

UNIT – I

1. THE LIVING WORLD

1. What are the various features of living organisms?
2. What is meant by Binomial Nomenclature? Who introduced it?
3. What are the various guidelines to be followed for naming of an organism?
4. Define; Classification, Taxonomy, Identification, Systematics and Taxon.
5. Define Taxonomic Hierarchy. What are the various levels in taxonomic hierarchy?
6. Define Species.
7. Write the systematic position of Man, Housefly, Mango and Wheat.
8. What are the various taxonomical aids used for understanding the principles of Taxonomy?
9. Write short notes on Herbarium, Botanical gardens, Museum, Zoological parks & Key.
10. Expand: ICBN, ICZN.
11. Name the publication of Linnaeus.

CHAPTER – 2: BIOLOGICAL CLASSIFICATION

1. What are the two kingdoms in two kingdom classification? Why it is inadequate?
2. Who proposed five kingdom system of classification? What were the main criteria taken for classifying organisms into five kingdoms?
3. Write the characteristic features of kingdom Monera.
4. How bacteria are classified based on their shape?
5. Differentiate photosynthetic autotrophs from Chemosynthetic autotrophs.
6. Write a note on Archaeobacteria.
7. What are Eubacteria? Give their features.
8. What are Heterocysts? Where they are found?
9. Which are the smallest bacteria?
10. Write the economic importance of bacteria. (Mention both benefits and harms).
11. Write the salient features of kingdom Protista.
12. Write a note on chrysophytes, Dianoflagellates, Euglenoids, Slime moulds and Protozoans.
13. Write the general features of kingdom fungi.
14. What are lichen & mycorrhiza? Explain how both algae and fungi are benefited in Lichen.
15. Write the economic importance of various fungi.
16. What are the various steps involved in sexual reproduction of fungi?
17. What is meant by Dikaryon?
18. On what basis fungi were classified? Write the features of Phycomycetes, Ascomycetes, Basidiomycetes and Deuteromycetes.
19. What is the causative agent of 'flu' in human? Write the features of viruses.
20. Who gave the name virus? What does it mean?
21. Who showed that viruses can be crystalised and crystal consists of proteins?
22. What are Bacteriophages?
23. What are viroids? Who discovered them?

CHAPTER - 3: PLANT KINGDOM

1. Differentiate the artificial system of classification from Natural system_of classification.
2. Define the following.
Numerical taxonomy, Cytotaxonomy, Chemotaxonomy, Phylogenetic classification.
3. Differentiate the following.
 - (i) Isogamy, anisogamy and oogamy.
 - (ii) Chlorophyceae, Phaeophyceae and Rhodophyceae.
4. Write the economic importance of Algae.
5. How the reserve food materials are stored in green alga, brown alga and red alga?
6. Name the following;
 - a. The photosynthetic pigments present in green alga.
 - b. The photosynthetic pigments present in red and brown alga.
 - c. The alga from which Agar is extracted.
 - d. Name any two Hydrocolloid substances extracted from red & brown algae.
 - e. Name the root like, stem like & leaf like structures seen in algae.
7. What is alternation of generation? Explain it with reference to the life cycle of Moss plant.
8. What are Gemmae?
9. Write the economic importance of Bryophytes.
10. Explain the life history of Fern plant.
11. Differentiate Homosporous and Heterosporous condition.
12. Name the four classes of Pteridophyta.
13. Explain the life history of Gymnosperm plant.
14. Differentiate the male cone from female cone in gymnosperms.
15. Explain the life history of flowering plant with a neat sketch.
16. Name the smallest and tallest flowering plant.
17. What is double fertilization? What are the products of double fertilization?
18. What is triple fusion & syngamy?
19. Explain the Haplontic, Diplontic and Haplo-diplontic life cycles with the help of neat sketches.
20. How can you differentiate the Dicots from Monocots by studying external features?
21. Both Gymnosperms and Angiosperms bear seeds, then why are they classified separately?

