

NUTRITION

DAILY PRACTICE PROBLEMS # 1

OBJECTIVE QUESTION

- The raw materials for photosynthesis are
(A) CO_2 & O_2 (B) sunlight and CO_2 (C) water and chlorophyll (D) CO_2 and water.
- Most of the photosynthesis (80%) which takes place on this earth is carried out by
(A) green plants on land (B) algae present in fresh water
(C) algae found in ocean (D) algae present in ocean and fresh water sources.
- Which of the following has no digestive enzyme?
(A) Saliva (B) Bile (C) Gastric juice (D) Intestinal juice
- Plants are green in colour because
(A) they absorb green light only (B) they reflect green light
(C) they absorb green light but reflect all other lights (D) none of the above are correct.
- Full name of NADP is
(A) Nicotinamide dinucleotide phosphate (B) Nicotine adenine dinucleotide phosphate
(C) Nicotinamide adenine dinucleotide phosphate (D) None of the above
- Wavelength of visible light is
(A) 200 - 400 nm (B) 400 - 700 nm (C) 700 - 900 nm (D) 100 - 200 nm
- The presence of sugar in onion leaves can be tested with
(A) iodine (B) copper sulphate solution
(C) lime water (D) benedict's solution
- Chemical reaction takes place during dark reaction of photosynthesis is
(A) photolysis (B) hydrolysis
(C) carbon dioxide is bonded with RUBP (D) nitrogen fixation
- Dark reaction and light reaction of photosynthesis takes place in
(A) stroma and grana of chloroplast respectively (B) grana and stroma of chloroplast respectively
(C) grana only (D) stroma only
- CO_2 acceptor during dark reaction of photosynthesis is
(A) RUBP (B) PEP (C) NADPH (D) ATP

SUBJECTIVE QUESTIONS

VERY SHORT ANSWER TYPE QUESTIONS

1. Define photosynthesis ?
2. Name the different modes of nutrition and classify them with one example of each ?
3. Name the site of light and dark reaction of photosynthesis ?

LONG ANSWER TYPE QUESTIONS

4. Explain how water and temperature influence the rate of photosynthesis ?
5. Describe the structure and role of chloroplast along with a well labelled diagram ?
6. Describe the mechanism of photosynthesis ?
7. Explain the process of 'Photosynthesis' in plants. List four factor which influence this process and describe how each of them affects the rate of the photosynthesis. **[Delhi, 2005]**
8. Explain the following aspects of photosynthesis in plants :
 - (i) The role of chlorophyll
 - (ii) Dark reaction
 - (iii) Calvin - Benson Cycle.

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DAILY PRACTICE PROBLEMS # 2

OBJECTIVE QUESTIONS

1. Compensation point refers to the intensity of light at which
(A) Rate of respiration = rate of photosynthesis (B) Rate of respiration > rate of photosynthesis
(C) Rate of respiration < Rate of photosynthesis (D) None of the above is correct
2. Among the following which is a parasitic plant ?
(A) Plasmodium (B) Cuscuta (C) Amoeba (D) Rhizobium
3. The nutrition in mucus is
(A) parasitic (B) autotrophic (C) saprophytic (D) holozoic
4. In amoeba the digestion is intracellular because
(A) amoeba is unicellular (B) amoeba is multicellular
(C) amoeba is found in pond (D) amoeba is microscopic animal
5. Digestion of food in human starts from
(A) duodenum (B) small intestine (C) mouth (D) large intestine
6. The digestion of food is completed in the
(A) ileum (B) duodenum (C) stomach (D) large intestine
7. The most important function of villi in the small intestine is
(A) to provide strength to the intestine
(B) to provide space for capillaries and lacteals
(C) to provide increased surface area for absorption of digested food
(D) to provide habitat for bacteria
8. Which of the following sections does not contain enzymes ?
(A) Bile (B) Pancreatic juice (C) Intestinal juice (D) Saliva
9. Chewing is an example of
(A) chemical digestion (B) mechanical digestion (C) involuntary action (D) hydrolysis
10. The final product of digestion of carbohydrates and proteins are
(A) glycerol and amino acid respectively (B) glucose and amino acids respectively
(C) amino acids and glycerol respectively (D) amino acids and glucose respectively

SUBJECTIVE QUESTIONS

VERY SHORT ANSWER TYPE QUESTIONS

1. Name the different steps involved in digestive process.
2. Name the excretory organ of grasshopper.
3. Give the importance of bile during digestion process, also write from where it is secreted, what is its site of action ?

LONG ANSWER TYPE QUESTIONS

4. Draw a well labelled diagram of human alimentary canal. Mention the functions of liver in digestion.
5. Describe the digestive system of grasshopper with the help of a well labelled diagram ?
6. Explain how does the major nutrients in chapatti eaten by you in your food get digested and finally absorbed by the alimentary canal ?

