

CLASS: X BIOLOGY - LIFE PROCESSES

- Q1 How exchange of gases take place in plants?
- Q2 Differentiate between photosynthesis and respiration.
- Q3 Explain the mechanism of breathing in human beings.
- Q4 How does water rise in tall trees?
- Q5 Leaves of a potted plant are coated with Vaseline to block the stomata. Will this plant remain healthy for long? State the 3 reasons for your answer.
- Q6 How is prepared food transported to different parts of the plant?
- Q7 What is blood? What are the components of blood? Also write the function of each component.
- Q8 What are the advantages of having very thin and highly branched capillaries for blood flow?
- Q9 What is the difference between the blood flowing in the arteries and that flowing in the veins?
- Q10 What is the meaning of the term "Double circulation"?
- Q11 What will happen if excess bleeding takes place and what natural device preventing it?
- Q12 Correct the false statement
- The walls of the atrium are thicker than the ventricles
 - The oxygen carrying blood goes into the left auricle
 - Valves open on both the sides.
 - Xylem transports food material.
 - The blood circulation in man is of open type in man
- Q13 Differentiate between excretion and osmoregulation? Describe how excretion takes place in amoeba.
- Q14 What is dialysis? How is it useful?
- Q15 What is excretion? How is solid and gaseous waste excreted in humans?
- Q16 List the functions of blood.

CLASS: X CHEMISTRY - CHEMICAL REACTIONS AND EQUATIONS

- Give 5 examples each of physical and chemical changes that take place around us in our day to day life.
- When a magnesium ribbon is burnt in air, what are the two observations that you make?
- Write a balanced chemical equation to represent decomposition of lead nitrate on heating. What are brown fumes due to?
- Make a list of at least 10 cations and 10 anions.
- Taking help from the list prepared in Q4,, write the chemical formulae of:-
 - Barium chloride
 - Sodium Sulphate
 - Ammonium phosphate
 - Calcium hydroxide
 - Aluminium carbonate
 - Magnesium hydrogen carbonate
 - Zinc sulphide
 - copper (I) chloride
 - Potassium Bromide
 - Lead nitrate
 - Iron (III) oxide
 - Sodium Oxide
 - Silver sulphide
 - Calcium Fluoride
- Write the following in the form of balanced chemical equations:-
 - Calcium carbonate decomposes on heating to form calcium oxide and carbon – di – oxide.
 - When ammonium hydroxide is added to a solution of iron (II) Sulphate, a green ppt of iron (II) hydroxide and ammonium Sulphate are formed.
 - When a nail of iron is added to a solution of copper Sulphate, iron (II) Sulphate and copper metal are formed.
 - Zinc reacts with dil hydrochloric acid to form zinc chloride and hydrogen gas is liberated.
- A chemical reaction which is both combination as well as exothermic, is used by us for white washing purposes. Write the equation for the same.
- What is a decomposition reaction? Give 2 examples each of decomposition taking place due to heat, light and electricity.

9. How does a displacement reaction differ from a double displacement reaction? Give examples to explain.

INTERNATIONAL INDIAN SCHOOL,RIYADH

S.A. 1 : WORKSHEET

CLASS : X

SUBJECT: BIOLOGY

CHAPTER 6 : LIFE PROCESS

Answer the following questions :

1. Name the process required for the maintenance of life.
2. What is the function of stomata and how do they perform this function?
3. Which element is essential for the synthesis of proteins in plants?
4. How do the plants fulfill the requirement of nitrogen to make proteins?
5. Describe the nutrition process in Amoeba.
6. Name the enzyme present in saliva.
7. What are the secretions of gastric glands?
8. Name the muscle which regulate the exit of food from stomach?
9. Name the enzymes present in pancreatic Juice?
10. What causes the formation of cramps in our muscles?
11. Why does the rate of breathing in aquatic organisms is much faster than the terrestrial organism?
12. Name the respiratory pigment present in human beings?
13. Why does the ventricles have thick walls than atria?
14. Name the group of animals that have 3 chambered and 2 chambered heart?

