

Odisha LTR Practice Mock Test - Zoology

Q1. Small fish get stuck near the bottom of a shark and derive their nutrition from it. This kind of association is called as

- (a) antibiosis
- (b) commensalism
- (c) predation
- (d) parasitism

Q2. Rh factor is present in

- (a) all vertebrates
- (b) all mammals
- (c) all reptiles
- (d) man and rhesus monkey only

Q3. Which is correctly matched?

- (a) Apiculture – Honey bee
- (b) Pisciculture – Silk moth
- (c) Sericulture - Fish
- (d) Aquaculture – Mosquito

Q4. The intermediate host of Schistosoma is

- (a) snail
- (b) mosquito
- (c) housefly
- (d) sheep

Q5. Which type of sex determination is found in grasshopper?

- (a) XY type
- (b) WZ type
- (c) XO type
- (d) all of these

Q6. What is the dental formula of rabbits?

- (a) $\frac{2033}{1023}$
- (b) $\frac{2133}{2133}$
- (c) $\frac{1023}{2033}$
- (d) $\frac{2133}{1023}$

Q7. Spinal nerves in frog are __.

- (a) 10 pairs
- (b) 30 pairs
- (c) 12 pairs
- (d) 33 pairs

Q8. Vitamin-C helps in __.

- (a) metabolism of all major nutrients
- (b) formation of prothrombin
- (c) formation of collagen
- (d) metabolism of amino acids

Q9. Class of spider is __.

- (a) Reptilia
- (b) Araneae
- (c) Arachnida
- (d) Neoptera

Q10. Identify the correct match.

- (a) Ammotelism - Insects
- (b) Aminotelism - Turtle
- (c) Ureotelism - Mammals
- (d) Uricotelism - Protozoans

Q11. The least toxic excretory material is __.

- (a) ammonia
- (b) amino acids
- (c) urea
- (d) uric acid

Q12. The largest dolphin species is the orca, also called as _____.

- (a) Bottle Nose
- (b) Baiji
- (c) Killer whale
- (d) Tucuxi

Q13. Sponges belongs to the phylum -

- (a) Protozoa
- (b) Annelida
- (c) Porifera
- (d) Cnidaria

Q14. Goitre is caused by the deficiency of _____

- (a) Zinc
- (b) Calcium
- (c) Iodine
- (d) Chlorine

Q15. Which organ gets affected in Weil's disease?

- (a) Kidney
- (b) Bleeding
- (c) Liver
- (d) All of these

Q16. Hydrophobia is caused by -

- (a) Bacteria
- (b) Fungus
- (c) Virus
- (d) Protozoan

Q17. Anthophobia is fear of the following:

- (a) Boss
- (b) Fire
- (c) Flowers
- (d) Dogs

Q18. Blood group AB has -

- (a) No antigen
- (b) No antibody
- (c) Neither antigen nor antibody
- (d) Both antigen and antibody

Q19. Which Vitamins are those, if taken in excess can be dangerous as they are stored in the body?

- (a) B Complex
- (b) E and C
- (c) B and C
- (d) A and D

Q20. An instrument for measuring blood pressure is called -

- (a) Barometer
- (b) Spirometer
- (c) Sphygmomanometer
- (d) Haemocytometer

Q21. The vitamin most readily destroyed by heat is -

- (a) Riboflavin
- (b) Ascorbic acid
- (c) Tocopherol
- (d) Thiamine

Q22. Rickets is the deficiency disease of vitamin-D, in which the affected part is the -

- (a) Skin
- (b) Hair
- (c) Bone
- (d) Blood

Q23. The body of all complex animals consist of only _____ basic types of tissue(s).

- (a) 4000
- (b) 400
- (c) 40
- (d) 4

Q24. Which is the longest bone in human body?

- (a) Fibula
- (b) Tibia
- (c) Stapes
- (d) Femur

Q25. Scurvy (bleeding of gums) is caused by deficiency of which vitamin?

