

10th Science Public Exam

Get Biology Part

2,4,7 Marks

Important Qns

இதை நல்லாப் படிங்க

Lesson: 12
Plants Anatomy and Physiology

Important marks:

- 1 **5x2=10M**
- 2 Write a short note on mesophyll.
- 3 Draw and label the ... in flowering plant.
- 4 **5x4=20M**
- 5 a) what is photosynthesis in a cell
1x7=7 M
- 6 What is respiratory quotient?
- 7 What is common step in aerobic and ...

37/75 Marks

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Lesson: 12

Plants Anatomy and Plants physiology:

Important 2 mark:

- 1 Give an account on vascular bundle of dicot stem.
- 2 Write a short note on mesophyll. *
- 3 Draw and label the structure of oxysomes. *
- 4 Name the three basic tissues system in flowering plant. *
- 5 a) what is photosynthesis and where in a cell does it occur?
b) write the reaction for photosynthesis. *
- 6 What is respiratory quotient? *
- 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?

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 its types. *

10. Write the functions of chloroplast. *

11. Expand the following. *

(i) ATP

(iii) NAD

(ii) ADP

(iv) NADP

12. Write the factors affecting photosynthesis? *

13. Explain the functions of mitochondria? *

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 glucose. ✱
- 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 or may ask?
6. Explain with neat diagram for Root/ stem/leaf T.S dicot (For toppers students only)

Lesson - 13Structural Organisation of AnimalsImportant 2 mark Questions

- ① a) Give the common name of the Hirundinaria granulosa.
b) How does leech respire. ✖
- ② a) Write the dental formula of rabbit. ✖
b) How is distema formed in rabbit.
c) Why is the teeth of rabbit called heterodont?
3. Why are the rings of cartilage found in trachea of rabbit?
- ④ List out the parasitic adaptations in leech. ✖
5. How does locomotion take place in leech? ✖
6. Draw a neat labelled diagram of the lungs of rabbit?
- ⑦ What are the medicinal value of leech. ✖
8. Write Taxonomic position of Oryctolagus cuniculus (rabbit)
9. Write Taxonomic position of Hirundinaria granulosa (The Indian cattle leech)
- ⑩ True? or False? (if false give correct, the statement). ✖
a) An anticoagulant present in saliva of leech is called heparin.
b) The cerebral hemispheres of rabbit are connected by band of nerve tissue called corpora quadrigemina.

- ① Fill in the blanks - ✕
- a) The blood sucking habit of leech is known as _____.
- b) _____ spinal nerves are present in rabbit.

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

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) Write a short notes on.
 - a) Blood Platelets or Thrombocytes
 - b) Red blood corpuscles

- 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 leaf falls.
- b) The walls of the right ventricle are thicker than the right auricles.
- c) Mature RBC in mammals do not have cell organelles.
- 13) What is Neotogenic and Myogenic Heart Beat.
- 14) a) What is pulse? b) Normal pulse rate range from _____ / minute? *
- 15) Diagram Questions label the parts
- 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 *

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 Enumerate the functions of blood. ✕
- ⑤ Explain the types of Blood circulation.
- ⑥ Distribution of Antigen (RBC) and Antibody (Plasma) in different Blood groups make table.
- ⑦ Why are leucocytes classified as granulocytes and agranulocytes? Name each cell and mention its function. ✕
- ⑧ Differentiate between systole and diastole. Explain the conduction of heart beat.

Lesson - 15 Nervous System

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) Nissl's granules	-	Forebrain
b) Hypothalamus	-	Peripheral Nervous system
c) Cerebellum	-	cyton
d) Schwann cell	-	Hindbrain
5. What is the reflex action and ^{Explain} the types?
6. What are the functions of cerebrospinal fluid. ✖
7. Classify the neurones based on its functions.
8. Write a short notes on : (a) Electroencephalogram (EEG) ✖
 (b) What is Meningitis? ✖

Important 4,7 mark questions

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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 : Hot Question IX : ①, ②

Lesson - 16 Plants and Animal Hormones

Important 2 mark Questions

- ① What are synthetic auxins? Give examples. ✖
- ② What is bolting? How can it be induced artificially? ✖
3. Bring out any two physiological activities of abscisic acid.
- ④ What are chemical messengers? ✖
5. Write the differences between endocrine and exocrine glands.
6. What is the role of parathormone?
7. What are the hormones secreted by posterior lobe of the pituitary gland? Mention the tissues on which they exert their effect.
8. Why are thyroid hormones referred as personality hormone? ✖
9. What are the functions of Thyroxin.
10. What is Richmond Lang effect.
- ⑪ What are types of Auxins and give example. ✖
- ⑫ Which hormone are called "time messengers"? Why it is called? ✖
- ⑬ Which hormone are called "life saving"? Why it, is called? ✖
14. 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 hormones is secreted during emergency situation in man?

d) Name the Endocrine glands associated with kidneys.

