**Directorate of Education**
Govt. of NCT of Delhi

# Practice Test Material
## 2015-2016

**Subject : Biology**
**Class : XI**

***Under the guidance of :***

**Addl. DE (School/Exam)**

**PRACTICE TEST-1**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**THE LIVING WORLD**

**Time : 50 minutes** **M.M. : 25**

1. "Growth and reproduction are mutually exclusive events in majority of higher animals and plants." Justify. 1

2 Give two examples of organisms which do not reproduce. 1

3. Mention the mode of reproduction in : (a) Planaria (b) Rhizopus 1

4. Write any two defining properties of living beings. 1

5. Write any one characteristic which is common to both living and non-living. 1

6. Arrange the following categories in ascending order of biological hierarchy. Genus, Division, Species, Order, Family, Class 1

7. Biology students of class 11 are interested in observing live animals, usually found in forests, but their school is unable to take them to any protected area. Can you suggest any place to them? Why are these animals kept there? 2

8. Mention the purpose of maintaining botanical gardens. Write any two examples of such gardens- one from India and one outside India. 2

9. 'Herbaria serve as quick referral system in taxonomical studies.' List any four points of information that a herbarium sheet may provide. 2

10. How is taxonomy different from systematics? 2

11. Discuss any two benefits of assigning a scientific name to each known organism 2

12. Fill in the blanks in the classification of following organisms:

| Common Name | Scientific Name | Family | Class | Phylum |
|---|---|---|---|---|
| Housefly | (a) _____ | Muscidae | (b) _____ | (c) _____ |
| _____ | Triticum aestivum | (d) _____ | Monocotyledonae | (e) _____ |

13. Name the scientist who gave the system of Bionomial, Nomenclature of organisms. List four universal rules of nomenclature. 3

14. Write the complete classification of lion- its species, genus, family, order, class and phylum. 3

**PRACTICE TEST-2**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**BIOLOGICAL CLASSIFICATION**

**Time : 50 minutes** **M.M. : 25**

1. Name the scientist who proposed the five kingdom system of biological classification. Also name the kingdom which consists of unicellular organisms that are prokaryotic.

2 What name is given to the protein coat of viruses? What is the term used to denote the subunits of this protein coat? 1

3. Write the scientific names of the following fungi : 1

   (a) a parasite on mustard

   (b) causative organism of rust of various plants

4. What is referred to as the phycobiant in a lichen? What is its role in this association? 1

5. What is the causative organism of potato spindle tuber disease? How does it differ from a virus? 1

6. Name any two organisms which were earlier considered algae, but are now placed in the kingdom piotista. 1

7. Name the following :

   a. The fusion of protoplasms between two motile or non-motile gametes during the sexual cycle of a fungus

   b. The smallest organisms that lack cell wall and can survive without oxygen 2

8. Name the major groups of protozoon. 2

9. Give an example of a dinoflagellate. What is the typical arrangement of flagella in this organism? 2

10. Write one economic importance of each of these: 2

    (a) Anabena (b) Methanogeus (c) Diatoms (d) Newospora

11. Answer the following questions with regard to ascomycetes: 2

    a) Name the asexual spores of this class

    b) Write the common name of this class

    c) What are the fruiting bodies of this class called?

    d) Name any one number belonging to this class.

12. Differentiate between basidiomycetes and ascomycets. 3

13. What type of nutrition do slime moulds show? How is their growth under suitable conditions different from that under unfavourable conditions? 3

14. Define the following and give one example of each from the kingdom Protista:

    (a) Saprophytes (b) Parasites (c) Symbionts 3

**PRACTICE TEST-3**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**PLANT KINGDOM**

**Time : 50 minutes** **M.M. : 25**

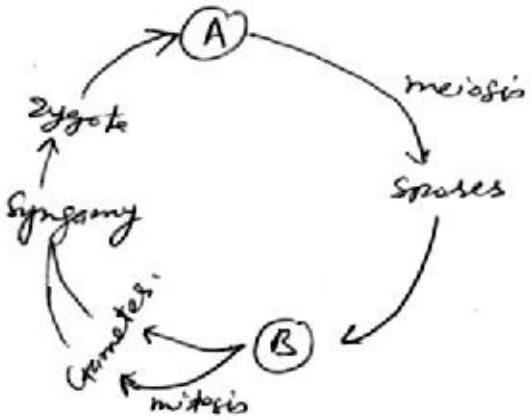
1. The algae reproduce asexuality by producing different types of spores. Name the must common type of spores in algae. 1

2 In angiospherms, ovule contains highly reduced female gametophyte termed as embryo-sac. Embryo-sac is a 7 selled 8 nucleate stage. What is the policy of each cell of an embryo sac and what kind of cell division does occur in embryo-sac. 1

3. "Unlike bryophytes and pteridophytes, in gymmosperms the male and female gametophyte do not have an independent free-living existence." Justify the given statement. 1

4. Name the group of plants which are called amphibians of the plant kingdom and why? 1

5. In life cycle of Bryophytes and Pteridophytes. Identify (A) and (B)




6. In Gymnosperms, microspores developed into a male gametophytic generation which is highly reduced and confined to only a limited number of cells. Name that reduced gametophytic structure. 1

7. Algae are useful to man in a variety of ways. Write any four points of importance of algae in our life. 2

8. a) Pteridophytes show alternation of generation, which phase is dominant in the life cycle of pteridophytes. 2

   b) Why genera like selaginella and salvinia considered heterosperous?

9. Complete the following table: 2

| Classes of Algae | Major Pigment | Stored food | Cell wall composition |
|---|---|---|---|
| Chlorophyceae | Chl-a,b | Starch | _____ |
| Phaeophyceae | Chl a,c fucoxanthin | _____ | Cellulose and algin |
| Rhodophyceae | _____ | Floridean starch | _____ |

10. Write four points of differences between livercoasts and mosses. 2

11. What is double fertilization? What is the fate of ovule and synergid cells after fertilization in angiosperms? 2

12. Compare artificial system, natural classification system and phylogenetic classification systems. 3

13. a) Which event is considered as a precursor to seed habit, in pteridophytes.

    b) Why moss plant is used as packaging material for trans-shipment of living material.

    c) Volvox (an algae) shows orgamens type of sexual reproduction. What do you understand by it. 3

14. Draw a labelled diagram of life cycle of an agiospermic plant. 3

**PRACTICE TEST-4**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**ANIMAL KINGDOM**

**Time : 50 minutes** **M.M. : 25**

1. Name the phylum in which the animals have incomplete digestive system i.e. have only a single opening to the outside of the body that serves as both mouth and anus. 1

2 Name the phylum in which the adults exhibit radial symmetry but larvae are bilaterally symmetrical. 1

3. An undifferentiated layer is present in between the ectoderm and endoderm of some animals. Name the layer and term used for organisation of such animals. 1

4. Define the phenomenon 'metamerism'. 1

5. Give two characteristic features of notochord formed in some animals. 1

6. Give two unique features found in animals which belong to phylum porifera. ½+½=1

7. Cnidarians exhibit two basic body forms called polyp and medusa. Write one characteristic of each form. Also give example of one animal which exhibit these forms. 1

8. Fill in the blanks spaces with appropriate words/terms. 1

| S.No. | Phylum/Class | Excretory organ | Circulatory organ |
|---|---|---|---|
| 1. | Arthropoda | (A) _____ | Open |
| 2. | Annelida | Nephridia | (B) _____ |
| 3. | (C) _____ | Metanephridia | Open |
| 4. | Amphibia | (D) _____ | Closed |