15. What is the normal value of systolic and diastolic pressure in human beings?
 16. What is lymph?
 17. Which force or pull is responsible for transportation of water to the height of the plant body?
 18. How does the excretion takes place in unicellular organisms?
 19. Name the basic filtration unit in the kidneys?
 20. What is dialysis?
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CHAPTER 7 : CONTROL & CO-ORDINATION

1. Name the tissues in animals which provide control and co-ordination?
2. Name the receptors which detect taste and smell?
3. What are neurons?
4. Name the part of neuron where the information is acquired?
5. In which part of the nervous system the reflex arcs are formed?
6. What constitute the central nervous system?
7. Which is the main thinking part of the brain?
8. Name the part of the brain which control the involuntary actions such as blood pressure, salivation and vomiting?
9. Which part of the brain is responsible for maintaining the posture and balance of body?
10. Give one example of chemotropism?

11. Name the plant hormone responsible for the cells to grow longer?
12. Which hormone in plants inhibits the growth?
13. Which element is essential for the synthesis of thyroxin?
14. The deficiency of which hormone in childhood leads to dwarfism?
15. Name the hormone secreted by pancreas?
16. Name the plant hormone which promote cell division?
17. Name the disease caused due to deficiency of iodine.
18. Name the gap present between two neurons?

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WORKSHEET

CLASS:X

SUBJECT: BIOLOGY

LIFE PROCESS

1. What is the role of following in digestion?

a) Trypsin, b) HCL C) Bile D) Intestinal Juice

2. Name the type of respiration in which the end products are

A) Ethyl Alcohol (B) CO₂ and H₂O (C) Lactic Acid

Give one example of each case where such respiration can occur.

3. Name the substances present in gastric juice. Explain their function.

4. Why does raw bread taste sweet after chewing in the mouth?

5. Where is bile secreted from? What is its function?

6. Give one word for

(A) getting rid of undigested waste from body (B) movement of food molecules into blood

7. Where do you find stomata and lenticels.

9. Food moves down the gut by peristaltic movement. Which part of the brain controls this movement?

10. Which of the four chambers in the human heart have thickest muscular walls?

11. Why it is not advisable to give excess water to water plants ?

12. Which of the organs performs the following functions in humans?

(a) Absorption of food (b) Absorption of water

13. Write one feature which is common to each of the following

(A) Glycogen and Starch (B) Chlorophyll and hemoglobin

14. Why does not the lungs collapse after forceful expiration?

15. A particular tissue blocked and the leaves start to wilt. Identify the tissue that got blocked.

16. How would the digestion of proteins and carbohydrates be effected if there was a blockade in the bile duct?

17 Which fluid in the human body wets the internal organs?

18. In which direction lymph travels?

19. How does a plant cope up with lack of water in desert conditions?

20.What do you understand by pulse?

21. Is the food vacuole in Amoeba temporary structure or permanent structure?

22.Why is carbon dioxide carried in dissolved form in the blood than oxygen?

23. Differentiate between Diastole and Systole.

24.How does water enter into root cells from the soil?

25.Name the various ways of excretion by plants?

26. Name the respiratory pigment of blood. In which component is it present?

27. Name the substances which are re absorbed from the urine before passing into urinary bladder.

28.What are the characteristics of respiratory surface?

29. What is dialysis?

30.What is Bowman's Capsule?

**HOW DO ORGANISMS REPRODUCE?
CLASS-Xth, SUB-BIOLOGY**

VERY SHORT ANSWER TYPE(1 MARK)

- Q1)Name a plant where buds develop on the leaves to produce new plants.
Q2)A large variety of plants like banana, rose and sugarcane are grown by vegetative means.Give reasons.
Q3)What do we call the undifferentiated mass of cells formed during tissue culture?
Q4)Mention a disadvantage of vegetative propagation.
Q5)Describe fragmentation in *Spirogyra* with the help of diagram.
Q6)How does sexual reproduction result in variation /diversity of characters in the offspring?
Q7)How many male gametes are formed by a pollen grain?
Q8)What is ovulation?
Q9)Why are petals scented and coloured?
Q10)Which organ enables the developing foetus to obtain nourishment from the mother's blood?
Q11)Name the structure formed after fertilization of ovum by the sperm.
Q12)What is menopause?
Q13)Name the causative organism of AIDS.
Q14)Name the female gonad and female gametes.
Q15)Name two biotic agents of pollination.
Q16)Name two abiotic agents of pollination.
Q17)What happens if the mature ovum is not fertilized in a female?
Q18)What does the term 'menarche' signify?
Q19)Write name of one male and one female sex hormone.