- (a) Vitamin K
- (b) Vitamin B2
- (c) Vitamin C
- (d) Vitamin A

Q26. Prawn belongs to the phylum

- (a) Arthropoda
- (b) Cnidaria
- (c) Echinodermata
- (d) Chordata

Q27. An adult human normally has -

- (a) 6 molar teeth
- (b) 8 molar teeth
- (c) 10 molar teeth
- (d) 12 molar teeth

Q28. Which of the following cells secrete insulin?

- (a) Alpha cells
- (b) Delta cells
- (c) Nerve cells
- (d) Beta cells

Q29. The function of trypsin in the digestive system is to -

- (a) Breakdown fats
- (b) Synthesise proteins
- (c) Breakdown proteins
- (d) Breakdown carbohydrates

Q30. Which of the following is the hardest substance in the human body?

- (a) Bone
- (b) Enamel
- (c) Dentine
- (d) Nail

Q31. The blood vessel supplying blood to the kidney is the -

- (a) Renal artery
- (b) Hepatic artery
- (c) Pulmonary artery
- (d) Carotid artery

Q32. Which of the following vertebrates lack exoskeleton?

- (a) Amphibia
- (b) Mammalia
- (c) Aves
- (d) Chondrichthyes

Q33. The disease that is caused by virus is -

- (a) Typhoid
- (b) Cholera
- (c) Common cold
- (d) Tetanus

Q34. Spiders are different from insects because they have -

- (a) Six legs
- (b) Eight legs
- (c) Ten legs
- (d) Twelve legs

Q35. Interferon is used for the control of

- (a) Cancer
- (b) Diabetes
- (c) T.B.
- (d) Typhoid

Q36. All of the following diseases are caused by virus except

- (a) Dengue
- (b) Influenza
- (c) Mumps
- (d) Typhoid

Q37. What is MRI?

- (a) Magnetic Record of Intestines
- (b) Magnetic Recording of investigations
- (c) Magnetic Resonance Imaging
- (d) Magnetic Resonance in Intestines

Q38. Lexicography is related to:

- (a) Structure of human body
- (b) Compilation of dictionary
- (c) Secret of handwriting
- (d) Teaching of pictures and models.

Q39. Sickle-cell anemia is a disease caused due to the abnormality in

- (a) White blood cells
- (b) Red blood cells
- (c) Thrombocytes
- (d) Blood plasma composition

Q40. Which one of the following vitamins is responsible for blood clotting?

- (a) C
- (b) K
- (c) E
- (d) D

Q41. Match List I with List II and select the correct answer from the code given below the lists:

List I	List II
(Disease)	(Cause)
A. Nightblindness	1. Vitamin D
B. Rickets	2. Vitamin C
C. Scurvy	3. Vitamin B
D. Beri-beri	4. Vitamin A

Code:

A B C D

- (a) 1 2 3 4
- (b) 3 4 1 2
- (c) 4 1 2 3
- (d) 2 3 4 1

Q42. Itai-Itai disease is caused by chronic poisoning of-

- (a) Mercury
- (b) Nickel
- (c) Cadmium
- (d) Lead

Q43. Which of the following is the best measure/method to control the fertility and growing population?

- (a) permanent methods
- (b) chemical methods
- (c) mechanical method
- (d) Abstinence

Q44. Which type of cleavage is exhibited in eggs of amphibians like frogs?

- (a) holoblastic and equal
- (b) meroblastic and discoidal
- (c) unequal holoblastic
- (d) meroblastic superficial

Q45. The absence of sperm in seminal fluid is called

- (a) oligospermia
- (b) azoospermia
- (c) phimosis
- (d) absolute impotency

Q46. Down's syndrome, a chromosomal disorder in humans, is caused by

- (a) monosomy of one autosome
- (b) trisomy of the 21st chromosome
- (c) trisomy of X-chromosome
- (d) non-disjunction of X-chromosome

Q47. Population growth curve of human beings

- (a) S-shaped growth curve
- (b) J-shaped growth curve
- (c) parabolic type
- (d) zig-zag-shaped

Q48. The exoskeleton of vertebrates like hair hoofs, nails are made up of

- (a) lipopolysaccharides
- (b) protein
- (c) globulins
- (d) prolamines

Q49. The surface receptor sensitive to pressure and pain is

- (a) Pacinian corpuscles
- (b) Mazzoni corpuscles
- (c) Krause end bulb
- (d) Algesic receptor

Q50. Who suggested a simple mechanism of replication based on a double helix structure?