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DAILY PRACTICE PROBLEMS # 3

OBJECTIVE QUESTIONS

- In amoeba the digestion of food is
(A) extracellular (B) intracellular (C) intercellular (D) none of the above
- Through mastication of food is essential because
(A) mastication of food makes the teeth stronger
(B) it makes the process of swallowing the food easier
(C) by this process bigger pieces of food are broken down into smaller pieces.
(D) bigger pieces of food are broken down into smaller pieces and saliva is properly mixed with it
- The wave of contractions that pushes the food through the alimentary canal is called
(A) peritoneum (B) peristalsis (C) cyclosis (D) polarisation
- In amoeba absorption of the digested nutrients occurs in
(A) contractile vacuole (B) plasma membrane (C) cytoplasm (D) pseudopodia
- Coiled and well developed alimentary canal first developed in
(A) Protozoans (B) Mammals (C) Arthropods (D) Poriferans
- Digestion of starch starts from
(A) stomach (B) intestine (C) esophagus (D) mouth
- The path taken by food material after ingestion is represented by
(A) Mouth → Pharynx → Oesophagus → Stomach
(B) Mouth → Pharynx → Oesophagus → Small Intestine
(C) Mouth → Oesophagus → Stomach → Pharynx
(D) Oesophagus → Mouth → Pharynx → Stomach
- Teeth involved in cutting of food material are called
(A) canines (B) incisors (B) molars (D) premolars
- Ptyalin enzyme is secreted by
(A) salivary glands (B) mouth (C) esophagus (D) stomach
- Villi are present on
(A) stomach (B) large intestine (C) small intestine (D) mouth

SUBJECTIVE QUESTIONS

VERY SHORT ANSWER TYPE QUESTION

1. What is the product formed during C_3 cycle of dark reaction of photosynthesis ?
2. Where does the absorption of food takes place ?
3. Name five different types of glands involved in human digestive system

LONG ANSWER TYPE QUESTIONS

4. Explain various digestive glands present in man along with their secretions & functions.
5. Explain dark reaction of Photosynthesis.
6. What is photophosphorylation ? Explain cyclic and monocyclic photophosphorylation in brief.
7. What are the various factors that affect photosynthesis explain each of them in brief ?
8. (i) Explain why the rate of photosynthesis in plants is low both at lower and higher temperatures ?
(ii) Is green light most or least useful in photosynthesis and why ?
(iii) Describe an activity to show that chlorophyll is necessary for photosynthesis in plants.
[CBSE, 2005]
9. What is the function of gizzard in grasshopper. Draw a labelled diagram showing the digestive system of grasshopper ?
[CBSE, 2005]
10. What is the importance of the following process occurring during photosynthesis in plants ?
(i) Emission of electrons from chlorophyll (ii) Photolysis of water [CBSE 2004]
11. What is meant by utilization of food ? Name the digestive gland of grasshopper.

ANSWERS

DAILY PRACTICE PROBELSM # 1

Qus.	1	2	3	4	5	6	7	8	9	10
Ans.	D	D	B	B	C	B	D	C	A	A

DAILY PRACTICE PROBLEMS # 2

Qus.	1	2	3	4	5	6	7	8	9	10
Ans.	A	B	C	A	C	A	C	A	B	B

DAILY PRACTICE PROBLEMS # 3

Qus.	1	2	3	4	5	6	7	8	9	10
Ans.	B	D	B	A	C	D	A	B	A	C

TRANSPORTATION

DAILY PRACTICE PROBLEMS # 4

OBJECTIVE QUESTIONS

- Osmosis is the movement of :
 - solute particles from higher concentration to lower concentration
 - solvent particles from higher water potential to lower water potential through a semi permeable membrane
 - solute particles from higher concentration to lower concentration through a semipermeable membrane
 - solvent particles from lower water potential to higher water potential.
- The ultimate cause for the movement of water against the gravity in a tree is
 - osmosis
 - transpiration
 - imbibitions
 - photosynthesis
- Which one of the following is connected with transport of water in plants ?
 - Phloem
 - Xylem
 - Epidermis
 - Cambium
- Which of the following contributes most to transport of water from the ground to the leaves of a tall tree ?
 - Breakdown of ATP
 - Capillary rise of water is xylem
 - Cohesion of water and transpiration pull
 - Root pressure.
- The process of transpiration in plants helps in
 - opening of stomata
 - absorption of CO₂ from atmosphere
 - upward conduction of water and minerals
 - absorption of O₂ from atmosphere
- Opening and closing of stomata is due to
 - pressure of gases inside the leaves
 - changes of turgor pressure in guard cells
 - effect of hormones
 - their genetic constitution
- The carbohydrates synthesized in the leaves are transported through sieve tubes most commonly in the form of
 - glucose
 - starch
 - sucrose
 - cellulose
- In a closed circulatory system, blood is completely enclosed with in
 - sinuses
 - vessels
 - heart
 - skeleton
- An artery is a vessel that carries blood
 - with high concentration of oxygen
 - with high concentration of CO₂
 - away from the heart
 - both A & C
- Values are found in veins to check the backflow of blood flowing under
 - low pressure
 - high pressure
 - no pressure
 - atmospheric pressure.

SUBJECTIVE QUESTIONS

FILL IN THE BLANKS :

- (i) is the flow of water molecules from the region of higher water potential to the region of lower water potential through a semipermeable membrane.
- (ii) The osmotic entry of water into a cell is called
- (iii) Other name for blood platelets is
- (iv) The process of production of erythrocytes is known as
- (v) Heart is protected by a covering known as

VERY SHORT ANSWER TYPE QUESTIONS

- 1. Explain the importance of transportation.
- 2. Distinguish between diffusion and osmosis.
- 3. How does blood clot ?