9. Differentiate between the following by giving characteristic feature of each: ½x4=2

   i. Urochordata and cephalochordate

   ii. Direct and indirect development

10. Give an example of each :

   i. An animal with cnidoblasts

   ii. An animal having canal system and spicules

   iii. An animal having dry and cornified skin

   iv. An animal with bioluminescence ½x4=2

11. Name the :

i. Excretory organs of animals of Phylum Arthropoda

ii. Second largest phylum

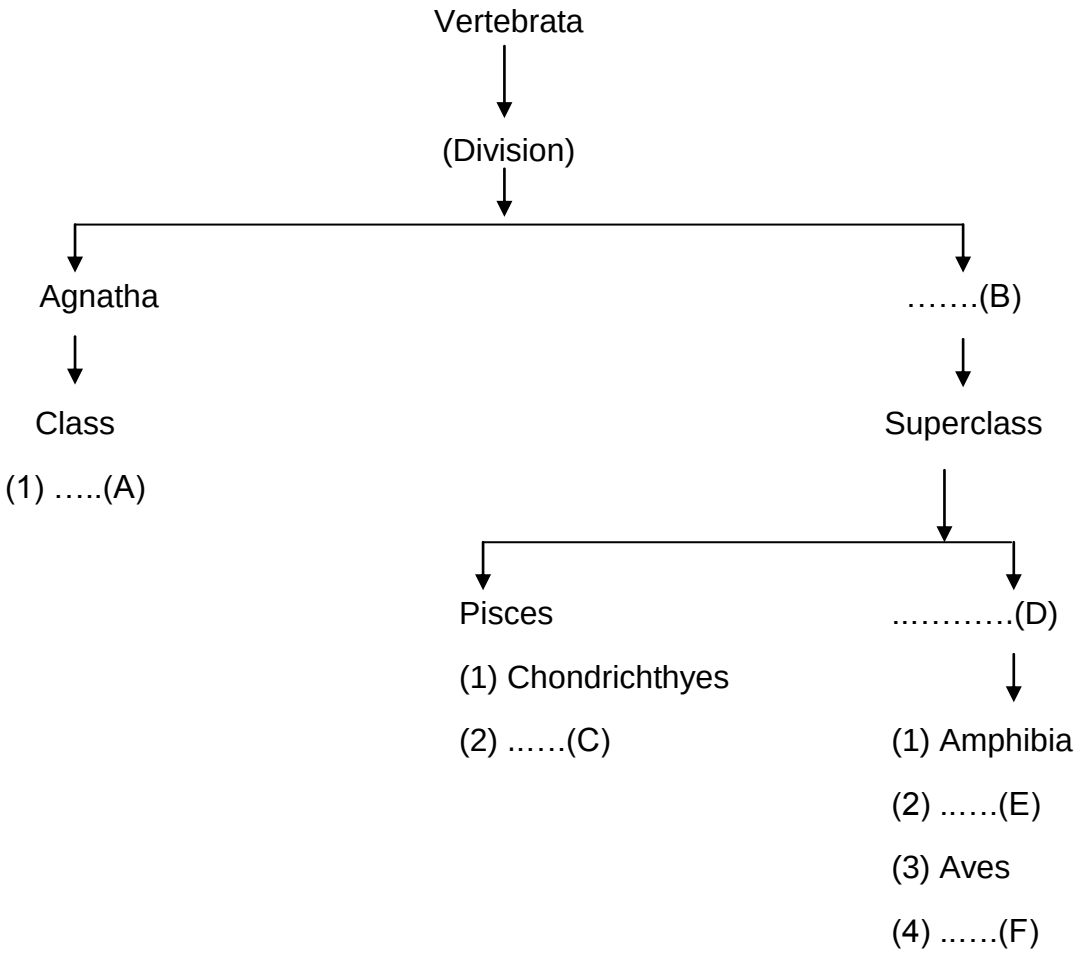
iii. Term used for warm blooded animals

iv. Additional chambers found in the digestive tract of aves.

12. List 6 characteristic features of animals belong to class mammalian. ½x6=3

13. Give three points of difference between chordata and non-chordata.

14. Complete the following flow chart with appropriate words:




½x6=3

**PRACTICE TEST-5**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**MORPHOLOGY OF FLOWERING PLANTS**

**Time : 50 minutes** **M.M. : 25**

1. Give the suitable term for an underground stern with ‘eyes’. 1

2 Name the types of placentation and aestivation of corolla found in pea. 1

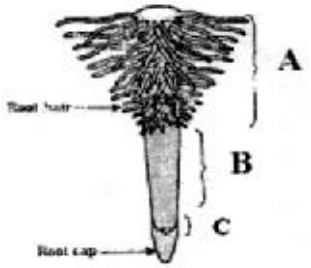
3. Give one example each of apocarpous and synarpous conditions in plants. 1

4. Will a student be able to tell the usual number of members in floral whorls of a plant if he is given a leaf of that plant? Why? 1

5. Give an example of a plant with non-endospermous seeds. 1

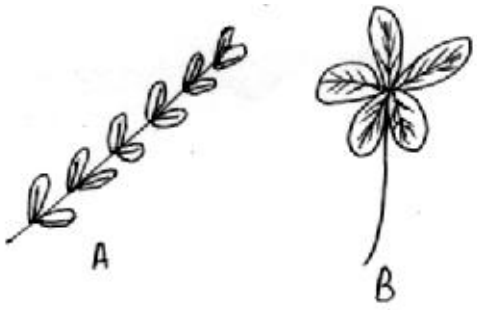
6. Name the modifications of axillary buds. 1

7. Name the three regions of the root tip labelled as A, B & C in the diagram. What is the function of the coat cap? 2



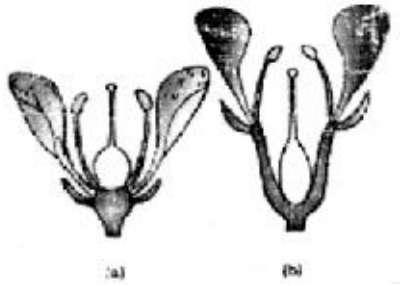

8. How can a stem be morphologically distinguished from a root? Name the modifications of stem for climbing and for protection. Give one example of any one of these two modifications. 2

9. Identify the kinds of compound leaves showing in figures A & B. Give one example of each. 2




10. “Flowers of lily and china-rose have difference with regard to the attachment of stamens among themselves or to other floral parts.” Elaborate and state the terms employed for respective condition. 2

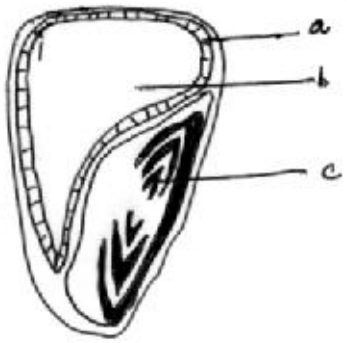
11. Identify the types of gynoecium shown in the given flowers. Give one example of each. 2



12. How does phyllotaxy in *Alstonia Calotropis* and sunflower differ from each. 3

13. Name the three layers of a thick and fleshy pericarp. Which of these forms the edible flesh of mango? What is the nature of the middle layer in coconut? 3

