

CHAPTER 1: THE LIVING WORLD

One marks question

1. What is Taxon?
2. What is metabolism?
3. Define growth.
4. Define species.
5. Name the basic unit of classification.

Two marks question

1. Mention any four characters of living organisms
2. Expand the following (i) ICBN (ii) ICZN
3. What is Herbarium? How Herbarium helps in preserving plant specimens.

Three marks questions

1. What is Key? Mention different types?
2. Write Taxonomic categories (Linnaean hierarchy) showing hierarchical arrangement in ascending order.

Five marks question

1. Write the universal rules of Binomial nomenclature.

CHAPTER 2: BIOLOGICAL CLASSIFICATION

ONE MARK QUESTIONS:

1. Who proposed five kingdom system of classification?
2. Name the kingdom which includes unicellular organisms with eukaryotic organization.
3. What is the role of heterocysts in *Nostoc*?
4. Which are the smallest living cells without cell wall and which can survive without oxygen?
5. Where do coprophilous fungi grow?
6. Why is deuteromycetes called fungi imperfecti?
7. What is 'Diatomaceous earth'?
8. "Lichens are good pollution indicators". Justify.
9. What are capsomeres?
10. What is mycelium?

TWO MARKS QUESTIONS:

1. Which are the four major groups of Protozoans?
2. Name the fruiting bodies of i] Ascomycetes ii] Basidiomycetes.
3. List any four role of fungi in our daily life.
4. Write any two differences between Viruses and Viroids.
5. Write the algal and fungal components of lichens.
6. Classify the bacteria based on their shape with a diagram
7. Mention any two living and nonliving characters of viruses.

THREE MARKS QUESTIONS:

1. Draw a labeled diagram of a bacteriophage.
2. Write briefly about the steps involved in sexual cycle of kingdom fungi.

3. Give a comparative account of the kingdoms Protista with respect to cell type, cell wall, body organization.
4. Draw a labeled diagram of *Nostoc* filament.

FIVE MARKS QUESTIONS:

1. Explain the modes of Nutrition in Bacteria.
2. What is the basis of classification in fungi? Explain four classes of fungi.
3. Explain five classes of kingdom Protista.

CHAPTER 3: PLANT KINGDOM

One mark questions

1. What is the basis of classification of algae?
2. Give an example for colonial alga?
3. What are pyrenoids?
4. Why bryophytes are called Amphibians of plant kingdom?
5. Which are the first terrestrial plants to possess vascular tissues?
6. What are sporophylls?
7. Why are gymnosperms called as naked seeded plants?
8. What is syngamy?
9. Both gymnosperms and angiosperms bear seeds, then why are they classified separately?
10. What is the function of endosperm in seeds?

Two marks questions

1. Define a) Cytotaxonomy, b) Chemotaxonomy
2. List any four characters of rhodophyceae.
3. Name any two commercially used hydrocolloids isolated from algae.
4. Mention the four classes of pteridophytes.
5. Explain the heterosporous nature of gymnosperms.
6. Which are the two classes of angiosperms?
7. What do the following structures of angiosperms would develop into?
 - a. Zygote
 - b. PEN
8. What is diplontic life cycle? Give an example.
9. Differentiate between
 - Red algae and brown algae/
 - Green algae and Red algae/
 - Liverworts and moss/
 - Homosporous and heterosporous pteridophyte/
 - Syngamy and triple fusion
10. What is haplo-diplontic life cycle? Name any two algae that follow such pattern of life cycle.

Three marks questions

1. Write any six important characteristics of Chlorophyceae.
2. Write a note on alternation of generation in bryophytes.
3. Mention the different life cycle patterns in plants.
4. What is heterospory? Briefly comment on its significance. Give two examples.

Five marks questions

1. "Algae are useful to man in a variety of ways". Justify the statement with suitable examples.
2. Describe the salient features of algae.
3. Describe the salient features of pteridophytes.

