Padasalai's Telegram Groups!

(தலைப்பிற்கு கீழே உள்ள லிங்கை கிளிக் செய்து குழுவில் இணையவும்!)

- Padasalai's NEWS - Group
https://t.me/joinchat/NIfCqVRBNj9hhV4wu6_NqA

- Padasalai's Channel - Group
https://t.me/padasalaichannel

- Lesson Plan - Group
https://t.me/joinchat/NIfCqVWwo5iL-21gpzrXLw

- 12th Standard - Group
https://t.me/Padasalai_12th

- 11th Standard - Group
https://t.me/Padasalai_11th

- 10th Standard - Group
https://t.me/Padasalai_10th

- 9th Standard - Group
https://t.me/Padasalai_9th

- 6th to 8th Standard - Group
https://t.me/Padasalai_6to8

- 1st to 5th Standard - Group
https://t.me/Padasalai_1to5

- TET - Group
https://t.me/Padasalai_TET

- PGTRB - Group
https://t.me/Padasalai_PGTRB

- TNPSC - Group
https://t.me/Padasalai_TNPSC

TN XI-STD BIO-ZOOLOGY

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

CHAPTER-1 THE LIVING WORLD

Short Questions:-

1. Biodiversity
2. Characteristic features of living organisms
3. Classification
4. Taxonomy
5. Basic needs for classification
6. Systematics
7. Limitations of Aristotle's classification
8. Phylogenetic classification or cladistics
9. Phylogenetic tree or cladogram
10. Extremophiles
11. Probiotic and Pathogen
12. Define – species
13. Why mules produce sterile offspring?
14. Monotypic genus and polytypic genus
15. Binomial Nomenclature
16. Trinomial Nomenclature
17. Tautonymy
18. Who are supported the concept of species?
19. What are the molecular taxonomic tools?
20. Make a typical cladogram

Big questions:-

1. Three domains of life
2. Five kingdom classification
3. Taxonomic hierarchy
4. Rules of Nomenclature
5. Tools for study taxonomy

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

CHAPTER-2 KINGDOM ANIMALIA

Short Questions:-

1. Basis of classification
2. Incomplete vs. Complete digestive system
3. Open vs. closed circulatory system
4. Diploblastic animals
5. Triploblastic animals
6. What is symmetry? What are the types of symmetry?
7. How the animals are classified based on the coelom?
8. Differentiate Schizocoelomate and Enterocoelomate animals
9. Metamerism
10. Protostomia vs. Deuterostomia
11. What are the larval stages of Porifera?
12. Hypostome
13. What are the different body forms exhibited by Cnidarians?
14. Lasso cells or colloblasts
15. Flame cells and its functions
16. chlorocruorin
17. Moulting or Ecdysis
18. Heamocoel
19. What are the excretory organs found in Arthropods?
20. Radula
21. What is Ospharaidium? And what are the functions?
22. Heamocyanin
23. Draw a typical chordate and label the parts
24. Agnatha vs. Gnathostomata
25. Anadromous migration
26. Write the features of endoskeleton of birds.
27. Functions of air bladder in fishes
28. Hermaphrodite
29. Spawning
30. Evisceration
31. Characters of bony fishes
32. Difference between Chordates and Non-chordates

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

Big Questions:-

1. Fundamental features of Chordates
2. You should know some basic characters like level of organization, habitat, coelom, symmetry, organ systems, and modes of reproduction with the larval stages of the entire phylum given in this chapter.

CHAPTER-3 TISSUE LEVEL OF ORGANISATION

Short Questions:-

1. Tissues
2. Why tissues are called living fabrics?
3. Histology
4. Functions of epithelial tissues
5. Goblet cells
6. Pseudo stratified epithelial cells
7. Glandular epithelium
8. Epithelial tissue disorders
9. Three types of cell junctions
10. Functions of connective Tissues.
11. Tissue Fluid
12. Fat cell (or) adipocytes.
13. White fat (Vs.) brown fat.
14. Tendons & ligaments.
15. Lacunae
16. Myofibrils
17. Connective tissue Disorders
18. Neuroglia cells
19. Palmaris Muscle
20. Structure of Neuron

Big Questions:-

1. Classification of Tissues.
2. Brief about Epithelial tissues
3. Describe the Loose and dense connective tissues
4. Types of Muscle tissue.