CHAPTER – 4: ANIMAL KINGDOM

1. Name the phyla that show following features.
 - a. The multicellular animals with only cellular level of organization.
 - b. with only tissue level of organization.
 - c. with only organ level of organization.
 - d. with organ system grade of organization.
2. Differentiate the following.
 - a. Asymmetry, Radial and Bilateral symmetry.
 - b. Diploblastic and Triploblastic organisms.
 - c. Open and Closed circulatory system
 - d. Acoelomata, Pseudocoelomata and Coelomata.
3. What is Metamerism? In which animals it is seen?
4. Write the general features of phylum Porifera.
5. What is the significance of canal system in sponges?
6. Write the general features of Cnidaria and Ctenophora.
7. What is Metagenesis? Explain with reference to the example you have studied.
8. Differentiate polyp from medusa.
9. What is Bioluminescence?
10. Write the general features of phylum Platyhelminthes and Aschelminthes.
11. With which organism the following organelles are associated? Mention their functions.
 - a. Flame cells
 - b. Nephridia
 - c. Parapodia
 - d. Malphigian tubules
 - e. Trachea
 - f. Foot
 - g. Tube feet
 - h. Cnidoblasts
 - i. Radula
12. Write the general features of phylum Annelida and Arthropoda.
13. Differentiate the following
 - i. Monoecious and Dioecious
 - ii. Direct and Indirect development.
 - iii. Oviparous and Viviparous.
14. Write the general features of Echinodermata and Hemichordata.
15. What are the three fundamental features of all chordates?
16. Write the differences between Chordates and Nonchordates.
17. Write the general features of Cyclostomes.
18. Differentiate the following
 - (i) Cartilaginous fishes and Bony fishes.
 - (ii) Poikilothermy and Homiothermy
19. Write the general features of class Amphibia and Reptilia.
20. Write the general features of class Aves and Mammalia.

UNIT - II

CHAPTER – 5: MORPHOLOGY OF FLOWERING PLANTS

1. Differentiate the tap root system from fibrous root system.
2. Explain the various regions of root with the help of neat labeled diagram.
3. What are the adventitious roots?
4. Explain the various types of root modifications with the help of examples.
5. Explain the various types of stem modifications with the help of examples.
6. Differentiate
 - a. Reticulate and Parallel venation.
 - b. Simple and Compound leaves.
 - c. Pinnately and Palmately compound leaves.
7. What is Phyllotaxy? Explain the various types of Phyllotaxy.
8. Explain the various types of leaf modifications.
9. Differentiate the Racemose and Cymose inflorescences.
10. Differentiate
 - a. Unisexual and Bisexual flowers.
 - b. Actinomorphic and Zygomorphic flowers.
 - c. Hypogynous , Perigynous and Epigynous flowers.
 - d. Superior and Inferior ovaries.
11. Define Aestivation . Explain the various types of aestivations in flower.
12. Describe the various parts of a flower.
13. What is staminode?
14. Differentiate monoadelphous, diadelphous and polyadelphous stamens.
15. Define Placentation. Explain the various types of placentation seen in plants.
16. What are Parthenocarpic fruits?
17. Explain the structure of dicot and monocot seed with the help of neat labeled diagrams.

CHAPTER – 6: ANATOMY OF FLOWERING PLANTS

1. Define tissue.
2. Differentiate meristematic and permanent tissues.
3. Differentiate the parenchyma , collenchyma and sclerenchyma.
4. Explain the various types of complex tissues and mention their functions.
5. Differentiate the
 - a. Protoxylem and metaxylem
 - b. Exarch and endarch xylem
6. What are the various components of epidermal tissue? Explain.
7. Differentiate
 - a. Open and closed vascular bundles.
 - b. Radial and Conjoint vascular bundles.
 - c. Collateral and bicollateral vascular bundles.
8. Explain the internal structure of dicot and monocot stems with help of neat labeled diagrams.
9. Explain the internal structure of dicot and monocot roots with the help of neat labeled diagrams.
10. Explain the vertical section of dicot and monocot leaves with the help of neat labeled diagrams.
11. Explain how the secondary growth occur in dicot stem?
12. Explain how the secondary growth occur in dicot root?
13. Differentiate the following
 - a. Spring wood & autumn wood
 - b. Sap wood & heart wood
14. What are lenticels?

CHAPTER – 7: STRUCTURAL ORGANISATION IN ANIMALS

1. Define tissue.
2. What are the various types of epithelial tissues? Describe them with the help of diagrams.
3. What are the various types of cell junctions found in epithelium and other tissues?
4. Differentiate the exocrine and endocrine glands.
5. Explain the various types of connective tissues and their location in the animal body.
6. Describe the different types of muscle fibres.
7. Describe the structure of nerve cell with the help of labeled diagram.
8. Explain the external features of Cockroach with the help of diagram.
9. How can you say that Cockroach exhibits sexual dimorphism?
10. Draw labeled diagram that shows mouth parts of Cockroach.
11. Explain the digestive system of Cockroach with the help of labeled diagram.
12. Explain the excretory system of Cockroach in detail.
13. Explain the circulatory system of Cockroach in detail.
14. Explain the male & female reproductive system of Cockroaches with the help of neat labeled diagrams.

