

# BRILLIANT PUBLIC SCHOOL , SITAMARHI

(Affiliated up to +2 level to C.B.S.E., New Delhi)

Affiliation No. - 330419



## XI-Biology Worksheet

Session : 2014-15

Office: Rajopatti, Dumra Road, Sitamarhi(Bihar), Pin-843301  
Website: [www.brilliantpublicschool.com](http://www.brilliantpublicschool.com); E-mail: [brilliantpublic@yahoo.com](mailto:brilliantpublic@yahoo.com)  
Ph.06226-252314, Mobile: 9431636758, 9931610902

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#1 : The Living World -01**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is biodiversity?

(1 Mark)

Q2 - What is taxon?

(1 Mark)

Q3 - Expand the terms ICBN and ICZN.

(1 Mark)

Q4 - Differentiate between a Botanical garden and a Zoological park?

(2 Marks)

Q5 - Name any two species of genus *Panthera* .

(2 Marks)

Q6 - Why is the standardisation of naming the living organisms, necessary?

(2 Marks)

Q7 - Draw the flow chart of taxonomic hierarchy in ascending order. Give the examples of highest category.

(3 Marks)

Q8 - Who introduced the system of nomenclature? What is this system? Mention its universal rules to follow.

(5 Marks)

Q9 - Explain about the usage of key as a taxonomic aid.

(3 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Write the scientific name of mango.

(1 Mark)

Q2 - What are the basics of taxonomy?

(2 Marks)

Q3 - What is classification?

(2 Marks)

Q4 - Give two examples of organisms, which can not reproduce?

(2 Marks)

Q5 - How would you place an organism in various categories?

(3 Marks)

Q6 - Define the lowest category of taxonomic hierarchy with the help of examples.

(3 Marks)

Q7 - How are different organisms preserved in a museum?

(2 Marks)

Q8 - Have you ever realised the amazing diversity of living organisms. Comment in detail.

(5 Marks)

**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - Write any four unique features of living organisms.

(1 Mark)

Q2 - What is growth? How the growth in plants is different from animal growth?

(2 Marks)

Q3 - Define the term nomenclature.

(2 Marks)

Q4 - What is reproduction?

(2 Marks)

Q5 - What is metabolism? Can it take place outside a living body?

(2 Marks)

Q6 - What is the most obvious and technically complicated feature of all living organisms?

(2 Marks)

Q7 - Explain true regeneration with the help of examples?

(3 Marks)

Q8 - What is taxonomy? Write the essential features to make taxonomic studies.

(3 Marks)

Q9 - What do you know about systematics?

(3 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#2 : Biological Classification-01**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is biodiversity?

(1 Mark)

Q2 - What is taxon?

(1 Mark)

Q3 - Expand the terms ICBN and ICZN.

(1 Mark)

Q4 - Differentiate between a Botanical garden and a Zoological park?

(2 Marks)

Q5 - Name any two species of genus *Panthera* .

(2 Marks)

Q6 - Why is the standardisation of naming the living organisms, necessary?

(2 Marks)

Q7 - Draw the flow chart of taxonomic hierarchy in ascending order. Give the examples of highest category.

(3 Marks)

Q8 - Who introduced the system of nomenclature? What is this system? Mention its universal rules to follow.

(5 Marks)

Q9 - Explain about the usage of key as a taxonomic aid.

(3 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#2 : Biological Classification-02**

**Full Marks: 20**

**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - Give a brief account of viruses, mentioning structure & nature of genetic material. Name any four viral diseases.

(5 Marks)

Q2 - Why do we keep food in refrigerator?

(1 Mark)

Q3 - What are hyphae and mycelium?

(2 Marks)

Q4 - What are partially heterotrophic plant?

(2 Marks)

Q5 - Explain alternation of generation?

(2 Marks)

Q6 - How are viroids different from viruses?

(2 Marks)

Q7 - Discuss mode of nutrition in Bacteria.

(3 Marks)

Q8 - Do you think that some kind of future changes may take place in present system of classification, if yes why?

(3 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#2 : Biological Classification-03**

**Full Marks: 20**

**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - What type of nucleus is present in eukaryota?

(1 Mark)

Q2 - Name one edible fungus?

(1 Mark)

Q3 - What is holozoic mode of nutrition?

(1 Mark)

Q4 - What does the term red tides signify?

(2 Marks)

Q5 - How are viroids different from viruses?

(2 Marks)

Q6 - What are lichens?

(2 Marks)

Q7 - What do you know about Archaeobacteria?

(3 Marks)

Q8 - Discuss mode of nutrition in Bacteria.

(3 Marks)

Q9 - What are the means of reproduction in fungi? Write the steps involved in sexual cycle?

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Who gave the natural system of classification for flowering plants?

(1 Mark)

Q2 - Which are the amphibians of the plant kingdom?

(1 Mark)

Q3 - What types of seeds are produced by gymnosperms?

(1 Mark)

Q4 - Mention the dominant phases in the life cycles of bryophytes and pteridophytes.

(2 Marks)

Q5 - How are angiosperms different from gymnosperms? Give two main points.

(2 Marks)

Q6 - Differentiate between liverworts and moss.

(2 Marks)

Q7 - How does the sexual reproduction take place in algae? Explain with examples.

(3 Marks)

Q8 - Write any three economic importance of algae.

(3 Marks)

Q9 - Describe the predominant stage of the life cycle of a moss.

(5 Marks)



**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - Explain with the help of figures and example the haplontic life cycle pattern in plant kingdom.

(5 Marks)

Q2 - How much amount of total carbon dioxide is fixed on the earth by algae?

(1 Mark)

Q3 - How are cones formed in gymnosperms?

(2 Marks)

Q4 - How are angiosperms different from gymnosperms? Give two main points.

(2 Marks)

Q5 - Explain the terms isogamy and anisogamy?

(2 Marks)

Q6 - What information do we gather from Numerical Taxonomy for the biological classification of plants?

(2 Marks)

Q7 - When and where does reduction division take place in the life cycle of a moss, fern and gymnosperm?

(3 Marks)

Q8 - Describe the fertilization in gymnosperms.

(3 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Draw the neat & labeled figures of any two members each from algae, bryophytes and pteridophytes.