SHORT ANSWER TYPE-1(2MARKS)

- Q1)Define reproduction.why is it important?
Q2)Mention two features of asexual reproduction.
Q3)Mention the two most common methods of asexual reproduction in plant.
Q4)Name the type of reproduction involved in the following;
(i) a slice of bread has greenish –yellow patches.
(ii) Potato in the store-room starts sprouting.
Q5)Mention two fungi that reproduce asexually by spore formation.(Rhizopus,yeast)
Q6)How do organisms reproduce by budding?
Q7)Give the name of a unicellular and a multicellular organism which reproduce by budding.(hint- yeast,hydra)
Q8)Name any two curable sexually transmitted diseases?
Q9)Give two reasons why frequent pregnancies must be control.
Q10)How do barrier methods prevent fertilization?
Q11)Describe surgical methods of birth control?
Q12)Reproduction is linked to stability of population of a species.Justify this statement.
Q13)Why changes are observed in the uterus if fertilization doesnot take place?
Q14)Why changes are observed in the uterus subsequent to implantation of young embryo?
Q15)Give two reasons for the appearance of variation among the offspring formed by sexual reproduction.

SHORT ANSWER TYPE-11(3 MARKS)

- Q1)Describe the different methods of natural vegetative propagation.
Q2)How does *plasmodium* reproduce by multiple fission?
Q3)Describe budding in yeast?
Q4)Describe asexual reproduction. How do the following organisms reproduce?
a)Amoeba b)Plasmodium c)Hydra

- Q5)What is the significance of vegetative propagation?
- Q6)What is the significance of pollination ?describe its types.
- Q7)What changes occur in girls and boys in the age group of 10-14 years?
- Q8)Mention the events taking place when the ovum is fertilized in fallopian tube till it is implanted in the uterus of a human female.
- Q9)Mention the methods used for the regulation of birth child.
- Q10)Trace the path of sperm during ejaculation and mention the gland and their functions associated with the male reproductive system.
- Q11)Distinguish between a gamete and a zygote. Explain their roles in sexual reproduction.
- Q12)What is placenta? Mention its role during pregnancy.
- Q13)Describe sexually transmitted diseases (STDs) and mention the ways to prevent them.
- Q14)Whats the role of villi on the walls of placenta?
- Q15)What is semen?
- Q16)Why scrotum is located outside the human body?
- Q17)What is tissue culture and its importance?

LONG ANSWER TYPE QUESTIONS (5 MARKS)

- Q1)Describe the human male reproductive system in detail.
- Q2)Describe the human female reproductive system in detail.
- Q3)Write two point of difference between sexual and asexual mode of reproduction.Describe why variation are observed in the offspring formed by sexual reproduction.
- Q4)Draw a well labeled diagram of a pistil showin pollen tube growth and its entry into the ovule.
- Q5)What do you mean by puberty? what is the pubertal age in human males and females?
List some changes that occur at the time of puberty in male and female?
- Q6)Mention the function of the following organs:
1)testes 2)vas deferens 3)urethra 4)scrotum 5)penis
- Q7)Describe different methods of population control in human beings in detail.

DIFFERENCES

- 1)Binary fission and multiple fission
- 2)binary fission and budding
- 3)binary fission and fragmentation
- 4)tubectomy and vasectomy

DIAGRAMMATIC QUESTIONS

- 1)Budding in *Bryophyllum* and in Hydra
- 2)spore formation in Rhizopus.
- 3)Binary fission in Amoeba.
- 4)fragmentation in Spirogyra.
- 5)regeneration in Planaria
- 6)multiple fission in Plasmodium
- 7)male and female reproductive system.
- 8)Germination of seed
- 9)longitudinal section of bisexual flower.

HOW DO ORGANISMS REPRODUCE?

1. Reproduction is not a life process still organisms spend a lot of energy on it .why?
2. What is the basic event in reproduction?
3. Why do we say that similar not same organisms are produced during reproduction?
4. How are variations useful for the survival of species over time?
5. Differentiate between fission and fragmentation
6. How is fission different from budding?
7. How is fission in *Amoeba* different from fission in *leishmania*?
8. Name some organisms which can use regeneration as mode of reproduction?
9. Explain how regeneration is carried out?
10. What is the need for contraceptive devices?
11. What are the reasons for poor living standards in our country?
12. What happens when the egg is not fertilized?
13. Is the body ready for reproduction as soon as it reaches puberty?
14. How is a child born at the end of gestation period?
15. What is the role of placenta?
16. Why does the lining of uterus thicken during menstrual cycle?
17. In which part of human female reproductive system does fertilisation occurs?
18. How many eggs are produced at a time in a human body?
19. Which part of the flower changes into fruit?
20. Which part of the flower changes into seed?
21. What is germination?
22. What happens to all the parts of flower after fertilization?
23. Name different agencies of pollination
24. What was the need to generate two different types of gametes?
25. How is amount of DNA maintained in sexually reproducing organisms?