UNIT - III

CHAPTER – 8: CELL: THE UNIT OF LIFE

1. Who proposed the cell theory? What are the two main features of cell theory?
2. Describe the structure of prokaryotic cell.
3. Draw a well labeled diagram of eukaryotic plant cell & animal cell.
4. Explain the fluid mosaic model of plasma membrane with the help of neat labeled diagram.
5. Differentiate active transport and passive transport.
6. Explain the various components of endomembrane system.
7. Describe the structure and function of Mitochondria.
8. Differentiate the three different types of chloroplasts.
9. Describe the structure of chloroplast with the help of neat labeled diagram and specify its function.
10. Explain the structure of cilia & flagella.
11. How can you differentiate the followings?
 - (i) The plant cell from an animal cell.
 - (ii) Prokaryotic & Eukaryotic cell.
 - (iii) RER & SER.
 - (iv) Amyloplasts , elaioplasts & aleuroplasts.
12. Describe the ultra structure of Nucleus.
13. Explain how the chromosomes are classified based on the position of centromere.
14. What is mesosome in a prokaryotic cell? Mention the function that it performs.
15. What are nuclear pores? State their function.

CHAPTER – 9: BIOMOLECULES

1. Explain any two methods to analyse chemical composition of living tissues?
 2. List out some inorganic constituents of living tissues?
 3. Draw the structure of a) Glucose b) ribose c) Aminoacids (Alanine, Glycine and Serine d) Adenine e) Adenosine f) Glycerol g) Adenylic acid.
 4. Differentiate primary and secondary metabolites with examples.
 5. What are Bio-macromolecules?
 6. List out some major proteins and their functions.
 7. Explain how a disaccharide molecule is formed? Write the structures of maltose.
 8. What is meant by dehydration synthesis and hydrolytic splitting?
 9. What is the composition of triglyceride molecule?
 10. Write short note on a) Polysaccharide b) Nucleic acid
 11. Explain the primary, secondary, tertiary and quaternary structure of protein molecule.
 12. Differentiate between DNA and RNA.
 13. Describe the structure of DNA and mention its function.
 14. What are glycosidic bonds and peptide bonds?
 15. Differentiate between anabolism and catabolism.
 16. What is catalyst?
 17. Why enzymes are called biocatalysts?
 18. Differentiate between prosthetic group and co-enzyme.
 19. What is an active site of an enzyme molecule?
 20. Define activation energy.
 21. How can you say that enzymatic reactions are faster than non-enzymatic reactions?
 22. Explain the properties of an enzyme molecule.
 23. How substrate concentration does affect the velocity of an enzyme action?
 24. How can we calculate the rate of enzyme reaction?
 25. What is a 'chemical reaction'? Explain with an example.
 26. Name the fastest enzyme in human body.
 27. Describe the different steps involved in the catalytic cycle of an enzyme action.
 28. What are the factors which affect the enzyme activity?
 29. What is competitive inhibition? Explain with an enzyme.
 30. Describe the important properties of enzymes.
 31. What are co-factors?
 32. Describe the classification and nomenclature of enzymes.
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CHAPTER – 10 : CELL CYCLE AND CELL DIVISION

1. What is cell cycle?
2. What is the average cell cycle span for a mammalian cell?
3. Describe the events taking place during Interphase.
4. What is G_0 phase of cell cycle?
5. Differentiate the karyokinesis from cytokinesis.
6. In which phase of interphase duplication of DNA will occur?
7. Why mitosis is also called as equational division?
8. Describe the various stages of mitosis with the help of neat labeled diagram.
9. How does cytokinesis differ in plant cell from an animal cell?
10. Write the significance of Mitosis.
11. Explain the various stages of prophase I with the help of neat labeled diagrams.
12. Differentiate
 - (i) Metaphase I of meiosis from Metaphase of mitosis
 - (ii) Anaphase I of meiosis from Anaphase of mitosis.
13. Write a note on significance of Meiosis.
14. Differentiate between Mitosis from Meiosis.

