APPENDIX A

UNIT TEST II

Name: _____

I. Fill up the Blanks:

1. A cell is nothing but a bit of protoplasm surrounded by _____ _____. K

2. The process used by biologists to study the parts of a cell by colouring them is called as_____. K

3. Carbohydrates are substances which are made up of _____ _____and_____ elements and the ratio of_____and _____ is always 2:1. K

4. Fats differ from carbohydrates by having greater number of _____and_____ atoms. K

5. Proteins include _____ and _____ in addition to carbon, hydrogen and oxygen. K

6. De-oxyribose nucleic acid helps in:

   (a) _____
   (b) _____ K

7. Name three sources of sugar:

   (1) _____ (2) _____
   (3) _____ C

8. Name three sources of proteins:

   (1) _____ (2) _____
   (3) _____ C

9. Name three sources of fats:

   (1) _____ (2) _____
   (3) _____ C

10. Proteins are built out of small units known as:

    _____ _____ K

2.

11. (1) The two major areas of protoplasm are _____ and _____. K

(2) The nucleic acid present in nucleoplasm is _____. K

(3) The portion of the protoplasm that lies within the cell membrane, but outside the nucleus is called as _____. K

(4) During the process of energy formation, Adenosine _____ phosphate is converted into Adenosine _____ phosphate which loses one molecule of _____ and becomes again Adenosine _____ phosphate, thereby releasing energy. K

(5) Genes are located in _____

(1) Cytoplasm (3) Chromosome
(2) Centrosome (4) Nucleolus K

12. Here are given parts of both animal as well as plant cells. Write one function of each of them in the space provided: K

(a) Mitochondria _____
(b) Nucleolus _____
(c) Centrosome _____
(d) Golgi bodies _____
(e) Chromoplasts _____
(f) Vacuoles _____
(g) Chloroplasts _____
(h) Chromosomes _____
(i) Endoplasmic reticulum _____
(j) Leucoplasts _____

II. Instructions:

Here are given a few incomplete statements. Under each incomplete statement you will find 3 or 4 alternatives with which you can complete that statement. You have to choose that alternative which is most appropriate and which completes the statement. Put a '_/' mark against the serial number of the alternative you have selected:

3.

1. The biologists who formulated the cell theory were:

   (a) Grew and Malphighi (c) Watson and Crick
   (b) Schleiden and Schwann (d) Robert hooke and Huxley K

2. Amino acids are called as building blocks of proteins because:

   (a) the structure of proteins depends upon the structure and sequence of amino acids.

   (b) since proteins are made up of amino acids.

   (c) since amino acids combine together and form proteins. K

3. Nucleotides are the smaller units of:

   (a) Carbohydrates (c) Proteins
   (b) Nucleic acids (d) Fats C

4. The nucleic acid D.N.A. contains:

   (a) Ribose sugar
   (b) Both Ribose and De-oxyribose sugars
   (c) De-oxyribose sugar K

5. Here are given parts of an animal cell. Write 'c' if it is present in Cytoplasm and 'N' if it is present in nucleus, in the brackets provided against each of them: K

   (a) Centrosome ( ) (d) Nucleolus ( )
   (b) Nuclear membrane ( ) (e) Golgi complex ( )
   (c) Mitochondria ( ) (f) Chromosomes ( )

6. The following are the chemical substances present in protoplasm. Write "I" in the bracket if it is inorganic substance and "O" if it is organic substance: C

   (a) Carbohydrates ( ) (e) Proteins ( )
   (b) Potassium salts ( ) (f) Nucleic acids ( )
   (c) Fats ( ) (g) Sodium chloride ( )
   (d) Sulphur ( ) (h) Water ( )

III. (1) Write in 3 to 4 sentences asto why water is needed by all living organisms: K

4 (2) Write in 2 to 3 sentences the physical nature of protoplasm: K

(3) Write the components of cell theory: K

(4) List out all the differences between an animal cell and a plant cell: C

IV. Give your Reasons:

1. Reason out asto why green plants need not be provided with ready source of food materials: A

2. Reason out asto why children always resemble their parents in many respects: A

5 3. There are two similar dogs, viz., dog 'A' and dog 'B'. Dog 'A' is given only solid food, whereas dog 'B' is given both solid and liquid food. Reason out asto which dog will live longer and why. A

V. Match 'A' with 'B': K

'A'	'B'
1. Robert Hooke	(a) formulated the cell theory.
2. Schleiden and Schwann	(b) first person to call protoplasm as physical basis of life.
3. Prof. Huxley	(c) first person to identify cells in cork.

VI. Draw a neat diagram of an animal cell and label all its parts: C

UNIT TEST III

Name: _____

I. Instructions:

Here are given a few incomplete statements. Under each incomplete statement, you will find 3 or 4 alternatives with which you can complete that statement. You have to choose that alternative which is most appropriate and which completes the statement. Encircle the serial number of the alternative you have selected.

(1) Carbohydrates, fats, and proteins are the basic food requirement of: K

(a) plants only (b) animals only (c) all living organisms.

(2) In Ganong's light screen experiment, the portion of the leaf covered by the light screen did not show the presence of starch when treated with iodine because: C

(a) light was not available hence starch was not formed.

(b) CO_2 was not available hence starch was not formed.

(c) chlorophyll was absent in the leaf hence starch was not formed.

(d) all the above things were absent hence starch was not formed.

(3) In Moll's half-leaf experiment, there was no prdduction of starch in the part of the leaf which was inside the bottle. It is because: C

(a) chlorophyll was not there in that part of the leaf.

(b) CO_2 was not available to that portion of the leaf.

