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lesson: 12

Plants Anatomy and Plants physiology:

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Important 2 mark:

1 Give an account on vascular bundle of dicot stem.

2 Write a short note on mesophyll. 2

3 Draw and label the structure of oxysomes. 2

4 Name the three basic tissues system in flowering plant. 2

5 a) what is photosynthesis and where in a cell does it occur?

b) write the reaction for photosynthesis. 2

6 What is respiratory quotient? 2

7 a) What is common step in aerobic and anaerobic pathway?

b where do the light dependent reaction and the calvin cycle occur in chloroplast?

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8 State True or False. if False give reason. correct Answer:

a, Phloem Tissue is involved in transport of water in plants

b, Palisade parenchyma cells occur below upper epidermis in dicot root.

c, Anaerobic respiration produces more ATP than aerobic respiration.

9, What is plastids? Name it types. ½

10 write the functions of chloroplast. ½

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11 Expand the following. ½

(i) ATP (iii) NAD
(ii) ADP (iv) NADP

12 write the factor affecting photosynthesis? ½

13 Explain the functions of mitochondria? ½

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Important 4 and 7 marks:

1. Differentiate between the following: ✳
   (i) Monocot and dicot
   (ii) Aerobic and Anaerobic respiration

2. Describe and name three stages of cellular respiration that aerobic organism use to obtain energy from gulcose. ✳

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3. How does light dependent reaction differ from light independent reaction? what are the end product and reactants In each? where does each reaction occur within the chloroplast. ✳

4. Explain the structure of Mitochondria. with neat diagram.

5. Explain the structure of chloroplast. with neat diagram.

(any one can may asic?)

6. Explain with neat diagram for Root / stem / leaf
   T.S dicot (For toppers students only)

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Lesson-13 Structural Organisation of Animals

I Important 2 mark questions.

1, Give the common name of the Hirudinaria granulosa. (1M)

2, How does leech respire? (1M)

3, a, Write the dental formula of rabbit.

b, How is diastema formed in rabbit? -X.

c, Why is the teeth of rabbit called heterodont?

4, Why are the rings of cartilage found in trachea of rabbit?

5, List out the parasitic adaptations in leech. -X.

6, How does locomation take place in leech? -X.

7, Draw a neat labelled diagram of the lungs of rabbit?

8, What are the medicinal value of Leech. -X.

9, Write the Oryctolagus cuniculus of (rabbit) (Taxonomic position)

10, Write the Hirudinaria granulosa (The Indian cattle leech). (Taxonomic position)

11) True? or False? (if false give correct the statement) -X.

(a) An anticoagulant present in Saliva of leech is called heparin.

(b) The cerebral hemespheres of rabbit are Connected by band of nerve tissue called Corpora quadrigemina.

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12) Filling the blanks. -X.

(a) The blood sucking rabbit of leech is known as ____

(b) ____ spinal nerves are present in rabbit.

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II Important 4, 7 mark Questions.

1, How is the circulatory system designed in leech to compensate the heart structure? ✗

2, Explain the male reproductive system of rabbit with a labelled diagram. ✗

3, Explain the nervous system of rabbit with a labelled diagram.

4, Explain the structure of rabbit brain with a neat labelled diagram.

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Lesson - 14 Transportation in Plants and Circulation in Animals

I Important 2 mark Questions.

1, Trace the pathway followed by water molecules from the time it enters a plant root to the time it escapes into the atmosphere from a leaf.

2, Why is the circulation in man referred to as double circulation?

3, What are heart sounds? How are they produced?

4, What is the importance of valves in the heart? ⁂

5, Who discovered Rh factor? why was it named so? ⁂

6, How are arteries and veins structurally different from one another? ⁂

7, Why is the Sinoatrial node called the pacemaker of heart?

8, Differentiate between systemic circulation and pulmonary circulation? ⁂

9, What are the functions of Lymph? ⁂

10, a, ~~Define~~ Blood Platelets or Thrombocytes. } Write a short notes
b, ~~Define~~ Red blood corpuscles.