UNIT – IV

CHAPTER – 11 : TRANSPORT IN PLANTS

1. Define the following: Translocation, diffusion, facilitated diffusion, porins, symport, antiport, uniport, active transport, passive transport, water potential, osmosis, osmotic potential, plasmolysis, isotonic, hypotonic, hypertonic, turgor pressure, imbibition, Apoplast & symplast pathway, root pressure, guttation, capillarity, transpiration, adhesive & cohesive forces.
2. What is water potential? What is the unit of measuring water potential? Name the factors that influence water potential.
3. Differentiate the Apoplastic movement of water from Symplastic movement.
4. What happens to the water potential of a solution (i) when pressure applied is more (ii) when more solutes are added?
5. Why apoplastic movement of water is not possible beyond the cortex?
6. What is Diffusion? What is its significance?
7. What is the covering membrane of vacuole?
8. What are Plasmodesmata?
9. What is Osmosis? Describe an experiment to demonstrate osmosis.
10. What is Plasmolysis?
11. Define the Imbibition. What are the two conditions needed for osmosis to take place?
12. Discuss briefly the two important theories that explain the upward movement of water.
13. How is water transported up to the leaves in trees which may be more than 100 m high?
14. What is Transpiration? Mention its significance.
15. How does the following factor influence the rate of transpiration?
(i) light (ii) temperature (iii) humidity (iv) wind (v) water.
16. Describe the cohesion theory of movement of water through the xylem in tall trees.
17. Explain how the opening and closure of stomata occurs?
18. What is the significance of transpiration?
19. Explain why xylem transport is unidirectional and phloem transport is bi-directional?
20. Explain pressure flow hypothesis of translocation of sugars in plants.
21. How is Mycorrhizal association helpful in absorption of water and minerals.

CHAPTER – 12 : MINERAL NUTRITION

Define the following: Hydroponics, macronutrients, micronutrients, critical concentration, influx & efflux, active and passive absorption, Nitrogen fixation, ammonification, nitrification & denitrification, Symbiotic N₂ fixation, leghaemoglobin, transamination and reductive amination.

1. What are the three criteria for an element to be considered as essential for plant life?
2. What is hydroponics? Mention its two uses.
3. Write any four functions of (i) potassium (ii) phosphorus (iii) magnesium (iv) calcium
4. Name the element which is involved in (i) the synthesis of auxin (ii) fixation of Nitrogen (iii) In the formation of chlorophyll (iv) in photolysis of water (v) in the formation of middle lamella of plant cells (vi) opening & closure of stomata.
5. Name two sulphur containing amino acids.
6. Differentiate between inner space & outer space of cells.
7. Describe Mass flow hypothesis for the movement of ions .
8. What are the various steps involved in biological nitrogen fixation in plants?
9. Write a short note on reductive amination & transamination.
10. Describe how root nodules are formed in plants?
11. What is leghaemoglobin? What is its role?
12. Why is that in certain plants deficiency symptoms appear first in younger parts of the plant while in others they do so in mature organs?.

CHAPTER – 13: PHOTOSYNTHESIS IN HIGHER PLANTS

1. Define the following: Photosystem, photolysis of water, Rubisco, translocation
2. Which photosystem will work if only longer wavelengths of light are given to a plant?
3. Where does chlorophyll absorb light in the visible spectrum?
4. What is meant by photolysis of water in photosynthesis?
5. Who demonstrated that oxygen is liberated during photosynthesis comes out from water?
6. Write the simplified equation of photosynthesis given by Van Niel.
7. Name the reaction centres of photosystem I and II.
8. How is the excited PS II brought back to the ground state?
9. Expand RUBP, PAR, NADP, PEP, RUBP.
10. Name the primary acceptor of CO₂ in a rice plant?
11. Name two C₄ plants, C₃ plants.
12. Where is PS I located in the chloroplast?
13. Mention one useful role of photorespiration to plants.
14. Where does the formation of glycine take place in a C₃ plant, during photorespiration?
15. Differentiate between action spectrum & Absorption spectrum.
16. State the law of limiting factors. Who proposed this for photosynthesis?
17. Specify how C₄ photosynthetic pathway increases carbon dioxide concentration in bundle sheath cells of sugar cane.
18. Photorespiration poses threat to plants, yet it occurs in angiosperms. Why?
19. Write any four differences between
 - (i). C₃ plants and C₄ plants.
 - (ii) anatomy of leaf in C₃ and C₄ plants.,
20. What is the advantage of having more than one pigment molecule in photosystem?
21. Bring out any four differences between cyclic & non-cyclic photophosphorylations.
22. Explain Calvin cycle..
23. Where does non-cyclic photo phosphorylation take place? Describe the process. Why is the process referred to as non-cyclic?
24. Rubisco carries a dual role as carboxylase as well as oxygenase. Explain both the reactions. Under what conditions does this shift from one to the other take place?