(c) light was not available to that part of the leaf.

7 (d) there was no air inside the bottle.

(4) In the hydrilla experiment, when burning stick was introduced into the test tube containing the gas, it continued to burn. This proved that: C

(a) CO_2 is evolved during photosynthesis.

(b) Hydrogen is evolved during photosynthesis.

(c) Oxygen is evolved during photosynthesis.

(d) None of the above gases are evolved during photosynthesis.

(5) It is a common experience to see green plants in fish tanks. The reason for keeping green plants is: A

(a) it serves as food to fishes

(b) it evolves oxygen which is needed for fishes to live.

(c) it makes the fish tank look nice.

(6) In photosynthesis, one set of reactions are called as light reactions because: K

(a) light is made use of in the process.

(b) since it takes place only during day time.

(c) light was the name of the person who invented it.

(7) In photosynthesis, one set of reactions are called as dark reactions because: K

(a) it takes place only during night times.

(b) sunlight is not made use of in these reactions.

(c) it takes place only after light reactions.

II. Fill up the Blanks:

(1) The process by which green plants manufacture starch is called as _____. K

(2) _____ and _____ are the two major types of reactions of photosynthesis. K

8

(3) When sunlight falls on the green leaves, _____ chlorophyll becomes _____ chlorophyll. K
(active, inactive)

III. (1) Here are given few factors. Tick the factors which are not needed by plants for manufacturing food. K

(a) Oxygen
(b) Sunlight
(c) Carbon dioxide
(d) Chlorophyll
(e) Nitrogen
(f) Water

IV. Here is given the equation which represents the process of photosynthesis. There is something wrong in the equation. Correct it and write it separately: C

$$CO_2 + O_2 \xrightarrow[\text{Chlorophyll}]{\text{Sunlight}} C_6H_{12}O_6 + H_2O$$

Correct equation

V. Here are given the steps of photosynthesis, which are mixed up. Put '_/' if it belongs to light reaction and 'x' if it belongs to dark reaction in the space provided: K

(a) Chlorophyll gets activated. ( )

(b) Formation of 6-carbon containing compound. ( )

(c) Water is broken into Hydrogen and Oxygen. ( )

(d) Formation of sugar by the combination of two 3-carbon compounds with ATP and high energy hydrogen compound. ( )

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(e) Formation of ATP from ADP. ( )

(f) A high energy hydrogen containing compound is formed. ( )

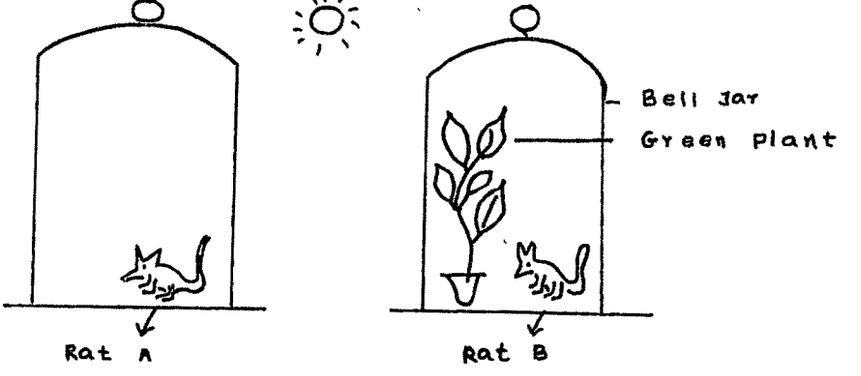
(g) Splitting of 6-carbon compounds into 2 compounds of 3-carbon atoms each. ( )

VI. Trace the parth of carbon from atmosphere till the formation of carbohydrate. C

VII. Reason out:

(1) Reason out as to why a healthy plant kept in complete darkness dies within a few days. A

(2) Here are given diagrams of two rats 'A' and 'B' kept in airtight belljars. Reason out as to which rat will die soon. A



VIII. Draw a neat diagram of Hydrilla experiment and write the hypothesis and procedure for the same. C

UNIT TEST IV

PART I

Name: _____

I. Instructions:

Here are given a few incomplete statements. Under each incomplete statement, you will find 3 alternatives with which you can complete that statement. You have to choose that alternative which is most appropriate and which completes the statement. Encircle the serial number of the alternative you have selected.

(1) There is a group of bacteria living in the environment, which neither possess Chlorophyll nor any pigment similar to Chlorophyll. They also cannot utilize chemical energy for manufacturing their food. Naturally these organisms should be: C

(a) autotrophs (b) chemotrophs (c) heterotrophs

(2) Symbiosis is a kind of association between two dis-similar living organisms, wherein

(a) both the organisms are benefited

(b) only one organism is benefited

(c) both the organisms are not benefited.

II. Match the following:

(1)

(a) Holozoic organisms	1. organisms which absorb food from dead and decaying matter.
(b) Saprophytic organisms.	2. organisms which absorb food from other living organisms directly.
(c) Parasitic organisms	3. organisms which feed on solid food.
	4. organisms which manufacture food by using chemical energy.

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II. (Contd.)

(2) (a) Saprophytic bacteria

(b) Chemosynthesis bacteria

(c) Parasitic bacteria

1. Bacteria which nourish themselves by utilizing solar energy. C

2. Bacteria which depend on other living organisms for their food.

3. Bacteria which feed on dead and decaying organisms.

4. Bacteria which nourish themselves by utilizing chemical energy.

III. Give two examples each for the following: C

1. Holozoic mode of feeding: (i)_____(ii)_____

2. Saprophytic mode of feeding: (i)_____(ii)_____

3. Parasitic mode of feeding: (i)_____(ii)_____

IV. Explain briefly asto what you understand by the term 'heterotrophic nutrition'. K

V. Here is given an example of a kind of association that exists between two living things. There lives a kind of small fish which attaches itself to the under-surface of another big fish by its mouth. After a short period of time, the connection becomes permanent. The blood streams of both the fishes become one. From that time on, the small fish is nourished by the blood of the big fish for as long as either of them live.