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

CHAPTER-4 ORGAN AND ORGAN SYSTEMS IN ANIMALS

Short Questions:-

1. Common species of Indian earth worms
2. Classify the earthworms based on their ecological strategies
3. Metameres
4. Peristomium & prostomium
5. Clitellum and pygidium
6. Nephridiopores
7. Components of coelomic fluid of earthworm.
8. Gizzard & Typhlosole
9. Commissural vessels (or) lateral hearts.
10. Types of Nephridia found in earthworm *Lampito mauritii*
11. Vermitech, vermiculture, vermicomposting, vermiwash, Wormery (or) Wormbin
12. Why cockroaches called as vectors?
13. Gonapophysis
14. Difference between Male & Female cockroach.
15. Anal cerci
16. Hepatic Caeca
17. Spiracles
18. Alary muscles
19. Ommatidia & mosaic vision
20. Poikilothermic
21. Difference between frog & toad
22. Nictitating membrane
23. Cloaca
24. Olfactory ventricle & optic ventricle
25. Economic importance of Frog.
26. Ureotelic & uricotelic
27. Articular Membrane
28. Sclerites.
29. Cocoon
30. Why the cockroach head is called hypognathous?

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

Big Questions:-

1. Morphology of earthworm (or) frog (or) cockroach with diagram.
2. Digestive system of frog (or) cockroach (or) earthworm.
3. Reproductive system of frog (or) cockroach (or) earthworm.
4. Life cycle of earthworm (or) frog (or) cockroach.

CHAPTER-5 DIGESTION AND ABSORPTION

Short Questions:-

1. What are the major steps involved in Digestion? (P-84)
2. Thecodont, Diphyodent, Heterodont.
3. What is the human dental formula?
4. Tartar or calculus
5. Gingivitis
6. GERD (P-85)
7. Payer's patches & crypts of Leiberkuhn
8. Vermiform appendix (P-86)
9. Piles (or) haemorrhoids.
10. What are the layers of Alimentary canal? (P-87)
11. Glisson's capsule (P-89)
12. Functions of liver (P-89)
13. Peristalsis (P-90)
14. Succus entericus (P-92)
15. Assimilation (P-95)
16. PEM (P-96)
17. Peritonitis (P-97)
18. Obesity & BMI.
19. Salivary glands (P-88)
20. What are the roles of parietal or oxyntic cells?
21. What is deglutition?
22. Roles of HCL
23. What are the sphincters found in digestive system?
24. What are the bile pigments?
25. How the bile helps in fat digestion?
26. Facilitated transport
27. Chylomicrons
28. How the insoluble fatty acids are absorbed by our digestive system?
29. Gastric rugae

Big Questions:-

1. Structure & functions of Alimentary Canal
2. Histology of Gut
3. Describe about Digestive glands
4. Digestive Disorders
5. Mechanism of Digestion in small intestine

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

CHAPTER-6 RESPIRATION

Short Questions:-

1. Functions of Respiratory system
2. Characteristic features of respiratory surface
3. Steps involved in respiration
4. Surfactants (P-109)
5. Inspiration & Expiration
6. Spirometer
7. Haemoglobin & Methaemoglobin
8. Sigmoid curve
9. Oxyheamoglobin & carbamino-heamoglobin
10. Acute mountain sickness
11. Nitrogen narcosis
12. Carbondioxide poisoning
13. Silicosis & Asbestosis
14. COPD
15. Bends (or) Decompression sickness
16. Regulation of Respiration
17. Dead Space
18. Book gills
19. What are the diffusion membranes?