4. Describe the important characteristics/salient features of gymnosperms.
5. Schematically represent the life cycle of angiosperms.
6. Describe the salient features of angiosperms.

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CHAPTER 4: ANIMAL KINGDOM

ONE MARK QUESTIONS:

1. What is a coelom?
2. What are choanocytes?
3. What is the function of comb plates?
4. Name the only phylum in which the animals are diploblastic and radially symmetrical.
5. What is the 'power of regeneration' with respect to some animals?
6. Name the specialized cells in platyhelminthes which help in osmoregulation and excretion.
7. What is a radula?
8. What is a cloaca?
9. What are pneumatic bones?
10. Aves and mammals are homoiothermous. Justify.
11. What is metamerism?
12. What is the exoskeleton of Arthropods made of?

TWO MARKS QUESTIONS.

1. Write the difference between open and closed type of circulatory system.
2. Differentiate between diploblastic and triploblastic body wall.
3. Write the scientific name of the following- a. Tape worm, b. Round worm.
4. Assign the following to their respective phyla-
a. Balanoglossus b. Petromyzon c. Octopus d. Adamsia.
5. List any four salient features of phylum chordata
6. Write one function of each of the following-
a. Parapodia b. Nephridia c. Mantle d. Cnidoblasts
7. Diagrammatically represent the characters of Chordates.

THREE MARKS QUESTIONS

1. Mention the fundamental features that form the basis for classifying animals.
2. List any three differences between Chondrichthyes and Osteichthyes.
3. Name the excretory organs of the following- a. Cockroach b. Balanoglossus c. Leech
4. The germ layers and body cavity are correlated. Keeping this in view, define the following-
a. Acoelom b. Pseudocoelom c. Eucoelom
5. Write any three salient features of class Cyclostomata.
6. Enlist three important features of phylum Ctenophora.
7. Enumerate the salient features of Aschelminthes.
8. Enumerate the salient features of Platyhelminthes.
9. Enumerate the salient features of Mollusca.
10. Tabulate a comparative study between Non chordates and chordates.

FIVE MARKS QUESTIONS:

1. Write the general characters of phylum Porifera

2. List the general features of phylum Annelida.
3. Write the salient features of phylum Arthropoda
4. How do cartilaginous fishes differ from bony fishes?
5. Mammals are most adapted and most evolved among all the animals. Elaborate with five important features.
6. Write the adaptive characters in birds that support their aerial mode of living
7. Enumerate the salient features of phylum Porifera.
8. Enumerate the salient features of phylum Coelenterata.

CHAPTER 5: MORPHOLOGY OF FLOWERING PLANTS

ONE MARK QUESTIONS:

1. Define venation.
2. Define inflorescence
3. Define aestivation in angiosperms.
4. Define placentation.
5. What is a fruit?
6. Give an example of the stem which performs photosynthesis.
7. What is phyllotaxy?
8. What is aleurone layer?
9. What do you call the cotyledon of a monocot seed?
10. Name the layer which separates endosperm and embryo in monocots.

TWO MARKS QUESTIONS:

1. What is modification of root? Give an example of prop roots and stilt roots.
2. Mention the characteristic features of stem.
3. Draw neat labeled showing parts of a leaf.
4. Write any four functions of stem.
5. List the economically important plants of family Solanaceae
6. Mention two major types of inflorescence.
7. Name the two layers of seed coat.
8. Sketch and label a dicotyledonous seed.
9. Mention the four types of aestivation in plants.
10. Define vexillary aestivation. Give an example.

THREE MARKS QUESTIONS:

1. Mention the regions of root tip.
2. Write the floral characters of family Fabaceae.
3. Explain the structure of a drupe.
4. Name the three wall layers of a fruit.
5. What is venation? Mention the types of venation.
6. Explain three different types of phyllotaxy.
7. Mention any three modifications of stem with example.
8. Write a note on symmetry of flower.
9. Draw a floral diagram of family Fabaceae.