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11, Define
a, Anemia
b, Leucocytosis
c, Leukopenia
d, Thrombocytopenia

12, Give reasons for the following statements
a, Minerals in the plants are not lost when the leaf falls.
b, The walls of the right Ventricle are thicker than the right auricles.

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c) Mature RBC in mammals do not have cell organelles.

13) What is Neurogenic and Myogenic Heart Beat.

14) a) What is pulse? (b) Normal ~~Pulse~~ pulse rate ranges from _____ /minute?

II Important 4, 7 mark questions.

1) Describe the structure and working of the human heart.
2) How do plants absorb water? Explain. ✳
3) What is transpiration? Give the importance of transpiration.
4) Why are leucocytes classified as granulocytes and agranulocytes? Name each cell and mention its function. ✳
5) Differentiate between systole and diastole. Explain the conduction of heart beat.
6) Enumerate the functions of blood. ✳
7) Distribution of Antigen (RBC) and Antibody (Plasma) in different Blood groups make ~~time~~ ~~table~~ table.
8) ~~Explain~~ Explain the types of Blood circulation.

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2 Marks: Diagram Questions

(a) Root Tip with Root hairs.
(b) Process of Transpiration ✳ (c) T.S. of the root, showing Movement of water from Soil to xylem. ✳
(d) Stoma open. (e) Structure of blood vessel. ✳
(f) External structure of Human Heart. ✳
(g) Stethoscope. ✳

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Lesson – 15 Nervous System

I Important 2 mark Questions

1, a, Name the parts of the hind brain. ✓
b, What are the structures involved in the protection of brain?
c, Define reflex arc. ✓

2, Differentiate between voluntary and involuntary actions

3, Differentiate between medullated and non-medullated nerve fibre.

4, Match the following

a, Nissil's granules	–	Forebrain ✓
b, Hypothalamus	–	Peripheral Nervous system
c, Cerebellum	–	cyton
d, Schwann cell	–	Hindbrain

5, What is the reflex action and the types?

6, What are the functions of cerebrospinal fluid. ✓

7, write a short notes on: (a) Electroencephalogram (EEG) - ✓
(b) what is Meningitis?

8. Classify the neurons. based on its functions.

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II Important 4,7 mark Questions.

1, With a neat labelled diagram explain the structure of a neuron. ✗

2, Illustrate the structure and functions of brain. ✗

3, Describe the structure of spinal cord.

4, Classify neurons based on its structure.

5, What is Reflex action? Explain the types of reflex action.

6) Book Back Questions: H/ST Ans: IX 1, (2)

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Lesson - 16 Plants and Animal Hormones

I Important 2 mark questions.

1, What are synthetic auxins? Give examples. -½
2, What is bolting? How can it be induced artificially? -½
3, Bring out any two physiological activities of abscisic acid
4, What are chemical messengers? -½
5, Write the differences between endocrine and exocrine gland.
6, What is the role of parathormone?
7, What are the harmones secreted by posterior lobe of the pituitary gland? Mention the tissues on which they ~~exert~~ exert their effect.
8, Why are thyroid hormones refered as personality hormone? -½
9 What are the functions of Thymosin.
10, What is Richmond Lang effect. -½
11, What are types of Auxins and give example -½
12) Answer in a word? or sentence?
a) which hormone promotes the production of male flowers in Cucurbits?
b) which hormones induces parthenocarpy in tomatoes?
c) which hormone is secreted during emergency situation in man?
d) Name the Endocrine glands associated with kidneys.
13) which hormone are called "time messengers"? why it is called? hormone
14) which hormone are called "life saving"? why it is called? hormone

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II Important 4,7 mark. Questions.

1, a, ~~Name~~ Name the gaseous plant hormone. Describe its three different actions in plants. -X-

b, Which hormone is known as stress hormone in plants? Why?

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2, Describe an experiment which demonstrates that growth stimulating hormone is produced at the tip of coleoptile.

3, Write the physiological effects of gibberelling. -X-

4, Where are estrogens produced? what is the role of estrogens in the human body?

5, What are the hormones and functions of Adrenal Cortex and Adrenal Medulla.