Big Questions:-

1. Structure of Human respiratory system
2. Mechanism of breathing
3. Respiratory volumes & capacities
4. Disorders of respiratory system
5. Events in inspiration & Expiration
6. Transport of CO_2

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

CHAPTER-7 BODY FLUIDS AND CIRCULATION

Short Questions:-

1. What are the types of body fluids?
2. Schematic representation of major functions of the circulatory system
3. Write the composition of blood
5. What are the types of plasma proteins? Write the functions of each plasma protein?
6. What are the organic and inorganic constituents present in plasma?
7. Formed elements
8. Erythropoietin
9. Erythropoiesis
10. Difference between granulocytes and Agranulocytes
11. Kuffer cells
12. Thrombocytes
13. Agglutinogens
14. Rh factor
15. Erythroblastosis foetalis
16. Blood coagulation or blood clotting
17. Heparin
18. Lympatics or Lymph vessels
19. Lymphocytes
20. Types of blood vessels
21. Layers of human blood vessels
22. Arteries
23. Anastomoses
24. Explain the types of circulatory system
25. Differentiate it - Incomplete vs. complete double circulation
26. What are the layers present in the human's heart wall?
27. Trabeculae corneae
28. Pacemaker cells
29. Purkinjie fibres
30. Bundle of His
31. Heart beat – systole, diastole
32. Lub- dub (Heart sounds) – origin
33. Cardiac cycle
34. Tachycardia
35. Bradycardia
36. Cardiac output

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

37. Stroke volume (SV)
38. EDV and ESV
39. Blood pressure - Systolic pressure and Diastolic pressure
40. Orthostatic hypotension
41. ECG
42. Cardio pulmonary resuscitation (CPR)
43. You should know all the disorders related to the circulatory system

Big Questions:-

1. Explain the different types of blood cells
2. Explain the mechanism of blood coagulation with schematic representation
3. Structure of Human circulatory system
4. Origin and conduction of heart beat
5. Disorders of circulatory system
6. Explain the events takes place in a cardiac cycle
7. ECG

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

CHAPTER-8 EXCRETION

Short Questions:-

1. What are the three homeostatic processes found in organisms?
2. Osmotic regulation
3. Ionic regulation
4. Nitrogen excretion
5. Excretion
6. Osmoconformers
7. Osmoregulators
8. Stenohaline animals
9. Euryhaline animals
10. What are the major nitrogenous waste products in animals?
11. Ammonoteles
12. Uricoteles
13. Ureoteles
14. What are the excretory structures seen in different vertebrate and invertebrate animals?
15. Reptiles produce hypotonic urine whereas the mammals produce hyperosmotic urine. Why?
16. Detrusor
17. Column of bertini
18. What are the supportive tissue layers covers the outer layer of kidney?
19. Glomerulus
20. Cortical nephrons
21. Juxta medullary nephrons
22. Renal clearance
23. Selective reabsorption
24. Write the name of materials which are absorbed in PCT and DCT?
25. Aquaporins
26. Osmolarity
27. How ADH prevents the excessive loss of water?
28. How ACE inhibitors (Angiotensin Converting Enzyme inhibitors) works on hypertension?
29. Micturition
30. Haemodialysis
31. How a dialyzing machine works?
32. Kidney transplantation
33. You should know all the disorders related to excretory system

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

Big Questions:-

1. Explain the structure and function of kidney
2. Explain the structure of nephron
3. Briefly explain the mechanism of urine formation
4. Give the mechanism of hormonal regulation of body fluid concentration by a schematic representation.
5. Disorders of excretory system