FIVE MARKS QUESTIONS:

1. With the help of labelled diagram explain the different regions of root tip.
2. Explain the structure of a dicotyledonous seed.
3. Draw a neat labelled diagram to show different parts of a flowering plant.
4. With the help of labelled diagram explain structure of leaf.
5. Explain the different types of aestivation with relevant diagrams. Mention one example for each type.

- Describe various types of placentation found in flowering plants with suitable diagrams.
- What is a flower? Describe the four whorls of a flower.
- With the help of labelled diagram explain monocotyledonous seed.
- Write any five salient features of family Solanaceae

CHAPTER 6: ANATOMY OF FLOWERING PLANTS

One mark questions

- What are primary meristems?
- What are permanent cells?
- Sclerenchyma cells are more rigid than collenchyma cells. Why?
- What are complex tissues?
- Why xylem and phloem are called complex tissues?
- Name the enucleated living cell of higher plants.
- Name the plant organ which lacks cuticle.
- Monocot leaf is an isobilateral leaf. Why?
- What is secondary growth?
- What are annual rings?
- What are lenticels?
- What is periderm?

Two marks questions

- Mention any two functions of parenchyma.
- Differentiate between
 - Simple tissues and complex tissues
 - Fibres and sclereids
 - Tracheids and vessels
 - Endarch and exarch
 - Root hairs and trichomes
 - Open and closed vascular bundles
 - Radial and conjoint vascular bundles
 - Anatomy of dicot root and monocot root
 - Intrafascicular and interfascicular cambium
 - Spring wood and autumn wood
- Draw a neat labeled diagram showing collenchyma in cross section.

Three marks questions

- Classify meristems based on their location in the plant body.(U)
- Explain the following tissue with reference to their location, structure and function
 - Parenchyma
 - Collenchymas
 - Sclerenchyma
- What are the important anatomical features of
 - Dicot root
 - Monocot root
 - Dicot stem
 - Monocot stem
 - Dicot leaf
 - Monocot leaf

Five marks questions

- Describe the structure of phloem.
- Summarize the process of secondary growth in dicot stem.

3. What are annual rings? How are they formed? What is their significance?
4. Explain the different structures of epidermal tissue system and state their function.
5. Explain the process of secondary growth in the stems of woody angiosperms with the help of schematic diagrams. What is its significance?
6. With respect to secondary growth in plants, define the following terms.
 - a. Phellum
 - b. Phellogen
 - c. Phelloderm
 - d. Bark
 - e. Lenticel

Chapter 7: STRUCTURAL ORGANISATIONS IN ANIMALS

ONE MARK QUESTIONS

1. Define Tissue
2. What is simple epithelium?
3. What is Ciliated epithelium?
4. What is areolar tissue ?
5. what is Neuroglial cells?
6. What are setae
7. What is hermaphrodite ?
8. What are Nephridia ?
9. How many chambers are there in heart of cockroach?
10. What is Aestivation ?
11. What is areolar tissue ?
12. What are Osteocytes.

TWO MARKS QUESTIONS

1. Name the four broadly classified tissues in Animals?
2. Differentiate simple epithelium from Compound epithelium?
3. Differentiate exocrine from endocrine glands ?
4. Name any two cell junctions.
5. Draw a neat labelled diagram of Adipose tissue
6. Draw a labeled sketch of Cardiac muscle tissue
7. Differentiate Tendon from Ligament.
8. Give four functions of Bone.
9. Differentiate smooth muscle from skeletal muscle.
10. why are earthworms called “friend of farmers”?
11. What are hepatic caecae? What is their function ?

Three marks questions

1. How do nephridia occur in earthworm? Mention three types.
2. Give an account on morphology of frog

Five marks

1. Draw a neat sketch of male reproductive system of cockroach
2. Describe briefly Epithelial tissue
3. Describe smooth muscle and cardiac muscle tissues :
4. Draw a neat labeled diagram of Alimentary canal of earthworm

- Describe Alimentary canal of cockroach
- Describe Male reproductive system in frog.