Is this partnership an example of parasitism or symbiosis? Give your reasons for it. C

UNIT TEST IV

PART II

I. Instructions:

Here are given a few incomplete statements. Under each incomplete statements, you will find 3 or 4 alternatives with which you can complete that statement. You have to choose that alternative which is most appropriate and which completes the statement. Encircle the serial number of the alternative you have selected.

(1) The process of digestion that occurs within the cell is called as: K

(a) intra cellular digestion

(b) extra cellular digestion

(c) cellular digestion.

(2) In the case of hydra, digestion of food takes place both inside as well as outside the cell. Hence, the process of digestion in hydra is C

(a) extra cellular

(b) intra cellular

(c) both extra as well as intra cellular.

(3) The overall function of digestion is K

(a) breaking down of the complex food into simpler substances such as sugar, amino acids, fatty acids, etc.

(b) absorption of food

(c) oxidation of food and release of energy

(d) none of the above.

(4) The enzyme ptylin in salvia converts K

(a) sugar to starch

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(b) proteins to peptones

(c) starch into sugar

(d) fats into fatty acids.

(5) The enzyme pepsin present in gastric juice converts K

(a) sugar to starch

(b) proteins into peptones

(c) fats into fatty acids

(d) peptones into amino acids.

(6) The enzyme lipase present in pancreatic and bile juice converts K

(a) milk proteins into peptones

(b) starch into sugar

(c) proteins into peptones

(7) If the whole of small intestine is removed from the body of a human being, then A

(a) there will be no digestion and absorption of food in the body

(b) there will be digestion but absorption will not be there in the body

(c) the process of digestion and absorption will not be affected.

(8) It is always good to chew the food well before swallowing because: C

(a) food will be easily digested and absorbed

(b) food will be easily digested

(c) food will be easily absorbed

(d) food will be more tasty.

14 II. Fill in the Blanks:

(1) The relationship between producer and consumer organisms is, Producers _____ food whereas Consumers _____ food. K

(2) It is a common experience that when we chew boiled potato we feel sweet after some time. This is because A

_____

((a) proteins of potato are converted into peptones,
(b) starch of potato is converted into sugar,
(c) fats of potato is converted into fatty acids).

III. Match the Following:

Instruction:

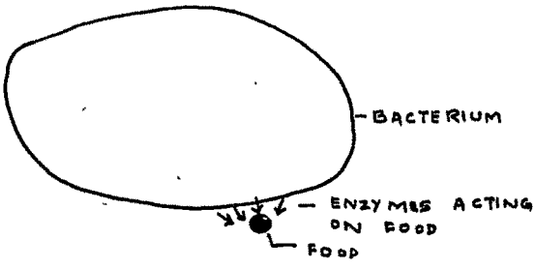
Below are given two tables "A" and "B". Under "A" are given names of the enzymes present in the digestive juices. Under "B" are given names of the digestive juices. Match the enzymes with the digestive juices in which they are present. K

"A"	"B"
(1) Ptylin	(a) gastric juice
(2) Pepsin	(b) pancreatic and bile juice
(3) Trypsin	(c) Salivary juice
(4) Invertase	(d) Intestinal juice

IV. Reason Out:

Below is given the diagram of a bacterium digesting its food. Observe the diagram carefully and write as to whether the process of digestion is intra cellular or extra cellular. Give your reasons. A

15



ANSWER:

V. Here are given names of a few organisms. Dèvelop a food chain with the help of them. C

(a) Plants

(b) Grass hopper

(c) Snakes

(d) Vultures

(e) Frogs.

UNIT TEST V

Name: _____

I. Instruction:

Here are given a few incomplete statements. Under each incomplete statement, you will find 3 or 4 alternatives with which you can complete that statement. You have to choose that alternative which is most appropriate and which completes the statement. Encircle the serial number of the alternative you have selected.

(1) The process by which substances are transported from one part of the body to another in higher animals is called as: K

(a) digestion (c) excretion

(b) circulation (d) respiration

(2) In amoeba, hydra, paramaecium, which are all lower organisms, the transportation of digested food takes place through: K

(a) Osmosis (b) Circulation of blood (c) diffusion.

(3) In higher organisms say like earthworm, cockroach, man etc., since the cells are deeply situated in the body and are not in direct contact with the environment, transportation of food and other substances takes place through: K

(a) circulation of blood

(b) circulation of water (c) diffusion.

(4) In an organism say "A", the blood always remains enclosed in blood vessels and is not left free in the body space. Then such a circulatory system is of: C

(a) Open type (c) Both

(b) Closed type (d) None of these

17 (5) In frogs, the blood leaves the heart, passes through the blood vessels and again returns to heart. Hence, the circulatory system in frogs is: K

(a) Closed type (c) Both

(b) Open type (d) None of these.

(6) In monkeys, the circulation of blood is of double circulation type. It means: C

(a) blood enters and leaves the heart twice.

(b) blood enters and leaves the heart once.

(c) blood enters the heart once, but leaves the heart twice.

(d) blood enters the heart twice, but leaves ~~the~~ it only once.

(7) The digested food from the small intestine is absorbed by the blood flowing in the _____ of the villi: K

(a) arteries (b) veins (c) lymph vessel.