14. Label the parts a, b and c of the given diagram. Write one function of each of these. 3



**PRACTICE TEST-6**

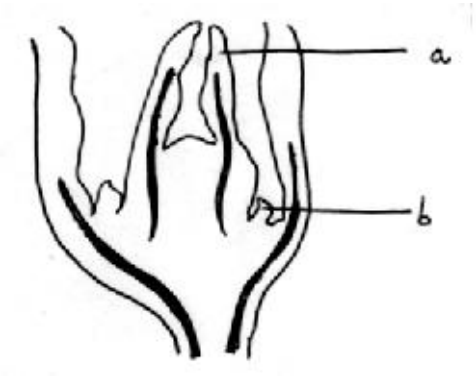
**CLASS: XI**

**SUBJECT: BIOLOGY**

**ANATOMY OF FLOWERING PLANTS (CHAPTER-6)**

**Time : 50 minutes** **M.M. : 25**

1. Label the parts ‘a’ and ‘b’ in this figure of a shoot apex: 1




2 Which cells are present in gymnosperms instead of sieve tubes and companion cells? 1

3. What are bast fibres made of? Give an example of a plant whose bast fibres are commercially used. 1

4. Name the epidermal appendanges of roots and shoots of flowering plants. 1

5. What are all the tissues on the inner side of epidermis collectively called? Name the innermost layer of this collection. 1

6. How do grasses regenerate the parts removed by the grazing herbivores? 1

7. How can a root be anatomically distinguished from a shoot? List two points. 2

8. Draw the structure of a : 2

   a) Radial vascular bundle

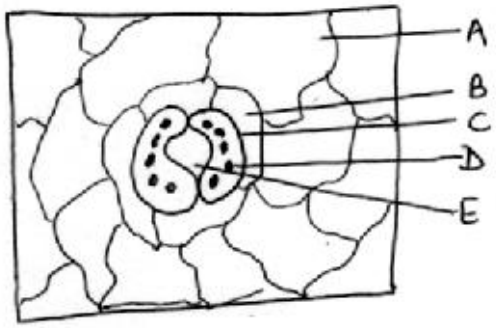
   b) Conjoint, open vascular bundle

9. With increase in girth of the stem, a meristematic tissue usually develops in the cortical region. Name this tissue. Also name the secondary tissues produced by it. 2

10. Some specialized cells in grasses make the leaf curl inward to minimize the loss of water. Name the cells and specify the condition under which they do so. How do we identify these cells? 2

11. How may xylem and phloem patches would be observed in the TS of a primary root of sunflower? Why? 2

12. a) Name the parts labelled A, B, C, D & E in the figure given.




b) What is the shape of guard cells in grasses? 3

13. What are the three types of simple permanent tissues in plants? Give the identifying features of the cells constituting each of these. 3

14. “The activity of cambium is under the control of many physiological and environment factors”. Justify this statement for temperate regions, specifying the woods so formed. 3

**PRACTICE TEST-7**

**CLASS: XI**

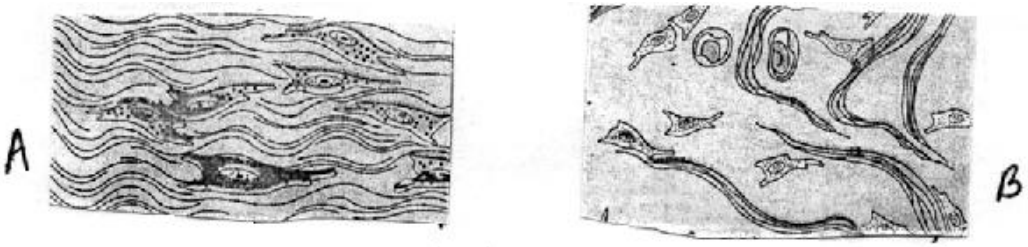
**SUBJECT: BIOLOGY**

**STRUCTURAL ORGANISATION IN ANIMALS**

**Time : 50 minutes** **M.M. : 25**

1. In which type of muscle tissue are intercalated discs? State its function. 1

2 Identify the dense regular connective tissue from the given diagrams A and B. 1




3. Why is the functioning of smooth muscles said to be involuntary. Give reason. 1

4. Write two points of difference between Bone and Cartilage. 1

5. Name the type of epithelium which forms the inner lining of : 1

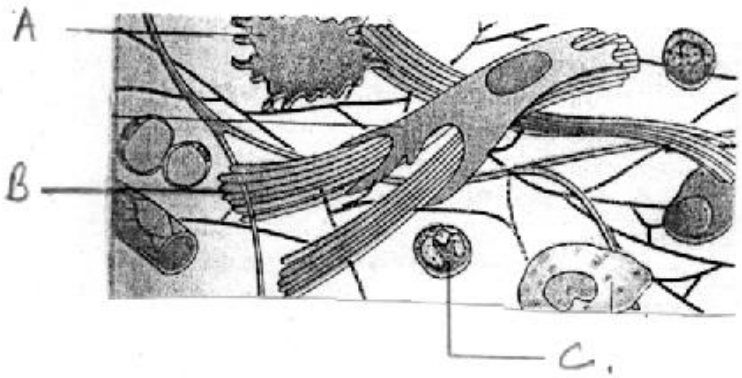
   a) ducts of salivary glands

   b) bronchioles

6. a) Which type of cells besides neurons constitute the neural tissue? 1

   b) State its function.

7. Label the parts A, B, C in the given diagram. Also identify the tissue. 1



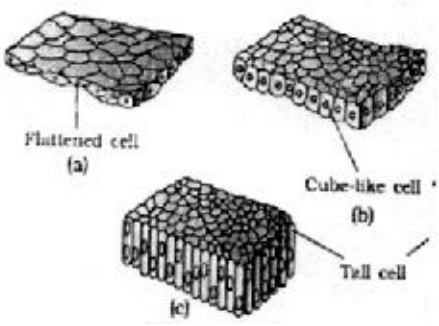

8. Differentiate between Tendon and Ligament. 2

9. How can we differentiate between male and female cockroach? 2

10. What is paurometabolus development? How does the last nymphal stage differ from adult cockroach? 2

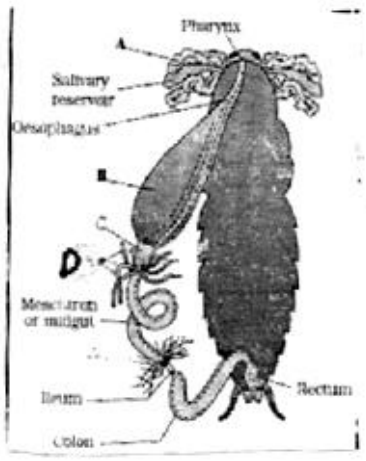
11. Write the composition of a fluid connective tissue in human. 2

12. Name and give the functions of the types of epithelium shown in figures below (a,b,c). 3




13. All cells in epithelium are held together by three types of specialized junctions which provide both structural and functional links between them. Identify and these. 3

14. Identify the parts A, B, C and D in the digestive system of cockroach. Also state the function of A and D. 3



**PRACTICE TEST-8**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**CELL – THE UNIT OF LIFE (CHAPTER-8)**

**Time : 50 minutes** **M.M. : 25**

1. Name two surface structures in bacteria that do not play any role in motility. 1

2 Name one other group of organisms, besides plants, which possess plastids. 1

3. Name the device/tool which help in revealing detailed structure of the cell. 1

4. Why does the structure of a RBC differ from that of a neuron in a human being? 1

5. Beside the nucleus which two structures in a cell of *Petunia* possess the genetic material? 1

6. Write any two functions of centriole. 1

7. Even in the absence of organelles, the prokaryotic cells are able to perform many functions like the eukaryotes.

   a) Name the special membranous structure responsible for this

   b) List any two functions performed by this structure 2

8. Certain colonies of a bacterium are resistant to an antibiotic while the others are not :

   a) What structure is responsible for this difference?

