RIZVI COLLEGE OF ARTS, SCIENCE & COMMERCE. BANDRA (W)

VIVA QUESTION BANK 2022

FY BSc SEM I

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Q1 : What are foraminiferan shells?

Ans : Foraminiferan shells are small, shelled, marine rhizopods belonging to phylum protozoa.

Q2 : Give nature of the foraminiferan skeleton.

Ans : Foraminiferan skeleton is calcareous, siliceous, pseudochitinous or gelatinous.

Q3 : What are the characteristics of shells of foraminifera?

Ans : Shells of foraminifera are porous through which string like pseudopodia stream out in live condition.

Q4 : What is the significance of foraminiferan shells?

Ans : Fossils of foraminifera are employed in oil industry in correlating rock strata.

Q5: Give the names of foraminiferan shells.

Ans : Saccamina, Textularia, Cyclamina, Frondicularia, Spiroloculina Bathysiphon, Turrispirillina, Discospirulina, Rhabdamina, Saccorhiza, Globigerina and Polystomella.

Q6 : Which type of scales are found on cartilaginous fish?

Ans : Placoid scales are found on cartilaginous fish.

Q7 : Give the structure of placoid scales.

Ans : In placoid scales, the inner core is of pulp, middle layer of dentine and enamel covering.

Q8 : Which type of fish has cycloid scales?

Ans : Cycloid scales are found in bony fishes ie. Teleosts eg. Sciaena.

Q9 : Give the structure of cycloid scale.

Ans : Cycloid scale is made up of an inner layer of collagen fibres and an outer organic layer impregnated with calcium salts.

Q10 : Give the features of single placoid scales.

Ans : Each placoid scale has a flat base plate embedded in the dermis. From the base plate arise arise sharp, trident spines.

Q11 : Give the morphological feature of cycloid scales.

Ans : Each cycloid scale is small, oval shaped and smooth with a uniform outer margin.

Q12 : Give the morphological features of ctenoid scales.

A : Each ctenoid scale is oval shaped with a spiny posterior margin bearing spines called ctenii.

Q13 : What is symbiosis?

Ans : Symbiosis is an interaction between different species in which both the species are benefitted.

Q14 : Give any two examples of symbiosis.

Ans : The examples of symbiosis are : 1) Termite and trichonympha

2) Hermit crab and sea anemone.

Q15 : What is camouflage?

Ans : Camouflage is an adaptation by which an animal is able to hide itself from predator and prey, increases the animals chance of survival and reproduction.

Q16 : Give the examples of camouflage.

A : The examples of camouflage are Leaf insect, chameleon.

Q17 : What is leaf insect?

Ans : Leaf insect is green in colour and resembles the green leaves of plants.

Q18 : What is chameleon?

Ans : Chameleon is a tree dwelling lizard with laterally compressed body.

Q19 : What is cannibalism?

Ans : Cannibalism is a type of intra specific animal interaction in which one species eats members of the same species.

Q20 : What is sexual cannibalism?

Ans : Sexual cannibalism is the consumption of mate before, during or after copulation. It is rare form of cannibalism and seen in spiders, scorpions and praying mantis.

Q 21: Give the characteristics of giant wood spider with respect to sexual cannibalism.

Ans : The female of giant wood spider is larger than male and makes a meal of the male immediately after copulation.

Q22 : What is praying mantis and why it is called so.

Ans : Praying mantis is a green elongated and carnivorous insect. It gets its name from its prothoracic legs which are raised in a pose of prayer.

Q23 : What is termite nest called?

Ans : Termite nest is called Termite hill (Termitarium)

Q24 : Why termite mound is an architect's wonder?

Ans : Termite mound is an architect's wonder because

it contain chambers for storage of wood, its primary food.

Fungal gardens are cultivated. They feed on fungus that helps them to extract nutrients from wood.

The temperature in the mound is almost constant facilitating the growth and maintenance of fungus.

Reproductive chambers for mating are also present.

Q25 : What are harvester ant?

Ans : Harvester ant are commonly called red ants, are social, colored and polymorphic insect.

Q26 : What is harvester ant nest called?

Ans : Harvester ant nest is called fornicaria.

Q27 : What is baya weaver bird nest?

Ans : Baya weaver bird nest is the best architects in the animal kingdom known for its hanging, pendulous, retort shaped nest.

Q28 : Which different materials are used to build nest by baya weaver bird?

Ans : The materials used by baya weaver bird to build nest are long strips from palm fonds, paddy leaves and rough grasses.

Q29 : Which different materials are used to build nest by harvester ant?

Ans : The harvester ant uses sand particles to build its nest. The ant clears all vegetation surrounding the entrance leaving a barren flat area several feet in diameter.

Q30 : Which different materials are used to build nest by termite?

Ans :Termite build nest using combination of soil, mud, chewed wood, saliva and dung.

Q31 : What is bioluminescence?

Ans : Bioluminescence is the process in which an animal produces and emit light by using chemical energy.