CHAPTER 8: CELL-THE UNIT OF LIFE

One mark questions:

- Who proposed Fluid mosaic model of plasma membrane?
- What is polyribosome?
- Why mitochondria is called as the power house of the cell?
- Write a function of Rough endoplasmicreticulum.
- Who discovered golgi apparatus?
- What are mesosomes?
- Who proposed cell theory?
- What is axoneme?
- What is the function of contractile vacuole?
- What is cytoskeleton?

Two marks questions:

- Mention any two functions of Endoplasmic reticulum.
- Explain cell theory.
- Explain the types of Endoplasmic reticulum.
- Classify chromosomes based on the position of centromere.

Three marks questions:

- List the type of plastids based on the type of pigments.
- Draw a neat labeled diagram of Mitochondria.
- Mention the functions of Golgi apparatus.

Five marks questions:

- Sketch and labell the diagram of animal cell.
- Draw a neat labeled diagram of plant cell.
- What is centromere? Mention and explain the types of chromosomes based on position of centromere.
- Explain the structure of Nucleus.
- Explain the structure of chromosome.
- Explain Fluid mosaic model of plasma membrane

CHAPTER 9 : BIOMOLECULES

One mark questions:

- Name the sugar present in DNA.
- Give example for secondary metabolite.
- What is metabolism?
- Which is the abundant protein in biosphere?

Two marks questions:

- Explain the types of polysaccharides.
- Differentiate between essential and non essential amino acids.
- Differentiate between saturated and unsaturated fatty acids.
- Mention the nucleotides of DNA.

Three marks questions:

- Mention the biological significances of carbohydrates.
- What are lipids? Explainn the types of lipids.

3. Explain Induced fit theory.
4. Write a note on Co-factors.
5. Explain the factors effecting enzyme activity.
6. Explain the three components of nucleotide..

Five marks questions:

1. Explain the nature of Enzyme action.
2. Define Cofactors. Explain the steps involved in catalytic cycle of an enzyme.
3. i) Name the following a) Most abundant protein in biosphere
b) Bond linking aminoacid in a polypeptide
- ii) List three important features of Watson and Crick model of DNA.
 4. What is protein? Explain the different structures of proteins.
 5. Explain the structure of DNA.
 6. Explain the classification of enzymes.
 7. Explain the properties of enzymes.
 8. Explain the mechanism of enzyme action.

CHAPTER 10 : CELL CYCLE AND CELL DIVISION

One mark questions:

1. What is cell cycle?
2. What is generation time?
3. What is phragmoplast?
4. What is synapsis?
5. What are bivalents?
6. What is crossing over?

Two marks questions:

1. Mention four stages of mitosis.
2. Name first four phases of Prophase I.
3. Write a note on significance of Mitosis.
4. Mention the significance of Meiosis.

Three marks questions:

1. List the three important key features of Meiosis.
2. List any three differences between Mitosis and Meiosis.

Five marks questions:

1. Describe briefly the concept of cell cycle.
2. Differentiate between Mitosis and Meiosis.
3. Explain prophase I of Meiosis.
4. Explain meiosis II.

CHAPTER 11 TRANSPORT IN PLANTS

One mark

1. What is transport over long distances through xylem and phloem called as?
2. Why is diffusion considered to be a passive process?
3. Gaseous movement within the plants takes place through which process?
4. What is facilitated diffusion?
5. When is the rate of transport across the membrane maximum during facilitated

diffusion?