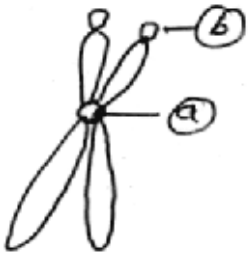
   b) How is this structure used in biotechnology? 2

9. What typical arrangement do the lipid molecules show in a plasma membrane? What is the significance of this particular arrangement? 2

10. Name two compounds exclusive to the cell walls of algae & plants each. Mention one function of cell wall in organism. 2

11. a) Name the types of chromosomes shown in diagram.

    b) Label (a) and (b) in the diagram




12. The body of a peacock as well as of a mango tree exemplify a biological theory put forwarded in the year 1838-39 and to which a modification was done in the year 1855.

    a) Name the two scientists whose work led to this theory

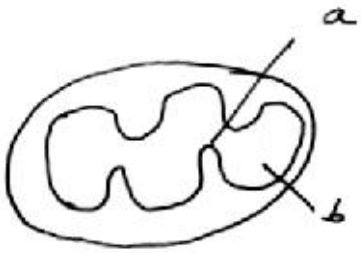
b) What could this theory not explain?

c) Write the postulates of the theory as understood today. 3

13. a) Label ‘a’ and ‘b’ in the given diagram.

b) List any two biomolecules present in (b)

c) Why could the number of this organelle vary in different cells?




14. a) What is middle lamellar composed of? What is its function?

b) Name the structure which connect the cytoplasm of neighbouring cells. 3

**PRACTICE TEST-9**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**BIOMOLECULES (CHAPTER-9)**

**Time : 50 minutes** **M.M. : 25**

1. Enlist two biomacromolecules which could be found in acid-insoluble fraction during chemical analysis of the tissue.

2 In the given diagram label (a) and (b) if the amino acid molecule is in the 'Zwitterionic form' :

R

|

a — CH — b

Zwitterionic form

3. How are the first and the last amino acids named in the primary structure of a protein?

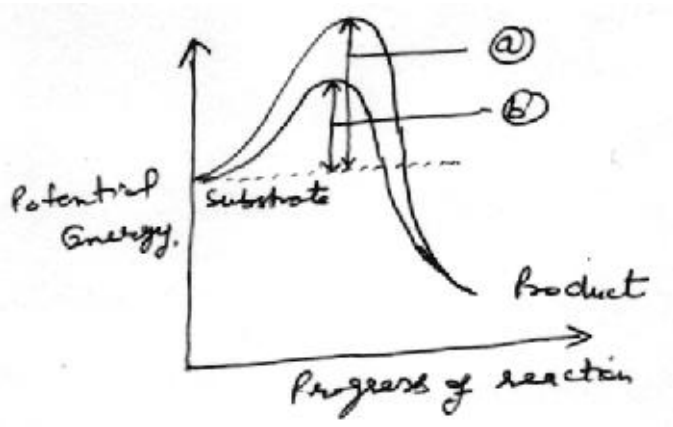
4. List any one difference between the monomeric units of DNA and RNA.

5. Identify the type of DNA which contains 10 base pairs in one full turn of the helical strand, with the pitch being 34A°.

6. Why can't living organisms afford to reach equilibrium?

7. a) Label the correct conditions of activation energy for (a) and (b)

   b) What type of reaction do this graph represents?




8. Some enzymes require co-factors for their activity :

   a) Name any two types of co-factors

   b) Give one distinguishing feature of each of these two types

9. Name a compound which competitively inhibits succinate dehydrogenase. Why is it able to do so?

10. Complete the following flowchart for enzymatic activity :

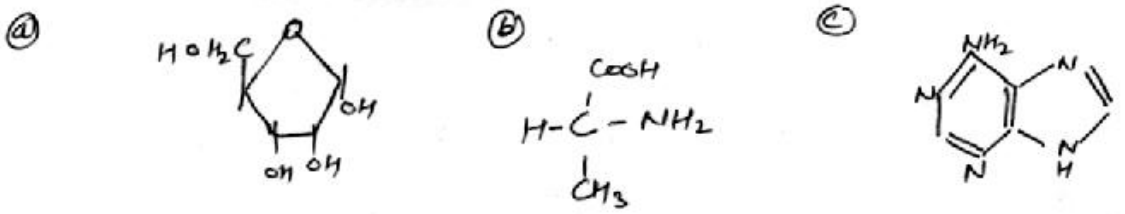
$$E + \boxed{a} \rightleftharpoons \boxed{b} \rightarrow \boxed{c} \rightarrow E = \textcircled{d}$$

11. An enzyme from a bacterium found in sulphur springs would be suitable for the use under certain physical conditions:

    a) What property of this enzyme makes it so suitable?

    b) Give one more example of a habitat whose organisms would show similar properties

12. Identify the following compounds and name one macromolecule each in which these are present:




13. The formation of cholesterol from acetic acid differs from the formation of lactic acid from glucose in term of the type of the metabolic reactions involved.

    a) Name both types of metabolic reactions

    b) Which of these involves release of energy in a cell? Name the process associated with release of energy

    c) Which one of the above is involved in photosynthetic process? 3

14. Sort out the primary and secondary metabolites from the given list of biomolecules and also state the reason for this classification:

    Rubber, essential oils, sugars, flavinoids 3

**PRACTICE TEST-10**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**CELL CYCLE AND CELL DIVISION (CHAPTER-10)**

**Time : 50 minutes** **M.M. : 25**

1. The heart cells of human being do not appear to exhibit division and exit G1 phase to enter an inactive state. Name this stage of the cell cycle. 1

2 Why are kinetochores important for cell division? 1

3. Correct the given sequence of phases in cell division 1

   S phase $\rightarrow$ G1 phase $\rightarrow$ M Phase $\rightarrow$ G2 phase

4. At what stage of the cell division the two daughter chromatids referred to as chromosomes of the future daughter nuclei?

5. Name the cell division which helps in restoring the nucleo-cytoplasmic ratio.

6. Name the following processes in the life-cycle of a sexually reproducing organisms:

   a) Responsible for production of haploid cells

   b) Restoration of the diploid stage

7. Write two keys events occurring in metaphase stage of mitosis.

8. Name any four structures of a cell which disappear by the end of prophase during mitosis.

9. At which stage do the following events takes place during cell division:

   a) Duplication of centriole in an animal cell

   b) Movement of centrioles towards opposite poles of the cell

10. How do the two anaphase stages of meiosis i.e. anaphase I and anaphase II differ from each other?

11. What will happen if Karyokinesis is not followed by cytokinesis? Explain with the help of an example.

12. Prophase I of meiosis is responsible for recombination of genetic material of the two parents of the organism:

    a) Name the enzyme mediated process and the enzyme involved

    b) What are the sites of this process?

    c) During which phase does this occur? 3

13. What will be the :

    a) Ploidy level of a cell undergoing metaphase II?

    b) Amount of DNA in human egg arrested at diplotene stage if the human sperm has 2C.

    c) Number of chromosomes in a human cell during prophase I

14. Which of the two Meiosis I or Meiosis II is actually the reductional division? Which stage of this cycle is responsible for having the number of chromosomes? What happens in the corresponding stage of the other cycle?