Q32 : Give the chemical reaction involved in bioluminescence.

Ans : The oxidation of protein luciferin with the help of enzyme luciferase makes it glow.

Q33 : What is the significance of bioluminescence to noctiluca?

Ans : Noctiluca show collective defense mechanism it light up when it sense presence of predators nearby. This attracts larger predators which eat up the first predators and keep the colony of noctiluca safe.

Q34 : What are fireflies?

Ans :Fire flies are male beetle which use bioluminescence to attract mates (females).

Q35 : What is esca, give its function?

Ans :Esca is an elongated spine at the top of head in angler fish. It looks like fishing pole. The spine supports a ball like structured called esca. The bacteria in esca share symbiotic relationship to fish. The bacteria has luciferin, which reacts with oxygen in presence of enzyme luciferase to create light.

Q36 : Why snakes are able to eat prey, bigger than their head?

Ans : Jaws of snakes are flexible and capable of extension hence they are able to eat prey, bigger than their head.

Q37 : Name the four common terrestrial species of venomous snakes in India.

Ans : The four common terrestrial species of venomous snakes in India are Cobra, Krait, Russell's viper and Saw scaled viper.

Q38 : What does venom apparatus consist of?

Ans : Venom apparatus consist of a pair of venom glands, their ducts and pair of fangs.

Q39 : Give the nature of venom in cobra.

Ans : Venom in cobra is neurotoxic.

Q40 : What is the scientific name of common krait.

Ans : The scientific name of common krait is *Bungarus caeruleus* .

Q41 : What is a pit in snakes?

Ans : Pit in snakes is sensory organ with which snakes can detect their prey.

Q42 : Which are signs in Russell's viper before attacking?

Ans : Before attacking a Russel's viper hisses loudly and swells its body.

Q43 : Give the examples of non venomous snakes.

Ans : The examples of non venomous snakes are Rat snake and Indian Rock Python.

Q44 : Give the characteristics of tail in rat snakes.

Ans : Tail in rat snake is long and prehensile. It is used to coil around the victim.

Q45 : How many eggs are laid by the females of Indian Rock Python?

Ans : The females of Indian Rock Python lays 100 eggs.

Q46 : Corals belong to which phylum?

Ans : Corals belong to phylum coelenterata.

Q47 : What are coral reefs?

Ans : Some corals grow into massive solid structures and form large and continuous branched colonies which are referred to as coral reefs.

Q48 : What is the distinguishing feature of *Meandrina*.

Ans : Presence of ridges and groove which resemble the mammalian brain is the distinguishing feature of *Meandrina* , hence it is called brain coral.

Q49 : Why tubipora is red in colour?

Ans : Tubipora is red in colour due to deposition of iron pigments.

Q50 : Why is *Madrepora* called staghorn coral?

Ans : The *Madrepora* colony is branched, resembling antlers and therefore called staghorn or horn corals.

Q 51: Give the scientific name of mushroom coral?

Ans : The scientific name of mushroom coral is *Fungia*.

Q52 : What is parental care?

Ans : Parental care is a specialized animal behavior which involve parents giving food, shelter and protection to their offspring. In lower vertebrates this behavior is short lived and include care of eggs, transportation of eggs or larvae and feeding of larvae.

Q53 : Mention the examples of parental care in Amphibians.

Ans : The examples of parental care in amphibians are Rhacophorus (Flying frog), mid wife toad, Darwin's frog and caecilian.

Q54 : In what way parental care is manifested in Rhacophorus.

Ans : In Rhacophorus, the female make nest on a leaf or branch of a tree overhanging water body. During amplexus, the male releases seminal fluid and whips it up into foam. The eggs are laid in this foam nest. The female covers the foam with leaves and the eggs are protected in the foam nest till they begin to hatch.

Q55 : In what way parental care is manifested in midwife toad.

Ans : - In midwife toad, parental care is by direct nursing.

- Eggs are laid by female frog and are fertilized by the male.
- Strings of these eggs are attached to his back and thighs. He periodically enters the water to make the eggs moist. When larvae begin to hatch, the male sits in water and hatchlings are released.
- The warts on the back of toad gives out a strong smelling poison which help to keep the egg string on the back of male safe from attack.

Q56 : In what way parental care in manifested in Darwin's frog.

Ans : Parental care is exhibited Darwin's frog by direct nursing of fertilized eggs in the vocal sacs of male. After fertilization of eggs, the male guards eggs for 3 - 4 weeks when the developing embryos begin to move in their translucent sacs he gulps them into his mouth. From here they slide his vocal sacs. Vocal sacs enlarge and form an incubation chamber. Tadpoles grow in vocal sacs. After metamorphoses froglets crawl into the mouth and hop out.

Q 57: In what way parental care is manifested in caecilian.

Ans : In caecilian the female Icthyophis digs a hole in moist soil near a pond and deposits 25 – 38 eggs in it. She coils around the egg clutch and protects the egg mass from the enemies. She periodically rotates it, till the eggs hatch in about 2 – 3 months.

