen.
   b. To emit green light
   c. Capture the light energy
   d. None.
5. Ramu is urinating less concentrated Urine. Somu is urinating highly Concentrated Urine. Which harmone is controlling this process? [ ]
   a. Insulin b. Vasopressin c. Thyroxin d. Adrenaline
6. Feel that you are sitting in a football ground. Suddenly the foot ball is coming speedily towards you. Immediately you moved aside. Why it is so? [ ]
   a. Voluntary action b. Involuntary action
   c. Reflex Arc d. Controlled action.
7. Read the following statements and choose the correct alternate? [ ]
   A. While stepping up the stairs, we carefully and cautiously keep our steps.
   B. For the Central and Reflex actions, Control is only the reason.
   a. A, B both are correct b. A true, B is false.
   c. B is true, A is false d. A, B both are false.
8. Match the following [ ]

Set - 1		Set - II
i) Budding	( )	A. Paramecium
ii) Fission	( )	B. Bacteria
iii) Binary Fission	( )	C. Yeast

Which are the following is NOT mactched?

a. 1, 2 b. 2, 3 c. 1,3 d. 1, 2, 3

9. In Peanut the two cotyledons are swollen due to [ ]
   a. Perisperm b. Endosperm c. Water absorption d. None
10. Read the a, b sentences and answer the correct alternate [ ]
    A. While rumination the bolus moves from stomach to mouth
    B. In cow the peristaltic movement is in clockwise direction
    a. A, B are True b. A true, B flase c. B true, A false d. A, B both are flase
11. Among the following, which is not a trait of Mendel's experiment? [ ]
    a. Flower color b. Seed color c. Pod color d. Root color
12. Long, Dwarf parent plant when cross pollinated with F1 generation, [ ]
    the Plants are Tall plants; it is the Law of Dominance.
    a. The above statement is true b. It is not true
    c. Undecided d. Law of Segregation
13. Read the A, B sentences and answer the correct alternate [ ]
    A. Carnivorous animals are at the top of the Number Pyramid
    B. These Carnivores are bigger in size and Larger in number
    a. A, B are True b. A true, B flase c. B true, A false d. A, B both are flase
14. What happens when the water in Kolleru tank becomes Basic and turbid? [ ]
    A. The dissolved Oxygen content decreased in water
    B. Increased Biochemical Oxygen Demand (BOD) impact on aquatic animals.
    a. B is only true b. a is only true c. a, b both are true d. None
15. UNDP means [ ]
    a. United Nations Drought Programme.
    b. United Nations Development Plan.
    c. United Nations Development Programme.
    d. United Nations Director of Planning.
16. See the Figure and identify the missing part [ ]

    fig :

    a. Grana b. Stroma C. Cristae d. Thylakoid
17. Which is the correct statement of the following? [ ]
    a. Ramu told that Xylem and Phloem tissue is arranged like tubular manner
    b. John told that Xylem and Phloem tissue is not separate tubules
    c. Salma told that Xylem and Phloem unite together and forms tubular.
    d. Hari told that basing on the Shape; they told them as capillary structures.
18. Excretory Organs of Cockroach [ ]
    a. Malpighian tubules. b. Raphides
    c. Ureters d. Flame Cell
19. The fusion of Sprem and Egg cell is called [ ]
    a. Fragmentation b. Fermentation c. Fertilization d. Fusion

20. Which is the correct sequence of stages in human life? Pick the correct option [ ]
    a. Babyhood→Childhood→Adolascence→Adulthood
    b. Childhood→Babyhood→Adulthood→Adolascence
    c. Adolascence→Babyhood→Adulthood→Childhood.
    d. None of the above.

B. Fill in the blanks

21. prothrombin _____Thrombin (Write Enzyme name)

22. Gum, Latex, Resin, Rubber, Bio diesel all are plant yielding substances. These are _____.

23. Homologous organs ——————> Divergent Evolution.

    Analogous organs ——————> _____ .