(5 Marks)

Q2 - What is the basis of phylogenetic classification systems?

(1 Mark)

Q3 - What type of plant body do bryophytes have?

(2 Marks)

Q4 - What are gemmae? Where are they found?

(2 Marks)

Q5 - Explain with example about homosporous & heterosporous pteridophytes.

(2 Marks)

Q6 - What are sporophylls?

(2 Marks)

Q7 - Name three main classes of algae with examples and write the pigments present in them.

(3 Marks)

Q8 - How does the sporophyte develop in bryophytes?

(3 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is coelom? How are animals classified on the basis of coelom? Describe in brief with the help of diagrams.

(5 Marks)

Q2 - Differentiate between open type and closed type of circulatory system.

(2 Marks)

Q3 - What is notochord? How are animals divided on the basis of notochord?

(2 Marks)

Q4 - Write any two important features found in platyhelminthes.

(2 Marks)

Q5 - Describe the characteristic features of the largest phylum of kingdom Animalia.

(3 Marks)

Q6 - Write any three peculiar features found in class Aves.

(3 Marks)

Q7 - Which phylum does show the presence of spongin fibres in its organisms?

(1 Mark)

Q8 - Give two examples of phylum Ctenophora.

(1 Mark)

Q9 - Why are Urochordates also called as Tunicates?

(1 Mark)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Write two peculiar features of Ctenophora giving one example with diagram.

(3 Marks)

Q2 - What is metamerism?

(2 Marks)

Q3 - Differentiate the two body forms exhibited by cnidarians.

(2 Marks)

Q4 - Describe the body structure of sponges.

(3 Marks)

Q5 - Differentiate between chondrichthyes and osteichthyes.

(5 Marks)

Q6 - Show the division of sub-phylum vertebrate using a flow chart.

(3 Marks)

Q7 - Define bioluminescence.

(1 Mark)

Q8 - What is radula?

(1 Mark)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is metamerism?

(2 Marks)

Q2 - Write any two important features found in platyhelminthes.

(2 Marks)

Q3 - Differentiate the two body forms exhibited by cnidarians.

(2 Marks)

Q4 - Write any three peculiar features found in class Aves.

(3 Marks)

Q5 - Describe the class Mammalia.

(5 Marks)

Q6 - Show the division of sub-phylum vertebrate using a flow chart.

(3 Marks)

Q7 - Which phylum does show the presence of spongin fibres in its organisms?

(1 Mark)

Q8 - Define bioluminescence.

(1 Mark)

Q9 - Name the second largest animal phylum.

(1 Mark)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - How is pinnately compound leaf different from a palmately compound leaf?

(2 Marks)

Q2 - Draw the V.S. of a monocotyledonous seed with proper labeling.

(2 Marks)

Q3 - Describe in brief the main regions of the root tip with the help of diagram.

(3 Marks)

Q4 - How is a floral formula represented? Describe.

(3 Marks)

Q5 - How will you describe the floral characters of family Liliaceae with the help of its floral diagram & floral formula?

(5 Marks)

Q6 - How is racemose inflorescence different from cymose?

(2 Marks)

Q7 - What are pneumatophores? Write one example with them.

(1 Mark)

Q8 - Define an inflorescence.

(1 Mark)

Q9 - Give the floral formula of solanaceae.

(1 Mark)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Draw the arrangement of floral members in relation to their insertion on thalamus.

(3 Marks)

Q2 - How will you describe the floral characters of family Liliaceae with the help of its floral diagram & floral formula?

(5 Marks)

Q3 - How is the root system of dicotyledons different from that of monocotyledons plants?

(2 Marks)

Q4 - How is racemose inflorescence different from cymose?

(2 Marks)

Q5 - Describe any two modifications of stem with examples.

(2 Marks)

Q6 - What are actinomorphic, zygomorphic and asymmetric flowers?

(3 Marks)

Q7 - Define gamosepalous condition.

(1 Mark)

Q8 - Define an inflorescence.

(1 Mark)

Q9 - Name two types of loose connective tissue.

(1 Mark)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - How is pinnately compound leaf different from a palmately compound leaf?

(2 Marks)

Q2 - Describe any three types of aestivation of corolla in flower.

(3 Marks)

Q3 - How will you describe the floral characters of family Liliaceae with the help of its floral diagram & floral formula?

(5 Marks)

Q4 - How is the root system of dicotyledons different from that of monocotyledons plants?

(2 Marks)

Q5 - Describe any two modifications of stem with examples.

(2 Marks)

Q6 - What are actinomorphic, zygomorphic and asymmetric flowers?

(3 Marks)

Q7 - What is Scutellum?

(1 Mark)

Q8 - Name two layers of a seed coat.

(1 Mark)

Q9 - Give the floral formula of solanaceae.

(1 Mark)



**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Draw the well-labelled figure of stomatal apparatus of grasses.

(2 Marks)

Q2 - Draw illustrations to bring out the anatomical differences between monocot and dicot stem.

(3 Marks)

Q3 - (i) State the location and function of different types of meristems.

(ii) Draw a labelled diagram of transverse section of dicot leaf.

(5 Marks)

Q4 - What is tissue? Name two main groups of plant tissue.

(2 Marks)

Q5 - What are endarch and exarch xylem? Where are they found?

(2 Marks)

Q6 - Why are xylem and phloem called complex tissues? Describe their components briefly.

(3 Marks)

Q7 - What are meristems?

(1 Mark)

Q8 - Where are the bulliform cells found?

(1 Mark)

Q9 - What is another name for phloem fibres.

(1 Mark)

**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - Draw the well-labelled figure of stomatal apparatus of grasses.

(2 Marks)

Q2 - Draw any three figures of various types of vascular bundles found in angiosperms.

(3 Marks)

Q3 - What is tissue? Name two main groups of plant tissue.

(2 Marks)

Q4 - How are permanent tissues formed? Name its two main types.

(2 Marks)

Q5 - What are the three types of simple tissues? Write about the cellular morphology exhibited by them along with the diagram.

(3 Marks)

Q6 - (i) What is periderm? How does periderm formation takes place?

(ii) Explain the formation of lenticels and its function.

(5 Marks)

Q7 - Name the anatomical layer in a root from which lateral roots arise.

(1 Mark)

Q8 - What is the function of companion cells?

