



V.M.G.R.R SRI SARADA SAKTHI MAT. HR. SEC. SCHOOL
STD: XI
BIOLOGY (ZL-1-12)

BIO –ZOOLOGY - (2MARKS)

1. Differentiate between probiotics and pathogenic bacteria.
2. Why mule is sterile in nature?
3. Why are spongin and spicules important to a sponge?
4. What are the four characteristics common to most animals?
5. Why flatworms are called acoelomates?
6. What are flame cells?
7. Concept Mapping - Use the following terms to create a concept map that shows the major characteristic features of the phylum nematoda:
Round worms, pseudocoelomates, digestive tract, cuticle, parasite, sexual dimorphism
8. In which phyla is the larva trochophore found?
9. Some epithelia are pseudostratified. What does this mean?
10. Differentiate white adipose tissue from brown adipose tissue.
11. Why blood is considered as a typical connective tissue?
12. What characteristics are used to identify the earthworms?
13. What are earthworm casts?
14. How do earthworms breathe?
15. Why do you call cockroach a pest?
16. Comment on the functions of alary muscles?
17. Name the visual units of the compound eyes of cockroach.
18. How does the male frog attracts the female for mating?
19. Write the types of respiration seen in frog.
20. Name the respiratory organs of flatworm, earthworm, fish, prawn, cockroach and cat.
21. Name the enzyme that catalyses the bicarbonate formation in RBCs.
22. Air moving from the nose to the trachea passes through a number of structures. List in order of the structures.
23. Which structure seals the larynx when we swallow?
24. Name the different types of movement.
25. Name the filaments present in the sarcomere.
26. Name the contractile proteins present in the skeletal muscle.
27. When describing a skeletal muscle, what does “striated” mean?
28. How does an isotonic contraction take place?
29. How does an isometric contraction take place?
30. Name the bones of the skull.
31. Which is the only jointless bone in human body?
32. Why is the blind spot called so?
33. Sam’s optometrist tells him that his intraocular pressure is high. What is this condition called and which fluid does it involve?
34. The action potential occurs in response to a threshold stimulus; but not at sub threshold stimuli. What is the name of the principle involved?

- 35 . Pleasant smell of food urged Ravi to rush into the kitchen. Name the parts of the brain involved in the identification of food and emotional responses to odour.
36. Comment on homeostasis.
37. Hormones are known as chemical messenger. Justify.
38. Write the role of oestrogen in ovulation.
39. Comment on Acini of thyroid gland.
40. Write the advantages of vermicomposting.
41. Name the three castes in a honey bee colony.
42. Name the following:
 - i. The largest bee in the colony.
 - ii. The kind of flight which the new virgin queen takes along with the drones out of the hive.
43. Name any two trees on which lac insect grows.
44. Define cross breeding.

3MARKS

1. List any five salient features of the family *Felidae*.
2. What is the role of Charles Darwin in relation to concept of species?
3. Why elephants and other wild animals are entering into human living area?
4. List the features that all vertebrates show at some point in their development.
5. Compare closed and opened circulatory system.
6. Compare Schizocoelom with enterocoelom.
7. Identify the structure that the archenteron becomes in a developing animal.
8. List three features that characterise bony fishes.
9. List the functions of air bladder in fishes.
10. Write the characteristics that contributes to the success of reptiles on land.
11. List the unique features of bird's endoskeleton.
12. Differentiate between elastic fibres and elastic connective tissue.
13. Name any four important functions of epithelial tissue and provide at least one example of a tissue that exemplifies each function.
14. Differentiate between peristomium and prostomium in earthworm.
15. Give the location of clitellum and spermathecal openings in *Lampito mauritii*.
16. Differentiate between tergum and a sternum.
17. Head of cockroach is called hypognathous. Why?
18. What are the components of blood in frog?
19. Why are villi present in the intestine and not in the stomach?
20. Bile juice contains no digestive enzymes, yet it is important for digestion. Why?
21. Resistance in the airways is typically low. Why? Give two reasons.
22. How the body makes long-term adjustments when living in high altitude.
23. Why is pneumonia considered a dangerous disease?
24. Diffusion of gases occurs in the alveolar region only and not in any other part of the respiratory system. Discuss.
25. Distinguish between arteries and veins.
26. Distinguish between open and closed circulation.
27. Distinguish between mitral valve and semi lunar valve.
28. Right ventricular wall is thinner than the left ventricular wall. Why?
29. What might be the effect on a person whose diet has less iron content?