- (a) Watson
- (b) Crick
- (c) Watson and Crick
- (d) Messelson and Stable

Solutions

S1. Ans.(b)

Sol. In **commensalism**, the association between members of different species is made in the way that one is benefitted, and neither is harmed, e.g., small fish (suckerfish) gets stuck near the bottom of a shark with the help of its hold fast (modified dorsal fin) and is dispersed to distant areas. It also gets protection (due to its association with a shark) and derives its nutrition also. However, the shark does not get any benefit or harm from the suckerfish.

- **Antibiosis** refers to the complete or partial inhibition of one organism by another through the production of some substance or environmental conditions as a result of metabolic pathways.
- In **parasitism**, the parasite organisms derive food and sometimes shelter also from the host without killing it.
- In **predation**, predatory organisms are free-living that catch and kill another species for food.

S2. Ans.(d)

Sol. Rh factor was discovered by K Landsteiner and AS Wiener (1940) from a rabbit immunized with the blood of monkey Macaca rhesus. It is found in man and rhesus monkeys only.

S3. Ans.(a)

- **Sol. Apiculture** is the rearing of bees or beekeeping for the production of honey and wax. **Pisciculture** is the rearing and breeding of fishes in ponds and artificial water reservoirs.
- **Sericulture** is the rearing of silkworm or mulberry silkworm (*Bombyx mori*) for commercial production of silk. Caterpillar feeds on mulberry leaves, and its salivary gland secretes liquid silk.
- **Aquaculture** is the practice of raising aquatic organisms in controlled environments for commercial purposes.

S4. Ans.(a)

Sol. *Schistosoma mansoni* is the common human blood fluke. It belongs to class Trematoda of Platyhelminthes. Blood fluke is digenetic, a primary host is a man and the secondary host is a snail.

Sheep are the primary host of *Fasciola hepatica* (sheep liver fluke), causing 'liver rot'. Its secondary host is also the snail. Mosquitos and houseflies do not found to be the intermediate host of any animal.

S5. Ans.(c)

Sol. In XX/XO sex determination system, females have two copies of the sex chromosome (XX) but males have only one (XO). The O denotes the absence of a second sex chromosome. This system is observed in a number of insects, including the grasshoppers and crickets of the order Orthoptera and in cockroaches of the order Blattodea.

S6. Ans.(a)

Sol.

Rabbits are herbivores. Their teeth are unrooted and so, grow continually. The dental

formula of rabbit is $\frac{2033}{10232} = 14$

S7. Ans.(a)

Sol. The peripheral nervous system of a frog comprises cranial and spinal nerves. Ten pairs of cranial nerves and spinal nerves. Ten pairs of cranial nerves are present in the frog and it arises from the brain and innervates to the different parts of the body. Cranial nerves are involved in passing the information from outside to the brain. The frog contains 10 pairs of spinal nerves that arise from the spinal cord and gets distributed to the different parts of the body. The spinal nerves of frogs appear white in colour and are thread-like structures that emerge between the vertebrae and are located along the dorsal wall of the body cavity. Spinal nerves function in passing information from the extremities to the brain through the spinal cord.

S8. Ans.(c)

Sol. Vitamin – C is a water-soluble vitamin, meaning that our body doesn't store it. We need vitamin-C for the growth and repair of tissues in all parts of our body. It helps the body make collagen, an important protein used to make skin, cartilage, tendons, ligaments and blood vessels. Vitamin-C is essential for healing wounds and for repairing and maintaining bones and teeth.

S9. Ans.(c)

Sol. Classification of spider is as follows:

Kingdom	-	Animalia
Phylum	-	Arthropoda
Sub-phylum	-	Chelicerata
Class	-	Arachnida
Order	-	Araneae

S10. Ans.(c)

Sol. Ureotelism is the habit of eliminating urea as nitrogenous waste. The animals performing ureotelism are known as ureotelic; e.g., earthworms, cartilage fishes, adult amphibians, many aquatic reptiles, mammals, etc.