24. Every animal has its definite position in Food web. It is called _____.

25. Dodder Plant consists less chlorophyll. Hence it collects its food by _____.

C. Matching :

Set - A		**Set - B**
26.	( )	A. Henley's loop
27.	( )	B. Collecting Tube
28.	( )	C. Glomerulus
29.	( )	D. Nephron
30.	( )	E. Bowman's capsule
		F. Afferent artery.

Model Paper - VII

BIOLOGY

Part - B

Max marks : 15 Time : 30 Minutes

Instructions : 1. Put correct letter in the brackets given below.
2. Each Question Carries 1/2 Marks.

A. Multiple Choice :

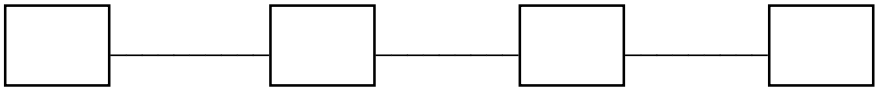
1. Saliva P^H consists this nature [ ]
   a. Acidic b. Basic c. A and B d. None of the above
2. In the following stages Cell cycle is divided into G1S and G2 [ ]
   a. Prophase b. Metaphase c. Interphase d. All the above
3. When Rani cut off her finger, it took lot of time to clot. [ ]
   What could be the reason?
   a. Deficiency of Vitamin-D. b. Deficiency of Vitamin-K
   c. More blood in Rani's body d. Less Blood is present in Rani's body
4. Vikki's brother daily urinates in his sleep on bet at nigh time [ ]
   What is the reason for bed wetting?
   a. Less secretion of Vasopressin.
   b. More vasopressin is released.
   c. No release of Adrenalin
   d. Vasopressin is totally absent.
5. To do the starch test of Wheat flour, we do mix like this. [ ]
   a. Less secretion of Vasopressin b. More vasopressin is released
   b. No release of Adrenalin d. Vasopressin is totally absent
6. When a student observes the pollen grain under the microscope, it looks [ ]
   as follows.
   What 'X' indicates
   a. Mature Nucleus b. Pollen Tube
   c. Stigma d. Secondary Nucles
7. Match the following [ ]

Set - 1		Set - II
1) Fore brain	( )	A. Optic Lobes
2) Mid brain	( )	B. Estrogen
3) Hind brain	( )	C. Diencephalon
4) Ovary	( )	D. Medulla oblongata

   a. 1-c, 2-a, 3-d, 4-b b. 1-b, 2-e, 3-a, 4-b
   c. 1-a, 2-b, 3-c, 4-d d. 1-d, 2-c, 3-b, 4-a
8. In chloroplast photosynthesis occurs and forms Sugar, Starch, Carbohydrates. [ ]
   If there is no Chlorophyll in leaves what happens?
   a. No formation of Carbohydrates b. The plant dies
   c. Plant grows very height d. All the above