LONG ANSWER TYPE QUESTIONS

- 4. Explain the composition of blood. Also give functions of all its components.
- 5. Explain various components of xylem and phloem.
- 6. Comment upon :
 - (i) Translocation in plants
 - (ii) Xylem
 - (iii) Phloem
 - (iv) Excretion in plants
- 7. What is clotting of blood? Write a flow chart showing major events taking place in clotting of blood.
[CBSE, Delhi 2005]
- 8. Name the constituents of blood. Why are white blood corpuscles called 'soldiers of the body'?
[CBSE, Delhi 2005]
- 9. Draw a diagram of human heart and label the following on it
[CBSE, Delhi 2005]
 - (i) Aorta
 - (ii) Pulmonary trunk
 - (iii) Superior vena cava
 - (iv) Coronary arteries
- 10. (a) List any four blood groups found in human beings. [CBSE, 2005]
(b) People of which blood group can
 - (i) donate blood to all groups?
 - (ii) receive blood from all groups?
- 11. List two vital functions of the human kidney. Draw a labelled diagram of an artificial kidney
[CBSE, 2005]

TRANSPORTATION

DAILY PRACTICE PROBLEMS # 5

OBJECTIVE QUESTIONS

- The phenomena non of uptake of water at the expense of energy by the cells and usually against the osmotic gradient is known as
(A) active absorption (B) passive absorption (C) osmosis (D) diffusion
- Water will be absorbed by root hair when
(A) concentration of solutes in the cells sap in high
(B) plant in rapidly respiring
(C) they are separated from soil by a permeable membrane
(D) concentration of salts in the soil in high.
- Root cap has no role in water absorption because
(A) it has no direct connection with the vascular system
(B) it has no cells containing chloroplasts
(C) it has no root hairs
(D) it has loosely arranged cells.
- Which of the following is used in measuring transpiration ?
(A) Photometer (B) Cobalt chloride paper (C) Bell - jar (D) None of the above
- Translocation of solutes primarily takes place through
(A) phloem (B) xylem (C) cortex (D) pith.
- A mature human erythrocyte has the typical characteristic of
(A) a eukaryotic cell (B) a prokaryotic cell
(C) both eukaryotic and prokaryotic cell (D) neither eukaryotic nor prokaryotic cell
- Removal of calcium from freshly collected blood will
(A) result in clotting (B) prevent clotting
(C) prevent oxidation of hemoglobin (D) cause hemolysis
- In the cardiac cycle, diastole is
(A) the number of heart beats per minute
(B) the relaxation period after contraction of the heart
(C) the forceful pumping action of the heart
(D) the contraction period after relaxation of the heart.
- One of the difference between blood and lymph is that
(A) blood has RBCs and WBCs while lymph has Lymphocytes.
(B) blood has RBCs while lymph has no WBCs
(C) blood has WBCs while lymph has RBCs
(D) blood has dissolved organic salts while lymph has no such inorganic salt.
- Blood vessel carrying blood from lung to heart through
(A) Pulmonary artery (B) Pulmonary vein (C) Coronary artery (D) None of these.

SUBJECTIVE QUESTIONS

FILL IN THE BLANKS

1. The series of events which occur during one complete beat of the heart is known as cycle.
2. Depression in the interauricular septum is known as
3. Normal blood pressure is

VERT SGIRT ANSWER TYPE QUESTIONS

1. Write short note on leucocytes.
2. Distinguish between open and closed circulatory system.
3. What is double circulation ?
4. Distinguish between arteries and veins.
5. Why AB+ blood group is considered as universal recipient ?

LONG ANSWER TYPE QUESTIONS

6. Explain the structure of human heart with the help of diagram.
7. Define cardiac cycle. Explain the changes occurring in heart during cardiac cycle..
8. What is lymph ? Explain its important functions. Write about its circulation.
9. Draw a diagram showing how blood in the capillaries, surrounding tissues exchange respiratory gases with cells of the tissues. Label the following on this diagram :
(i) Red Blood Corpuscle (ii) Tissue Cell [CBSE, 2005]
10. Why is it essential to match the blood groups of the 'donor' and the 'receiver' persons before arranging transfusion of blood ? A person tests as 'universal donor'. which group of blood will be acceptable to him for receiving blood transfusion ?

EXCRETION

DAILY PRACTICE PROBLEMS # 6

OBJECTIVE QUESTIONS

- Which of the following parts of a kidney contains the lowest concentration of urea ?
(A) Loop of Henle (B) Branches of renal vein
(C) Bowman's capsule (D) Glomerulus
- Urineriferous tubules of a kidney are concerned with formation of
(A) glucose (B) amino acids (C) hormones (D) urine
- Excretion is removal of
(A) CO₂ (B) harmful and useless ingredients
(C) extra water (D) metabolic wastes
- Main function of kidney is
(A) passive absorption (B) ultrafiltration
(C) selective reabsorption (D) Both B and C
- Ammonia is converted into urea in
(A) kidney (B) spleen (C) liver (D) nephron
- Function of loop of Henle is
(A) conservation of water (B) formation of urine
(C) filtration of blood (D) passage of urine
- Urea is transported through
(A) RBCs (B) WBCs (C) Plasma (D) All of the above
- Major function of contractile vacuole is
(A) excretion (B) circulation (C) osmoregulation (D) all the above
- Which one is an accessory excretory organ
(A) Liver (B) Stomach (C) Intestine (D) Heart

SUBJECTIVE QUESTIONS

VERY SHORT ANSWER TYPE QUESTIONS

- Name of excretory organs of amoeba.
- How wastes diffuse out from body of Sponge and Hydra ?
- Flame cells are excretory organs of which group of animals.
- Name the major excretory product of human beings.

SHORT ANSWR TYPE QUESTIONS

5. What is meant by excretion and osmoregulation ?
6. How excretion takes place in amoeba ?
7. Draw a diagram of nephron and label its various parts.
8. What is meant by osmoregulation ? How it is achieved in different groups of animals ?

LONG ANSWER TYPE QUESTIONS

9. Name the excretory organs of earthworm.
10. Draw diagram of human excretory system, label its parts.
11. Draw a labelled diagram of nephron and explain how urine is formed.

