DPP : ZOOLOGY – STRUCTURAL ORGANISATION IN ANIMALS

1. Epithelial tissue originate from :-
(a) Ectoderm (b) Endoderm
(c) Mesoderm (d) All of these

2. Condition necessary for the formation of organ system:
(a) Presence of all four basic type of tissues
(b) Chemical interaction
(c) Physical interaction
(d) All of these

3. Tissue which provide support to the body is:
(a) Epithelial tissue (b) Connective tissue
(c) Muscular tissue (d) Nervous tissue

4. First tissue evolved in phylum -
(a) Porifera (b) Coelenterata
(c) Platyhelminthes (d) Aschelminthes

5. Anatomy of seed Plants by Katherine Esau was Published in
(a) 1960 (b) 1950
(c) 1965 (d) 1968

6. Webster of Plant Biology is related with-
(a) Ernst Mayr
(b) Katherine Esau
(c) Aristotle
(d) All of the above

7. ''High power of regeneration" present in which type of tissue -
(a) Connective (b) Epithelial
(c) Muscular (d) Nervous.

8. Most Abundant tissue is
(a) Epithelium
(b) Connective
(c) Nervous
(d) Muscular tissue

9. Match the following.

Tissue	Function
(A) Epithelium	(i) supportive function
(B) Connective	(ii) Protective function
(C) Muscular	(iii) control & coordination
(D) Nervous	(iv) Locomotion & Movement

(a) A-(ii), B-(i), C-(iv), D-(iii)
(b) A-(iii), B-(ii), C-(iv), D-(i)
(c) A-(i), B-(ii), C-(iii), D-(iv)
(d) A-(iv) B-(iii), C-(iv), D-(ii)

10. Study of Tissue is
(a) Histology (b) Anatomy
(c) Morphology (d) None

11. In which environment frogs can typically live?
(a) Only on land
(b) Only in saltwater
(c) Both on land and in freshwater
(d) Only in brackish water

12. Which taxonomic classification does a frog belong to?
(a) Class Mammalia, Phylum Arthropoda
(b) Class Amphibia, Phylum Mollusca
(c) Class Amphibia, Phylum Chordata
(d) Class Reptilia, Phylum Chordata

13. The most common species of frog found in India is _____.
(a) *Bufo bufo* (b) *Rana temporaria*
(c) *Rana tigrine* (d) *Xenopus laevis*

14. Frogs do not have constant body temperature i.e., their body temperature varies with the temperature of the _____.
(a) Air (b) Water
(c) Environment (d) Sunlight

15. Identify the term used to describe frogs in relation to their body temperature regulation?
(a) Warm-blooded or Homeotherms
(b) Hot-blooded
(c) Cold-blooded or poikilotherms
(d) Endotherms

16. **Assertion (A):** Frogs have the ability to change their color to hide from their enemies by a phenomenon known as camouflage.
Reason (R): This ability helps frogs blend into their surroundings, making it difficult for predators to detect them, thus increasing their chances of survival.
(a) Both Assertion and Reason are true, and Reason is the correct explanation of the Assertion.
(b) Both Assertion and Reason are true, but Reason is not the correct explanation of the Assertion.
(c) Assertion is true, but Reason is false.
(d) Assertion is false, but Reason is true.

17. Name the term used to describe the protective coloration in frogs, where they mimic their surroundings to avoid detection by predators?
(a) Disguise (b) Camouflage
(c) Mimicry (d) Concealment

18. What is the phenomenon in frogs in which they enter a state of dormancy during hot and dry periods?
(a) Hibernation (b) Estivation
(c) Aestivation (d) Brumation

19. What is the phenomenon in frogs in which they enter a state of dormancy during cold and harsh winter conditions?
(a) Aestivation (b) Brumation
(c) Hibernation (d) Torpor

20. Which of the following describes the characteristic of frogs not having a constant body temperature?
(a) Homeothermic (b) Poikilothermic
(c) Endothermic (d) Ectothermic

21. What coloration does the Frogs living in a predominantly green environment are likely to exhibit?
(a) Bright red (b) Dark brown
(c) Green (d) Yellow

22. The skin of Frog is smooth and slippery due to the presence of:
(a) Scales
(b) Feathers
(c) Mucus glands
(d) Hair follicles

23. The color of the dorsal side of a frog's body is generally:
(a) Bright red with dark irregular spots
(b) Olive green with dark irregular spots
(c) Yellow with black spots
(d) Orange with stripes

24. The skin of a frog is uniformly _____ on the ventral side of the body.
(a) Reddish-brown
(b) Dark green
(c) Pale yellow
(d) Black with spots

25. How does a frog obtain water for hydration?
(a) By drinking from water sources
(b) By absorbing it through the skin
(c) By extracting moisture from food
(d) By storing water in its bladder

26. The body of a frog is divisible into head and _____.
(a) Tail (b) Limbs
(c) Trunk (d) Abdomen

27. **Assertion (A):** A neck and tail are absent in frogs.
Reason (R): Frogs exhibit a streamlined body plan adapted for efficient movement in water and on land.
(a) Both Assertion and Reason are true, and Reason is the correct explanation of the Assertion.
(b) Both Assertion and Reason are true, but Reason is not the correct explanation of the Assertion.
(c) Assertion is true, but Reason is false.
(d) Assertion is false, but Reason is true.