Q58 : What is adaptive radiation?

Ans : It is a process in which organisms of a single species branch out into several new forms when there is change in environment and new resources are available. The new forms develop morphological and physiological traits useful to exploit the new environmental conditions.

Q59 : Which are the aquatic adaptations in turtle?

Ans : In turtle the flat streamlined shell aid in swimming and diving. It is also light to increase buoyancy. Due to low oxygen consumption, it can live for long periods underwater. Limbs form paddle which is adapted for swimming.

Q60 : Give the adaptations in tortoise to live on land.

Ans : In tortoise the large, heavy dome shaped shell protect it from predators. The digits are clawed to dig burrows during hot, sunny weather.

Q61 : Which are the different adaptations in Phrynosoma to live in desert?

Ans :In Phrynosoma the body is covered with large keeled scales and spines adapted for desert life to prevent water loss. At the base of each spine there is a pore through which water is absorbed .

Q62 :Give the adaptation in horned toad to protect from predators.

Ans : Horned toad can blend body colour with surroundings and it provides them camouflage thus they are protected from predators.They can inflate their body twice their size resembling a spiny balloon. Some species can shoot blood from their eyes. This confuses predator, but it also contains a chemical that is noxious to dogs, wolves and coyotes.

Q63 : Give the adaptation in flying lizard to arboreal life.

Ans : In flying lizard there is a fold of skin extending between fore and hind limbs. It forms wing like expansion called patagium which is an adaptation. The patagium rest flat against the body when not in use, but act as wings when unfurled enabling the lizard to glide.

The flattend body aids in flight and the long tail helps in stearing and carry it upto 30 feet.

Q64 : Which are the different type of feathers in birds?

Ans :In birds there are contour, filoplume and down feathers.

Q65 : How does contour feather make it well adapted to flight?

Ans : The contour feathers are of two types,

1)Remiges(flight feathers of the wing) are strong and support the bird during flight. One side of the vane is wider than the other. It helps to cut through air with least resistance during flight.

2)Rectrices(flight feathers of the tail)provide stability and control.

Q66 : What is the function of filoplume feathers?

Ans : The filoplume feathers are sensory in function and have receptors at their base.

Q67 : Give the location and function of down feathers.

Ans : The down feathers lie closest to bird's skin. Their function is to provide insulation and keep the bird warm.

Q68 : Describe the nectar feeding beak in birds.

Ans : The nectar feeding beak in birds are small and light to perch on flowers. In some birds the beak has a slight downward curve which aids in collection of nectar from base of flower. They have long, thin tongue edge with bristles. This serves to lap up liquids readily.

Q69 : Describe the insect catching beak in birds.

Ans : Birds which feed on insects have a small, pointed, similar sized upper and lower bill. They are used to pick insects off the ground or from cracks in the tree bark. Some birds can easily pick and hold onto insects out in air. Their beaks are flat and wide at the base. They have bristles round their mouths which act as net and help the bird to catch insects.

Q70 : Describe the fruit eating beak in birds.

Ans : Fruit eating beaks are hooked to dig into their food. The bill is large, sharp and extremely strong. This helps to grasp large pieces of fruit and gnaw into them.

Q71 : Describe the scavenging beak in birds.

Ans : Scavenging beak are large, powerful with prominent hook. The upper bill curves down over the lower bill and comes to a sharp point. This helps to tear flesh easily.

Q72 : Describe the filter feeding beak in birds.

Ans : Birds that are filter feeding have elongated, flat bills with a downward slope. Such birds bend their necks down into water. The lower bill is submerged in water while the upper bill remains above. This serves as a scoop. Hair- like lamellae line the upper bill. These help to filter the food out of mouthfuls of water, sand and other wastes. The tongue is rough and presses on the upper jaw. This helps to strain out water.

Q73: Describe the birds feet that perch on branches of trees with example.

Ans : The birds that perch on branches of trees have highly flexible toes with claws. They have four toes, three toes pointing forward and one backwardly directed. The backwardly directed toe help to grasp the branch strongly providing equilibrium when they rest or sleep. Eg. Sparrow, Robin, Crow.

Q74: Describe the wading type of claws in birds.

Ans : The waders have long, skinny legs with long flat toes. The long legs help them to forage in shallow or deeper waters. The long flat toes help to spread the weight of bird over a larger surface area. The bird is thus able to walk on soft, slippery surfaces near the water's edge.

Q75: Describe the swimming type of claws in birds with examples.

A : Aquatic birds have fine membrane of skin called web, connecting the digits. Webs stretch and act like paddles while swimming. The web ensures that they do not sink while walking in soft mud near the water edge. Eg. Duch, Swan, Goose.

Q76: Describe the hopping type of claws in birds with examples.

A : Birds that hop have short legs. They are able to move farther in a single hop. Eg. Sparrow, Crow.

Reference:

Animal Interaction and Biodiversity Semester -I Course -I ,University Practical Book of Zoology, University of Mumbai revised second edition (2016)