CLASS-Xth, SUB-BIOLOGY

CHAPTER-HEREDITY

ASSIGNMENT

Q1)Who is known as father of genetics?

Q2)Write the scientific name of the plant on which Mendel carried out his experiment.

Q3)How many chromosomes are present in human beings?

Q4)What is the genetic material?what is its importance?

Q5)What are recessive genes?

Q6)What are dominant genes?

Q7)Name the cells which possess half the number of chromosomes in human beings? (hint-germ or reproductive cells)

Q8)State the advantages of sexual reproduction?

Q9)Name any two contrasting characters noticed by Mendel in the garden pea plants.

Q10)State the ratio of plants produced in the monohybrid cross in the F1 and F2 generation?

Q11)Where are genes located? What is the chemical nature of genes?

Q12)How is the sex of a newborn child determined in humans?

Q13)Why did Mendel choose pea plant for his experiment?

14)Give reasons why acquired characters are not inherited.

Q15)What are the functions played by DNA?

Q16)What observations did Mendel make during his experiments?

CLASS-Xth,subject-biology ut2

Chapter-heredity and evolution

Q1)Do all variations in a particular species have equal chances of survival in an environment?

Q2)Give scientific terms for;

a)the similarities with parents present in an offspring.

b)the differences with parents present in an offspring.

Q3)When is a recessive trait capable of expressing itself?write its expression with respect to height of plant(genotype).

Q4)When a pesticide is sprayed on a population of insects,all insects do not get killed but few of them survive.give reason.

Q5)In a mendeliancross,tall plants and purple flowers were crossed with dwarf plant and white flowers.How would you denote-----

a)the genotype pf the two parents.

b)the genotype and phenotype of F1 progeny.

c)the results obtained by selfing F1 progeny to get F2 progeny.give the ratio obtained in F2 generation.

CLASS X

HEREDITY AND EVOLUTION

1. Name some tools for tracing evolutionary relationships.
2. " It is not as if one species is eliminated to give rise to a new one " justify the statement.
3. What do we understand by the term ' artificial selection '
4. Match the following:

Sterile flowers	Kohlrabi
Arrested flower development	Cauliflower
Swollen parts	Broccoli
Larger leaves	Kale
5. During evolution, a change that is useful for one property to start with can become useful later for quite a different function. Explain with the help of an example.
6. How can we find out age of fossils.
7. What is the relationship of classification & evolution?
8. Explain genetic drift.
9. Why do we find very little variations among sugarcane plants.
10. Why did Mendel choose pea plant for his experiments.
11. What is the difference between dominant & recessive gene.
12. With the help of an example show that genes control traits.
13. Give some contrasting characters seen in pea plant.
14. Name an animal which can change its sex.
15. Name the homologous organs of three animals.
16. What name is given to the sequence of gradual changes over millions of years in which new species are formed.
17. With the help of a diagram show how sex is determined in human beings.
18. A Mendelian experiment consisted of breeding tall pea plants bearing violet flowers with short pea plants bearing white flowers. The progeny all bear violet flowers but almost half of them were short. Suggest the genetic make up of the tall parent.
19. What would be the genotypic ratio in F_2 generation of monohybrid cross.
20. If a plant is heterozygous for tallness, the F_2 generation has both tall and dwarf plants. Which principle does it prove?

JULY

LIFE PROCESSES

submit by 15 july

Q1 How does the removal of waste products take place in single celled organisms?

Q2 Draw a diagram for human excretory system and label

Q3 Draw a diagram for nephron and label

Q4 Name the blood vessel entering the kidney and the one leaving it. What is the difference in the composition of blood in these 2 vessels (write 2 differences)

JULY

submit by 31 july

CONTROL AND CO-ORDINATION

Q1 On touching a hot plate which category of neurons get stimulated first and which later on?

Q2. Where does cerebrospinal fluid occur in our body? Write its function

Q3. Draw a diagram for human brain and label?