CHAPTER – 14: RESPIRATION IN PLANTS

1. Define the following: Respiration, respiratory substrate, Aerobic & anaerobic respiration, fermentation, respiratory quotient,
2. Define respiratory quotient. Give the RQ values of carbohydrates, fats, organic acids.
3. Which is the common step for both aerobic & anaerobic respiration? Where does it takes place?
4. Who proposed the various steps of glycolysis? Explain the various steps of glycolysis.
3. Describe lactic acid & alcoholic fermentation.
4. What is oxidative decarboxylation?
5. Explain the various steps of citric acid cycle.
6. Explain how does the acetyl co.A is formed. Where is it formed?
7. Name the connecting link between the glycolysis and Kreb's cycle.
8. How many molecules of ATP are formed when one molecule of FADH₂ & NADH₂ is oxidized?
9. Illustrate the mechanism of electron transport system.
10. What are the two ways in which ATP is produced during glycolysis?
11. Why does anaerobic respiration produce less energy than aerobic respiration?
12. Give a detailed account on the number of ATP molecules produced through various steps in aerobic oxidation of one molecule of glucose.
13. Discuss “ the respiratory pathway is an amphibolic pathway”.

CHAPTER – 15: PLANT GROWTH AND DEVELOPMENT

- 1. Define differentiation, development, redifferentiation, dedifferentiation, determinate growth, meristem and growth rate.**
- 2. What are the various phases of growth?**
- 3. What are the various conditions needed for growth?**
- 4. Describe briefly (a) auxins (b) gibberellins (c) cytokinins (d) ethylene (e) abscisic acid**
- 5. What is meant by photoperiodism? What are Long day plants, Short day plants and Day neutral plants?**
- 6. What is Vernalisation?**
- 7. Describe briefly (a) arithmetic growth (b) geometric growth (c) sigmoid growth curve.**
- 8. Name the fungus from which gibberellins were extracted.**
- 9. Who discovered auxins, gibberellins and cytokinins?**

UNIT – V

CHAPTER – 16: DIGESTION AND ABSORPTION

1. Define digestion.
2. Draw a well labeled diagram of human digestive system.
3. Describe the various terms used for dentition in human.
4. Write the dental formula of human.
5. Explain the histology of wall of alimentary canal.
6. Write a note on various digestive glands in human .
7. Explain the physiology of digestion of food.
8. State the role of pancreatic juice in digestion of proteins.
9. Bile juice contains no digestive enzymes, yet it is important for digestion. Why?
10. What is the role of HCl secreted in stomach?
11. How are polysaccharides & disaccharides digested?
12. Discuss the main steps in the digestion of proteins as the food pass through different parts of the alimentary canal.
13. How does butter in your food get digested and absorbed in the body?
14. What is deglutition?
15. Explain and write a brief note on various disorders of digestive system.

CHAPTER – 17: BREATHING AND EXCHANGE OF GASES

1. Define respiration.
2. Draw a well labeled diagram of human respiratory system.
3. How do the following organisms respire?
 - (a) Earthworm
 - (b) Aquatic arthropods
 - (c) Terrestrial vertebrates
4. What are the various steps involved in respiration?
5. Explain the mechanism of breathing.
6. Define the following.
 - (a) Tidal volume
 - (b) Inspiratory reserve volume
 - (c) Expiratory reserve volume
 - (d) Residual volume
 - (e) Inspiratory capacity
 - (f) Expiratory capacity
 - (g) Functional residual capacity
 - (h) Vital capacity
 - (i) Total lung capacity
7. Explain the mechanism of exchange of gases.
8. Explain how O_2 & CO_2 is transported?
9. Define oxygen dissociation curve. Can you suggest any reason for its sigmoidal pattern?
10. How is respiration regulated?
11. Write a note on Asthma, Emphysema and Occupational disorders.

CHAPTER – 18: BODY FLUIDS AND CIRCULATION

1. Name the components of the formed elements in the blood. Mention one major function of each.
2. What is the importance of plasma proteins?
3. Why do we consider blood as a connective tissue?
4. Which blood group is called Universal donor & which is called Universal recipient?
5. Write a note on erythroblastosis foetalis.
6. Explain the mechanism of coagulation of blood.
7. What is lymph?
8. Differentiate open circulatory system from closed circulatory system.
9. Draw a well labeled diagram of section of human heart.
10. Define cardiac cycle & the cardiac output.
11. What is meant by double circulation? What is its significance?
12. Differentiate between (i) systole & diastole (ii) P wave & T wave.
13. Why do we call our heart as myogenic?
14. Sino atrial node is called pace maker of our heart. Why?
15. What is the significance of AV node & AV bundles in the functioning of heart?
16. How does lubb & dub sounds are created?
17. Explain the different segments of ECG.
18. Describe the evolutionary change in the pattern of heart among the vertebrates.
19. How the activities of heart are regulated?
20. Write a note on the following.
 - (i) Hypertension
 - (ii) Coronary artery disease
 - (iii) Angina
 - (iv) Heart failure.