6. What is meant by uphill transport?

7. Give an expression to show the relationship between $\square w$, $\square s$ & $\square p$.

8. Define Osmosis.

9. What is meant by isotonic solution?

10. Name the 2 pathways of movement of water into the deeper layers of the root.

11. Mention 2 factors that help in symplastic movement..

12. What is root pressure?

13. Name the experiment used to identify the tissues through which food is transported.

14. Which element that forms structural component in plants, is not remobilised?

Two marks

1. List the factors that affect the rate of diffusion.
2. Mention the 2 properties of facilitated diffusion.
3. Draw a labelled diagram to show facilitated diffusion across the membrane.(with the help of aquaporins) - diagram from text book
4. Differentiate between symport & antiport.
5. What are the 2 factors on which osmosis depends?
6. What is meant by osmotic pressure & osmotic potential?
7. What is plasmolysis? When does it occur?
8. What is imbibition? Give 2 examples.
9. Write a note on mycorrhiza.
10. Mention the external factors that affect transpiration.
11. Mention the internal factors that affect transpiration.
12. List the chief sinks for mineral elements.
13. What does phloem sap contain?
14. Describe the girdling experiment.
15. What are porins? What role do they play in diffusion?
16. C4 plants are twice as efficient as C3 plants. Why?

Five marks

1. Describe an experiment to demonstrate osmosis.
2. Describe the structures of a stomata. How is opening and closing of stomata.
3. Explain the process of transpiration driven ascent of xylem sap.
4. Explain the pressure flow hypothesis for translocation of sugar.

Chapter 12: MINERAL NUTRITION

One marks Questions:

1. Who demonstrated the plants growing in soil free nutrition or hydroponics for the first time?
2. Define hydroponics?
3. What is mineral nutrition?
4. What is meant by necrosis?
5. What is meant by chlorosis?
6. What is biological nitrogen fixation?
7. What is ammonification?
8. What is nitrification?
9. What is denitrification?
10. What are macronutrients? What are Micronutrients/trace elements?
11. What is critical concentration?
12. What are deficiency symptoms?
13. What are toxicity symptoms?

14. Name the enzyme capable of fixing atmospheric nitrogen.
15. Name the oxygen scavenger during nitrogen fixation.

Two marks Questions:

1. Draw a labeled diagram of a typical set up for nutrient solution culture (hydro-phonic technique).
2. Give examples of micronutrients.
3. Give examples of macronutrients.

THREE MARK QUESTIONS:

1. Give three criteria for essentiality of an element in plants.
2. In which chemical form the following essential elements absorbed as by the plants.
a). Boron b). Molybdenum c). Nitrogen d). Iron e) Sulphur f). Phosphorus.

Five mark questions:

1. Explain the process of nodule formation in leguminous plants by Rhizobium
2. Write the schematic representation of nitrogen cycle.
3. Write the available form and physiological role of the following essential nutrient elements?
a. Nitrogen b. Calcium. c. Manganese d. Pottassium e. Iron f. Sulphur g. Chlorine
4. What are the essential elements? How they are Classified into 4 groups based on functions with one Example for each group of essential elements?
5. What is fate of ammonia? Explain two ways to Synthesis amino acids from ammonia in plants.

Chapter 13:PHOTOSYNTHESIS IN HIGHER PLANTS

One mark questions

1. What is Photosynthesis?
2. Which form of energy do plants use to synthesise organic Compounds?
3. The leaf which is partially covered with black paper does not show the presence of starch. Why?
4. Whose experiment showed that air is essential for green plants?
5. Who described the action spectrum of Photosynthesis?
6. Give the correct equation that represents overall process of Photosynthesis.
7. Who demonstrated that Photosynthesis is light dependent reaction?
8. What is light reaction?
9. What is dark reaction?
10. What are Photosynthesis pigments?
11. Name the most abundant pigment in plants.
12. Define Photophosphorylation .
13. Which is the site of non-cyclic photo phosphorylation?
14. Name the first product formed when CO_2 is fixed during dark reaction in C_3 cycle.
15. Name the first product formed when CO_2 is fixed during dark reaction in C_4 cycle.
16. Name the primary acceptor of CO_2 in C_3 cycle.
17. Name the primary acceptor of CO_2 in C_4 cycle.
18. Name the enzyme involved in carboxylation in C_3 cycle.
19. Name the enzyme involved in carboxylation in C_4 cycle.
20. Name the enzyme that synthesise ATP.
21. Define photo respiration.