(15) Diagram Question. (labelled any 4 Parts only):

- (a) Pituitary Gland (b) Thyroid Gland (c) Pancreas
(d) Adrenal Gland (E) Thymus Gland

Important 4,7 mark Questions

- ① a) Name the gaseous plant hormone describe its three different actions in plants.
b) Which hormone is known as stress hormone in plants? Why?
2. Describe an experiment which demonstrates that growth stimulating hormone is produced at the tip of coleoptile.
- ③ Write the physiological effects of gibberellins.
- 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.
7. Write diseases of Thyroid Dysfunction.
- ⑧ What are the functions of Thyroid hormones.

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9. Write the physiological effects of cytokinins.
10. Write the physiological effects of auxins. ✕
11. What are the conditions which occur due to lack of ADH? and insulin? How are the conditions different from one another?

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Lesson - 17Reproduction in Plants and AnimalsImportant 2 mark Questions

1. a) Name the hormone responsible for the vigorous contractions of the uterine 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 practiced for growing some type of plants?
3. Define triple fusion. ✕
4. Name the secondary sex 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 give reason.
8. Explain the structure of ovum and mark the parts.
9. Explain the structure of gynoecium and mark the parts. (Any 4 parts)
10. Explain the structure of Anther and pollen grain and mark the parts. (labelled)

11. True or False and correct the false statement.

- a) Yeast reproduces asexually by means of multiple fission. www.Padasalai.Net
- b) Insect pollinated flowers are characterized by dry and smooth pollen. www.Trb Tnpsc.com
- c) LH is secreted by the posterior pituitary

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



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

14. Diagram Question : (a) Pollen Grain (b) Gynoecium (c) Structure of ovule (d) Structure of sperm (e) Structure of ovum.

Important 4, 7 mark Questions

- 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.
- With a neat labelled diagram describe the parts of a typical angiospermic ovule.
- What are the phases of menstrual cycle? Indicate the changes in the ovary and uterus.
- Explain the types of UTI.
- Explain fertilization in plants.

6. Explain the structure of human sperm and draw the picture. www.Padasalai.Net www.TrbTnpsc.com

7. What are vegetative reproduction and explain its types.

8. Explain the Agents of Cross pollination.

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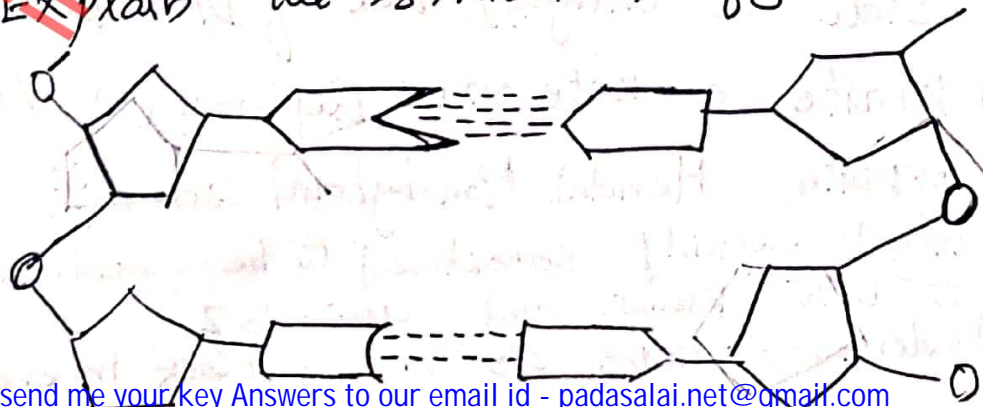
I Important 2 Marks Qns:

- 1) Why did Mendel select pea plants for his experiments?
- 2) What do you understand by the term Phenotype and genotype? *
- 3) a) What are Allosome? (b) What are Okazaki fragments? *
- 4) Under which conditions does the law of independent assortment hold good and why?
- 5) State True or False? If false give correct the statement.
 - a) A typical Mendelian dihybrid ratio of F₂ generation is 3:1
 - b) Down's Syndrome is the genetic condition with 45 chromosomes.
- 6) Define: Down's Syndrome.
- 7) What is the significance of DNA? *
- 8) a) What is Karyotype? (b) What is Idiogram?
- 9) State the Chargaff rule of DNA base pairing.
- 10) Write a note on (a) Euploidy (b) Aneuploidy. *
- 11) Explain Mendel Monohybrid cross. *
- 12) Why is euploidy considered to be advantageous to both plants and animals?
- 13) Telomeres acts as aging clock in every cell - give *

Important 4,7 Marks Qns.

4

- 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 organised? what is the biological significance of DNA?
- 4) What is mutation? Explain the types of mutation.
- 5) How does sex determination occur in Man (Human).
- 6) With Neat diagram of D.N.A and Explain the structure of Watson and Crick DNA Model.
- 7) What are the types of chromosomes based on its function? (2M)
- 8) What are types of chromosomes based on the position of centromere. (2M).
- 9) Explain the Mendel's law of Heredity.
- 10) Label the parts of the DNA in the diagram given below. Explain the structure briefly.