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

CHAPTER-9 LOCOMOTION AND MOVEMENT

Short Questions:-

1. Locomotion
2. Types of movement
3. Types of muscles
4. Tendon
5. Myofibrils
6. Fascicle
7. Skeletal muscles also called as voluntary muscles. Why?
8. Myoglobin
9. Glycosomes
10. Sarcomere
11. Read the table given for muscle terminology (P- 26)
12. What are the contractile proteins?
13. Meromyosin
14. Sliding filament theory
15. Muscle tension
16. Neuromuscular junction
17. Actomyosin
18. Types of skeletal muscle contraction
19. Oxidative fibres
20. Glycolytic fibres
21. White muscle fibres
22. Types of skeletal system
23. Axial skeleton
24. Write the name of cranial and facial bones of human.
25. Brain box
26. Foramen magnum
27. What are the five major regions of the vertebral column?
28. Sternum
29. True ribs vs. false ribs
30. Floating ribs
31. Acromion
32. Glenoid cavity
33. Pelvic girdle
34. Ilium
35. Metaphysis
36. Periosteum
37. Endosteum

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

38. Types of joints
39. Carpal tunnel syndrome
40. You should know all the disorders related to the muscular and skeletal system

Big Questions:-

1. Structure of a skeletal muscle fibre
2. Mechanism of muscle contraction
3. Types of skeletal muscle fibres
4. Functions of skeletal system
5. Disorders of muscular and skeletal system
6. Benefits of regular exercise

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

CHAPTER-10 NEURAL CONTROL AND COORDINATION

Short Questions:-

1. Neuron
2. Basic functions of neural system
3. Neuroglia
4. What are the functional classes of neuron?
5. Functions of CNS
6. Neurilemma and axolemma
7. Dendrites
8. Nissle's granules
9. Axon hillock
10. Structure of neuron
11. Nodes of ranvier
12. Synoptic knob
13. Types of neurons (based on the number of axon and dendrites)
14. Resting membrane potential
15. Ionic channels of axolemma
16. Action membrane potential
17. Depolarization
18. Threshold potential
19. Threshold stimulus
20. All or none principle
21. Repolarization
22. Hyperpolarization
23. Lazy gates
24. Saltatory conduction
25. Synapse
26. Synaptic cleft
27. What are the cranial meninges covers the brain?
28. Gyri
29. Sulci
30. Carpus callosum
31. Functions of brain lobes
32. Melatonin
33. Mammillary bodies
34. Depression
35. What are the main components of limbic system?
36. The limbic system also called as emotional brain. Why?

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

37. Brain stem
38. Cerebral peduncles
39. Corpora quardrigemina
40. Cerebellum
41. Medulla oblongata
42. Septum pellucidum
43. Interventricular foramen
44. CSF and its functions
45. Cauda equina
46. Reflex action
47. Reflex arc
48. Types of reflexes
49. Sensory receptors
50. Differences between sympathetic and parasympathetic neural system
51. Exteroceptors – Interoceptors – Proprioceptors
52. Lacrymal glands
52. Components of tear
53. Aqueous humor vs. vitreous humor
54. Canal of schlemm
55. Ciliary muscle
56. Blind spot
57. Astigmatism, cataract, myopia, hypermetropia and presbyopia
58. Differences between rod cells and cone cells
59. What are the bones (ossicles) found in middle ear?
60. Stereocilia
61. Tectorial membrane
62. Vestibular system
63. Maculae
64. Otoliths
65. Gustatory receptor
66. What are the sensory receptors present in the skin?
67. Melanocytes
68. Types of receptors

Big Questions:-

1. Refractive errors of eye
2. Photoreceptor – eye
3. Structure of neuron
4. Origin, conduction and transmission of nerve impulses
5. Briefly explain the structure of nervous system