(1 Mark)

Q9 - What are the components of periderm?

(1 Mark)

**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - Draw the well-labelled figure of stomatal apparatus of grasses.

(2 Marks)

Q2 - Draw any three figures of various types of vascular bundles found in angiosperms.

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(3 Marks)

Q6 - (i) What is periderm? How does periderm formation takes place?

(ii) Explain the formation of lenticels and its function.

(5 Marks)

Q7 - What is the function of companion cells?

(1 Mark)

Q8 - Where are the bulliform cells found?

(1 Mark)

Q9 - Define intrafascicular cambium.

(1 Mark)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Name three types of muscles and where are they found? Draw figures also.

(3 Marks)

Q2 - Draw a neat & labeled diagram of digestive system of frog.

(5 Marks)

Q3 - How is an organ system formed? Give examples.

(2 Marks)

Q4 - Name the fine fibrils constituting a muscle. How do the muscles help in the body movements?

(2 Marks)

Q5 - Write the type of mouthparts found in cockroach and what do they consist of?

(2 Marks)

Q6 - Write the structure and function of bone?

(3 Marks)

Q7 - Name two types of loose connective tissue.

(1 Mark)

Q8 - What is the function of tendons?

(1 Mark)

Q9 - In which process do the villi help?

(1 Mark)

Time: 30 min

**A.I.P.M.T.Foundation - XI Biology Worksheet**  
**Ch#7 : Structural Organisation in Animals-02**

Full Marks: 20

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Write notes on nervous system and the sensory system in earthworm.

(5 Marks)

Q2 - What is a connective tissue? Name its types.

(2 Marks)

Q3 - How are frogs beneficial to mankind?

(2 Marks)

Q4 - Describe the epithelial tissue. How are its two main types different from each other?

(3 Marks)

Q5 - How does the excretion takes place in cockroach?

(3 Marks)

Q6 - How is the event triggered in a neuron? What is the function of neuroglia?

(3 Marks)

Q7 - Write the function of tight junction.

(1 Mark)

Q8 - Which organism has the malpighian tubules?

(1 Mark)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Draw a neat & labeled diagram of digestive system of frog.

(5 Marks)

Q2 - What is a connective tissue? Name its types.

(2 Marks)

Q3 - Name the fine fibrils constituting a muscle. How do the muscles help in the body movements?

(2 Marks)

Q4 - Write the type of mouthparts found in cockroach and what do they consist of?

(2 Marks)

Q5 - Write the structure and function of bone?

(3 Marks)

Q6 - How is the event triggered in a neuron? What is the function of neuroglia?

(3 Marks)

Q7 - Name two types of loose connective tissue.

(1 Mark)

Q8 - Write the function of tight junction.

(1 Mark)

Q9 - Which organism has the malpighian tubules?

(1 Mark)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#8 : Cell : The Unit of Life -01**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Who proposed the cell theory?

(1 Mark)

Q2 - Give two difference between animal and plant cell.

(2 Marks)

Q3 - Name the person who has given the fluid mosaic model of plasma membrane.

(1 Mark)

Q4 - What does 9+2 arrangement represent?

(1 Mark)

Q5 - Define the role of contractile vacuole.

(2 Marks)

Q6 - Give the difference between chloroplast, chromoplast and leucoplast.

(2 Marks)

Q7 - Draw the fluid mosaic model of plasma membrane.

(3 Marks)

Q8 - What are the three differences between SER and RER?

(3 Marks)

Q9 - Differentiate between eukaryotic and prokaryotic cell?

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#8 : Cell : The Unit of Life -02**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Expand PPLO.

(1 Mark)

Q2 - What is the function of mesosome in bacterial cell wall?

(1 Mark)

Q3 - Give the location where the enzymes of ETS are located in mitochondria.

(1 Mark)

Q4 - Define the function of polysome. When are they formed?

(2 Marks)

Q5 - What type of plant cell shows the presence of primary cell wall only?

(2 Marks)

Q6 - Give the difference between Euchromatin and Heterochromatin.

(2 Marks)

Q7 - Draw the labelled structure of mitochondria.

(3 Marks)

Q8 - Give the name and description of different types of chromosomes.

(3 Marks)

Q9 - Describe in detail the structure and function of chloroplast.

(5 Marks)



**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#8 : Cell : The Unit of Life -03**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Who proposed the cell theory?

(1 Mark)

Q2 - Expand PPLO.

(1 Mark)

Q3 - What does 9+2 arrangement represent?

(1 Mark)

Q4 - Which organelles take part in the formation of cytoskeleton?

(2 Marks)

Q5 - Give the difference between Euchromatin and Heterochromatin.

(2 Marks)

Q6 - Give the difference between chloroplast, chromoplast and leucoplast.

(2 Marks)

Q7 - Draw the labelled structure of mitochondria.

(3 Marks)

Q8 - Give the name and description of different types of chromosomes.

(3 Marks)

Q9 - Describe in detail the structure and function of chloroplast.

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#9 : Biomolecules-01**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Find out the protein, which held the negatively charged DNA.

(1 Mark)

Q2 - What are biomolecules?

(1 Mark)

Q3 - What are the differences between starch and cellulose?

(2 Marks)

Q4 - Name the most abundant protein of the animal world and in the whole of the biosphere.

(1 Mark)

Q5 - What is the relation between cofactor, coenzyme, apoenzyme and holoenzyme?

(2 Marks)

Q6 - What are the enzyme inhibitors? What are the types?

(3 Marks)

Q7 - Define nucleoside. Give the name of the nucleoside present in DNA and RNA.

(3 Marks)

Q8 - Describe competitive inhibition.

(2 Marks)

Q9 - Describe primary, secondary, tertiary and quaternary structure of the protein ?

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#9 : Biomolecules-02**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What does - C- stand for in an amino acid?

(1 Mark)

Q2 - What are secondary metabolites?

(1 Mark)

Q3 - What is the source of essential amino acids inside the human body?

(1 Mark)

Q4 - What are the number of carbon atoms in palmitic acid and arachidonic acid?

(1 Mark)

Q5 - Differentiate between right handed and left handed helix.

(2 Marks)

Q6 - What is  $K_m$  value? What is its significance?

(2 Marks)

Q7 - Describe phospholipids with examples?