(8) Blood helps in the removal of metabolic wastes such as urea, uric acid, etc. In other words, it helps in the process of:

(a) Respiration (c) Nutrition

(b) Excretion (d) Digestion

II. Fill up the Blanks:

(1) _____, _____ and _____ are the three types of cells present in the blood of humans. K

(2) In cockroach, the colour of the blood is odourless and of bluish type. It is because, the pigment present in the blood is _____. C
(Haemocyanin, Haemoglobin)

(3) In plants, the manufactured food from green parts is transported to other parts with the help of _____(Xylem vessels, Phloem vessels).

18 (4) Haemoglobin contains _____compound, whereas Haemocyanin contains _____compound. K
(Iron, Copper, Silver, Gold)

III.

(1) What would have happened to man, if there was no haemoglobin in the blood? A

(2) In some diseases, blood will not clot, that is, if there is a small cut or wound blood will be continuously flowing. Which type of blood cell, you think, is absent in such blood? A

(3) There are two organisms, viz., organism 'A' and 'B'. Blood of organism 'A' contains W.B.C., whereas, blood of organism 'B' does not contain W. B. C. Which organism is likely to be infected by germs easily? Why? A

(4) Write the names of the organs and tissues that form the circulatory system of man, K

(5) Here are given a few steps that take place in the process of removal of CO_2 from our body. They are not in sequence. Arrange them in sequence. C

(a) CO_2 diffuses from cells and tissues to the blood.

(b) CO_2 forms carbonic acid in the blood.

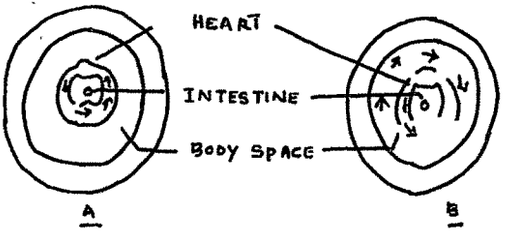
19 (c) Carbonic acid immediately changes into Sodium Carbonate.

(d) The impure blood is carried to the lungs.

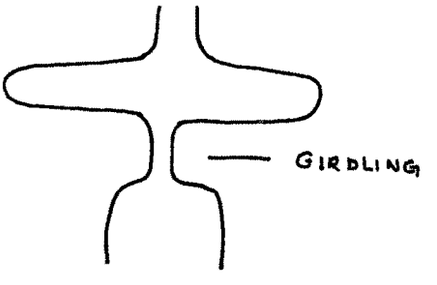
(e) Sodium Carbonate decomposes and CO_2 is released.

(f) CO_2 released is exhaled.

(6) Below are the diagrams of cross-sections of two organisms 'A' and 'B'. Think and write as to which one is having open type of circulatory system and which one is having closed type. C



(7) Below is given the diagram of a plant in which girdling has been done. Reason out asto which part of the stem has been removed. Encircle the alternative which you think is most appropriate.



Stem of a plant showing girdling:

(a) Xylem vessels are removed.

(b) Phloem vessels are removed.

(c) Both Xylem and Phloem vessels are removed.

(d) Cambium is removed.

UNIT TEST VI

Name _____

I. Fill in the Blanks:

(1) During respiration, _____ of absorbed food takes place and energy is released: K

(a) reduction (c) decomposition

(b) oxidation (d) double-decomposition

(2) The two major steps involved in the process of respiration are _____ and _____. K

(3) Respiration that takes place in the presence of free oxygen is called as _____ respiration (anaerobic, aerobic). K

(4) Here are given a few statements. Some of them applies to the process of respiration and some to photosynthesis. Put 'R' in the blank if it belongs to respiration, and 'P' if it belongs to photosynthesis. C

(a) during _____ plants utilize O_2 and give CO_2.

(b) during _____ plants utilize CO_2 and give out O_2.

(c) during _____ organic food is manufactured.

(d) during _____ organic food is utilized.

(e) ~~during~~ process of _____ takes place during both day and night.

(f) process of _____ takes place only in sunlight.

(g) process of _____ takes place in all the cells.

(h) process of _____ takes place only in cells having pigment chlorophyll.

21 (5) Here are given a few steps which are related to aerobic and anaerobic types of respiration. Write 'A' in the blank provided if it belongs to aerobic type, and 'An' if it belongs to anaerobic type of respiration. C

(a) _____ type of respiration can take place in the absence of free oxygen.

(b) _____ type of respiration takes place only in the presence of free oxygen.

(c) In _____ type of respiration, the end product is alcohol.

(d) In _____ type of respiration, 673 Calories of heat is released.

(e) In _____ type of respiration, only 28 Calories of heat is released.

II. Tick (_/) the most appropriate answer:

(1) Every organism requires energy C

(a) for growth (c) for movement

(b) for reproduction (d) for all its life activities.