ANSWERS

DAILY PRACTICE PROBLEMS # 4

Qus.	1	2	3	4	5	6	7	8	9	10
Ans.	B	B	B	C	C	B	C	B	D	B

DAILY PRACTICE PROBLEMS # 5

Qus.	1	2	3	4	5	6	7	8	9	10
Ans.	A	A	C	A	A	D	B	B	A	B

DAILY PRACTICE PROBLEMS # 6

Qus.	1	2	3	4	5	6	7	8	9
Ans.	B	D	D	D	C	A	C	C	A

RESPIRATION

DAILY PRACTICE PROBLEMS # 7

OBJECTIVE QUESTIONS

- The process of respiration is concerned with
 (A) liberation of oxygen (B) liberation of carbon dioxide
 (C) liberation of energy (D) intake of oxygen
- The common immediate source of energy for cellular activity is
 (A) NAD (B) ATP (C) DNA (D) RNA
- The tissue respiration refers to
 (A) inspiration (B) external respiration (C) internal respiration (D) expiration
- If the CO₂ concentration in the blood increases, the rate of breathing will
 (A) decrease (B) stop (C) increase (D) have no effect
- Vocal cords occur in
 (A) pharynx (B) glottis (C) bronchial tube (D) larynx
- In man, which of the following structures is analogous to the spiracles of cockroach ?
 (A) Alveoli (B) Lungs (C) Bronchioles (D) Nostrils
- Which of the following prevents collapsing of trachea ?
 (A) Diaphragm (B) Ribs (C) Cartilaginous ring (D) Muscles
- Which of the following gases makes the most stable combination with the hemoglobin of red blood cells.
 (A) CO₂ (B) CO (C) O₂ (D) N₂
- Volume of air inspired or expired with each normal breath is called
 (A) tidal volume (B) inspiratory capacity
 (C) total lung capacity (D) residual volume
- Most of the carbon dioxide in the blood is carried in the form of
 (A) carbonic acid (B) bicarbonates
 (C) carbaminohaemoglobin (D) dissolved CO₂

SUBJECTIVE QUESTIONS

SHORT ANSWER TYPE QUESTIONS

- Define respiration. Name the different types of respiration.
- Write three common features of respiratory organs.
- What are the characteristics of respiratory structure present in animals ?
- What is the function of epiglottis in man and where it is situated ?
- How does exchange of gases takes place in the following :
 (i) Roots (ii) Stem (iii) Leaves
- Draw a labelled diagram of human respiratory system.

LONG ANSWER TYPE QUESTIONS

1. What do you mean by inhalation and exhalation ? Explain the mechanism of both in brief ?
2. List out the differences between breathing and respiration.
3. Describe the mechanism of breathing in human beings.
4. Explain the process of respiration in different parts of plant. What are the various structures involved in respiration in plants ?
5. Draw the respiratory system of human beings. What happens to the rate of breathing during vigorous exercise and why ?
6. List three differences between respiration in plants and respiration in animals. Describe with a well labelled diagram how gaseous exchange occurs through root hair in plants [C.B.S.E., Delhi - 2005]
7. How is respiration differs from breathing ? Explain the process of aerobic respiration and anaerobic respiration. [C.B.S.E - 2005]
8. Draw a diagram showing human respiratory system. Label its following parts :
(i) Larynx (ii) Trachea (iii) Primary bronchus (iv) Lungs
9. Name the respiratory organs in the following :
(i) A fish (ii) A bird (iii) An earthworm
10. Draw a diagram showing how blood in the capillaries surrounding tissues exchange respiratory gases with cells of the tissues.

RESPIRATION

DAILY PRACTICE PROBLEMS # 8

OBJECTIVE QUESTIONS

- Breathing rate in mammals is controlled by a part of the brain called the
(A) thalamus (B) hypothalamus (C) medulla oblongata (D) cerebellum
- In anaerobic respiration
(A) O₂ is taken in (B) CO₂ is taken in (C) O₂ is given out (D) CO₂ is given out
- Disease called pleurisy is due to
(A) inflammation of pleura (B) inflammation of trachea
(C) inflammation of alveoli (D) none of these above
- Leaves respire with the help of
(A) lenticles (B) stomata (C) plasmodesmata (D) cuticle
- Correct statement is
(A) roots of plant respire through lenticles and stomata.
(B) stem of plant respire through lenticles
(C) both A and B are correct
(D) both A and B are incorrect
- Which of the following is not a characteristic of good respiratory surface ?
(A) Thin and moist (B) Large surface area
(C) Close to oxygen and gas transport (D) Thick and dry surface
- Respiration in yeast
(A) takes place in the presence of oxygen (B) yields lactic acid and carbon dioxide
(C) in anaerobic and produces carbon dioxide (D) takes place only in darkness
- Muscle cells engaged in vigorous activity build up a high concentration of
(A) lactic acid (B) pyruvic acid (C) alcohol (D) cholesterol
- Exchange of respiratory gases takes place in an earthworm through
(A) moist skin (B) gills (C) trachea (D) lungs
- Oxygen is transported in blood mainly by
(A) leucocytes (B) erythrocytes (C) thrombocytes (D) blood plasma

SUBJECTIVE QUESTIONS

SHORT ANSWER TYPE QUESTIONS

- Write any two points of difference between respiration in plants and respiration in animals.
- What do you mean by fermentation ?
- Describe the mode of respiration in an insect with a diagram.
- What are the functions of respiratory system ?
- Why do walls of trachea not collapse when there is less air in it ?