**PRACTICE TEST-11**

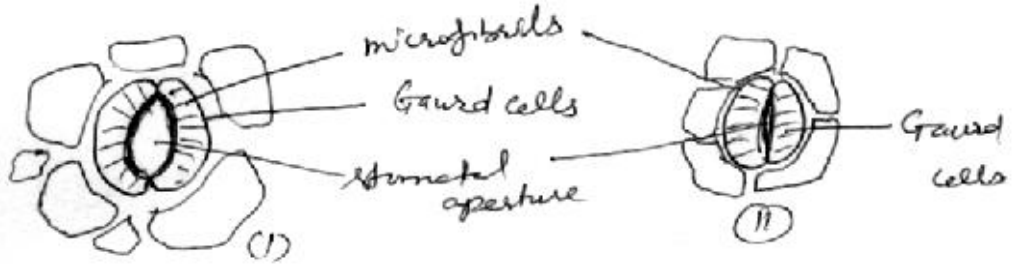
**CLASS: XI**

**SUBJECT: BIOLOGY**

**TRANSPORT IN PLANTS**

**Time : 50 minutes** **M.M. : 25**

1. a) When would facilitate diffusion reach its saturation
   b) Why is it sensitive to inhibitors 1
2. Name the proteins which carry out uphill transport. 1
3. What is the water potential of pure water at standard temperature? 1
4. Name the proteins that form huge pores in the outer membranes of plastids, mitochondria and some bacteria. 1
5. Differentiate between symport and aquaport. 1
6. A human RBC placed in a hypotonic medium, bursts while a plant cell in the same medium does not. Give reason. 1
7. a) What role does imbibitions play in the germination of seeds?
   b) Write two pre-requisites for inhibition to occur 2
8. With the help of a schematic diagram, show the pathway of movement of water in roots. 2
9. Why is movement of water in symplastic pathway slower than apoplastic pathway? 2
10. Water is mainly 'pulled' through the plant. How can this be explained by cohesion-tension-transpiration pull model? 2
11. Transport in xylem is unidirectional while transport in phloem is bi-directional. Justify. 2
12. Observe the diagrams and answer the following questions:




   a) Are this type of guar cells found in monocots or dicots?
   b) Which of these shows a higher water content in guard cells (i) or (ii)?
   c) Which element plays an important role in the opening and closing of stomata? 3
13. a) Transpiration serves a number of purposes in plants. List five such functions.
   b) Of $C_3$ and $C_4$ plants, which plants lose more water for the same amount of $CO_2$ fixed. 3
14. Differentiate between :
   a) Osmotic pressure and osmotic potential
   b) Imbibitions and diffusion
   c) Guttation and transpiration 3

**PRACTICE TEST-12**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**MINERAL NUTRITION**

**Time : 50 minutes** **M.M. : 25**

1. Write two significance of hydroponics. 1

2 Name one macronutrient obtained from soil and water each, by plants. 1

3. Name the element required for pollen germination. 1

4. What important role does manganese play during photosynthesis? 1

5. Name the macronutrient which is a component of all organic compounds but is not obtained from soil. 1

6. Write the importance of pigment leg-haemoglobin. 1

7. List two criteria for essentially of an element for a plant. 2

8. Explain the categorization of essential plant elements on the basis of their function. 2

9. Why and how is iron involved in the transfer of electrons in plants? 2

10. Explain the two main ways in which $NH_4^+$ is used to synthesise Amino acids in plants.

OR

The toxicity of manganese for a plant appears as deficiency symptoms of iron, magnesium and calcium. Explain. 2

11. Diagrammatically represent the formation of root nodules in *Rhizobium*. 2

12. Write one functions of each element in plants: 3

(a) sulphur (b) calcium (c) magnesium (d) potassium (e) zinc (f) molybedenum

13. Differentiate between necrosis and chlorosis. From the list given below, identify the elements responsible for necrosis and chlorosis :

Calcium, manganese, sulphur, iron, copper, chlorine 3

14. In which chemical form are the following elements absorbed in plants: 3

(a) Boron (b) Molybdenum (c) Nitrogen (d) Iron (e) Sulphur (f) Phosphorus

**PRACTICE TEST-13**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**PHOTOSYNTHESIS IN HIGHER PLANTS (CHAPTER-13)**

**Time : 50 minutes** **M.M. : 25**

1. Arrange the names of the following scientists in chronological order in accordance with the discoveries/researches made in the understanding of photosynthesis:

   Jan Ingenuous, Cornelius van Niel, Julius Von Sacks, Joseh Priestley 1

2 Name the technique by which legal pigments can be separatged in a lab. 1

3. Why is calling the Biosynthetic phase as dark reaction misnomer? 1

4. Why would it be better to grow wheat in higher concentration of $CO_2$ than normal? 1

5. Why do protons need to be transported across the membrane along with ETS? 1

6. How did Melvin Calvin discover that the first $CO_2$ fixation product is a 3-carbon organic acid? 1

7. Even though RuBisCo is present in $C_4$ plants as well, why do these not show photorespiration unlike $C_3$ plants. 2

8. Why is the effect of water, as a factor affecting the rate of photosynthesis, not directly related to its role as a reactant in the process? 2

9. How does RuBisCo act as both an oxygenase and a carboxylase? 2

10. State Blackman's law of limiting factor. Draw a graph to represent the effect of light on the rate of photosynthesis. 2

11. How can a $C_4$ leaf be distinguished anatomically from a leaf of a $C_3$ plant? Explain. 2

12. Explain why six turns of Cabin cycle required is to generate one molecule of glucose. 3

13. Study the equation below and answer the questions that follow:

$$2H_2O \rightarrow 2H^+ + O_2 + 4\bar{e}$$

   a) Name the step of photosynthesis that this equation represents

   b) Where does it take place in the leaf?

   c) What is the significance of this reaction? 3

14. Give a diagrammatic representation of the Z-scheme of light reaction. 3

**PRACTICE TEST-14**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**RESPIRATION IN PLANTS**

**Time : 50 minutes** **M.M. : 25**

1. Name two enzymes involved in the process of fermentation. 1

2 Calculate the KQ for fatty acid tripalmitin, whose oxidation is represented by the equation below: 1

$$2(C_{51}H_{98}O_6) + 145O_2 \rightarrow 102CO_2 + 98H_2O + \text{Energy}$$

3. When does substrate level phosphorylation occur in citric acid cycle? 1

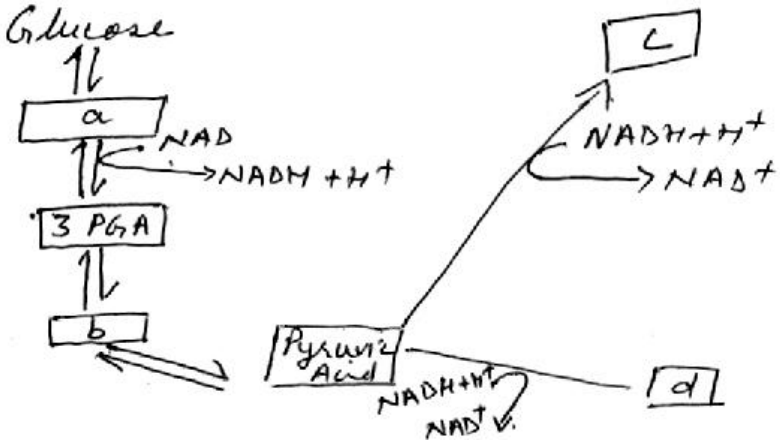
4. How can fatty acids be synthesised from the respiratory pathway? 1

5. Complex IV of ETS refer to cytochrome C oxidase complex. What are its constituents? 1

6. The TCA cycle starts with the condensation of acetyl group with OAA and $H_2O$. Name the product formed and enzyme involved in this process. 1

7. 'It is better to consider the respiratory pathway as an amphibolic pathway rather than as a catabolic pathway.' Justify the statement. 2