(2) The structures which are called as 'power houses of cell' are: K

(a) golgi complex (c) vacuoles

(b) mitochondria (d) nucleolus

(3) Anaerobic respiration is a type of respiration which takes place in the: K

(a) presence of O_2

(b) absence of oxygen

(c) presence of CO_2

(4) In lower organisms like amoeba, hydra, etc., exchange of gases takes place through: K

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(a) gills (c) diffusion

(b) tracheae (d) skin

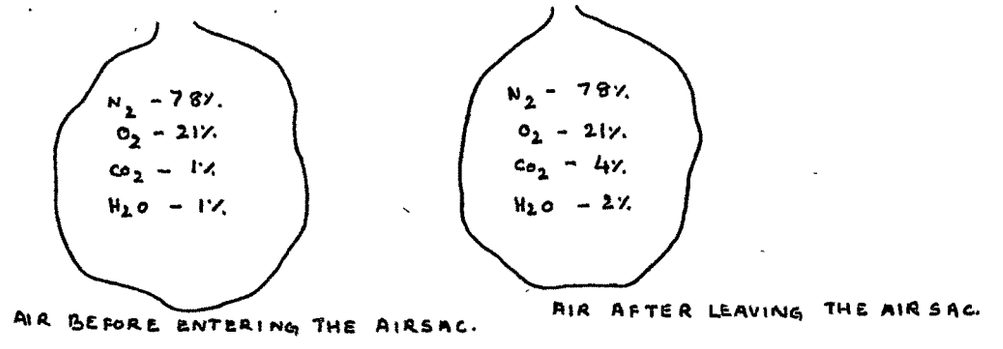
III. $C_6H_{12}O_6 + 6O_2$ ---- $6 CO_2 + 6 H_2O$ + 673 Calories of heat (Write in words the end products of respiration). C

IV. Here are given two equations. Study them carefully and write which equation represents which type of respiration. C

(a) $2 C_6H_{12}O_6 + 3O_2$ $\quad$ $3 C_4H_6O_5 + 3H_2O$ (Malic acid)

(b) $C_6H_{12}O_6 = 2C_2H_5O_4 + 2CO_2$ + 54 KCal.

V. Observe the diagrams carefully and answer the questions: C



(a) What difference you notice in the composition of air?

(b) Reason out the difference in composition.

23 VI. Give your reasons as to why a fish placed in water which is boiled and cooled, dies. A

VII. In the case of liverfluke, an animal, there is no circulatory system and respiratory system. Reason out as to how the animal gets oxygen for respiration. A

VIII. A person is made to breathe in the same air which he has breathed out every time. After a short time, there is every possibility for the person to die. Reason out as to why the person dies. A

IX. You might have had the experience of eating more food during winter than in summer. Give your reasons for the above. A

X. Draw a neat sketch of human respiratory system and label the parts. S

24 XI. Match the following:

(Match the organisms under 'A' with the type of resporatory system they have, given under 'B') C

"A"	"B"
(a) amoeba	(a) Cutaeneous respiration
(b) earthworm	(b) Simple diffusion
(c) Cockroach	(c) Tracheal
(d) Fishes	(d) Gills
(e) Man	(e) Lungs

XII. With the help of a diagram, describe the experiment 'To show heat is produced during respiration'. C

XIII. Draw a neat sketch of the apparatus used in the experiment to demonstrate that 'CO_2 is produced during respiration'. S

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UNIT TEST VII

Name: _____

I. Fill in the Blanks:

(1) (a) When proteins are oxidised, waste products such as _____, _____, _____, are formed.

(b) When sugars and fats are oxidised, _____, _____, are the waste products produced. K

(H_2O, CO_2, ammonia, urea, uric acid).

(2) In human beings, waste products are removed in the form of solids through _____, in the form of gases through _____, and in the form of liquid through _____. C

(Nephridia, anus, gills, lungs, kidneys)

(3) The major function performed by kidneys in human beings is removal of _____ through urine. K

(Uric acid, urea, CO_2)

(4) The process by which the organism gets rid of its waste products is called as _____. K

(a) respiration (c) Photosynthesis

(b) digestion (d) excretion

II. Put a tick (✓) against the most Appropriate Answer:

(1) In amoeba and hydra, ammonia is thrown out through: K

(a) Nephridia (c) Diffusion

(b) Malphigian tubules (d) Skin

(2) In human beings skin functions in: C

(a) removing wastes in the form ofsweat.

26 (b) maintaining body temperature constant.

(c) protecting the body.

(d) all the above ways.

(3) Put 'X' mark against the waste products which are nitrogenous in nature: K

(a) Water (c) uric acid

(b) urea (d) creatin

III. 1. Name atleast three waste products produced in animals. C

2. Write the different steps involved in the process of urine formation in human beings, and its removal. C

3. Write in a few sentences as to how plants differ from animals with regard to elimination of CO_2. C

IV. Give your Reasons:

1. Reason out as to what may happen to the person, if his kidneys get damaged. A

2. Reason out as to why plants do not have any specialised excretory organs as animals have. C

3. Reason out the importance of drinking lot of water during summer. A

27 4. Write in 3 to 4 sentences as to why a person passes comparatively less amount of urine during summer than in winter. A

5. Reason out to why a person feels cool under a working electric fan. A

V. Name three waste products of plants which are helpful to man.

VI. Draw a neat sketch of the cross section of human kidney and label its parts.

(S)

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UNIT TEST VIII

Name: _____

I. Tick (✓) the most appropriate answer:

(1) Water is essential for all living organisms because: K

(a) it dissolves many types of food and body wastes.

(b) it is needed for the free flow of substances into and out of the cell.

(c) most of the chemical reactions can take place only in the presence of water.

(d) Of all the above reactions.

(2) Human beings lose water from their body: K

(a) in the form of sweat.

(b) in the form of urine.

(c) in the form of water vapour.

(d) in all the above forms.

(3) The process of evaporation of water from the aerial parts of a plant is called as: K

(a) translocation (c) exudation

(b) transpiration (d) evaporation

(4) Wilting in plants takes place due to: K

(a) less evaporation of water and more absorption of water.

(b) more evaporation of water and more absorption of water.

(c) more evaporation of water and less absorption of water.

(d) lack of water.

29 (5) Sweating is mainly to: C

(a) throw away the excess of water.

(b) throw away the toxic substances produced in the body.

(c) regulate the body temperature.