LONG ANSWER TYPE QUESTIONS

6. Write the differences between photosynthesis and respiration.
7. Explain the following in brief :
(a) Emphysema (b) Asthma (c) Pneumonia (d) Bronchitis
8. Describe the structure of lungs.
9. Explain in brief all the organs involved in respiratory system.
10. Explain in brief the cellular respiration.
11. Explain the process by which inhalation occurs during breathing in human beings.
12. A farmer floods his field every day thinking that watering in this manner will result in a better yield of his wheat crop. What will be the result of this action of the farmer ? [C.B.S.E, All India 2004]
13. What is the function of epiglottis in man ? Draw labelled diagram showing the human respiratory system. [All India C.B.S.E. -2004]
14. Distinguish between aerobic and anaerobic respiration in terms of end products and energy ? [C.B.S.E. - 2004]

ANSWERS

DAILY PRACTICE PROBLEMS # 7

Qus.	1	2	3	4	5	6	7	8	9	10
Ans.	C	B	C	C	D	D	C	B	A	B

DAILY PRACTICE PROBLEMS # 8

Qus.	1	2	3	4	5	6	7	8	9	10
Ans.	C	D	A	B	B	D	C	A	A	B

CONTROL & CO-ORDINATION

DAILY PRACTICE PROBLEMS # 9

OBJECTIVE QUESTIONS

1. Phytohormones are
 - (A) hormones regulating growth from seed to adulthood
 - (B) hormones regulating secondary growth
 - (C) growth regulators synthesized by plants and influencing physiological processes
 - (D) hormones regulating flowering.
2. The natural plant hormones were first isolated from
 - (A) cotton fruits, spinach leaves, rice plant
 - (B) avena coleoptiles, fungus gibberella
 - (C) corn germ oil, human urine
 - (D) human urine, rice plant.
3. If the tip of a seedling is cut off, growth as well as bending ceases because it hampers
 - (A) perception of light stimulus
 - (B) transpiration
 - (C) respiration
 - (D) photosynthesis.
4. A plant bends towards the source of light when exposed to the light on only one side. Which of the following is the best explanation of the phenomena ?
 - (A) It needs light for photosynthesis
 - (B) The apices of their stems are attracted by light
 - (C) Some auxin accumulates on the shaded side to induce greater cell elongation on that side
 - (D) Light stimulates the cells on the illuminated side to increase in length

5. The movement of plant organs in response to the force of gravity is called
 (A) hydrotropism (B) geotropism (C) heliotropism (D) phototropism

6. A high concentration of synthetic auxins is generally used for
 (A) wee control (B) enhancing root initiation
 (C) controlling of cell enlargement (D) preventing the growth of the lateral buds.

7. Gibberellic acid has been successfully employed to induce flowering
 (A) in long day plants under short day conditions (B) in short day plants under long day conditions
 (C) for some plants (D) none of the above

8. Cytokinins are known to
 (A) inhibit cytoplamic movement (C) help in retention of chlorophyll
 (C) influence water movement (D) promote abscission layer formation

9. Ethylene is a
 (A) solid hormone (B) gaseous enzyme (C) gaseous hormone (D) liquid gas mixture

10. Pineapple an be made to flower if off season by
 (A) zeatin (B) ethylene (C) temperature (D) short days

SUBJECTIVE QUESTIONS

VERY SHORT ANSWER TYPE QUESTIONS

1. What do you mean by receptors and effectors ? Name the different types of receptors.

2. Define hormones. What do you mean by phytohomonnes ?

3. What do you mean by tropic and nastic movements ? Give one example of each.

4. What are the functions of nervous system ?

5. What do you mean by photoperiodism ?

CONTROL & CO-ORDINATION

DAILY PRACTICE PROBLEMS # 10

OBJECTIVE QUESTIONS

- The effect of daily light period on flowering is called
(A) photooxidation (B) phototropism (C) photoperiodism (D) photorespiration
- Brain stem is formed by the union of
(A) optic lobes (B) cerebellum with optic lobes
(C) corpora striata (D) mid brain, ponsvarolli and medulla oblongata
- Number of spinal nerves in man are
(A) 11 pairs (B) 13 pairs (C) 6 pairs (D) 31 pairs
- Third ventricle occurs in
(A) cerebrum (B) cerebellum (C) medulla oblongata (D) diencephalon
- The pineal body is considered as
(A) an endocrine gland (B) an organ concerned with voluntary actions
(C) an organ concerned with vision (D) a vestige of third eye and endocrine gland

6. Part of brain involved in interpretation, storage of information and initiation of response on the basis of past experience is
(A) motor area (B) cerebellum (C) sensory area (D) association area
7. Autonomic nervous system controls
(A) reflex action (B) sense organs (C) internal organs (D) skeletal muscle
8. The study of nervous system and its disorders is called
(A) neurogenesis (B) hematology (C) neuroglia (D) neurology
9. In reflex action the reflex arc is formed by
(A) brain → spinal cord → muscles (B) receptor → spinal cord → muscles
(C) muscle → receptor → brain (D) muscles → spinal cord → receptor
10. The sensation of sight in human brain is perceived by
(A) optic lobe (B) occipital lobe (C) frontal lobe (D) parietal lobe

SUBJECTIVE QUESTIONS

VERY SHORT ANSWER TYPE QUESTIONS

1. Systematically represent the path of a reflex action. From where it is controlled ?
2. What are the functions of the following endocrine glands?
(i) Pancreas (ii) Thyroid (iii) Adrenal (iv) Ovaries (v) Testes
3. Name the parts of endocrine system called as super master and master, also write their functions.
4. Write a short note on electroencephalography (EEG).
5. Write a short note on forebrain ?
6. Distinguish between cerebrum & cerebellum.
7. What are the functions of hindbrain ?