9. Heart is the important part of the circulatory system. For the best performance of the heart, one should do [ ]
   a. Taking nutritious food b. Doing exercise
   c. Developing the habit of smoking d. a and b
10. Sujata told - If we want to keep the surroundings neat We should remove the green plants, grass etc., But rafi opposed her opinion. because [ ]
   a. It includes strain b. Time taking
   c. It is a temporary work d. It damages the nature Balance
11. The air passes through stomata into the leaf tissue. Because [ ]
   a. Density of air increases. b. Density of air increases outside the stomata
   c. Density in carbondioxide d. Density in Oxygen
12. Number of chambers in human heart [ ]
   a. 2 Auricles, 1 Ventricle b. 1 Auricle, 1 Ventricle
   c. 2 Auricles, 3 Ventricles d. 2 Auricles, 2 Ventricles
13. Read the follosing Statement and answer them [ ]
   A. Blood flow passage in atrium is small.
   B. Blood flow passage in veins is larger.
   a. A, B are True b. A true, B flase c. B true d. A, B both are flase
14. Find out the enzyme of the digestive juices [ ]
   a. Amylase, Trypsin b. Peptidases, Sucrose
   c. Pepsin only d. Lipase
15. Find out the false statement [ ]
   i. Urine is a faint yellow colored liquid
   ii. If we take more proteins, more urea will form
   iii. Urination doesn't occur if we take mere water
   iv. Sugars will appear if we take mere starch substances.
   a. i, ii only b. ii only c. iii only d. iv only
16. Ravi annoyed very much on kavitha. But after some time his angry diminished what could be the biological reason? [ ]
   a. Raju's anger is always shorter.
   b. Decrease of Adrenaline percentage in blood.
   c. increases of Adrenaline percentage in the blood.
   d. Raju afraid of kavitha's parents.
17. Which of the following animal shows both sexual and asexual reproductive methods at the same time. [ ]
   a. Crocodiles b. Cheetah c. Honeybees d. Cockroches
18. Both Stock and Scion were together grafted. The resultant plant ge [ ]
   a. Stock characters only. b. Scion Characters only.
   c. Specially desired characters d. Stock and scion Characters
19. The Vitamin is being synthesized by the bacteria of our digestive system? [ ]
   a. Vitamin B_{12} b.Vitamin B_1 c. vitamin B_3 d. Vitamin B_6
20. The Blood vessel that originates from the right part of the Atrium [ ]
   a. Pulmonary Vein b. Aorta c. Pulmonary Artery d. Caval Vein

B. Fill in the blanks

21. Fig 

this flow chart reflects the _____

22. Severe physical Exercise causes _____ to us.
23. The vein which is at the right bottom of the heart is called _____.

24. Fig.

This is on of the T.S. of Blood vessels. In this Fibrous layer, Muscular layer, endothelium is present. So this blood vessel is _____.

25. The embryonic layer which forms after the 12 week of pregnancy is called _____.

C. Matching :

Set - A		**Set - B**
26. Ghrelin	( )	A. Alimentary canal walls.
27. Leptin	( )	B. Stomach walls
28. Villi	( )	C. Suppress the appetite
29. Chyme	( )	D. Small intestine
30. Mucus	( )	E. Hunger generating sensation
		F. Gastruc muscles.

Model Paper - VIII

BIOLOGY

Part - B

Max marks : 15 Time : 30 Minutes

Instructions : 1. Put correct letter in the brackets given below.
2. Each Question Carries 1/2 Marks.

A. Multiple Choice :

1. In the dental formula of man 3:2:1:2, "1" indicates which type of teeth [ ]
   a. Incisors b. Canines c. Premolars d. Incisorsand Canines
2. The thin protective layer, 'Pleura' covers lungs, unlike the protective layer of heart is called [ ]
   a. Hyper Cardium b. Pericardium c. Epicardium d. Myocardium
3. Neethu Struck the bat to the ground as she was out in the game. Which harmonies actinig on her? [ ]
   a. Adrenalin b. Thyroxine c. Testosterone d. Crelin
4. Weak deer can't live long period in the forest. Which law is applicable according to Darwinism. [ ]
   a. Evolution b Acquired Characters
   c. Natural selection d. Struggle for Existance
5. Which is not related 3R of Natural Conservation? [ ]
   a. Making leaf plates with bark of banana tree
   b. Using only the grass bags
   c. Lessening the usage of use and throw articles
   d. Making underground drainage system.
6. The character of Alleles according to mendalism [ ]
   a. Genes are with pairs b. Responsible for the traits
   c. Gametes formation d. Having recessive character
7. Write the respiratory swquence of the Lungs. [ ]
   1. Gaseous transport through blood 2. Gaseous exchange at the tissue level
   3. Gaseous exchange in lungs. 4. Cellular respiration
   a. 1,2,3,4 b. 3,1,2,4 c. 4,2,1,3 d. 4,3,1,2
8. Which is the correct statement among the following? [ ]
   a. Volume of the Thoracic cavity increases when the diaphragm contracts
   b. Volume of the Thoracic cavity decreases when the diaphragm contracts
   c. Volume of the Thoracic cavity increases when the diaphragm relaxes
   d. When diaphragm contracts the volume of the thoracic cavity decreases.
9. Which part of the Ovary converts into seed? [ ]
   a. Style b. Ovule c. Pollen d. Pedicel
10. Why did Mendel select Pea plant for his experiment? [ ]
    a. It contains Unisexual flowers b. It Consists bisexual flowers
    c. Self Pollination occurs in it d. b and c