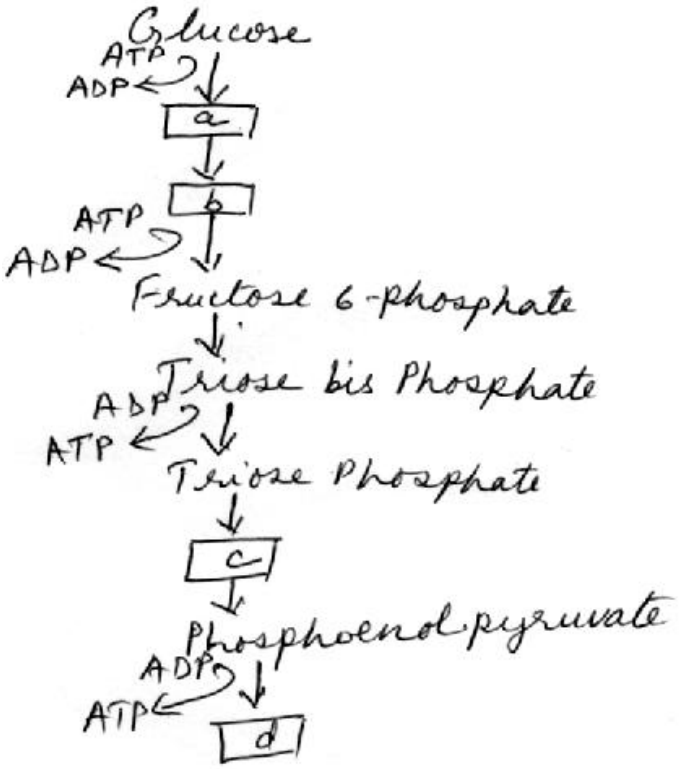
8. Complete the flow chart of Anaerobic Respiration:




9. List four assumptions made for calculating the net gain of ATP for every glucose molecule oxidized? 2

10. Differentiae between fermentation and aerobic respiration. 2

11. What do a, b, c and d represent : 2




12. List three reasons as to why plants can get along without any respiratory organs. 3

13. Diagrammatically represent the citric acid cycle. 3

14. a) Where is the Electron Transport System present?

    b) How many ATP molecules are synthesized by one molecule of NADH and one molecule of FADH?

    c) What is the role of oxygen in this system?

    d) How does phosphorylation during photosynthesis differ from that during respiration? 3

**PRACTICE TEST-15**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**PLANT GROWTH AND DEVELOPMENT (CHAPTER-15)**

**Time : 50 minutes** **M.M. : 25**

1. Give one example each where growth is measured as increase in 1

   (a) Number of cells (b) Length

2 Why is oxygen essential for plant growth? 1

3. Give 2 examples of dedifferentiation in plants. 1

4. Give one example each of the promontory and inhibitory activities of ethylene. 1

5. Name any two natural sources of cytokinins. 1

6. Why is 2,4-D used to prepare weed-free lawns by gardeners? 1

7. Give an example to show that gibberellins and ABA can act on the same process in plants antagonistically to regulate it. 2

8. Name the PGR responsible for: 2

   (a) apical hook in dicot seedlings?

   (b) delaying leaf senescence?

9. Which part/organ of a plant is responsible for perception of photoperiod? How does this perception result in flowering? 2

10. Write any significance of vernalisation for a crop plant. How would exposure to vernalisation affect flowering in cabbage? 2

11. Name any two scientists associated with the discovery of effects of PGRs on plant physiology. Write their contributions also. 2

12. What does ‘plasticity’ refer to in plant development? Give one example each to show the effect of maturity and environment on this ability. 3

13. a) Differentiate between Absolute Growth Rate and Relative Growth Rate.

    b) Why is growth in plants said to be of open form? 3

14. Write the mathematical expressions for arithmetic and geometric growth rates, explaining the symbols used. 3

**PRACTICE TEST-16**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**DIGESTION AND ABSORPTION (CHAPTER-16)**

**Time : 50 minutes** **M.M. : 25**

1. Why are villi present in the intestine and not in the stomach? 1

2 HCl is necessary to activate proteolytic enzymes in stomach. Name the types of cell present in gastric glands which secret HCl. 1

3. Fatty acids and glycerol and formed after digestion to fat but they cannot be absorbed into blood directly. They are transported into the lacteal vessel in the form of chylomicrons. What are these chylomicrons? 1

4. Name the pigments released from liver during digestion of food. 1

5. No significant digestive activity occurs in large intestine, then what is the significance of large intestine in digestive system. 1

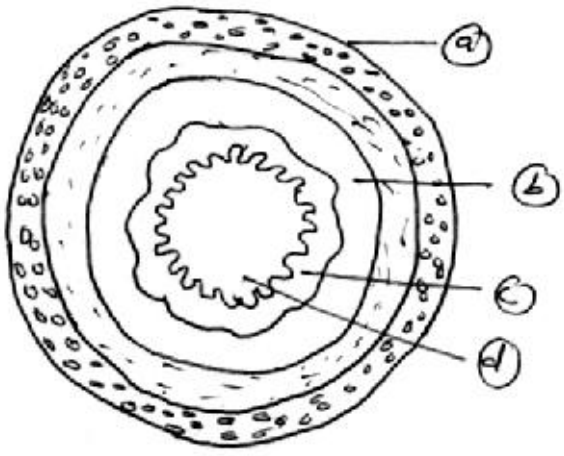
6. Why does a bread piece taste sweeter, when we chew it for sometime? 1

7. What would happen if HCl is not secreted in stomach? 2

8. The food material we eat contains lots of nuclei acids. Enlist the steps involved in digestion of nuclei acids as food passes through different parts of alimentary canal. 2

9. Differentiate between two proteins digesting enzymes – Peps in and Trypsin. 2

10. Label (a), (b) (c) and (d) in the give diagram of T.S. of gut. 2




11. How do polysaccharides in our food get digested? Explain. 2

12. Most of mammals have heterodont teeth. Name different types of teeth present in human beings with their functions.

13. If pancrease of a person has been removed due to some medical problem then how process of digestion get affected in him. Explain. 3

14. How many pairs of salivary gland do we have? Name them and what is their location. What function do they perform in digestion? 3

**PRACTICE TEST-17**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**BREATHING AND EXCHANGE OF GASES (CHAPTER-17)**

**Time : 50 minutes** **M.M. : 25**

1. a) Name the common passage for air and food.

   b) Which organ prevent entering of food in trachea during swallowing of food?

2 Complete the analogy :

Heart : Pericardium :: Lungs : _____

3. Blood analysis of a patient reveals on unusually high quantity of carboxyhaemoglobin content. The patient has been inhaling polluted air. Name the gas present in polluted air causing this problem

4. Name an instrument used to estimate volume of air in clinical assessment of pulmonary function.

5. Which part/organ of our body is called voice box?

6. A respiratory disorders named emphysema, in which alveolar walls are damaged. What is the major cause of the disease?

7. Complete the equations for the various pulmonary capacities :

   a) Expiratory capacity = _____ + _____

   b) Vital capacity = _____ + total volume + _____

8. What do you understand by partial pressure of gases? What type of blood contains $PO_2$ = 95 mmHg and $pCO_2$ = 40 mmHg. How it help in exchange of gases with tissues.

9. Explain the process of inspiration under normal conditions.

10. Name the stage of breathing in which relaxation of diaphragm occurs. Explain the others events occurring at this stage of breathing.