22. How many turns of C₃ cycle are required for the synthesis of one molecule of glucose?
23. How many ATP are required for fixation of one molecule of CO₂ in Calvin Cycle?
24. How many NADPH is required For fixation of one molecule of CO₂ in Calvin's Cycle?
25. State blackman's law of limiting factor.
26. Who proposed the law of limiting factor?
27. What is absorption spectrum?

Two Marks questions

1. Name the four factors required for Photosynthesis.
2. Name the Photosynthetic pigments.
3. Mention the external factors that affect the rate of Photosynthesis
4. Mention the functions or significance of accessory pigments?
5. What are C₃ Plants? Give Example.
6. What are C₄ Plants? Give Example.
7. Mention the internal factors that affect the rate of Photosynthesis.
8. Draw the neat labelled diagram of section of chloroplast.
9. Write the Schematic representation of Cyclic Photophosphorylation

Five Marks questions

1. Explain the Z scheme of the light reaction.
2. Explain with schematic representation C₃ Cycle.
3. Explain with schematic representation C₄ Cycle.
4. Differentiate between PS I and PS II.
5. Describe the half leaf experiment to show that CO₂ is necessary for Photosynthesis.
6. Draw a graph showing absorption spectrum of chlorophyll a, b and carotenoids, and explain.
7. Describe Priestley's bell jar experiment to show that plants restore air that the animals breath and burning candles remove.
8. Explain the process of synthesis of ATP through chemiosmosis.

CHAPTER 14: RESPIRATION IN PLANTS

ONE MARK QUESTIONS

1. Define cellular respiration.
2. What are respiratory substrates?
3. Name the energy currency of cell.
4. What is Glycolysis?
5. Which is the common step for both aerobic and anaerobic respiration?
6. Name the site of Glycolysis.
7. Give the equation of aerobic respiration.
8. Name the two carbon component forms during Krebs's Cycle.
9. Why Krebs's Cycle is called as citric acid cycle?
10. Which is the site of Krebs's Cycle?
11. Name the final electron acceptor in terminal oxidation.
12. Why respiratory pathway considered as amphibolic pathway?
13. Define respiratory quotient.
14. What is the RQ value of carbohydrate?

TWO MARKS QUESTIONS

1. Name the products of glycolysis.
2. Draw the labelled diagram of mitochondrion.

3. Write a note on Gateway of Kreb's cycle.

FIVE MARKS QUESTIONS

1. Mention any four differences between aerobic and anaerobic respiration.
2. Explain "The respiratory pathway is an amphibolic pathway".
3. Explain EMP pathway or glycolysis.
4. Write down the schematic representation of glycolysis.
5. Write down the schematic representation of kreb's cycle.
6. Explain kreb's cycle.
7. Explain with schematic representation the process of fermentation or anaerobic respiration.

CHAPTER 15: PLANT GROWTH AND DEVELOPMENT

ONE MARK QUESTIONS

1. Define development.
2. Define differentiation.
3. Define redifferentiation.
4. Define growth rate
5. What is open form of growth?
6. What is arithmetic growth?
7. What is plasticity?
8. Define photoperiodism
9. What are plant growth regulators?
10. Define vernalisation.

Two marks questions

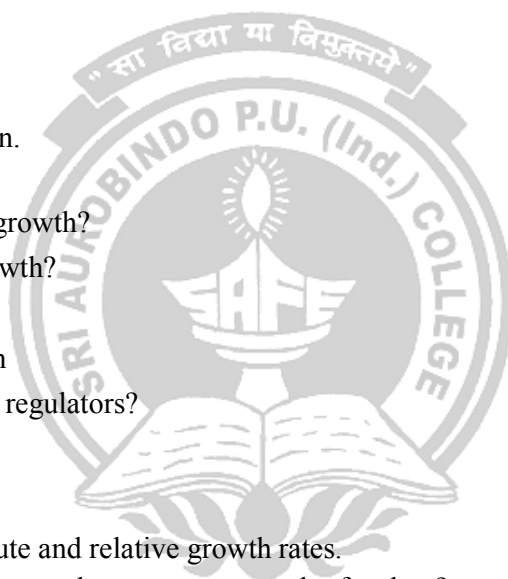
1. Describe briefly absolute and relative growth rates.
2. What are the parameters used to measure growth of a plant?
3. What are plant growth promoters? Give an example.
4. Define vernalisation. Mention two varieties of plants based on vernalisation.
5. Differentiate between determinate and indeterminate growth.