(2 Marks)

Q8 - How will you describe the conversion of milk into curd?

(2 Marks)

Q9 - What are the differences between saturated and unsaturated fatty acids? Explain with examples.

(3 Marks)

Q10 - Describe the structure of DNA with diagram as given by Watson and Crick ?

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#9 : Biomolecules-03**

**Full Marks: 20**

**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - What would you call the filtrate technically?

(1 Mark)

Q2 - Give the name of some aromatic amino acid?

(1 Mark)

Q3 - Give name of one phospholipid.

(1 Mark)

Q4 - What is  $K_m$  value? What is its significance?

(2 Marks)

Q5 - Describe phospholipids with examples?

(2 Marks)

Q6 - What are the differences between saturated and unsaturated fatty acids? Explain with examples.

(3 Marks)

Q7 - Define nucleoside. Give the name of the nucleoside present in DNA and RNA.

(3 Marks)

Q8 - Describe competitive inhibition.

(2 Marks)

Q9 - Describe primary, secondary, tertiary and quaternary structure of the protein ?

(5 Marks)

**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - What are the two basic phases of cell cycle ?

(1 Mark)

Q2 - In which phase of the cell division the chromosomes are set free in the cytoplasm?

(1 Mark)

Q3 - In which part of the body do mitosis and mieosis occur?

(1 Mark)

Q4 - What is crossing over?

(2 Marks)

Q5 - What is the difference in the cytokinesis of plant cell and animal cell?

(2 Marks)

Q6 - What is synaptonemal complex?

(2 Marks)

Q7 - What is the significance of mitosis?

(3 Marks)

Q8 - What is the difference between:

- (i) Zygotene and Pachytene
- (ii) Metaphase I and Metaphase II
- (iii) Dikinesis and cytokinesis

(5 Marks)

Q9 - Give the diagrammatic representation of stages of the meiosisI.

(3 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#10 : Cell Cycle and Cell Division-02**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Cell growth is a continuous process (in terms of cytoplasmic increase). Is it right or wrong?

(1 Mark)

Q2 - Synthesis of DNA takes place in which part of the cell cycle?

(1 Mark)

Q3 - Define metaphase plate.

(1 Mark)

Q4 - What is the difference between G1 and G2 phase?

(2 Marks)

Q5 - Define kinetochores with the function?

(2 Marks)

Q6 - What is the significance of crossing over?

(2 Marks)

Q7 - The two basic phases of the cell cycle are interphase and M-phase. Write the differences between two?

(3 Marks)

Q8 - Describe the event of the cell cycle.

(5 Marks)

Q9 - Give the diagrammatic representation of stages of the meiosisI.

(3 Marks)

**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - In which phase, proteins are synthesized for the preparation of mitosis?

(1 Mark)

Q2 - What is quiescent stage?

(1 Mark)

Q3 - What is the alternative name of meiosis?

(1 Mark)

Q4 - Why is cell division necessary?

(2 Marks)

Q5 - What is synaptonemal complex?

(2 Marks)

Q6 - What is the significance of crossing over?

(2 Marks)

Q7 - What is the significance of mitosis?

(3 Marks)

Q8 - Why are the chromosomes changed into long, fine chromatin fibres in the interphase?

(3 Marks)

Q9 - Describe the event of the cell cycle.

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#11 : Transport in Plants-01**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Describe the two pathways of water absorption through the roots of the plant. Support your answer with help of a diagram.

(3 Marks)

Q2 - Which factor can alter the diffusion rate?

(1 Mark)

Q3 - When does the transport rate reach maximum in the facilitated diffusion?

(1 Mark)

Q4 - What are porins? Name the pores through which guttation takes place.

(2 Marks)

Q5 - What are pumps?

(1 Mark)

Q6 - Define water potential. How does the addition of solutes affect the water potential?

(2 Marks)

Q7 - What is symport, antiport and uniport?

(2 Marks)

Q8 - What is plasmolysis? When does it occur and what happens in this process?

(3 Marks)

Q9 - (i) What is the mass flow hypothesis?

(ii) What are the basic features of this hypothesis?

(5 Marks)



**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#11 : Transport in Plants-02**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Why is diffusion very important to plants?

(1 Mark)

Q2 - Which factors affect the diffusion rates?

(1 Mark)

Q3 - Why does the active transport use energy?

(1 Mark)

Q4 - What occurs in the process of diffusion?

(2 Marks)

Q5 - Which type of substances find it easy to pass through the membrane and why the movement of other substances facilitated?

(2 Marks)

Q6 - Which pressure is responsible for the pushing up water to small heights?

(2 Marks)

Q7 - What is solute potential and pressure potential and how they affect the water potential?

(3 Marks)

Q8 - Write the difference between mass flow and diffusion.

(3 Marks)

Q9 - Write a brief account about the source and sink concept of the plants.

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Describe the two pathways of water absorption through the roots of the plant. Support your answer with help of a diagram.

(3 Marks)

Q2 - Which factor can alter the diffusion rate?

(1 Mark)

Q3 - When does the transport rate reach maximum in the facilitated diffusion?

(1 Mark)

Q4 - What are porins? Name the pores through which guttation takes place.

(2 Marks)

Q5 - What are pumps?

(1 Mark)

Q6 - Define water potential. How does the addition of solutes affect the water potential?

(2 Marks)

Q7 - What is symport, antiport and uniport?

(2 Marks)

Q8 - What is plasmolysis? When does it occur and what happens in this process?

(3 Marks)

Q9 - (i) What is the mass flow hypothesis?

(ii) What are the basic features of this hypothesis?

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Which element acts as cofactor for nitrogenase?

(1 Mark)

Q2 - Which enzyme is responsible for reduction of nitrogen to ammonia?

(1 Mark)

Q3 - What is the name of oxygen binding pigment in leguminous plants?

(1 Mark)

Q4 - What is the difference between macro and micro-nutrients?

(2 Marks)

Q5 - Which mineral element is the part of:

- (i) ring structure of chlorophyll
- (ii) structure of nitrogenase.

(2 Marks)

Q6 - Give the name of the following: -

- (i) Free living nitrogen-fixing bacteria
- (ii) Free living aerobic nitrogen-fixing bacteria
- (iii) Symbiotic nitrogen fixing bacteria

(3 Marks)

Q7 - What is meant by symbiotic nitrogen fixation? Explain.