11. After taking meal some people get the sensation of Urination. [ ]
    Which Hormone is responsible for this Stimulus?
    a. Pressure of Stomach over the Urinary Bladder
    b. Solid material converts into Liquid Material
    c. Amount of water Consumed during meal.
    d. Relaxing condition of the Sphincter muscles.
12. Which hormone causes goose bumps when we are afraid of? [ ]
    a. Somatotropin b. Insulin c. Adrenalin d. Estrogen
13. Excess usage of Chemical fertilizers are causing Natural imbalance. [ ]
    Hence the remedy is
    a. Ban the Chemical fertilizer Factories
    b. To stop the Cultivation
    c. Use excess chemical Fertilizers
    d. Eco friendly cultivate methods are useful.
14. In a village much water scarcity prevails. If a farmer wants to cultivate [ ]
    paddy corp, What suggestion do you give?
    a. Appreciate b. Shift to jowar cultivation
    c. Some are long, some are dwarf. d. Intermidate / moderate plants
15. One Research man cross pollinated the Pure tall (TT) plant with Pure Dwarf (tt) [ ]
    Which kind of plants will grow in the F1 generation?
    a. All are Dwarf Plants b. All are Tall plants
    c. Some are long, Some are Dwarf d. Intermediate / moderate plants.
16. By burning test of Sugar, What do we know? [ ]
    1. Sugar also burns 2. Energy will release in the form of heat.
    3. As Corbon-di-oxide is formed, lime water turns into milky fluid
    4. Water also forms from Sugar
    a. 1 only b. 1, 2, 3 c. 1, 2, 3, 4 d. Only 4^{th}
17. Main causes of AIDS explosion in our country is by [ ]
    1. Unsafe Sex 2. Blood Transfusion 3. No proper awareness 4. More traditional and Orthodoxy
    a. 4 only b. 2, 3 c. 1, 2 d. 1, 2, 3, 4
18. The trait that appears in F1 generation is - (-i-) _____ and
    Unseen trait is - (ii) _____ [ ]
    a. i) Recessive, ii) Dominant b. i) Dominant ii) Recessive
    c. i) Pure ii) Dominant d. i) Dominant ii) Pure seeds
19. In which stage of respiration, the air is passed out through vocal chords, [ ]
    during our speech.
    a. Inhalation b.Exhalation c. Contraction d. Relaxation
20. Nitya is fond of eating sour fruits. Hence she will get this Vitamin [ ]
    a. Vitamin-A b. Vitamin-D c. Vitamin-B_5 d. Vitamin-C

B. Fill in the blanks

21. Gestation perion in man is _____ Days. (280 days)
22. Following diagram is related to _____ movement (peristalic)
23. Study of Fossills is called _____ (Paleontology).
24. To strengthen the field bunds and to make the soil _____ rich, Gliricidia Plants were cultivating in farmer based cultivation. (Nitrogen)
25. Food taking method in man is called _____ (Ingestion)

C. Matching :

Set - A		Set - B
26. Appendix	( )	A. Human hands
27. Forehands of Whale	( )	B. Galapagos Islands
28. Petagium	( )	C. Acquired Characters
29. Finch Birds	( )	D. Vestigial organs
30. Giraffe neck	( )	E. Bird wings
		F. Cell plasm

Model Paper - IX

BIOLOGY

Part - B

Max marks : 15 Time : 30 Minutes

Instructions : 1. Put correct letter in the brackets given below.
2. Each Question Carries 1/2 Marks.