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Unit - 19 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 are variations? b) Write the types of variations.
- ⑤ What is the Geologic Time scale?
- ⑥ Define: Coldlock Zone.
- ⑦ How do you differentiate homologous 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?
- ⑩ How can you determine the age of fossils?

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 origin of life.
- ⑤ Explain the Evolution theories "Lamarckism" Any one
- ⑥ Explain the Theory of "Natural selection (or) Darwinism".
- ⑦ Write a short note on: (a) Vestigial organs.
(b) Atavism.

Unit 20. Breeding and Bio-technology.

Important & Marks Qns:

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- ① Name two maize hybrids rich in amino acid lysine. ✖
- ② State the applications of DNA fingerprinting technique. ✖
- ③ Differentiate: (a) out breeding and inbreeding. ✖
(b) somatic gene therapy and germ line gene therapy.
- ④ Name three improved characteristics of wheat that helped India to achieve high productivity. ✖
- ⑤ (a) Define genetic Engineering.
(b) Name the types of stem cells. ✖
- 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) ~~It~~ 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. ✖
- ⑨ Define: (a) Heterosis (b) Plasmid.
- ⑩ Organic farming is better than Green Revolution. Give reasons.

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① a) DNA fingerprinting technique was developed by _____

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

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 breeding 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. ✕
- 2) what are the contributing factors of ^{for} obesity? ✕
- 3) what is metastasis?
- 4) How does insulin deficiency occur?
- 5) what are the various ^{states} by which transmission of human ^{immuno} deficiency ✕
- 6) How is a cancer cell different from a normal cell
- 7) Expand the following abbreviations.
 - i) IDDM ii) HIV iii) BMI
 - iv) AIDS v) CHD vi) NI DDM
- 8) Match the following.
 - 1) sarcoma - Stomach cancer
 - 2) carcinoma - Excessive thirst
 - 3) polydipsia - Excessive hunger
 - 4) polyphagia - lack of blood flow to heart muscle
 - 5) myocardial infarction - connective tissue cancer.

9) why is a dietary restriction recommended for an obese individual? ✖

10) Define :-

a) Hyperglycemia

b) polyuria

c) polydipsia

d) glycosuria

11) write a notes : types of tumours.

II Important 4,7 mark question:-

1) differentiate between type-1 and type-2 diabetes mellitus ✖

2) what precautionary can be taken for preventing heart diseases? ✖

3) suggest measures to overcome the problems of an alcoholic? ✖

4) change in lifestyle is a risk factor for occurrence of cardiovascular diseases, can it be modified? if yes, suggest measure for prevention. ✖

- 5) a, Explain symptoms and treatment of AIDS
b, write the prevention and control 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 the approaches for protection of an abused child.
- 11) write a short notes on: POCSO Act, 2012
b) protection of child rights Act, 2005

UNIT-22 Environmental management

I Important two marks:

1. What will happen if trees are cut down?
2. What would happen if the habitat of wild animals is disturbed?
3. What are the agents of soil erosion?
4. How are e-waste's generated?
5. What is the importance of rainwater harvesting?
6. What are the advantages of using biogas?
7. What are the environmental effects caused by sewage?
8. What are the consequences of deforestation?
9. What is HR approach?
10. What are the uses of Recycling of wastes?
11. Write the sources of waste water?
12. Write the conservation of electrical energy?
13. Write the advantages of biogas?
14. Write the advantages of solar energy?

15. What are the environmental concerns of shale gas? *
16. What are the advantages of wind energy?
17. Write the steps to conserve coal and petroleum resources?
18. List the organisations involved in conservation of wildlife?

II Important 4, 7 marks

1. How does rainwater harvesting structure recharge ground water? *
2. How will you prevent soil erosion? *
3. What are the sources of solid wastes? *
4. Enumerate the importance of forest?
5. What are the consequences of soil erosion?
6. What are the health effects of E-wastes? *
7. a) What is Tidal energy? *
- b) Write the advantages of tidal energy?
8. a) Differentiate between non-renewable energy resources and renewable energy resources?
- b) Give examples for non-renewable energy resources and renewable energy resources?

UNIT-23 Visual Communication.

I Important 2 marks:

1. Match the following

- ① Script area - Type notes
- ② Folder - Animation software
- ③ Scratch - Edit programs
- ④ Costume editor - store files
- ⑤ Notepad - Build scripts

2. What is Scratch?

3. Write a short note on editor and its types?

4. What is stage?

5. What is sprite?

6. (a) What is file? (b) What is Folder?

7. What are the ^{three main.} parts of script editor?

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10th Science

Biology Part Qn Bank

Unit wise Important Qns

Unit 12-22

Important 2,4,7 Marks

TM, EM Qns