(3 Marks)

Q8 - How will you describe chlorosis? What are the elements which causes chlorosis?

(2 Marks)

Q9 - Draw the diagram of N-cycle.

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Which element is essential for synthesis of auxin?

(1 Mark)

Q2 - What is a toxic element?

(1 Mark)

Q3 - How  $\text{Ca}^{++}$  is involved in the cell division in plants?

(1 Mark)

Q4 - Some bacteria carry out nitrification. Why? What are they called?

(2 Marks)

Q5 - What is the form in which plants absorb molybdenum? Give any two deficiency symptoms.

(2 Marks)

Q6 - Explain the assimilation of nitrogen by plants.

(2 Marks)

Q7 - What are the criteria of essentiality of the elements?

(3 Marks)

Q8 - How does leghaemoglobin protect the nitrogenase? What is the deficiency symptom of the iron?

(3 Marks)

Q9 - Describe the formation of root nodules in leguminous plants with diagram.

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Plants do not accumulate ammonium ions. Why?

(1 Mark)

Q2 - Define ion channels.

(1 Mark)

Q3 - Name any anaerobic nitrogen fixing bacteria.

(1 Mark)

Q4 - Explain the assimilation of nitrogen by plants.

(2 Marks)

Q5 - Which mineral element is the part of:

- (i) ring structure of chlorophyll
- (ii) structure of nitrogenase.

(2 Marks)

Q6 - What is the reason of presence of more protein in legume plants?

(2 Marks)

Q7 - What is meant by symbiotic nitrogen fixation? Explain.

(3 Marks)

Q8 - What are the criteria of essentiality of the elements?

(3 Marks)

Q9 - Describe the formation of root nodules in leguminous plants with diagram.

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is the function of the membrane system of chloroplast?

(1 Mark)

Q2 - Who demonstrated the evolution of oxygen in plants during photo-oxidation of water?

(1 Mark)

Q3 - What is the first stable product of C-3 cycle in case of plants?

(1 Mark)

Q4 - Write two differences between PS-I and PS-II.

(2 Marks)

Q5 - Define photosynthesis. Which pigment is found in all types of plants?

(2 Marks)

Q6 - Differentiate between action and absorption spectrum of light during photosynthesis.

(3 Marks)

Q7 - Write the characteristics of C4 plants.

(2 Marks)

Q8 - Expand RuBP. Where is it found in the C3 plants? What is its initial role in the biosynthetic process?

(3 Marks)

Q9 - Where does Calvin cycle take place. Explain the process in detail.

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is the role of pigment in plants?

(1 Mark)

Q2 - Name the most abundant protein on the earth.

(1 Mark)

Q3 - Which region of the spectrum shows higher rate of photosynthesis?

(1 Mark)

Q4 - Define dark reaction. Why is it effected by temperature?

(2 Marks)

Q5 - Define the structure of the light harvesting complex.

(2 Marks)

Q6 - Name the hormones which increases and decreases the rate of photosynthesis.

(2 Marks)

Q7 - What was the conclusion of the experiment of Priestley? Explain the experiment.

(3 Marks)

Q8 - Describe the Blackman's Law of Limiting Factors.

(3 Marks)

Q9 - Write a brief account on chemo osmotic theory.

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is the concentration of CO<sub>2</sub> in the atmosphere?

(1 Mark)

Q2 - Name the important pigment molecules of the plants .

(1 Mark)

Q3 -At which state does photolysis of water occur?

(1 Mark)

Q4 - Give any two reasons by which we can say that photosynthesis is a important phenomenon.

(2 Marks)

Q5 - Describe how C<sub>3</sub> and C<sub>4</sub> plants respond differently under different CO<sub>2</sub> concentration.

(3 Marks)

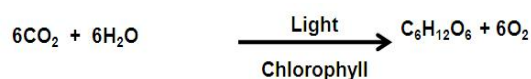
Q6 - (i) Explain the mechanism of photorespiration.

(ii) Name the organells involved in the process.

(iii) Why do plants need to overcome photorespiration?

(5 Marks)

Q7 - Correct the following equation.



(1 Mark)

Q8 - Draw the structure of the chloroplast.

(3 Marks)

Q9 - Show the diagrammatic representation of Z-scheme of light reaction during photosynthesis.

(3 Marks)



**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Which is the first substrate in the process of glycolysis?

(1 Mark)

Q2 - Write two differences between glycolysis and Krebs's cycle.

(2 Marks)

Q3 - What is substrate level phosphorylation?

(1 Mark)

Q4 - Which components have complex IV in ETS?

(2 Marks)

Q5 - What is fermentation and what are its end products?

(2 Marks)

Q6 - What is the function of phosphofructokinase in glycolysis?

(1 Mark)

Q7 - What is the role of oxygen, NADH<sub>2</sub> and F<sub>0</sub>-F<sub>1</sub> particles in oxidative phosphorylation?

(3 Marks)

Q8 - Write the significance of citric acid cycle.

(3 Marks)

Q9 - Explain the major steps of glycolysis?

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#14 : Respiration in Plants-02**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - How much ATP molecules generate from oxidative phosphorylation of one molecule of  $\text{NADH}^+$ ?

(1 Mark)

Q2 - How can you define oxidative phosphorylation?

(2 Marks)

Q3 - By which process proton gradient is established?

(2 Marks)

Q4 - Why Kreb's cycle is also called as TCA cycle?

(1 Mark)

Q5 - What is the difference between aerobic respiration and fermentation?

(3 Marks)

Q6 - Show the diagrammatic representation of formation of ATP.

(3 Marks)

Q7 - Show the diagrammatic representation of ETS.

(3 Marks)

Q8 - What are the essential features of the TCA cycle?

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Define respiration.

(1 Mark)

Q2 - How much energy is liberated from the fermentation of glucose?

(1 Mark)

Q3 - By which process proton gradient is established?

(2 Marks)

Q4 - Which components have complex IV in ETS?

(2 Marks)

Q5 - What is fermentation and what are its end products?

(2 Marks)

Q6 - What is the function of phosphofructokinase in glycolysis?

(1 Mark)

Q7 - Write the significance of citric acid cycle.