Three mark questions

1. Describe briefly sigmoid growth curve
2. Name the three phases of growth.
3. Differentiate between arthmatic growth and geometric growth.

Five marks questions

1. Write any five practical applications of Auxins.
2. List five main groups of natural plant growth regulators. Write a note on discovery, physiological functions and agricultural/horticultural applications of auxin, gibberllin, cytokinins, ethylene and abscisic acid .
3. Explain the arithmetic and geometric growth rate in plant growth.



CHAPTER 16: DIGESTION AND ABSORPTION

One Mark Questions.

1. Define the term Digestion.
2. What is meant by thecodont condition.
3. Give the dental formula in Man
4. Mention the function of pyloric sphincter
5. Which is the antibacterial agent present in the saliva?
6. In which part of the small intestine does digestion take place?

Two marks questions

1. Name the different types of teeth present in the oral cavity?
2. Mention the four different layers found in the transverse section of gut?
3. Explain the function of salivary amylase.
4. Describe the role of Bile in digestion.
5. What are the components of saliva?

Three mark questions:

1. Explain the role of enzymes in digestion
2. Briefly explain the process of carbohydrate digestion in small intestine.
3. Briefly explain the process of protein digestion in small intestine.

Five marks questions

1. Describe the structure of liver
2. Explain the process of fat digestion and absorption in the alimentary canal
3. List all the enzymes present in the pancreatic juice and mention their action
4. Explain how proteins are digested in the alimentary canal
5. Explain the role of intestinal juice in digestion
6. Explain how carbohydrates are digested in the alimentary canal

CHAPTER 17: BREATHING AND EXCHANGE OF GASES

One mark questions

1. Expand IRV/RV/TV/TLC/ERV
2. What is emphysema.
3. What is asthma?
4. Name the structural and functional units of respiratory system.
5. Name the muscles involved in breathing.

Two mark questions

1. Distinguish between Inspiration and Expiration.
2. Mention the factors which help in binding of O₂ with haemoglobin.
3. Differentiate inspiration and expiration.
4. Briefly explain the transport of CO₂ as bicarbonates.
5. Write a note on internal and external respiration

Three mark Questions

1. Define the terms: a) Residual volume b) vital capacity c) Total Lung capacity
2. Define the terms a) Inspiration b) Tidal volume c) Residual volume

3. Write a note on oxygen dissociation curve.

CHAPTER 18: BODY FLUIDS AND CIRCULATION

One mark questions:

1. Which Blood group is considered as Universal recipient/donor?
2. What is Angina pectoris?
3. Name the respiratory pigment in man.
4. What is serum?
5. Which part of the heart is called pace maker?
6. Expand ECG.
7. What is cardiac output?
8. What is heart attack?
9. What is cardiac arrest?

Two mark questions

1. When Rh –ve pregnant women carries Rh +ve foetus ,there is Rh incompatibility. What is the condition called? How can it be cured.
2. Mention the different types of antibodies present in A and B blood groups.
3. Briefly explain the process of coagulation of blood.

Three mark questions

1. Explain the pathway of pulmonary circulation
2. Write a note on regulation of heart beat.

Five mark questions:

1. Sketch schematic plan of Blood circulation in man.
2. Explain the structure of human heart with diagram.
3. Draw a neat labelled diagram of section of Human Heart.
4. Explain the structure of human heart with diagram.
5. Explain the double circulation in human.
6. Describe the conduction system of human heart.