6, Write the functions of Pancreatic hormones. -X-

7, Write diseases of Thyroid Dysfunction.

8, What are the functions of thyroid hormone? -X-

9, Write the physiological effects of cytokinins

10, Write the physiological effects of auxins. -X-

11) what are the conditions which occur due to lack of ADH? and Insulin? How are the conditions different from one another?

Two Marks: diagram (Qns: labelled any 4 four parts only)

(a) Pituitary gland (b) Thyroid gland -X- (c) Pancreas -X-

(d) Adrenal gland -X- (f) Thymus gland.

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Lesson - 17 Reproduction in Plants and Animals

I Important 2 mark questions.

1, a, Name the hormone responsible for the vigorous constractions of the anterine muscles.
b, What is the enzyme present in acrosome of sperm?

2, a, What will happen if you cut planaria into small fragments?
b, Why is vegetative propagation praticed for growing some type of plants?

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3, Define Triple fusion -:

4, Name the secondary sexc organs in male -:

5, a, How can menstrual hygiene be maintained during menstrual days? -:
b, When is world Menstrual Hygiene day observed?

6, Why are the human testes located outside the abdominal cavity? Name the pouch in which they are present. -:

7, Luteal phase of the menstrual cycle is also called the secretory phase. Given reason.

8, Explain the structure of ovum and mark the parts. } Any 4 parts labelled
9, Explain the structure of Gynocium and mark the parts. }
10, Explain the structure of Anther and Pollen grain and mark the parts. }

11, True or False and correct the false statement
a, Yeast reproduces asexually by means of multiple fission.
b, Insect pollinated flowers are characterized by dry and smooth pollen.
c, LH is secreted by the posterior pituitary.

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d, The increased level of estrogen and progesterone is responsible for menstruation.

12, Identify the parts A, B, C and D

13, Why menstrual cycle does not take place before puberty and during pregnancy? ∴

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II Important 4,7 mark questions.

1, Write the events involved in the sexual reproduction of a flowering plant. ∴
a, Discuss the first event and write the types.
b, Mention the advantages and the disadvantages of that event.

2, With a neat labelled diagram describe the parts of a typical angiospermic ovule. ∴

3, What are the phases of menstrual cycle? Indicate the changes in the ovary and uterus. ∴

4, Explain the types of UTI

5, Explain the structure of human sperm and draw the picture.

6, Explain fertillization in plants.

7, What are vegetative reproduction and explain it types.

8) Explain the Agents of Cross pollination. ∴

2 Marks diagram Question:

(a) Pollen grain. (b) Gynoecium. (c) Structure of Ovule ∴
(d) Structure of sperm ∴ (e) structure of ovum.

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Lesson - 18 Heredity

I Important 2 mark questions.

1, Why did Mendal select pea plant for his experiments?

2, what do you understand by the term phenotype and genotype? ⁂

3, a, What are allosomes? ⁂

b, What are Okazaki fragments?

4, Under which conditions does the law of independent assortment hold good and why?

5, True? or False? and correct the false statement

a, A typical mendelian dihybrid ratio of F_2 generation is 3:1.

b, ~~Down~~ Down's syndrome is the genetic condition with 45 chromosomes.

6, Define down's syndrome

7, What is the significance of DNA ⁂

~~karyotype~~ ~~ideogram~~

8) a) What is karyotype? (b) what is ideogram?

9) State the Chargaff rule of DNA base pairing.

10) write a note on: (a) Euploidy (b) Aneuploidy ⁂

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II Important 4, 7 mark Questions.

1, Explain the structure of a chromosomes :-
2, Explain with an example the inheritance of dihybrid cross. How is it different from monohybrid cross? :-
3, How is the structure of DNA organized? what is the biological significance of DNA?
4, What is Mutation and its types explain.
5, How does sex determination in human :-
6, Explain Watson and crick model of DNA :-
7, a, what is Karyotype
   b, what is idiogram } (2mark Qn)
8, What are the types of chromosomes based on function. (2m)
9, What are the types of chromosomes based on the position of centromere with picture :-
10, Explain the Mendel's laws or Mendel's laws of Heredity :-
11, Label the parts of the DNA in the diagram given below. Explain the structure briefly.