11. Name the respiratory organ in following organism:

    i. sponges and coelenterates

    ii. Earthworm

    iii. Frog

    iv. Most of aquatic arthropods and mollusks

12. Human beings have significant ability to maintain and moderate the respiratory rhythm to suit demand of body tissues. How is this process regulated?

13. What is oxygen dissociation curve? Mention four factors which causes shifting of this curve towards right side.

14. Oxygen and $CO_2$ are respiratory gases transported through blood. Explain transport of these gases in human beings.

**PRACTICE TEST-18**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**BODY FLUIDS & CIRCULATION (CHAPTER-18)**

**Time : 50 minutes** **M.M. : 25**

1. A person who is an accident victim given blood serum transfusion which factor is not present in blood serum? 1

2 Low level of haemoglobin make a person feel weak. Give the significant role played by these molecules. 1

3. Name the disorder caused in following abnormal conditions related to blood circulation. ½+½=1

   a) Increased systolic pressure

   b) Acute chest pain due to failure of $O_2$ supply to heat muscles

4. Write the function of valves present in the heart between atria & ventricle and at the opening of pulmonary artery and aorta. 1

5. In the diagrammatic representation of a standard ECG. What represent the:

   a) QRS complex

   b) P. Wave 1


6. CAD is caused when lumen of arteries becomes narrower. How does it occur? 1

7. A $B^{-ve}$ female is pregnant with her second child & develops complications. The doctor advised that the prognosis is not good and it could be fatal for the foetus as the foetus is of blood group $B^{+ve}$. What is this condition called? How could it have been avoided? 2

8. Circulation in reptiles and amphibians is called incomplete double circulation. Explain why is it so called? 2

9. Briefly describe the following disorders of circulatory system 2

   a) Hypertension

   b) Heart attack

10. Fill up the chart : 2

| Blood type | Blood type they can receive | Blood type they can donate |
|---|---|---|
| A | A_____ | A_____ |
| B | B_____ | B_____ |

11. Give the location of the following in human heart :

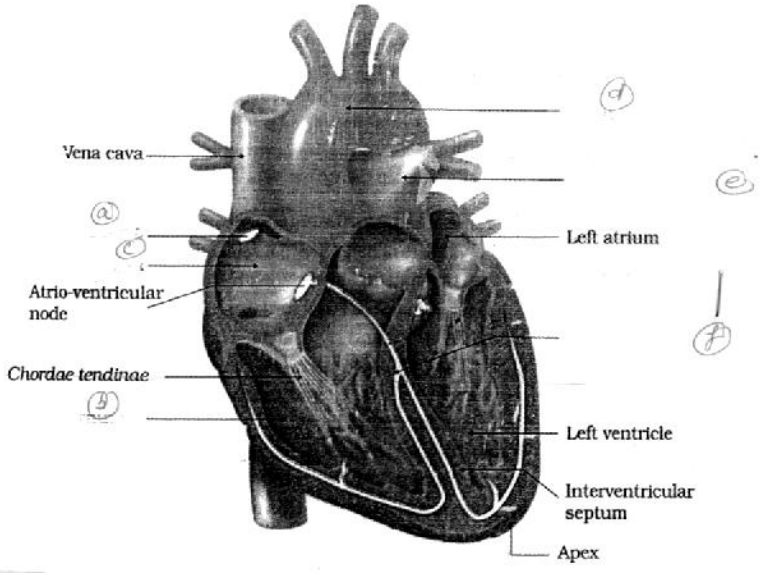
    i. Purkinje fibres

    ii. Bundle of this

    iii. SAN

    iv. AVN

12. Label the following parts of the human heart (a-f) 3




13. Explain cardiac cycle. 3

14. Label A, B, C, D. Explain why this type of circulation is known as double circulation. 3

**PRACTICE TEST-19**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**EXCRETORY PRODUCTS AND THEIR ELIMINATIONS (CHAPTER-19)**

**Time : 50 minutes** **M.M. : 25**

1. Many aquatic animals are ammonotelic while terrestrial animals are ureotelic. Why did this adaptation happen during evolution? 1

2 Protonephridia seen in planaria & nephridia seen in earthworm, have a difference in their function. Write the difference. 1

3. Why do the following disorders of the excretory system occurs? ½+½

   a) Uremia

   b) Glomerulonephritis

4. Why the filtration by Bowman's capsule is called Ultrafilteration? 1

5. Complete the flow chart : ½+½

   Fall in GFR → Activates JGA → [ a) ]

   GFR back to normal ← [ b) ] Stimulates

6. Expand the abbreviations: ½+½

   a) ANF

   b) JGA

7. Comparison of volume of filtrate formed per day (180 ltr.) with that of urine released (1.5 lit) suggests that nearly 99% of filtrate is reabsorbed. Which parts are related to reabsorption of $Na^+$ &$H_2O$.

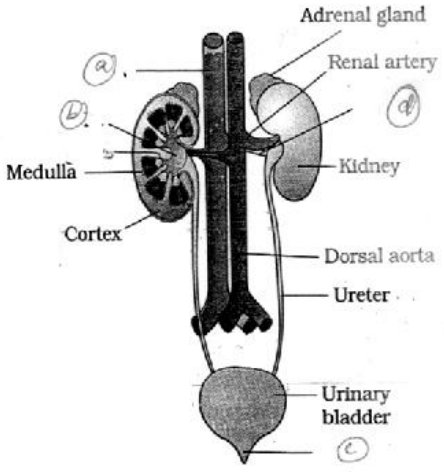
8. Complete the flow chart : 2

   Excessive loss of fluid → Stimulates hypothalamus → [ A ] → [ B ]

9. Rakesh suffering from him blood pressure is given a medicine to increase urine output. Explain the Renin-Angiotension mechanism that leads to increase in blood pressure. 2

10. How does the concentration of glomerulus filterate in the loop of Hente, discending and ascending limbs changes to form the urine? 2

11. Label (a-b) the part of human urinary system. 2



12. Sohan has a kidney failure. The doctors waiting for a suitable donor, meantime put him on Harmodialysis. Explain the process of harmodialysis. 3

13. Mammals have the ability of produce a concentrated urine. The Henle's loop and vasa recta play a significant role in this. With the help of a flow chart explain the mechanism. 3

14. Complete the flow chart: 3

Urine formed in Nephrons

↓

Carried to A

↓

Voluntary signal is given to B by

The stretched membrane of C

↓

Signal sent for

D

↓

and

E

↓

Release of Urine

Process of release of urine is called F._____

**PRACTICE TEST-20**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**LOCOMOTION AND MOVEMENT**

**Time : 50 minutes** **M.M. : 25**

1. Why can a fibre of skeletal muscle be considered a syncitium? 1

2 Name the central part of the thick filament which is not overlapped by thin filament. 1

3. Give the technical term for : ½x2=1

   a) A motor neuron along with the muscle fibres connected to it

   b) Junction between motor neuron and the sarcolemma of a muscle fibre.