II. (1) Below is given the description of the nature of a plant. Tick (_/) the habitat to which it belongs.

Description of the plant: Plant having spongy stem, leaves being reduced to small size, root system is not developed properly, and the stomata are more on the upper surface of the leaf. It means it belongs to: C

(a) Mesophytic habitat. (b) Xerophytic habitat.

(c) Hydrophytic habitat.

(2) Write 'H' if it belongs to Hydrophytes, 'X' if it belongs to Xerophytes and 'M' if it belongs to Mesophytes, against the following statements: C

(a) Plants growing in fields ( )

(b) Plants growing in ponds ( )

(c) Plants growing in deserts ( )

(d) Plants which have thick, fleshy stems and leaves ( )

(e) Plants having normal leaves and stems, with both shoot and root system well developed ( )

(f) plants having small leaves, spongy stem with stomatal openings on the upper surface of the leaves ( )

III. Write 'T' if it is true and 'F' if it is false against the statement given below:

Evaporation of water from the aerial parts of a plant will be more during: A

30 (a) hot summer days

(b) rainy days

(c) winter days

(d) windy days

(e) day time

(f) afternoon hours

(g) night times.

(2) In some animals which live in water, the concentration of the body fluid will be less than the concentration of the surrounding water. That means, these animals are..... C

(marine animals / fresh water animals)

COMPREHENSIVE TEST I

NAME _____ Roll No._____

CLASS _____ School:_____

NEW TYPE QUESTIONS

Instructions: Complete the following statements with suitable word or words.

1. Carbohydrates are substances which are made up of _____ _____ _____ and the ratio of _____ and _____ is 2:1. K

2. The nucleic acids present in the nucleus of a cell are _____ and _____. K

3. Give two sources of proteins: C

   (a)
   (b)

4. The process by which green plants manufacture starch with the help of sunlight and carbon-dioxide is called as _____. K

5. Three leaves ~~w~~ from a potted plant kept in darkness are selected. Leaf 'A' is smeared with vaseline on its under surface. Leaf 'B' is smeared with vaseline on its upper surface. Leaf 'C' is not at all smeared with vaseline. The whole plant is exposed to sunlight for 3 to 4 hours. When each leaf is tested for starch, in leaf "_____" there will be no presence of starch since there will be no gaseous exchange. C

6. The relationship between producer and consumer organism is, producers _____ food whereas consumers _____ food. C

7. The organism which depends on other animals and plants for its food is called as&&&&&&&&_____ (autotroph, heterotroph, chemotroph). K

2

8. In lungs, oxygen present in inhaled air combines with _____of the blood and forms _____. K

9. In plants the food that is manufactured in the green parts is translocated to other parts with the help of _____ vessels. K

10. The difference between two blood pigments, namely, Haemoglobin and Haemocyanin is, Haemoglobin contains_____, whereas Haemocyanin contains _____ (Copper, Iron, Silver, Gold). C

11. The blood cells that help in the process of fighting against germs are _____. K

****

Instructions:

Here are given a few incomplete statements. Under each incomplete statement you will find 3 or 4 alternatives with which you can complete that statement. You have to choose that alternative which is most appropriate and which completes the statement. Put a "_/" mark against the serial number of the alternative you have selected.

1. The biologists who formulated the cell theory were: K

(a) Grew and Malphighi (c) Schleiden and Schwann

(b) Watson and Crick (d) Robert Hooke and Huxley.

2. Amino acids are called as the building blocks of proteins because: K

(a) the structure of proteins depends upon the structure and sequence of amino acids.

(b) since proteins are made up of amino acids.

(c) since amino acids combine together and form proteins.

3 3. In the following, the factor which is not needed by plants during photosynthesis is: K

(a) Oxygen (b) Sunlight

(c) Carbondioxide (d) Water (e) Chlorophyll.

4. In photosynthesis one set of reactions are called as dark reactions because: K

(a) It takes place only during night times.

(b) since sunlight is not made use of in the process.

(c) since it takes place only after light reactions.

5. The energy which is utilized by sulphur bacteria for the manufacture of food is: K

(a) potential energy (c) chemical energy

(b) light energy (d) kinetic energy

6. In moll's half-leaf experiment there was no production of starch in the part of the leaf which was inside the bottle because: C

(a) light was not available to that part of leaf.

(b) chlorophyll was not there in that part of leaf.

(c) carbondioxide was not available to the leaf.

(d) there was no air inside the bottle.

7. In the hydrilla experiment, when burning candle was introduced into the test tube containing the gas, it continued to burn. This proved that: C

(a) carbondioxide was evolved during photosynthesis.

(b) oxygen was evolved during photosynthesis.

(c) hydrogen was evolved during photosynthesis.

(d) nitrogen was evolved during photosynthesis.

4

8. The overall function of digestions is: K

(a) breaking down the ingested food into smaller and smaller bits.

(b) absorption of the food that is digested.

(c) oxidation of food and release of energy.

(d) elimination of waste products.

9. The enzyme lipase present in pancreatic juice converts: K

(a) milk proteins to peptones.

(b) starch to sugar.

(c) fats to fatty acids.

(d) proteins to peptones.

10. Insectiverous plants meet their food requirement by: K

(a) feeding on dead and decaying organisms.

(b) feeding on insects.

(c) absorbing food directly from plants.

(d) manufacturing their own food.

11. The difference between a parasite and a symbiont is, in parasitism: C

(a) only one organism is benefited.

(b) both the organisms are benefited.

(c) both the organisms are not benefited.

12. In the case of monkeys, the circulation of blood is of double circulation type, that means: K

(a) blood enters the heart only once.

(b) blood enters and leaves the heart once.