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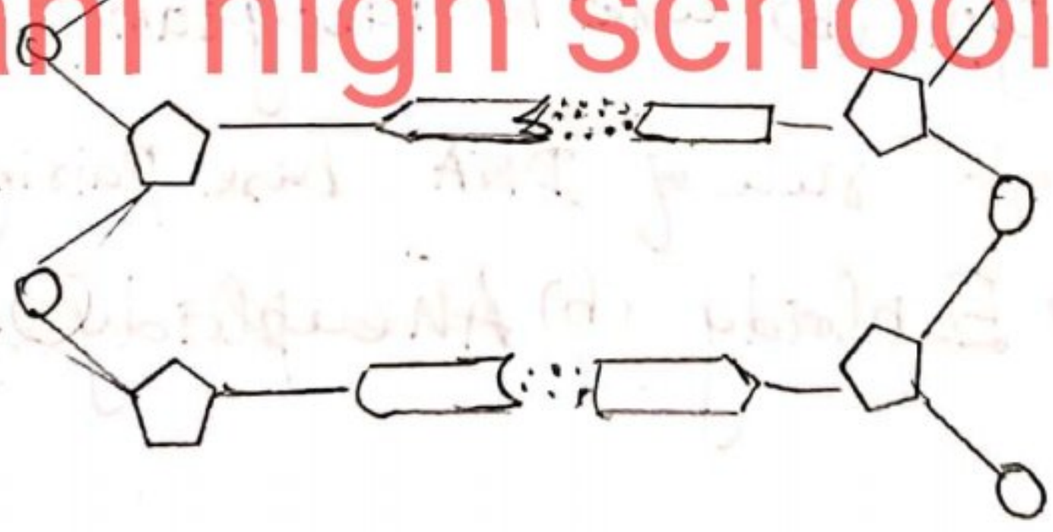

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Unit-12 Origin and Evolution of life

Important 2 Marks Qns:

1. Why is Archaeopteryx considered to be a connecting link? ✕
2. a) What is the study of fossils called? ✕
   b) who is called father of Palaeontology?
3. Write the importance of fossils. ✕
4. a) What is variations? b) write the types of variations.
5. What is the Geologic Time scale?
6. Define: Goldilocks Zone.
7. How do you differentiate homologus organs from analogous organs? ✕
8. ~~Fossils~~ Imprints of fossils tell us about evolution. How? ✕
9. The degenerated wing of a Kiwi is an acquired character. Why is it an acquired character?

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Important 4 and 7 Marks Qns:

1. Natural selection is a driving force for evolution. How? ✕
2. How does fossilization occur in plants? ✕
3. Define Ethnobotany and write its importance. ✕
4. Explain the theories on orgin of life. ✕
5. Explain the Evolution theories "Lamarckism" (Any one)
6. Explain the Theory of "Natural selection (or) "Darwinism".

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Unit 20. Breeding and Bio-technology.

Important - 2 Marks Qns:

(1) Name two maize hybrids rich in amino acid lysine. ½

(2) State the applications of DNA fingerprinting technique. ½

(3) Differentiate: (a) out breeding and inbreeding. ½
(b) Somatic gene therapy and germ line gene therapy.

(4) Name three improved characteristics of wheat that helped India to achieve high productivity. ½

(5) (a) Define genetic Engineering.
(b) Name the types of stem cells. ½

(6) True? or False? (If false, write the correct statement)
(a) Golden rice is a hybrid.
(b) Molecular scissors refers to DNA ligases.

(7) Fill in the blanks:
a) ~~Wh~~ give the name of wheat variety having higher dietary fibre and protein. _____
b) _____ is the chemical used for doubling the chromosomes.
c) _____ is a molecular scissors of DNA.
d) _____ are the enzymes which help in ligating the broken DNA fragments.

(8) Write the Achievements of polyploidy breeding. ½

(9) a Define: (a) Heterosis (b) Plasmid.

(10) organic farming is better than Green Revolution. Give reasons.

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(11) a) DNA finger printing technique was developed by _____

b) Who is called "Father of Indian Green Revolution"?