LONG ANSWER TYPE QUESTIONS

8. Write a short note a nerves. Also write about the different types of nerves found in human body.
9. What is hypothalamus ? Where it is situated? What are its main functions and secretions ?
10. Describe the structure of neuron with the help of a well lablled diagram.
11. Write down the source, site of action and functions of the following.
(i) Auxins (ii) Progesterone (iii) Thyroxin (iv) Ethylene (v) Insulin
12. Write a short note on secretory nature of.
(i) Pancreas (ii) Liver (iii) Testes (iv) Ovaries (v) Adrenals
13. Define 'nerve impulse'. Which structure in neuron helps to conduct a nerve impulse ?
(i) Towards the cell body (ii) Away from the cell body [CBSE, 2004]
14. Which hormone is responsible for the development of moustache and beard in men. [CBSE, 2004]
15. What is the difference between sensory and motor neurons. Which parts of human brain are responsible for auditory reception and sensation of smell ?
16. Which type of glands in human body secrete hormone ? State any one location for them. [CBSE, 2004]

ANSWERS

DAILY PRACTIVE PROBLESM # 9

Qus.	1	2	3	4	5	6	7	8	9	10
Ans.	C	B	A	C	B	A	A	B	C	B

DAILY PRACTIVE PROBLESM # 10

Qus.	1	2	3	4	5	6	7	8	9	10
Ans.	C	D	D	D	D	D	C	D	B	B

REPRODUCTION

DAILY PRACTICE PROBLEMS # 11

OBJECTIVE QUESTIONS

- Cleistogamous condition is present in
(A) Brassica oleracea (B) Solanum tuberosum (C) Arachis hypogea (D) Allium cepa
- Which of the following regenerated with the help of layering?
(A) Cactus (B) Rose (C) Mango (D) Jasmine
- Development of egg without fertilization is
(A) parthenocarpy (B) polyembryo
(C) parthenogenesis (D) adventive embryony
- Anemophily is pollination by
(A) air (B) water (C) insects (D) animal
- Pollination between different flowers of same plant is called
(A) autogamy (B) geitonogamy (C) allogamy (D) xenogamy
- Double fertilization is
(A) fusion of two male gametes with egg
(B) fusion of one male gamete with egg and the other male gamete with the polar bodies
(C) both are correct
(D) both are incorrect
- The structure meant for the nourishment of developing embryo in case of plant is
(A) pollen tube (B) endosperm
(C) both A & B are correct (D) none of these
- The embryo sac of a typical dicot at the time of fertilization is -
(A) 8 celled (B) 7 celled (C) 6 celled (D) 5 celled
- The genetic information is stored in -
(A) DNA (B) RNA (C) Ribosome (D) ER
- Each female flower consist of
(A) ovary (B) stigma
(C) ovary, style and stigma (D) thalamus

SUBJECTIVE QUESTIONS

VERY SHORT ANSWER TYPE QUESTIONS

1. What is reproduction ?
2. What is the basic requirement of sexual reproduction ?
3. What is the difference between binary and multiple fission ?
4. What is a spore ?

LONG ANSWER TYPE QUESTIONS

6. What is budding ? mention it's types.
7. What are accessory sex organs ?
8. What is gonad and what are it's functions ?
9. Define implantation.
10. Differentiate between vas deferens and vasa efferentia.

REPRODUCTION

DAILY PRACTICE PROBLEMS # 12

OBJECTIVE QUESTIONS

- In mammals, the testes lies in scrotal sacs due to
(A) presence of urinary bladder (B) presence of rectum
(C) long vas-deference (D) requirement of low temperate for spermatogenesis
- Graffian follicles are found in
(A) testis of mammas (B) ovary of frog (C) ovary of cockroach (D) ovary of mammals
- Site of fertilization in mammals is
(A) ovary (B) uterus (C) vagina (D) fallopian tube
- The process of reproduction which involves only a single parent to form an individual
(A) sexual reproduction (B) asexual reproduction
(C) none of these (D) Both A & B are correct
- Cowper's glands are found in
(A) male mammals (B) female mammals (C) male amphibians (D) female amphibians
- Loss of reproductive capacity in women after age of 45 years is
(A) menstruation (B) ageing (C) menopause (D) menarche
- Release of oocytes from ovary is
(A) gestation (B) ovulation (C) parturition (D) implantation
- Acrosome is made up of
(A) mitochondria (B) centrioles (C) golgi bodies (D) ribosomes
- Acrosome aids the sperm to
(A) penetrate vitelline membrane of ovum (B) find ovum
(C) swim (D) higher activity
- Progesterone is secreted by
(A) corpus luteum (B) thyroid (C) thymus (D) testis

SUBJECTIVE QUESTIONS

SHORT ANSWER TYPE QUESTIONS

1. Why regeneration is considered to be a method of reproduction ?
2. When an organism is called as bisexual, what does it indicate ?
3. Define fertilization.
4. What happens to the ovule and the ovary after fertilization?
5. Define the term puberty.

LONG ANSWER TYPE QUESTIONS

6. What is name the sexual cycle in human females called ? Explain the sexual cycle in human female.
7. What do you understand by gestation period and what is it's time duration ?
8. In case of self-pollination there are two possibilities. State them.
9. What is the function of fallopian tube ?
10. What is semen ?