CHAPTER – 19: EXCRETORY PRODUCTS AND THEIR ELIMINATION

1. Differentiate Ammonotelism, Ureotelism & Uricotelism .
2. Draw a well labeled diagram of human urinary system.
3. Draw a well labeled diagram of longitudinal section of kidney.
4. Explain the various parts of nephron with neat labeled diagram.
5. .Explain the mechanism of urine formation.
6. Give a brief account of counter current mechanism.
7. Define glomerular filtration rate.
8. Describe the role of liver, lungs and skin in excretion.
9. Explain micturition.
10. What is meant by the term osmoregulation?
11. What is the significance of JGA in kidney function?
12. What is uremia?
13. Explain how haemodialysis is done.
14. What is glycosuria, ketonuria , glomerulonephritis, renal calculi.
15. Terrestrial animals are generally either ureotelic or uricotelic, not ammonotelic.
Why?

CHAPTER – 20: LOCOMOTION AND MOVEMENT

1. Differentiate amoeboid, ciliary and flagellary movement.
2. Differentiate skeletal, visceral and cardiac muscles.
3. Describe the structure of skeletal muscle.
4. Explain the sliding filament theory of muscle contraction.
5. Explain the role of calcium ions in the muscle contraction.
6. How many bones are there in the skeletal system of human?
7. Write the various components of axial skeleton and appendicular skeleton.
8. What are joints? How the joints are classified?
9. Explain the structure of pectoral and pelvic girdle.
10. How many pairs of ribs are present in human? How they are classified?
11. How the vertebrae in the vertebral column are classified?
12. Explain in brief various disorders related to muscular and skeletal systems.
13. Differentiate between (i) actin & myosin (ii) red & white muscles (iii) pectoral & pelvic girdle.

CHAPTER – 21: NEURAL CONTROL AND COORDINATION

1. Differentiate (i) CNS and PNS(ii) Afferent & Efferent fibres (iii) Myelinated & Nonmyelinated nerve fibres.
2. Draw a well labeled diagram of neuron.
3. Define nerve impulse. Explain how a nerve impulse is propagated across non-myelinated nerve fibre.
4. Explain the structure of synapse.
5. What are the two types of synapse?
6. Explain the various components of forebrain, midbrain and hind brain.
7. Sketch the reflex arc.
8. Draw a neat labeled diagram of eye.
9. Explain the various parts of eye.
10. Draw a neat labeled diagram of various parts of ear.
11. Differentiate between (i) impulse conduction in myelinated nerve fibre & nonmyelinated nerve fibre (ii) aqueous humor & vitreous humor (iii) blind spot & yellow spot (iv) cranial nerves & spinal nerves (v) rods & cones (vi) Dendrites & axons (vii) myelinated & nonmyelinated axons (viii) thalamus & hypothalamus (ix) resting potential & action potential.
12. Give a brief account of (a) mechanism of synaptic transmission (b) mechanism of vision (c) mechanism of hearing.

CHAPTER – 22: CHEMICAL COORDINATION AND INTEGRATION

1. Define (a) exocrine gland (b) endocrine gland (c) hormone
2. Explain the various hormones secreted by various parts of pituitary gland.
3. How hypothalamus will regulate the functioning of pituitary gland.
4. Explain the role of thymus gland. Where are adrenal glands located? What are the various secretions of adrenal cortex & adrenal medulla?
5. Where is pancreas located? What are the secretions of pancreas? How they regulate carbohydrate metabolism?
6. How does diabetes mellitus occur?
7. Explain the hormones of testis & ovary.
8. Explain the hormones of heart, kidney and gastrointestinal tract.
9. How the hormones are classified based on their chemical composition?
10. Which hormonal deficiency is responsible for the following?
(a) diabetes mellitus (b) goiter (c) cretinism
11. Give examples of (a) hyper glycaemic hormone and hypoglycaemic hormone
(b) Hypercalcaemic hormone (c) gonado trophic hormone (d) Blood pressure lowering hormone.