30. What is lymph? Write its function.
31. What are the heart sounds? When and how are these sounds produced?
32. Select the correct biological term.
Lymphocytes, red cells, leucocytes, plasma, erythrocytes, white cells, haemoglobin, phagocyte, platelets, blood clot.
- a. Disc shaped cells which are concave on both sides.
 - b. Most of these have a large, bilobed nucleus.
 - c. Enable red cells to transport blood.
 - d. The liquid part of the blood.
 - e. Most of them move and change shape like an amoeba.
 - f. Consists of water and important dissolved substances.
 - g. Destroyed in the liver and spleen after circulating in the blood for four months.
 - h. The substances which gives red cells their colour.
 - i. Another name for red blood cells.
 - j. Blood that has been changed to a jelly.
 - k. A word that means cell eater.
 - l. Cells without nucleus.
 - m. White cells made in the lymphatic tissue.
 - n. Blocks wound and prevent excessive bleeding.
 - o. Fragment of cells which are made in the bone marrow.
 - p. Another name for white blood cells.
 - q. Slowly releases oxygen to blood cells.
 - r. Their function is to help blood clot in wounds.
33. Arrange the following structures in the order that a drop of water entering the nephron would encounter them.
- | | | |
|-----------------------|---------------------|--------------------|
| e. Afferent arteriole | f. Bowman's capsule | g. Collecting duct |
| h. Distal tubule | i. Glomerulus | j. Loop of Henle |
| k. Proximal tubule | l. Renal pelvis | |
34. Differentiate protonephridia from metanephridia.
35. What is the nitrogenous waste produced by amphibian larvae and by the adult animal?
36. How is urea formed in the human body?
37. Differentiate cortical from medullary nephrons.
38. What vessels carry blood to the kidneys? Is this blood arterial or venous?
39. Which vessels drain filtered blood from the kidneys?
40. What is tubular secretion? Name the substances secreted through the renal tubules.
41. How are the kidneys involved in controlling blood volume? How is the volume of blood in the body related to arterial pressure?
42. Name the three main hormones involved in the regulation of the renal function?
43. What is the function of antidiuretic hormone? Where is it produced and what stimuli increases or decreases its secretion?
44. List the three main parts of the axial skeleton

45. How is tetany caused?
46. What are the functions of the skeletal system?
47. What are the different types of rib bones that form the rib cage?
48. What are the bones that make the pelvic girdle?
49. Cornea transplant in humans is almost never rejected. State the reason.
50. At the end of repolarization, the nerve membrane gets hyperpolarized. Why?
51. The choroid plexus secretes cerebrospinal fluid. List the function of it.
52. Write the causes for diabetes mellitus and diabetes insipidus.
53. Specify the symptoms of acromegaly.
54. Write the symptoms of cretinism.
55. Name the layers of adrenal cortex and mention their secretions.
56. Differentiate hyperglycemia from hypoglycemia.
57. What are the main duties of a worker bee?
58. What happens to the drones after mating flight?
59. Give the economic importance of Silkworm.
60. What are the Nutritive values of fishes?
61. Give the economic importance of prawn fishery.
62. Give the economic importance of lac insect.
63. What are the advantages of artificial insemination?

5MARKS

1. What is the difference between a Zoo and wild life sanctuary?
2. Can we use recent molecular tools to identify and classify organisms?
3. Explain the role of Latin and Greek names in Biology.
4. Observe the animal below and answer the following questions.

a. Identify the animal.

b. What type of symmetry does this animal exhibit?

c. Is this animal Cephalized?

d. How many germ layers does this animal have?

e. How many openings does this animal's digestive system have?

f. Does this animal have neurons?

5. Choose the term that does not belong in the following group and explain why it does not belong?



Notochord, cephalisation, dorsal nerve cord and radial symmetry.