S11. Ans.(d)

Sol. Uric acid is less toxic, it is a thousand times less soluble than urea and ammonia, and very little water is required for the elimination of uric acid. Urine is allowed to stay in cloaca where water is reabsorbed from it. Uric acid is, therefore, generally passed out as a paste or pellet along with faeces.

S12. Ans.(c)

Sol. Orcas dolphin is also known as killer whales are the largest member of the dolphin family.

S13. Ans.(c)

Sol. Sponges the members of the phylum Porifer, are a basal Metazoa clade as sister of the Diploblasts.

S14. Ans.(c)

Sol. Goiter or goitre is enlargement of the thyroid gland. The most common cause for goitre is IODINE deficiency.

S15. Ans.(d)

Sol. All of these gets affected in Weil's disease.

S16. Ans.(c)

Sol. Fear of water is known as hydrophobia. Such type of patients gets afraid from river, lake sea etc. Hydrophobia is the old name of Rabies which is a viral disease. Its virus affects the nervous system.

S17. Ans.(c)

Sol. Anthophobia is an abnormal and persistent fear of flowers. The term comes from the Greek roots Anthos means flower and Phobos means fear.

S18. Ans.(b)

Sol. Group AB has both A and B antigens on red cells (but neither A nor B antibody in the plasma).

S19. Ans.(d)

Sol. In large amounts certain vitamins can be toxic, leading to a condition called vitamin toxicity or vitamin poisoning. Excess vitamin D accumulates in the liver and can cause bone calcification, headaches, weakness, nausea, vomiting, constipation, kidney stones and frequent thirst and urination. Accumulation of Vitamin A causes Toxicity in vitamin A is known as hypervitaminosis A.

S20. Ans.(c)

Sol. Sphygmomanometer is an instrument for measuring blood pressure.

S21. Ans.(b)

Sol. Vitamin C also known as Ascorbic acid is easily destroyed by excessive heat and water, as well as exposure to air.

S22. Ans.(c)

Sol. Rickets is a bone disease that affects infants and young children. The child's growing bones fail to develop properly due to a lack of vitamin D. This can result in soft and weakened bones, fractures, bone and muscle pain, and bony deformities.

S23. Ans.(d)

Sol. The term tissue is used to describe a group of cells found together in the body. There are four types of tissues in complex animals, they are connective, muscle, nervous, and epithelial.

S24. Ans.(d)

Sol. Femur, or thighbone, is the largest bone in your body. The head of femur fits into your hip socket and the bottom end connects to knee. The two bones beneath knee that make up shin are your tibia and fibula. Your upper and lower legs are connected by a hinge joint.

S25. Ans.(c)

Sol. Scurvy is caused due to deficiency of Vitamin C.

S26. Ans.(a)

Sol. Prawn belongs to the phylum Arthropoda.

S27. Ans.(d)

Sol. An adult human normally has 12 molar teeth.

S28. Ans.(d)

Sol. Beta cells secrete Insulin.

S29. Ans.(c)

Sol. Trypsin is one of the three principal digestive proteinases, the other two being pepsin and chymotrypsin. In the digestive process, trypsin acts with the other protein as to break down dietary protein molecules to their component peptides and amino acids.

S30. Ans.(b)

Sol. Enamel is the hardest substance in the human body and contains the highest percentage of minerals, 96%, with water and organic material composing the rest.

S31. Ans.(a)

Sol. Renal artery blood vessel supply blood to kidney.

S32. Ans.(d)

Sol. Chondrichthyes is a class that contains the cartilaginous fishes. It lacks exoskeleton.

S33. Ans.(c)

Sol. A common cold can be caused by different types of viruses.

S34. Ans.(b)

Sol. Spiders belong to a group of animals called “arachnids”. Arachnids are a creature with two body segments, eight legs, no wings or antennae. Rest three options are insects. They have six legs, while spider has eight legs. Thus spider is not an insect.

S35. Ans.(a)

Sol. Interferons (IFNs) are a group of signaling proteins made and released by host cells in response to the presence of pathogens such as viruses, bacteria, parasites or tumour cells such as in cancer.