CHAPTER 19: EXCRETORY PRODUCTS AND THEIR ELIMINATION

One mark questions

1. Name the disease caused by inflammation of joint due to accumulation of Uric acid crystals.
2. Define glomerular filtrate.
3. What are renal calculi?

Two mark questions

4. What are uricotellic organisms? Give two example.
5. What are ureotellic organisms? Give two example.
6. What are ammonotellic organisms? Give two example.

7. a) Which respiratory disease is characterized with wheezing due to inflammation of Bronchi?
b) Which habitual behavior in man is the major cause of emphysema?
8. Mention any two functions of ADH.
9. Mention any two metabolic disorders which can be diagnosed by an analysis of urine.

Three mark questions

1. Briefly explain Glomerular filtration
2. Mention the excretory products the following.
3. a) Lungs b) Liver c) Skin
4. Differentiate ureotellic and uricotellic animals

Five mark questions:

1. Draw a neat labelled diagram of structure of a nephron.
2. Explain the steps involved in urine formation.
3. Draw a neat labeled diagram of human urinary system.
4. Sketch and label the L.S of human kidney

CHAPTER 20: LOCOMOTION AND MOVEMENT

One mark questions:

1. Which neurotransmitter is associated with muscle contraction?
2. Which band is formed of only thin filaments?
3. Which filaments possesses ATP binding site?
4. Which filaments possesses binding site for calcium?
5. Which bone is also called as tongue bone?
6. How many bones contribute to form appendicular skeleton in humans?
7. Which vertebra is called as atlas?
8. How many true ribs are found in humans?
9. What type of joint is seen in the neck?
10. Which ribs are called floating ribs?

Two marks questions:

1. Name the two major structural joints.
2. Mention the types of movements.
3. Name the red coloured oxygen storing pigment present in muscle .These red coloured are called aerobic muscle. Give reason.

Three marks questions:

1. Mention any three types of synovial joints.
2. How many bones are present in
 - a) Human skeletal system
 - b) Skull
 - c) Vertebral column
3. Write a note on contractile proteins.
4. Explain the types of movements.
5. Write a note on human skull.

Five marks questions:

1. Describe the ultra structure of a skeletal muscle fibre.
2. Explain the physiology of muscle contraction.
3. Explain the different disorders of muscular and skeletal system.

CHAPTER 21: NEURAL CONTROL AND COORDINATION

One mark questions

1. Name the part of forebrain which connects Cerebral hemispheres
2. What is Reflex Action?
3. Identify the part of brain which expresses emotions
4. Name the tube connects the middle ear cavity with the pharynx.
5. Which part of brain contains corpora quadrigemina?
6. What is resting potential?
7. What is action potential?
8. Mention two main parts of human neural system.

Two mark questions

1. Define the terms -reflex action and reflex arc.
2. What are Myelinated Neurons? Where do you find them?
3. Where are the hormone receptors located? Give the diagrammatic representation of steroid hormone action.

Three mark questions

1. Mention the three layers of cranial meninges.
2. Why transmission of impulse across an electrical synapse is always faster?

Five mark questions

1. Draw a neat labeled diagram of a neuron
2. Draw a neat labeled diagram of human eye.
3. Explain the structure of neuron.
4. Draw a labeled diagram of human brain
5. Explain the mechanism of hearing
6. Write any one function of the following parts of human brain
a)hypothalamus b)medulla c)cerebellum d)limbic lobe e)thalamus.

CHAPTER 22: CHEMICAL CONTROL AND COORDINATION

One mark questions

1. Name the hormone which decreases blood glucose level
2. Which is the largest gland in human body?
3. Expand ADH
4. Which lobe of the Pituitary secretes melanocyte stimulating hormone?

Five mark questions

1. Name any five hormones secreted by the pituitary gland and mention any one function of each

2. Write any five hormones produced by anterior Pituitary gland and mention role of each hormone
3. What are hormone receptors? Classify the hormones based on chemical nature, giving an example for each.
4. List the functions of thyroid hormones.
5. Write the schematic representation of hormonal action.