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Important 4 Marks Questions:

(1) What is hybrid vigour? What are the effects of hybrid vigour in animals?

(2) Describe mutation breeding with Example.

(3) Biofortification may help in removing hidden hunger. How?

(4) With a neat labelled diagram Explain the technique involved in gene cloning.

(5) Discuss the Importance of biotechnology in the field of medicine. Pending 2 marks

(1) How are stem cells useful in regenerative process?

(2) Discuss the method breeders for disease resistance.

(3) What is Plasmid?

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Lesson - 21 Health and Diseases

I Important 2 mark Question

1, Mention the diseases caused by tobacco smoke ·½·
2, What are the contributing factors of for obesity? ·½·
3, a, What is metastasis?
b, How does insulin deficiency occur?
4, What are the various routes by which Transmission of human immuno deficiency virus takes place? ·½·
5, How is a cancer cell different from a normal cell? ·½·
6, Why is a dietary restriction recommended for an obese individual? ·½·
7, What is the role of fat in the cause of atherosclerosis?
8, Men addicted to tobacco lead to oxygen deficiency in their body? What could be the possible reason? ·½·
9, Match the following

a, ~~Soer~~ Sarcoma	–	Stomach cancer
b, Carcinoma	–	Excessive thirst
c, Polydipsia	–	Excessive hunger
d, Polyphagia	–	Lack of blood flow to heart muscle
e, Myocardial Infarction	–	Connective tissue cancer

10, Expand the following abbreviations ·½·

1, IDDM 2, HIV 3, BMI
4, AIDS 5, CHD 6, NIDDM

11, Define
a, Hyperglycemia
b, Polyuria
c, Polydispia
d, Glycosuria

(12) Write a notes: Types of tumours.

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II Important 4,7 mark Questions.

1, Differentiate between Type-1 and Type-2 diabetes mellitus ✗

2, What precautions can be taken for preventing heart diseases? ✗

3, Suggest measures to overcome the problems of an alcoholic. ✗

4, Changes in lifestyle is a risk factor for occurrence of Cardiovascular diseases. Can it be modified? if yes, suggest measure for prevention. ✗

5, a, Explain syntoms and Treatment of AIDS.
b, Write the Prevention and control for of AIDS

6, a, What are the types of cancers.
b, What are the carcinogenic Agents.

7, Explain Treatment of cancer.

8, What are harmful effects of Alcohol to health. ✗

9, What are the smoking hazards and effects of Tobacco. ✗

10, Explain Approaches for protection of an abused child.

11) Write a short notes on: (a) POCSO Act 2012 ✗
(b) Protection of child Rights Act 2005

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Lesson - 22 Environmental Management.

I Important 2 mark Questions.

1, What will happen it trees are cut down?
2, What would happen if the habitat of wild animals is disturbed?
3, What are the agents of soil erosion? ½
4, How are e-wastes generated? ½
5, What is the importance of rainwater harvesting? ½
6, What are the advantages of using biogas? ½
7, What are the environmental effect caused by sewage? ½
8, What are the consequences of deforestation?
9, What is 4R approach.
10, What are the conservation of electrical energy.
11, What are the advantages of wind energy.
12, What are the Environmental concerns of shale gas. ½
13, What are the advantages of biogas. ½
14, What are the advantages of solar energy. ½
15, What are the uses of solar cells
16, Write the steps to conserve coal and Petroleum Resources.
17, What is organisations Involved in conservation of wildlife

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II Important 4,7 mark Questions.

1, How does rainwater harvesting structures rechange grounth water? -X

2, How will you prevent soil erosion? - X

3, What are the sources of solid wastes? How are solid wastes managed? X

4, Enumerate the importance of forest - X

5, What are the consequences of soil erosion?

6, a, What is Tidal energy. - X

b, Write the advantage of tidal energy.

7, Which are the health effects of E-wastes X

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lesson: 23 Visual Communication

1. ~~sort~~ what is Scratch? X

2. write a short note on editor and its - X
   Main parts.

3. what is stage? - X

4. what is sprite? - X

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