Q4 Suggest 2 reflex actions in our body. Also draw the reflex arc for them

BIOLOGY

CLASS X

Questions and Answers

Control and Coordination

Very Short Answer Type (1 mark)

- Q. What happens if a young green plant receives sunlight from one direction only?
- Q. Which plant hormone's function is opposite to auxins, gibberellins and cytokinins?
- Q. What are endocrine glands?
- Q. Which plant hormone helps in ripening of fruits and flowering in plants?
- Q. What is reflex action?
- Q. What are the components of the CNS (Central Nervous System)?
- Q. What are spinal and cranial nerves?
- Q. Name the hormone secreted by:
1. Ovary
 2. Pancreas
 3. Pituitary Gland
- Q. Name the gaseous phytohormone.
- Q. Write an example of nastic movement in plants.
- Q. Activities like coughing, sneezing and swallowing are regulated by which part of the brain?
- Q. Which gland secretes adrenaline?
- Q. What is function of olfactory lobes?
- Q. Give example of chemotropism and hydrotropism.

Short Answer Type I (2 marks)

- Q. How do endocrine glands help in maintaining feedback control?
- Q. How does a touch-me-not plant respond on touching? What is this movement called?
- Q. Name the components of Human Nervous System?
- Q. Where is Cerebro Spinal Fluid (CSF) present? What is its function?
- Q. Represent schematically the path of a reflex arc.
- Q. Why endocrine glands are called ductless glands? How do they send hormones to the target organs?
- Q. Name the plant hormones responsible for the following:
1. Elongation of cells
 2. Promotion of cell division
 3. Ripening of fruits
 4. Growth of the tip stem

Answer the following:

- I. Dwarfism results due to deficiency of which hormone?
- II. Blood sugar level rises due to deficiency of which hormone?
- III. Which gland secretes digestive enzymes as well as hormones?
- IV. Which endocrine gland is present in males but not in females?

Short Answer Type II (3 marks)

- Q. Write the characteristics common to all hormones.
- Q. Mention the functions of cerebellum and cerebrum.
- Q. Where are pons and medulla oblongata located? Write their functions.
- Q. You have touched a hot object; represent diagrammatically the path that leads to a response that is, quickly pulling back the hand.
- Q. How does nervous tissue cause action?
- Q. Compare electrical impulse with respect to chemical impulse.
- Q. What is the effect of adrenaline on our body?

Long Answer Type (5 marks)

- Q. Mention one function of each of these hormones:
1. Thyroxin
 2. Insulin
 3. Adrenaline
 4. Testosterone
 5. Growth Hormone
 6. Oestrogen
- Q. Draw a well labelled diagram of brain showing – meninges, CSF, cerebrum, pituitary, cerebellum, pons, medulla oblongata, mid-brain.
- Q. How does chemical coordination take place in animals? Draw diagram also.
- Q. Draw an outline diagram of human body and label various endocrine glands.
- Q. Name the various plant hormones. Also give their physiological effects on plant growth and development.
- Q. Diff b/w:-
1. Nastic / Tropic Movement
 2. Sensory / Motor Nerve
 3. Phototropism / Geotropism
 4. Electrical impulse / Chemical impulse
 5. Sneezing / Walking

ASSIGNMENT (CLASS X)

CONTROL AND COORDINATION

1. What is the stimulus in:
 - a) Phototropism
 - b) Geotropism
 - c) Chemotropism
 - d) Hydrotropism
 - e) Thigmotropism
2. Distinguish between tropic and nastic movements of plants
3. Give one example of the movement of a plant part which is caused by the loss of water
4. Which plant hormone is responsible for the wilting and falling of leaves?
5. Differentiate between gigantism & dwarfism
6. Name one hormone secreted by:
 - a) Testis
 - b) Pancreas
 - c) Thyroid
 - d) Ovary
7. What is meant by receptors and effectors ?
8. Why does reflex action not depend on the thinking tissue in the brain
9. What happens at the synapse which occurs between the two neurons?
10. How is the chemical coordination brought about in plants?
11. With the help of a schematic diagram, trace the sequence of events occurring, when you step on a sharp object. Name this action.
12. How does our body maintain blood sugar level?
13. Name the hormone synthesized at the shoot tips. How does it help the plant to respond to light?
14. What is the function of receptors in human body? What are the types of receptors found in human? What problems are likely to occur if receptors do not work properly?
15. If you keep the potted plant horizontally for 2-3 days, what types of movement would be shown by the shoot and root after 2 or 3 days. Why?