(3 Marks)

Q8 - Show the diagrammatic representation of formation of ATP.

(3 Marks)

Q9 - What are the essential features of the TCA cycle?

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - State the differences between primary and secondary growth in plants.

(2 Marks)

Q2 - Name the three phases of growth in a plant.

(3 Marks)

Q3 - What do you mean by absolute growth and relative growth? Illustrate with an example.

(3 Marks)

Q4 - What are the external factors or conditions that influence growth in plants?

(3 Marks)

Q5 - What is development?

(2 Marks)

Q6 - Write a note on the physiological effects of the plant growth regulators.

(5 Marks)

Q7 - What is photoperiodism?

(1 Mark)

Q8 - Define vernalisation.

(1 Mark)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - How is the growth measurement of the watermelon different from that of pollen tube?

(2 Marks)

Q2 - Differentiate between arithmetic growth and the geometric growth.

(3 Marks)

Q3 - What is growth rate? What are the two types of growth rates?

(2 Marks)

Q4 - What are the external factors or conditions that influence growth in plants?

(3 Marks)

Q5 - What is dedifferentiation?

(2 Marks)

Q6 - What are plant growth regulators? How were they discovered?

(5 Marks)

Q7 - What is photoperiodism?

(1 Mark)

Q8 - Define vernalisation.

(1 Mark)

Q9 - Which part of the plant does respond to photoperiodism?

(1 Mark)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Name the three phases of growth in a plant.

(3 Marks)

Q2 - Differentiate between arithmetic growth and the geometric growth.

(3 Marks)

Q3 - Write a note on the physiological effects of the plant growth regulators.

(5 Marks)

Q4 - What is photoperiodism?

(1 Mark)

Q5 - Define vernalisation.

(1 Mark)

Q6 - Which part of the plant does respond to photoperiodism?

(1 Mark)

Q7 - Why do the short day plants and long day plants cannot flower simultaneously in the same place?

(2 Marks)

Q8 - What is the role of auxins and cytokinins in the culture medium?

(2 Marks)

Q9 - What do you mean by open form of growth? Is development in plants open?

(2 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What are the major components of our food?

(1 Mark)

Q2 - Mention the parts of alimentary canal.

(2 Marks)

Q3 - What is the number of permanent teeth in an adult human being ?

(1 Mark)

Q4 - Describe pharynx.

(2 Marks)

Q5 - What are the three regions of small intestine ?

(2 Marks)

Q6 - What are the three regions of large intestine ?

(3 Marks)

Q7 - Describe the histology of alimentary canal.

(5 Marks)

Q8 - Write a brief note on liver .

(3 Marks)

Q9 - What is deglutition?

(1 Mark)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#16 : Digestion and Absorption-02**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is digestion ?

(1 Mark)

Q2 - How many (i) molar and (ii) premolar teeth are there in an adult human ?

(1 Mark)

Q3 - Describe buccal or oral cavity.

(2 Marks)

Q4 - Write a note on the parts of stomach with the help of a diagram.

(3 Marks)

Q5 - Name the glands associated with the digestive system.

(2 Marks)

Q6 - What is peristalsis?

(1 Mark)

Q7 - What is the role of buccal cavity in digestion?

(3 Marks)

Q8 - What are the functions of large intestine ?

(2 Marks)

Q9 - Write the absorption of substances in different part of the alimentary canal or digestive system.

(5 Marks)



**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#16 : Digestion and Absorption-03**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Name the substance that makes the chewing surface of teeth.

(1 Mark)

Q2 - What do you understand by oesophagus ?

(2 Marks)

Q3 - Draw a well-labelled diagram of human digestive system.

(5 Marks)

Q4 - What are the pairs of salivary glands ?

(2 Marks)

Q5 - Describe pancreas?

(2 Marks)

Q6 - What is chyme ?

(1 Mark)

Q7 - How does digestion take place in the stomach ?

(3 Marks)

Q8 - What is defaecation ?

(1 Mark)

Q9 - How does absorption of digested products occur? Explain with examples.

(3 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Define breathing.

(1 Mark)

Q2 - What is the use of oxygen in organisms ?

(1 Mark)

Q3 - Name the respiratory organs of (i) butterfly and (ii) frog larva.

(1 Mark)

Q4 - Name the respiratory organs of (i) leech (ii) insect.

(1 Mark)

Q5 - Describe the different pulmonary and respiratory capacities.

(5 Marks)

Q6 - How are respiratory gases transported in human blood?

(5 Marks)

Q7 - Describe the role of haemoglobin in transport of respiratory gases.

(3 Marks)

Q8 - Briefly explain the following terms:

- (i) Asthma
- (ii) Emphysema
- (iii) Occupational Respiratory Disorders

(3 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#17 : Breathing and Exchange of Gases-02**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Name the vertebrate that has gills for respiration.

(1 Mark)

Q2 - Draw a well labelled diagram of Human respiratory system.

(3 Marks)

Q3 - What are the different respiratory volumes involved in the breathing movements? Describe them and give their values in a normal human adult.

(5 Marks)

Q4 - Explain exchange of respiratory gases in the alveoli of human lungs.

(3 Marks)

Q5 - Draw Oxygen dissociation curve and mention its use very briefly.

(3 Marks)

Q6 - Describe the process or mechanism of regulation of respiration.

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**  
**Ch#17 : Breathing and Exchange of Gases-03**

**Time: 30 min**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - How do frogs respire ?

(1 Mark)

Q2 - Name the respiratory organs of (i) butterfly and (ii) frog larva.

(1 Mark)

Q3 - How is exchange of gases being carried out in an earthworm ?

(1 Mark)

Q4 - Draw a well labelled diagram of Human respiratory system.

(3 Marks)

Q5 - Explain exchange of respiratory gases in the alveoli of human lungs.

(3 Marks)

Q6 - Describe the role of haemoglobin in transport of respiratory gases.

(3 Marks)

Q7 - Describe the process or mechanism of regulation of respiration.

(5 Marks)

Q8 - Briefly explain the following terms:

- (i) Asthma
- (ii) Emphysema
- (iii) Occupational Respiratory Disorders

(3 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#18 : Body Fluids and Circulation-01**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What are the two fluids which help in transportation of material inside the human body ?