ANSWER

DAILY PRACTICE PROBLEMS # 11

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	C	D	C	A	B	B	B	B	A	C

DAILY PRACTICE PROBLEMS # 12

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	D	D	D	B	A	C	B	C	A	A

HEREDITY & INHERITANCE

DAILY PRACTICE PROBLEMS # 13

OBJECTIVE QUESTIONS

- When a red flower homozygous pea plant is crossed with a white flower plant what colour is produced in F_1 ?
(A) Red (B) White (C) Pink (D) Red and white
- Mendel formulated the law of purity of gametes on the basis of
(A) dihybrid cross (B) monohybrid cross (C) back cross (D) test cross
- A cross between $AaBB \times aaBB$ yields a genotypic ratio of
(A) $1 AaBB : 1 aaBB$ (B) $1 AaBB : 3 aaBB$ (C) $3AaBB : 1 aaBB$ (D) All $AaBb$
- In monohybrid cross what is the ratio of homozygous dominant and homozygous recessive individual in F_2 - generation ?
(A) $1 : 2 : 1$ (B) $2 : 1 / 1 : 2$ (C) $3 : 1 / 1 : 3$ (D) $1 : 1$
- Back cross is a cross between
(A) $F_1 \times F_1$ (B) $F_1 \times$ Recessive (C) $F_1 \times$ Dominant (D) $F_1 \times$ any parent
- A white flowered mirabilis plant rr was crossed with a red coloured RR , if 120 plants are produced in F_2 generation. The result would be
(A) 90 uniformly coloured and 30 white (B) 90 Non - uniformly coloured and 30 white
(C) 60 Non-uniformly coloured and 60 white (D) All coloured and No white
- Which one carries extra nuclear genetic material ?
(A) Plastids (B) Ribosomes (C) Chromosomes (D) Golgi - complex
- The ratio of phenotype in F_2 generation of a dihybrid cross is
(A) $3 : 1$ (B) $1 : 2 : 1$ (C) $2 : 1$ (D) $9 : 3 : 3 : 1$
- Branch of biology deals with heredity and variation is called
(A) Palaeontology (B) Evolution (C) Genetics (D) Ecology
- The factors which represent the contrasting pairs of characters are called
(A) Dominant (B) Recessive (C) Determinants (D) Alleles

SUBJECTIVE QUESTIONS

SHORT ANSWER TYPE QUESTIONS

- What are autosomes ?
- Name the four nitrogen bases of a nucleotide.
- Define the term genetics.

LONG ANSWER TYPE QUESTIONS

- What does the science of genetics deal with ?
- Differentiate between submetacentric and metacentric chromosomes with diagram.
- Explain the structure of a gene.
- What is genetic engineering ?
- Why did Mendel choose pea (*Pisum sativum*) for his experiment ?

HEREDITY & INHERITANCE

DAILY PRACTICE PROBLEMS # 14

OBJECTIVE QUESTIONS

- The main aim of plant breeding is
(A) to produce improved varieties (B) to make soil fertile
(C) to control pollution (D) to become more progressive
- Plants having similar genotypes produced by plant breeding are called
(A) clone (B) haploid (C) autopolyploid (D) genome
- Two allelic genes are located on
(A) the same chromosome (B) two homologous chromosomes
(C) two non-homologous chromosomes (D) any two chromosomes
- Mendel's law of segregation is based on separation of alleles during
(A) gamete formation (B) seed formation (C) pollination (D) embryonic development
- What is the effect of sexual reproduction ?
(A) Offspring is weak (B) Offspring is like the parent
(C) Offspring is more vigorous (D) Offspring is diseased

6. Disease resistant varieties can be produced by
(A) crossing a plant with wild variety (B) treating with colchicine
(C) crossing with hormones (D) treating with low temperature
7. Heterozygous tall plants were crossed with dwarf plants, what will be the ratio of dwarf plants in the progeny
(A) 50% (B) 25% (C) 75% (D) 100%
8. A pure tall plant can be differentiated from a hybrid tall plant
(A) by measuring length of plant
(B) by spraying gibberellins
(C) if all plants are tall after self-pollination
(D) if all plants are dwarf after self-pollination
9. Allel is the
(A) alternate trait of a gene pair (B) total number of genes for a trait
(C) total number of chromosomes of haploid set (D) total number of genes present a chromosome
10. In animals sex determination is due to
(A) X-chromosome (B) Y - chromosome (C) A - chromosome (D) B - chromosome

SUBJECTIVE QUESTIONS

SHORT ANSWER TYPE QUESTIONS

1. What is karyotype ?
2. What is meant by chromosomes ?
3. Who is known as the father of genetics ?
4. What determines the functional property of a gene ?
5. What was transgenic organisms ?

LONG ANSWER TYPE QUESTIONS

6. What does the law of segregation states ?
7. What do you understand by the term nucleoside and nucleotide ?
8. How it was established that genes are located on chromosomes ?
9. Explain the importance of variations.
10. Explain the law of dominance.

ANSWERS

DAILY PRACTICE PROBLEMS # 13

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	A	B	A	D	D	B	A	D	C	D

DAILY PRACTICE PROBLEMS # 14

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	A	A	B	A	C	A	A	C	A	B

OUR ENVIRONMENT

DAILY PRACTICE PROBLEMS # 15

OBJECTIVE QUESTIONS

- Ecosystem term was coined by
(A) Odum (B) Mishra (C) Reiter (D) Tansley
- Pyramids of biomass are
(A) upright or inverted (B) always inverted (C) mostly upright (D) mostly inverted
- Vultures in an ecosystem are
(A) predators (B) scavengers (C) consumers (D) top carnivores
- In which of the following trophic levels in any ecosystem the maximum energy is stored ?
(A) Producers (B) Herbivores (C) Carnivores (D) Top carnivores
- In an ecosystem the
(A) primary producers are more than that of primary consumers
(B) secondary consumers are largest, because they are powerful
(C) primary consumers are out of number
(D) primary consumers are least dependent upon primary producers
- In an ecosystem the function of the producers is to
(A) convert organic compounds into inorganic compounds
(B) trap solar energy and convert it into chemical energy
(C) utilize chemical energy
(D) release energy
- The importance of ecosystem lies in
(A) flow of energy (B) cycling of materials (C) both of the above (D) none of the above
- In order to maintain proper ecological balance
(A) the existing forests should be cleared and new ones should be planted
(B) some quick growing annuals should be planted if a tree must be cut for other uses
(C) tree must be cut whenever necessary because the underground part performs the useful purpose
(D) a tree should be planted in place of one to be cut
- A biosphere is composed of
(A) living organisms
(B) living organisms and lithosphere
(C) living organisms, lithosphere and atmosphere
(D) living organisms, lithosphere, atmosphere and hydrosphere
- Pyramid of energy in a forest ecosystem is
(A) always inverted (B) always upright
(C) both upright and inverted (D) first upright then inverted