5. Which of the chordate characteristics do tunicates retain as adults?

6. List the characteristic features that distinguish cartilaginous fishes with living jawless fishes.

7. Could the number of eggs or young ones produced by an oviparous and viviparous female be equal? Why?

LN-3

8. Write the classification of connective tissue and their functions

9. What is an epithelium? Enumerate the characteristic features of different epithelia.

LN-4

10. Draw a neat labeled diagram of the digestive system of frog.

11. Explain the male reproductive system of frog.

12. Explain the female reproductive system of frog.

13. Differentiate between male and female cockroach?

LN-5

14. List the chemical changes that starch molecule undergoes from the time it reaches the small intestine.

15. How do proteins differ from fats in their energy value and their role in the body?

16. Digestive secretions are secreted only when needed. Discuss.

Ln-6

17. Sketch a flow chart to show the path way of air flow during respiration.

18. Explain the conditions which creates problems in oxygen transport.

Ln-7

19. Describe the mechanism by which the human heart beat is initiated and controlled.

Ln-8

20. Name the three filtration barriers that solutes must come across as they move from plasma to the lumen of Bowman's capsule. What components of the blood are usually excluded by these layers?

21. What forces promote glomerular filtration? What forces opposes them? What is meant by net filtration pressure?

22. Identify the following structures and explain their significance in renal physiology?

a. Juxtaglomerular apparatus b. Podocytes c. Sphincters in the bladder

23. In which segment of the nephron most of the re-absorption of substances takes place?

24. When a molecule or ion is reabsorbed from the lumen of the nephron, where does it go? If a solute is filtered and not reabsorbed from the tubule, where does it go?

25. Which segment is the site of secretion and regulated reabsorption of ions and pH homeostasis?

26. What solute is normally present in the body to estimate GFR in humans?

27. Which part of the autonomic nervous system is involved in micturition process?

28. If the afferent arteriole of the nephron constricts, what happens to the GFR in that nephron? If the efferent arteriole constricts what happens to the GFR in that nephron? Assume that no auto regulation takes place.

29. Identify the biological term

Excretion, glomerulus, urinary bladder, glomerular filtrate, ureters, urine, Bowman's capsule, urinary system, reabsorption, micturition, osmosis, proteins.

a. A liquid which gathers in the bladder.

b. Produced when blood is filtered in a Bowman's capsule.

c. Temporary storage of urine.

d. A ball of inter twined capillaries.

e. Removal of unwanted substances from the body.

f. Each contains a glomerulus.

g. Carry urine from the kidneys to the bladder.

h. Scientific term for urination.

i. Regulation of water and dissolved substances in blood and tissue fluid.

j. Consists of the kidneys, ureters and bladder.

k. Removal of useful substances from glomerular filtrate.

30. What solute the blood contains that are not present in the glomerular filtrate?

31. With regards to toxicity and the need for dilution in water, how different are ureotelic and uricotelic excretions? Give examples of animals that use these types of excretion?

32. What is the effect of aldosterone on kidneys and where is it produced?

33. Explain the heart's role in secreting a hormone that regulates renal function? What hormone is this?

Ln-9

34. List the disorders of the muscular system.

35. Explain the sliding-filament theory of muscle contraction.

36. What are the benefits of regular exercise?

Ln-10

37. What is ANS? Explain the components of ANS.

38. Why is the limbic system called the emotional brain? Name the parts of it.

39. Classify receptors based on type of stimuli.

40. Differentiate between rod and cone cells.

41. The sense of taste is considered to be the most pleasurable of all senses.

42. Describe the structure of the receptor involved with a diagram.

43. Describe the sensory receptors present in the skin.

Ln-11

44. Briefly explain the structure of thyroid gland.

45. Write the functions of (CCK) Cholecystokinin.

46. Growth hormone is important for normal growth. Justify the statement.

47. Pineal gland is an endocrine gland, write its role.

48. Comment on the functions of adrenalin.

49. Predict the effects of removal of pancreas from the human body.

50. Enumerate the role of kidney as an endocrine gland.

51. Write a detailed account of gastro intestinal tract hormones.

LN-12

52. Discuss the various techniques adopted in cattle breeding?

53. Mention the advantages of MOET.

54. Write the peculiar characters of duck.

55. Explain the life cycle of *bombyx mori*.