28. Which feature protects the eyes of frogs in the water?
(a) Eyelids
(b) Nictitating membrane
(c) Tear ducts
(d) Transparent cornea

29. Which structure on either side of the eyes of a frog receives sound?
(a) Tympanic membrane
(b) Olfactory organ
(c) Maxillary teeth
(d) Nictitating membrane

30. Match the following:

1. Hind limbs	A. four digits
2. Fore limbs	B. five digits
3. Copulatory pad	C. on first digit of forelimbs

(a) 1-C, 2-A, 3-B
(b) 1-A, 2-C, 3-B
(c) 1-B, 2-A, 3-C
(d) 1-C, 2-B, 3-A

31. Which of these organs secrete bile?
(a) Lung (b) Intestine
(c) Gall bladder (d) Liver

32. Where is bile stored in the body of frog?
(a) Intestine
(b) Liver
(c) Gall bladder
(d) Bidder's canal

33. In frogs, chyme is passed to the _____
(a) duodenum (b) colon
(c) jejunum (d) cecum

34. Pancreatic juice is delivered to the duodenum by the _____
(a) pancreatic duct (b) common bile duct
(c) parotid duct (d) hepatic duct

35. Where does final digestion take place in frogs?
(a) colon (b) cecum
(c) Intestine (d) Bidder's canal

36. During aestivation in frogs, gaseous exchange takes place through _____
(a) Aerobic respiration
(b) Gills
(c) Lungs
(d) Skin

37. How many chambers are present in a frog's heart?
(a) 2 (b) 1
(c) 3 (d) 4

38. In frog, the ventricle opens into _____
(a) conus arteriosus
(b) sinus venosus
(c) hepatic portal vein
(d) vena cava

39. Which of these is not present in frog?
(a) Renal portal system
(b) Enucleated erythrocytes
(c) Hepatic portal system
(d) Lymphatic system

40. In frog, oxygen dissolved in water can be taken by
(a) External nares (b) Spiracles
(c) Buccal cavity (d) Skin

41. Which of the following is not a component of the excretory system in frogs?
(a) Kidneys (b) Ureters
(c) Cloaca (d) Gills

42. Where are the kidneys of a frog located within its body cavity?
(a) Near the head
(b) Along the sides of the body
(c) Near the tail
(d) Around the stomach area

43. Identify the correct arrangement of male reproductive organs in frogs?
(a) Testes are located near the cloaca.
(b) Testes are attached to the lower part of kidneys.
(c) Testes are yellowish ovoid structures.
(d) Testes are connected to the kidneys by a structure called mesorchium.

44. Which of the following statements is true regarding the ears of frogs?
(a) Frogs have external ears visible on the surface.
(b) The ear in frogs serves only for hearing purposes.
(c) Frogs lack external ears and tympanum represents ears.
(d) The ear in frogs is solely responsible for balancing and maintaining equilibrium.

45. Thin-walled urinary bladder in frog's excretory system is located _____.
(a) Dorsal to the rectum
(b) Ventral to the rectum
(c) Lateral to the rectum
(d) Above the rectum

46. How are excretory wastes processed in the frog's excretory system?
(a) Excretory wastes are directly released into the cloaca
(b) Excretory wastes are carried by lymphatic vessels into the kidney
(c) Excretory wastes are transported by blood into the kidney where they are separated and excreted
(d) Excretory wastes are absorbed by the intestines and eliminated through faces

47. How many pairs of cranial nerves are present in frog?
(a) 8 (b) 10
(c) 12 (d) 14

48. Identify the structures among the following that are included in the forebrain of a frog:
(I) Olfactory lobes
(II) Paired cerebral hemispheres
(III) Unpaired diencephalon
IV) Medulla oblongata
(V) Cerebellum
(a) I, II, III (b) I, II, IV, V
(c) II, III, V (d) I, II, III, IV, V

49. Name the opening in frog through which the medulla oblongata pass as it continues into the spinal cord?
(a) Foramen lacerum
(b) Foramen ovale
(c) Foramen rotundum
(d) Foramen magnum

50. Which among the following are the sense organs found in frogs?
(I) Organs of touch (sensory papillae)
(II) Taste buds
(III) Nasal epithelium
(IV) Eyes
(V) Tympanum with internal ear
(a) I, II, IV (b) I, III, IV, V
(c) I, II, V (d) I, II, III, IV, V