SUBJECTIVE QUESTIONS

SHORT ANSWER TYPE QUESTIONS

1. How is ozone formed in the stratosphere ?
2. What is the function of ozone layer ?
3. Write a note on ozone depletion.
4. What is the significance of wildlife ?
5. What are fossil fuels ?

LONG ANSWER TYPE QUESTIONS

6. What is ecosystem ? Explain the food chain and food web.
7. Explain the different components of ecosystem.
8. What is meant by management and conservation of natural resources ?
9. What is significance of biodiversity ?
10. What is the name of the award given in honour of the movement started for protection of 'Khejri' trees ?
11. Why is the management of forest and wildlife resource considered as a challenging task ?

ANSWERS

DAILY PRACTICE PROBLEMS # 15

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	D	A	B	A	A	B	C	D	D	B

ORIGIN AND EVOLUTION OF LIFE

DAILY PRACTICE PROBLEMS # 16

OBJECTIVE QUESTIONS

- Which one of these is likely to have been absent in free form at the time of origin of life ?
(A) Oxygen (B) Hydrogen (C) Ammonia (D) Methane
- The famous book "**Origin of Species**" was written by Charles Darwin in
(A) 1809 (B) 1859 (C) 1885 (D) 1871
- Charles Darwin toured in a ship for five years it was
(A) Vikrant (B) Phillips (C) Alexander (D) Beagle
- The term evolution in Biology means that
(A) fossils are old (B) life began in Sea
(C) living things constantly change (D) none of the above
- The theory of Natural selection of Darwin to explain organic evolution was based on
(A) modification in organs through used and disuse
(B) probability of reproduction, struggle for existence and survival of the fittest
(C) Inheritance of acquired characters
(D) appearance of sudden large variations, then inheritance and survival of those having these variations
- Homologous structures have
(A) similar origin & dissimilar function (B) dissimilar origin but similar function
(C) structurally as well as functionally similar (D) normally non-functional
- Analogous organs are those which are
(A) structurally similar (B) functionally similar
(C) structurally as well as functionally similar (D) normally non-functional
- The idea of "Survival of fittest" was given by
(A) Darwin (B) Herbert Spencer (C) Lamarck (D) Devries
- Evolution is the best defined by
(A) inheritance of acquired characters (B) descent by modifications
(C) spontaneous generation (D) struggle for existence
- Which one is not a vestigial organ in man ?
(A) Vermiform appendix (B) Plica seminalis (C) Ear muscles (D) Epiglottis

11. Who wrote the "Origin of Species" ?
 (A) G.J. Mendel (B) Lamarck (C) De-Vries (D) Charles Darwin
12. When an organ is used it will develop and if it is not used, it weakens to become vestigial. Who could have said this theory ?
 (A) Darwin (B) De-Vries (C) Lamarck (D) Mendel
13. Fossils are
 (A) fovea in the retina of vertebrate eye (B) remains of organisms present in the rocks
 (C) the fossa present in the bones (D) foramina through which nerves pass
14. An experiment to prove that organic compounds were the basis of life, was performed by
 (A) Oparin (B) Miller (C) Melvin (D) Fox
15. Connecting link between Reptiles and Birds is
 (A) Dimetrodon (B) dodo (C) Archaeopteryx (D) Sphenodon
16. According to the Neo-Darwinian theory which of the following is responsible for the origin of new species?
 (A) Mutations (B) Useful variations
 (C) Mutations together with natural selection (D) Hybridization.
17. Fossils are dated now by
 (A) stratigraphic position (B) amount of calcium residue
 (C) association with other animals (D) radioactive carbon contents
18. Nucleoprotein gave most probably the first sign of
 (A) life (B) amino acid (C) soil (D) sugar
19. According to one of the most accepted theories the earth's atmosphere before any life has originated consisted of water vapour, hydrogen, NH_3 and
 (A) methane (B) nitrogen (C) oxygen (D) carbon dioxide
20. Origin of life is due to
 (A) spontaneous generation (B) God's will
 (C) effect of sun rays on mud (D) chemical evolution

SUBJECTIVE QUESTIONS

SHORT ANSWER TYPE QUESTIONS

1. What are the different ways in which individuals with a particular trait may increase in a population ?
2. Why are traits acquired during the life-time of an individual not inherited ?
3. Why are the small numbers of surviving tigers are cause of worry from the point of view of genetics ?

LONG ANSWER TYPE QUESTIONS

4. Explain how sexual reproduction gives rise to more viable variations than asexual reproduction ? How does this affect the evolution of those organisms that reproduce sexually ?
5. How is the equal genetic contribution of male and female parents ensured in the progeny ?
6. Only variations that confer an advantage to an individual organism will survive in a population. Do you agree with this statement ? Why or why not ?

ANSWERS

DAILY PRACTICE PROBLEMS # 16

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	A	B	D	C	B	A	B	A	B	D
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	D	C	B	B	C	C	D	A	A	D