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

CHAPTER-11 CHEMICAL COORDINATION AND INTEGRATION

Short Questions:-

1. Hormones are termed as chemical messengers. Justify.
2. Classes and chemical properties of hormones
3. Homeostasis
4. What are the human endocrine glands?
5. Partial endocrine glands
6. Why the pituitary gland called as master endocrine gland?
7. Major hypothalamic hormones and their functions
8. Functions of hypothalamus
9. Rathke's pouch
10. What are the hormones secreted by anterior and posterior lobes of pituitary gland?
11. Functions of growth hormone
12. Roles of ADH or vasopressin
13. Amino acid sequence of vasopressin and oxytocin
14. Melatonin
15. Isthmus
16. Acini
17. Hormones secreted by thyroid gland
18. Circadian rhythm
19. Hormones of thymus gland
20. Hormones of adrenal gland and their functions
21. 3F hormone
22. Insulin also called as hypoglycemic hormone. Why?
23. Humulin
24. Why glucagon is called as hyperglycemic hormone?
25. Functions of testosterone
26. HCG (Human chorionic gonadotropin)
27. Calcitriol
28. Cholecystokinin
29. Critinism and its symptoms
30. Tetany
31. Cushing's syndrome
32. You should know all the disorders related to endocrine glands
33. Difference between diabetes mellitus and diabetes insipidus
34. What are the sex hormones? Write their functions.

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

Big Questions:-

1. Explain about the pituitary gland and its hormone
2. Explain the structure and hormones of the thyroid and adrenal gland
3. Disorders of endocrine gland
4. Mechanism of hormone action

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

CHAPTER-12 TRENDS IN ECONOMIC ZOOLOGY

Short Questions:-

1. How the animals are classified based on economic importance?
2. Vermiculture
3. Vermicompost
4. Vermitech
5. Why earthworms called as farmers of friends?
6. What are the endemic and exotic species of earthworms?
7. Vermiwash
8. Earthworm pests and diseases
9. Advantages of using vermicompost
10. Sericulture
11. Silk road
12. Main components of sericulture
13. What are the types of eggs produced by moth (silkworm)?
14. Caterpillar
15. Moriculture
16. Post cocoon process - stifling, reeling
17. Uses of silk
18. Cooking
19. Diseases and pests of silkworm
20. Apiculture or Bee keeping
21. Write the names of five well recognized types of bees in the world
22. Nuptial flight
23. Pheromone
24. Worker cell
25. Drone
26. Bee hive or comb
27. Brood cell
28. Bee veil
29. Uncapping knife
30. Bee brush
31. Hive entrance guard
32. Products of bee keeping and their economic importance
33. Propolis
34. Lac culture
35. Queen introducing
36. Feeder

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

37. Swarming
38. Inoculation
39. Harvesting
40. Stick lac
41. Economic importance of lac
42. Aquaponics
43. Methods of aquaponics - deep water culture, media based method, nutrient film technique, aqua vertica
44. Advantages of aquaponic gardening
45. What are the fishes are culture aquaponics
46. What are the cultivable plants in aquaponics
47. Aquaculture
48. Types of aquaculture
49. Brackish water culture
50. Cultivable fishes in brackish water
51. Mariculture
52. Artemia
53. Characteristics of cultivable fishes
54. Types of cultivable fish
55. External factors affecting fish culture
56. Types of breeding (based on the mode)
57. Hypophysation
58. Fish seed
59. Composite fish farming or polyculture
60. Write the names of exotic fishes introduced in india
61. Isinglass
62. Types of prawn fishery
63. Write the names of different prawn species
64. Composition of pearl
65. Inbreeding vs outbreeding
66. Artificial insemination
67. Advantages of artificial insemination
68. MOET
69. Common diseases of cattle
70. Prominent indigenous cow breeds in India
71. Poultry byproducts
72. Benefits of poultry farming
73. Advantages of duck farming

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324

Big Questions:-

1. Give a brief account on vermiculture
2. Explain the social organization of honey bees
3. Briefly discuss the animal bredding
4. Discuss the steps involved in rearing of chicken
5. Discuss the various methods using in fish culture

Prepared By
GOPALAKRISHNAN RAMAN M.Sc., B.Ed.
POST GRADUATE TEACHER
DEPARTMENT OF ZOOOGY
E-mail: gramakrishna1795@gmail.com
Mobile: 9025607324