A. Multiple Choice :

1. Which factor will not influence the respiratory rate? [ ]
   a. Light intensity b. Humidity c. Temperature d. Concentration
2. Nerve impulse will occur by [ ]
   a. Ventricular Systole b. Ventricular Diastole
   c. Atrial Systole d. None
3. Reflex are is controlled by [ ]
   a. Brain b. Spinal cord c. Autonomous Nervous system
   d. Peripheral Nervous System.
4. At the time of Pregnancy, the life span of Corpus leutium is [ ]
   a. 4 days b. 10 days c. 14 days d. 25 days.
5. Urine is yellow in color because of [ ]
   a. Urochrome b. Vasopressin c. Creatin d. Estrogen
6. Ban all pesticides this means that..... [ ]
   a. Control on the usage of pesticides
   b. Prevention of pesticides
   c. Promote Eco-friendly agricultural practices.
   d. Stop using Bio-Chemical Fertilizers.
7. Use of the percolation pit [ ]
   a. Supply of water to the cultivator.
   b. Increase the underground water level.
   c. Store the rain water
   d. To stop the floods during the rainy season.
8. this figure show about [ ]
   a. Surgery of heart valves b. Surgery of the ureter
   c. Surgery to the sperm d. Surgery to the fallopian tube
9. Decrease in the underground water level is due to [ ]
   a. absence of rains b. Deforestation (Cutting of Forests)
   c. No control over the bore well digging d. All the above
10. According to the Ecosystem full Spread of Echornia in the Water tank reveals the [ ]
    a. Imbalance in the Ecosystem b. Increasing number of producers
    c. Lessening of consumers d. All the above
11. Photosynthesis is not influenced by the following aspects [ ]
    a. Light intensity b. Humidity
    c. Temperature d. Concentration in Carbondioxide
12. Nutrition method among the Unicellular Organisms? [ ]

a. Through the body surface b. by mouth
c. By teeth d. by Vacuoles...

13. Which of the following part controls the blood circulation? [ ]
a. Artery b. Vein c. Valve d. Blood Capillaries

14. Excretion and secretion are the same in the nature. Since both are involved in passing out of movement of wastes and unwanted material. But [ ]
a. Mayomotor b. Vasopressin c. Vasomotor d. Cerebrum

15. Change of the diameter in the blood vessels is due to the reactions on them [ ]
a. Mayomotor b. Vasopressin c. Vasomotor d. Cerebrum

16. Unconditional actions and autonomous Nervous Systems Work under the co-ordination of [ ]
a. Diencephalon b. Cerebellum c. Medulla Oblongata d. Nerve Ganglion

17. If there are no Tropic and nasty movements it means [ ]
a. photo tropism b. Geo Tropism c. Nasty movements d. Cheam tropism

18. Egg among women stays at this place till it matures. [ ]
a. Seminal receptacle b. Fallopian Tube
c. Graffian follicles d. Uterus

19. We feel hungry when this substance in blood is lessened [ ]
a. Glucose b. Grolin c. Leptin d. Hydrochloric Acid

20. Natural Selection means [ ]
a. Selecting the charagcers of Naure's Eligibility
b. Nature's Reflex action with living beings.
c. Opposing of nature to the useless and functionless characters.
d. a and b

B. Fill in the blanks

21. The Figure is Alveoli.
Oxygen, Carbon dioxide gaseous exchange occurs in it. it occurs by ..... method.
22. The symptom of swelling legs, If we travel for a long period of time at a stretch is called .....
23. 'Insula' means 'island'. Insulin secretes from .....
24. Walther Fleming explained the Mitosis, Where as Theodor Bovary explained .....
25. The poisonous effect of pesticides lasts for a long time. Unbreakable pesticides are most dangerous, Examples are Lead, Mercury and .....

C. Matching :

Set - A		**Set - B**
26. Pyramid of Food	( )	A. Ecological Graph.
27. Pyramid of Number	( )	B. Based on food chain.
28. Pyramid of Biomass	( )	C. Based on Chemical Energy.
29. Pyramid of Energy	( )	D. Based on organisms number.
30. Pyramid of Ecology	( )	E. Based on the mass.
		F. Energy transfer.