4. Name the tissue affected by Myasthenia gravis. What is its cause? 1

5. Osteoporasis is a very common problem in post-menopausal women. What is its main cause? 1

6. Name the joint of the given articulated bones:

   a) Between humerus and pectoral girdle

   b) Between carpels and metacarpals ½x2=1

7. List the names of contractile protein which facilitates the locomotion in animals. 2

8. Where will you find the following cavities and name the bone which articulates with it?

   a) Glenoid cavity

   b) Accetabulum 1x2=2

9. Write the number of bones found in the following:

   a) Ribs

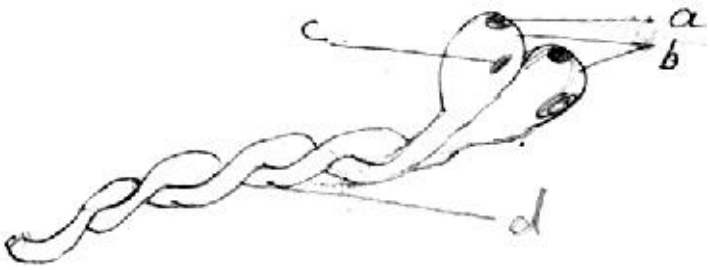
   b) Vertebral column

   c) Limb

   d) Skull ½x4=2

10. Differentiate between red muscles and white muscles. 2

11. Label a, b, c & d




12. Explain the role of $Ca^{++}$ in muscle contraction. 3

13. Write the structure and function of actin filament. 3

14. List the three main types of movements exhibited by the cells of human body alongwith an example of each. 3

**PRACTICE TEST-21**

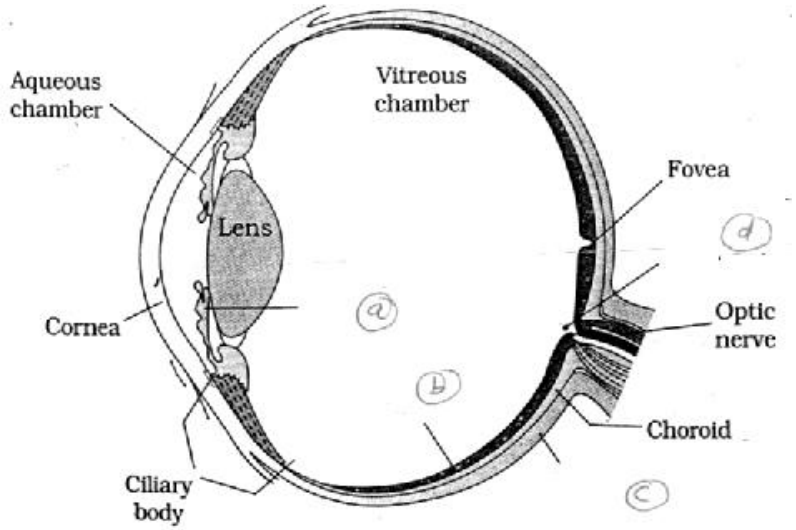
**CLASS: XI**

**SUBJECT: BIOLOGY**

**NEURAL CONTROL AND CO-RELATION (CHAPTER-21)**

**Time : 50 minutes** **M.M. : 25**

1. Differentiate between afferent and efferent nerve fibres. 1
2. Where the hunger centre located in human brain? 1
3. Name the vitamin present in Rhodospin. 1
4. What are the protective layers of brain called? 1
5. Which part of the inner car is disturbed during hill journey? 1
6. Which region of the brain are associated with memory and communication? 1
7. What do grey and white matter represents in the CNS? 1
8. What is reflex action? Explain with an example. 2
9. During resting potential, the axonal membrane is polarized, indicate dramatically the movement of positive and negative ions leading to its polarization. 2
10. Label the following parts of an eye – a, b, c, & d 2




11. Differentiate between electrical transmission and chemical transmission of nerve impulse. 2
12. Based on the number of axons and dendrites, list the three types of neurons along with their location in human body. 3
13. How is inner ear responsible for hearing as well as balance of the body in humans? 3
14. Name the parts of human brains which control the following functions: 3
    a) cardiovascular reflexes
    b) urge for drinking and eating
    c) body temperature

**PRACTICE TEST-22**

**CLASS: XI**

**SUBJECT: BIOLOGY**

**CHEMICAL CO-ORDINATION AND INTEGRATION (CHAPTER-22)**

**Time : 50 minutes** **M.M. : 25**

1. Thymus gland is more functional in children. Which type of immunity does it provide to children? 1

2 R.B.C.'s are formed in Red Bone marrow. Name two hormones which stimulate the production of RBC'. 1

3. Cortical region of adrenal gland secretes two type of corticoid hormones namely glucocorticoid and mineral corticoid. Write the name of hormone in each case. 1

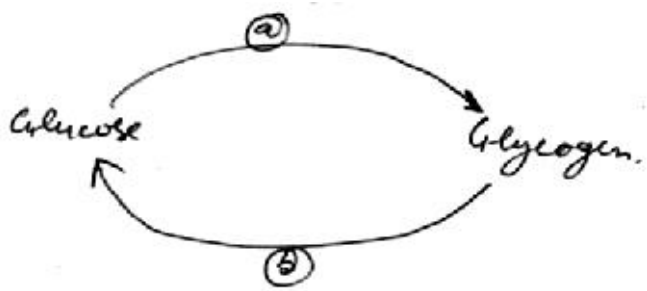
4. There are endocrine cells other than endocrine glands. Write two hormones secreted by these endocrine cells. 1

5. Two human hormones are synthesized in hypothalamus but stored and released by pituitary gland. Name these two hormones. 1

6. If the level of thyroid hormone increases, this condition is called hyperthyroidism. What is the cause of increasing level of thyroid hormone? 1

7. Steroid hormones interact with intracellular receptors. Name one such hormone and where are these receptors present in cell. 2

8. Label hormone (a) and (b) in the following conversion and write the cell from where is it secreted? 2




9. How does hypothalamus control the action of pituitary gland? 2

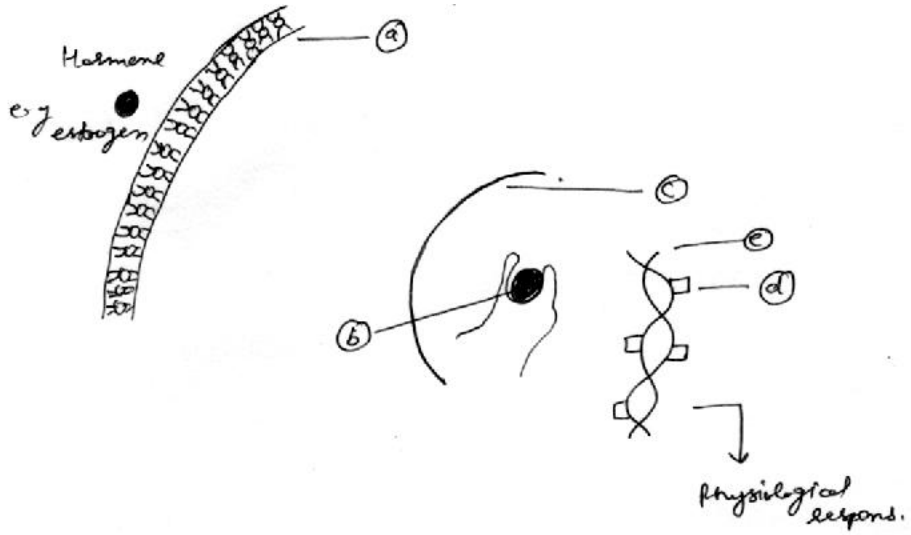
10. Taking any appropriate example, show the mechanism of action of a protein hormone. 2

11. Which hormone are responsible for libido in males and high pitch voice in females? Write the part/organ from where it is secreted. 2

12. What are the functions of (a) C.C.K. (b) G.I.P. (c) P.T.H. 3

13. a) Label the (a), (b), (c), (d) & (e) in the diagram of mechanism of hormone action

b) On the basis of chemical nature, to which group of hormones do estrogen belongs




14. What are catecholamines? Name the gland and specific part from where it is secreted. How does it work? 3