S36. Ans.(d)

Sol. Typhoid is caused by Salmonella Typhi bacteria. Other three are viral diseases.

S37. Ans.(c)

Sol. Magnetic resonance imaging (MRI) is a test that uses to make pictures of organs and structures inside the body.

S38. Ans.(b)

Sol. Lexicography is related to a glossary of language design, compilation, the evaluation of general dictionaries.

S39. Ans.(b)

Sol. Sickle cell anemia is an inherited blood disorder that causes chronic anemia, periodic episodes of pain, and other complications. In sickle cell anemia, the red blood cells become rigid and shaped like crescents, or sickles, rather than being flexible and round. This change in shape prevents red blood cells from getting into small blood vessels. As a result, the tissues do not get enough oxygen. Lack of oxygen can cause pain and damage in the arms, legs, and organs (e.g., spleen, kidney, brain).

S40. Ans.(b)

Sol. Blood is a fluid connective tissue which coagulates in few minutes after ejection from the body which called as blood clots. In process of blood clotting Vitamin K are involved.

S41. Ans.(c)

Sol. Nightblindness is caused due to deficiency of vitamin A, Rickets caused due to deficiency of vitamin D, Scurvy is caused by deficiency of vitamin C and Beri-Beri is result of deficiency of Vitamin B1.

S42. Ans.(c)

Sol. Itai-Itai disease is caused by prolonged poisoning of cadmium. The first documented occurrence of mass cadmium poisoning in the world occurred in 1950 in Toyama Prefecture in Japan. However, for the first time, the disease was reported in 1912.

S43. Ans.(a)

Sol. The permanent birth control method involves the prevention/inhibition of sperm or ova by the surgical method in males and females.

In males vas deference is cut and tied, it is called vasectomy while in females Fallopian tubes are cut and tied, this is termed tubectomy or tubal ligation.

S44. Ans.(c)

Sol. Amphibian eggs contain a moderate amount of yolk. Which is concentrated in the vegetal hemisphere, i.e. eggs are mesolecithal and telolecithal. The cleavage of zygote and blastomeres are complete each cleavage cut through the whole cell. In other words, cleavage is unequal and holoblastic. This type of cleavage is also found in the zygotes of fishes.

S45. Ans.(b)

Sol. The absence of sperm fluid is called azoospermia, while the presence of less sperm in semen is termed oligospermia. Absolute impotency is the inability for sexual contact. Phimosis is the elongation of prepuce.

S46. Ans.(b)

Sol. Down's syndrome a chromosomal disorder in humans is caused by a trisomy of the 21st chromosome. While trisomy of the sex (X) chromosome causes Klinefelter's syndrome.

Monosomy of one autosome causes turner syndrome. Non-disjunction of X-chromosome causes aneuploidy which is of two types turner and Klinefelter's syndrome.

S47. Ans.(a)

Sol. The population growth curve of a human being is S-shaped or sigmoid curve type, as no population of any species in nature has unlimited resources at its disposal, so there is competition between individuals for limited resources, therefore maximum population receive nutrition from enough resources of a given habitat, beyond which no further growth is possible and make population growth curve becoming sigmoid or S-shaped.

S48. Ans.(b)

Sol. The exoskeleton of the majority of the vertebrates like the hair hoofs, and nail wings of insects; are made up of protein. Heavy deposition of insoluble protein like hoof and nails called keratin, makes epithelium impervious to water and highly resistant to mechanical abrasions.

S49. Ans.(a)

Sol. The surface receptor sensitive to pain and pressure is Pacinian corpuscles. These corpuscles are found in a deep layer of the dermis.

Mazzoni corpuscles found in the subcutaneous tissue of the finger are sensitive to touch, Krause end bulb is sensitive to heat, cold and pain and is found in the skin of lip, tongue and mammary glands Algesic receptor is sensitive to pain only.

S50. Ans.(c)

Sol. Watson and Crick suggested a simple mechanism of DNA replication based on its double helix structure. The replication method of DNA is described as semiconservative because the molecule of daughter DNA is hybrid, which conserves the one parental polynucleotide chain and forms the second one.