(1 Mark)

Q2 - What is blood ?

(1 Mark)

Q3 - What is serum ?

(1 Mark)

Q4 - Why are blood group 'O' and 'AB' are called as 'universal donor' and 'universal recipient' respectively?

(2 Marks)

Q5 - Describe the process of blood clotting.

(3 Marks)

Q6 - Differentiate between blood and lymph.

(2 Marks)

Q7 - Write the differences between open and closed circulatory systems.

(2 Marks)

Q8 - Draw a well-labelled diagram of human heart.

(3 Marks)

Q9 - What is Electrocardiogram ? Draw a standard ECG and explain the different segments in it.

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min**

**Ch#18 : Body Fluids and Circulation-02**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Name the various types of formed elements present in the blood.

(2 Marks)

Q2 - Name the four types of ABO blood groups. What is basis for such grouping ?

(2 Marks)

Q3 - What is the difference between Rh positive (Rh +ve) and Rh negative (Rh -ve) individuals?

(2 Marks)

Q4 - How is foetus with Rh+ blood affected if the mother is Rh- ?

(3 Marks)

Q5 - What is SA node ? Mention its location. Why is it called as pacemaker of the heart ?

(3 Marks)

Q6 - Name the two heart sounds. How are they produced ?

(2 Marks)

Q7 - Explain the steps involved in the different phases of cardiac cycle in humans.

(5 Marks)

Q8 - Write the full form of EEG and ECG.

(1 Mark)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is blood ?

(1 Mark)

Q2 - Draw a simple diagram of formed elements present in the blood.

(3 Marks)

Q3 - Write a brief note on plasma.

(3 Marks)

Q4 - What is serum ?

(1 Mark)

Q5 - Write a note on:

- (i) Erythrocytes
- (ii) Leucocytes
- (iii) Thrombocytes

(5 Marks)

Q6 - Differentiate between blood and lymph.

(2 Marks)

Q7 - Write the differences between open and closed circulatory systems.

(2 Marks)

Q8 - Name the two heart sounds. How are they produced ?

(2 Marks)

Q9 - Write the full form of EEG and ECG.

(1 Mark)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min   Ch#19 : Excretory products and Their Elimination-01**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Differentiate between Ammonotelic, Ureotelic and Uricotelic animals ?

(3 Marks)

Q2 - What is osmoregulation ?

(1 Mark)

Q3 - Draw a diagram of a nephron and label its parts.

(3 Marks)

Q4 - Define nephron ?

(1 Mark)

Q5 - What is glomerulus ?

(1 Mark)

Q6 - What are the two modes of tubular reabsorption from nephrons ? Give the name of some substances absorbed by each of these modes ?

(2 Marks)

Q7 - What is glomerular filtration rate? Write its value in a healthy human.

(2 Marks)

Q8 - How does the mammalian kidney produce urine?

(5 Marks)

Q9 - How does ADH control osmoregulation in human kidneys ?

(2 Marks)



**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min    Ch#19 : Excretory products and Their Elimination-02**

**Full Marks: 20**

**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - Define the term Excretion ?

(1 Mark)

Q2 - What are the major forms of nitrogenous wastes excreted by the animals ?

(1 Mark)

Q3 - Draw a well-labelled diagram of human excretory system ?

(3 Marks)

Q4 - Write down the functions of Kidney ?

(3 Marks)

Q5 - How does kidney plays a role in osmoregulation?

(2 Marks)

Q6 - What is the difference between dialysis and hemodialysis ?

(2 Marks)

Q7 - A nephron is differentiated into four major regions. Describe all the region of nephron ?

(5 Marks)

Q8 - Differentiate between Cortical nephrons and Juxta medullary nephrons ?

(2 Marks)

Q9 - What is micturition reflex ?

(1 Mark)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min    Ch#19 : Excretory products and Their Elimination-03**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Name the excretory organ present in vertebrates.

(1 Mark)

Q2 - Write the full form of ADH ?

(1 Mark)

Q3 - Mention the role of different segments of nephron:

- (i) Malpighian Corpuscle
- (ii) Proximal Convoluted Tubule (PCT)
- (iii) Henle's loop
- (iv) Distal Convoluted Tubule (DCT)
- (v) Collecting Duct

(5 Marks)

Q4 - Describe the role of Henle's Loop and Vasa recta in Counter current mechanism.

(3 Marks)

Q5 - Explain the process of Micturition.

(2 Marks)

Q6 - Mention the role of following organs in excretion:

- (i) Liver    (ii) Lung    (iii) Skin

(3 Marks)

Q7 - Discuss some of the disorders of the human excretory system.

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is the simplest form of movement ?

(1 Mark)

Q2 - Define myofibrils.

(2 Marks)

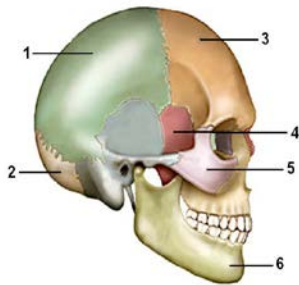
Q3 - Differentiate between Actin and Myosin.

(2 Marks)

Q4 - Describe sarcomere with the help of diagram.

(5 Marks)

Q5 -Label the marked parts (1-6) of the skull in the given diagram.



(3 Marks)

Q6 - Name the longest bone present in human body.

(1 Mark)

Q7 - The fusion of three bones forms coxal bone. Name these bones.

(1 Mark)

Q8 - Describe the classification of different joints.

(3 Marks)

Q9 -Name the type of movable joint present in the shoulder and in knee.

(2 Marks)

**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - What are the types of locomotion in animals?

(2 Marks)

Q2 - What are the advantages of locomotion?

(3 Marks)

Q3 - Explain the sliding filament theory of muscle contraction along with diagram .

(5 Marks)

Q4 - Define:

(i) Myoglobin

(ii) Red fibre

(iii) Muscle fatigue

(3 Marks)

Q5 - Write the role of calcium in muscle contraction ?

(2 Marks)

Q6 - How many pairs of ribs are present in the rib cage of a man?

(1 Mark)

Q7 - Write the name of a cavity in which head of femur fits in.

(1 Mark)

Q8 - Mention the name and number of bones present in human leg.

(3 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Mention any two different levels of movements in animals giving suitable examples.