5 (c) blood enters and leaves the heart twice.

(d) blood enters the heart twice but leaves the heart once.

13. Farmers usually grow pulses after growing paddy or wheat because: K

(a) this will enrich the nitrogen content of the soil.

(b) this will give the farmers more money.

(c) farmers can grow two things in less time.

(d) it is their usual habit,

14. In amoeba and hydra, which are lower organisms, the transportation of digested food takes place through: K

(a) osmosis

(b) diffusion (c) circulation of blood.

15. In an organism say "A" the blood leaves the heart, passes through blood vessels and again returns to heart. The circulatory system of the organism is of: K

(a) open type

(b) closed type (c) none of the above types.

SHORT ANSWER QUESTIONS

Instructions: Write the answer in the space provided.

1. Write in 3 to 4 sentences the difference between a plant cell and an animal cell. C

2. Write in 2 to 3 sentences the physical nature of protoplasm: 6 K

3. Write in 2 to 3 sentences the advantage of having a pigment like haemoglobin in the blood: C

4. Write in 2 to 3 sentences the advantage of having platelets in our blood: C

5. Here are given steps involved in the fixation of nitrogen. They are mixed up. Read them carefully and write the serial number of the steps in sequence. C

(a) presence of nitrogen fixing bacteria in the roots of legumenous plants.

(b) these bacteria absorb nitrogen from atmosphere.

(c) the nitrates formed is utilized by the plants.

(d) the absorbed nitrogen is converted into nitrates.

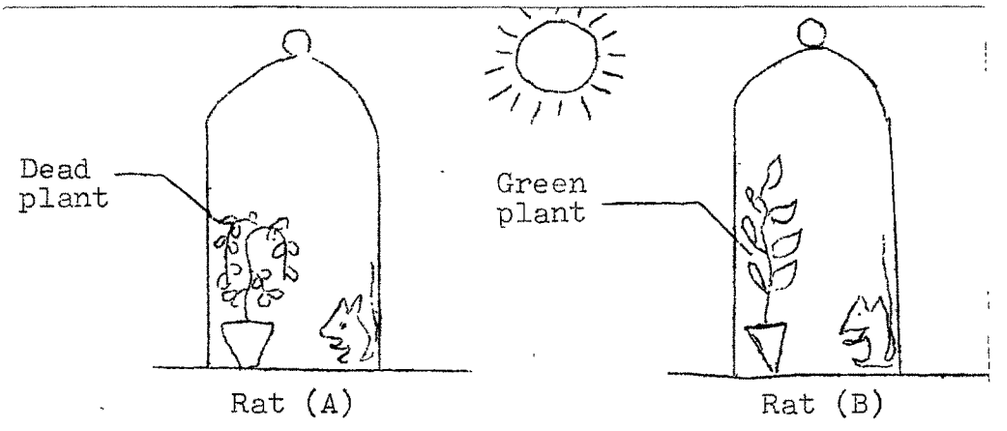
Sequence of the steps:

(1) _____ (2) _____

(3) _____ (4) _____

6. Here are given diagrams of two rates 'A' and 'B' kept in two separate air tight bell-jars. Reason out from the diagram as to what rat will die soon.

7



7. There are two substances. One is composed of only proteins, and the other is composed of only starch. How can you find out the substance which contains starch without using any chemical solutions. A

8. There are two similar dogs, namely, 'A' and 'B'. Dog 'A' is given only bread, whereas dog 'B' is given both bread and milk. Write in 3 to 4 sentences as to which dog will die and why it dies? A