(2 Marks)

Q2 - What is locomotion ?

(1 Mark)

Q3 - What is a muscle ? Write the characteristics of different types of muscles.

(5 Marks)

Q4 - Write the mechanism of cross bridge formation.

(3 Marks)

Q5 - How many bones comprise the axial skeleton?

(1 Mark)

Q6 -(a) Mention the name and number of different vertebrae present in the vertebral column.

(b) Label different vertebrae in the given diagram.



(3 Marks)

Q7 -How many ribs are there in man? Name their types.

(2 Marks)

Q8 - Name two disorders of human body joints and give their cause.

(3 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is movement ?

(1 Mark)

Q2 - Write the difference between with a suitable example for each of the given below

- (a) Autonomic and Induced Movements
- (b) Muscular and Non-muscular Movements

(5 Marks)

Q3 - Describe in detail the structure of actin filament along with a diagram.

(3 Marks)

Q4 - Represent diagrammatically the stages in the muscle contraction involving cross bridge formation.

(5 Marks)

Q5 - Write the names of all types of vertebrae present in vertebral column of human beings.

(2 Marks)

Q6 - Mention the name and number of bones present in human arm.

(3 Marks)

Q7 - What are joints?

(1 Mark)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Differentiate between nuclei and ganglia?

(2 Marks)

Q2 - Name the cells that secrete myelin sheath.

(1 Mark)

Q3 - Name the type of neurons found in spinal and cranial nerves?

(1 Mark)

Q4 - What are the two divisions of the nervous system in human beings?

(2 Marks)

Q5 - Describe the functioning of the human eye.

(3 Marks)

Q6 - Write the location of the following organs--Schwann cell, corpus callosum, blind spot, organ of corti.

(2 Marks)

Q7 - How do myelinated nerve fibres different from non-myelinated nerve fibres?

(3 Marks)

Q8 - Which part of the brain does control body temperature?

(1 Mark)

Q9 - Explain the pathway taken for the involuntary responses.

(5 Marks)

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What do you mean by coordination?

(1 Mark)

Q2 - Classify neurons on the basis of structure.

(2 Marks)

Q3 - Name the areas in the myelinated neurons where myelin sheath is absent?

(1 Mark)

Q4 - Explain the process of generation and conduction of a nerve impulse.

(5 Marks)

Q5 - What is the difference between rods and cones?

(3 Marks)

Q6 - Describe the mechanism of sound induced impulse in the ear.

(3 Marks)

Q7 - Briefly explain the structure of the cochlea .

(5 Marks)



**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What are the functional as well as structural units of nervous system?

(1 Mark)

Q2 - Classify neurons on the basis of number of axons and dendrites present in them giving one example to each.

(3 Marks)

Q3 - Name the two divisions of the peripheral nervous system?

(2 Marks)

Q4 - Which type of the nervous system controls the involuntary activities of the body?

(1 Mark)

Q5 - How are the afferent nerves different from the efferent nerves?

(2 Marks)

Q6 - Which part of the brain does control the emotions?

(1 Mark)

Q7 - How are nerve impulses transmitted?

(5 Marks)

Q8 - Describe the structure of an eye.

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min    Ch#22 : Chemical Coordination and Integration-01**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is to be called as ductless glands?

(1 Mark)

Q2 - Write a short note on Hypothalamus.

(3 Marks)

Q3 - What do you understand by releasing hormones and inhibiting hormones? Give example of each hormone.

(2 Marks)

Q4 - Write the functions of oxytocin.

(2 Marks)

Q5 - Mention some functions of Aldosterone.

(2 Marks)

Q6 - What is pancreas?

(1 Mark)

Q7 - What are the two types of cells in the Islet of Langerhans?

(1 Mark)

Q8 - What is glucagon and what are its function?

(3 Marks)

Q9 - Draw a diagram to show the location of endocrine glands in human.

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min    Ch#22 : Chemical Coordination and Integration-02**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What do you understand by the term hormones?

(1 Mark)

Q2 - Define Endocrine System.

(1 Mark)

Q3 - Give the functions of different hormones secreted by pars distalis and pars intermedia.

(3 Marks)

Q4 - Name the two types of tissues in adrenal gland.

(1 Mark)

Q5 - What are the three layers of adrenal cortex?

(2 Marks)

Q6 - Name the two hormone secreted by adrenal medulla. Why are these hormones called as emergency hormones or hormones of fight and flight?

(2 Marks)

Q7 - What is insulin and what are its functions?

(3 Marks)

Q8 - Write a note on testis.

(2 Marks)

Q9 - Write the functions of estrogens and progesterone.

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min    Ch#22 : Chemical Coordination and Integration-03**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is the difference between Adenohypophysis and Neurohypophysis?

(2 Marks)

Q2 - What are two hormones released by Neurohypophysis?

(1 Mark)

Q3 - Differentiate the role of luteinizing hormone (LH) and follicle stimulating hormone (FSH) between male and female.

(2 Marks)

Q4 - Name the disorders that occur due to the deficiency of iodine.

(1 Mark)

Q5 - What is the location of thymus in human body? Name the hormones it secretes.

(2 Marks)

Q6 - What are corticoids?

(1 Mark)

Q7 - What are the functions of androgens?

(3 Marks)

Q8 - Write a note on Ovary.

(3 Marks)

Q9 - Represent diagrammatically the mechanism of steroid hormone action.

(5 Marks)

**A.I.P.M.T.Foundation - XI Biology Worksheet**

**Time: 30 min    Ch#22 : Chemical Coordination and Integration-04**

**Full Marks: 20**

**Instructions:**

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - Where is pituitary gland located in the human body?

(2 Marks)

Q2 - Pituitary gland is anatomically divided into three parts. What are these?

(1 Mark)

Q3 - What are the two portions of Adenohypophysis?

(1 Mark)

Q4 - What is the difference between glucocorticoids and mineralocorticoids?

(2 Marks)

Q5 - Name the hormones secreted by heart, kidney and gastro-intestinal tract and mention their functions.

(5 Marks)

Q6 - What do you understand by hormone receptors?

(1 Mark)

Q7 - With the help of diagram write a brief note on thyroid gland.

(5 Marks)

Q8 - Represent diagrammatically the mechanism of protein hormone action.

(3 Marks)