8

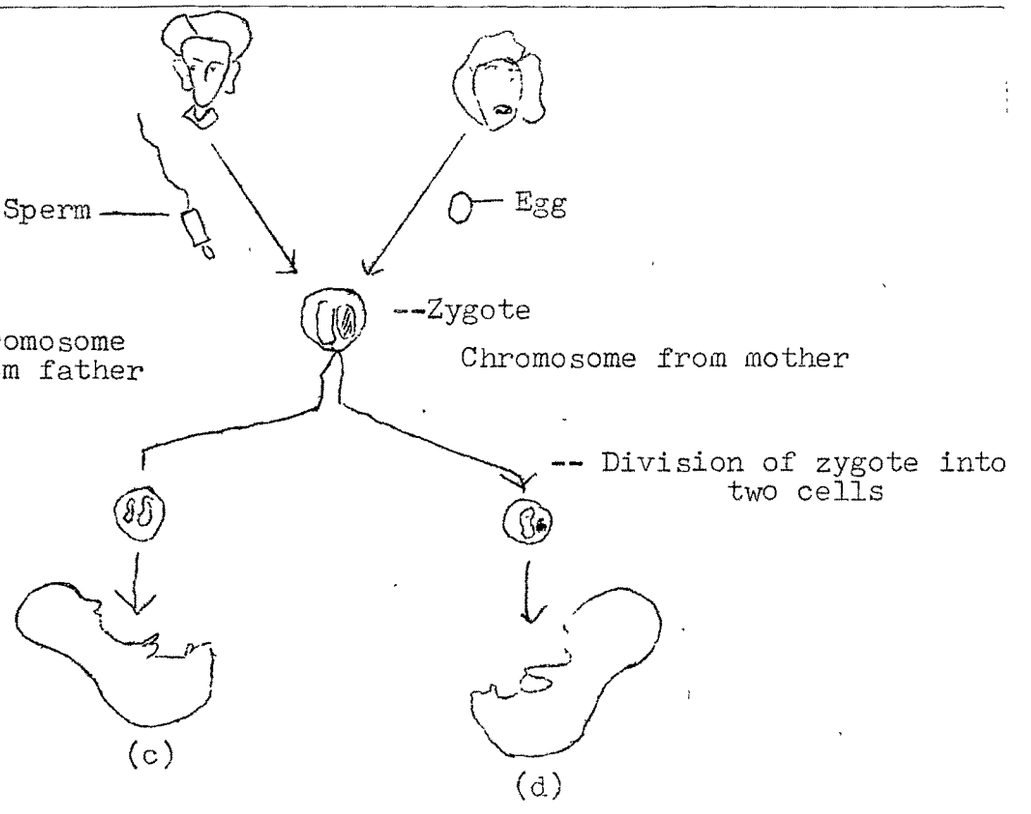


Fig. 1

9. In Fig.I are shown the diagrams of two twins 'C' and 'D' born to parents 'A' and 'B'. 'A' that is fatherm, is suffering from a disease namely <u>colour blindness</u> which is hereditary in nature. By looking into the diagram, reason out as to which child will inherit the disease and why? C

10. Write in 2 to 3 sentences as to what you understand by the term "totipotency of a cell". K

9 .

11. Write in two to three sentences as to what deduction can you make about an animal if you are told that the animal does not have transport system. A

12. Draw a neat diagram of an animal cell and label its parts. S

13. Draw the diagram of a Stomata and label its parts. S

14. Draw a neat diagram of human heart and label its parts. S

10

COMPREHENSIVE TEST II

Name: _____

I. Instructions

Here are given a few incomplete statements. Under each incomplete statement you will find 3 to 4 alternatives with which you can complete that statement. You have to choose that alternative which is most appropriate and which completes the statement. Put a "_/" mark against the serial number of the alternative you have selected.

1. Every organism requires energy for: C

(a) growth (c) movement

(b) reproduction. (d) all the life activities

2. The structures which are called as 'Power houses of a cell' are: K

(a) golgi complex (c) transportation

(b) mitochondria (d) excretion

3. The organs which help earthworms to get rid of their body wastes are: K

(a) gills (c) nephridia

(b) skin (d) lungs

4. The animals which live on land are called as: K

(a) mammals (c) terrestrial animals

(b) marine animals (d) arborial animals

5. Sweating is mainly to: K

(a) throw away the excess water from the body.

(b) throw away the toxic substances from the body.

(c) throw away the excess salts.

11

(d) regulate the body temperature.

II. Fill in the Blank:

1. In some animals which live in water, the concentration of the body fluid will be more than the concentration of the surrounding water. It means, these animals are _____ (fresh water animals/marine animals). C

III. Below is given the description of a plant. Tick _/ the habitat to which it belongs. C

Description: A plant called 'Opuntia' has thick and fleshy leaves, and has a well developed root system. Leaves often bear thorns on their surface. The above characteristics reveal that the plant 'Opuntia' belongs to:

(a) Mesophytic habitat.

(b) Hydrophytic habitat.

(c) Xerophytic habitat.

IV. Imagine that you are feeling tired after a half-an-hour football play. You are given freedom to eat any one of the following food stuffs. Write as to which you would choose to eat and why you choose that: A

(a) Samosa

(b) Bajiya

(c) Lemon

(d) Bread and Butter

(e) Omelet

12 V. Below is given the equation for aerobic respiration. Write in words the end products of respiration. C

$$C_6H_{12}O_6 + 6O_2 \longrightarrow 6CO_2 + 6H_2O + 673 \text{ cal. of heat.}$$

VI. Draw a neat diagram of the human respiratory system and label its parts: S

VII. Below are given names of a few substances which are thrown out as wastes by living organisms. Put a 'X' mark against the ones which are nitrogenous in nature. K

(a) urea

(b) uric acid

(c) carbon dioxide

(d) creatin

(e) sweat

ANNUAL EXAMINATION

Part III - BIOLOGY

Instructions:

Complete the following statements with suitable word or words:

(1) The cell membrane or plasma membrane allows only certain substances to pass into and out of the cell. In other words, it is a _____ membrane.

(2) Chemosynthesis is a process wherein certain bacteria make use of _____ energy for the manufacture of carbohydrates.

(3) _____ is the gas liberated during respiration of plants and animals.

II. Write the definitions of any two of the following:

(1) Respiration

(2) Photosynthesis (3) Heterotrophic Nutrition.

III. Instructions:

Below are given two tables 'A' and 'B'. Under 'A' are given names of the enzymes present in the digestive juices. Under 'B' are given names of the digestive juices. Match the enzymes with the digestive juices in which they are present.

A	B
(1) Ptyling	(a) gastric juice
(2) Pepsin	(b) Pancreatic and bile juice
(3) Tryptin	(c) Salivary juice
(4) Invertase	(d) Intestinal juice

14 IV. Draw a neat diagram of the human heart and label its parts.

OR

Draw a neat diagram of a typical animal cell and label its parts.

V. With the help of a neat and labelled diagram, describe the following experiment:

1. Experiment to show that sunlight is needed by plants for manufacturing their food.

VI. Short answer: (Attempt any five)

Instructions: Write the answers in brief:

1. Write the composition of blood.
2. The function performed by platelets.
3. Saprophytes.
4. Symbiosis.
5. The chemical composition of carbohydrates.
6. Complete name of D.N.A.
7. Constituents of protoplasm.
8. Food chain.
9. Respiratory organs of fishes and cockroaches.

VII. Answer in detail any two of the following:

(Draw diagrams wherever necessary)

1. Describe the carbon cycle.

2. Fixation of nitrogen in plants.

3. Describe the mechanism of gaseous exchange in plants.

4. Write the differences between a plant cell and an animal cell.