51. What is the predominant colour observed on cockroach body?
(a) Brown (b) Black
(c) Both (a) & (b) (d) Green

52. Which class does cockroaches belong to in the animal kingdom classification system?
(a) Class Aves
(b) Class Mammalia
(c) Class Insecta
(d) Class Reptilia

53. Cockroaches are classified in which phylum of the animal kingdom:
(a) Phylum Chordata
(b) Phylum Mollusca
(c) Phylum Arthropoda
(d) Phylum Annelida

54. Which statement is true regarding cockroach found in tropical regions?
(a) Cockroaches are always brown or black regardless of their habitat.
(b) Cockroaches in tropical regions can only be brown or black.
(c) Bright yellow, red, and green coloured cockroaches have been reported in tropical regions.
(d) Cockroaches in tropical regions are colourless due to adaptation.

55. What is the size range of cockroaches?
(a) 1 inch to 2 inches
(b) 1/4 inch to 3 inches
(c) 1/4 inch to 1 inches
(d) 2 inches to 4 inches

56. What is the approximate size range of cockroaches in centimetres?
(a) 0.1 cm to 0.5 cm
(b) 0.6 cm to 8.5 cm
(c) 0.8 cm to 0.9 cm
(d) 0.6 cm to 7.6 cm

57. **Assertion (A):** Cockroaches have long antennae, legs, and a flat extension of the upper body wall that conceals the head.
Reason (R): These anatomical features help cockroaches to navigate through narrow spaces and conceal themselves effectively.
(a) Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.
(b) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
(c) Assertion is true, but Reason is false.
(d) Assertion is false, but Reason is true.

58. What is the primary activity pattern and dietary habit of cockroaches?
(a) Diurnal herbivores
(b) Nocturnal omnivores
(c) Diurnal carnivores
(d) Nocturnal herbivores

59. Where do cockroaches primarily inhabit across the globe?
(a) Dry areas
(b) Desert regions
(c) Damp places
(d) Mountainous regions

60. **Statement-1:** Cockroaches have adapted to living in human homes, making them significant pests.
Statement-2: Their presence in human dwellings poses a serious health risk as they can act as vectors for several diseases.
(a) Both Statement 1 and Statement 2 are true.
(b) Both Statement 1 and Statement 2 are false.
(c) Statement 1 is true but Statement 2 is false.
(d) Statement 1 is false but Statement 2 is true.

61. The adults of the common species of cockroach, *Periplaneta americana*, are about _____ long.
(a) 34-53 mm (b) 40-60 mm
(c) 20-30 mm (d) 10-20 mm

62. In cockroaches, wings that extend beyond the tip of the abdomen, are found in _____.
(a) Females (b) Males
(c) Juveniles (d) Adults

63. **Assertion (A):** In each segment, the exoskeleton of cockroaches consists of hardened plates called sclerites, with tergites dorsally and sternites ventrally.
Reason (R): These sclerites are joined to each other by a thin and flexible articular membrane known as the arthrodial membrane.
(a) Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.
(b) Assertion is true, but Reason is false.
(c) Both Assertion and Reason are false.
(d) Assertion is false, but Reason is true.

64. Match the following columns

Column-I	Column-II
1. Head	A. Sensory receptors
2. Antennae	B. Six segments
3. Labrum	C. Lower lip
4. Labium	D. Upper lip

(a) 1-B, 2-A, 3-D, 4-C
(b) 1-A, 2-C, 3-B, 4-D
(c) 1-B, 2-C, 3-D, 4-A
(d) 1-D, 2-A, 3-B, 4-C

65. Which statement correctly describes the presence of anal styles in male and female cockroaches?
(a) Both males and females bear a pair of short, threadlike anal styles.
(b) Males bear a pair of short, thread-like anal styles, while females do not have them.
(c) Females bear a pair of short, thread-like anal styles, while males do not have them.
(d) Neither males nor females bear a pair of short, threadlike anal styles.

66. Which statement accurately describes the presence of anal cerci in cockroaches?
(a) Only males bear a pair of jointed filamentous structures called anal cerci.
(b) Only females bear a pair of jointed filamentous structures called anal cerci.
(c) Both males and females bear a pair of jointed filamentous structures called anal cerci.
(d) Neither males nor females bear a pair of jointed filamentous structures called anal cerci.

67. Which statement is true for the abdominal structure in female cockroaches?
(a) Females have 8 abdominal segments, with the 8th sternum forming a brood pouch.
(b) Females have 10 abdominal segments, with the 7th sternum forming a brood pouch.
(c) Females have 12 abdominal segments, with the 7th sternum forming a brood pouch.
(d) Females have 6 abdominal segments, with the 9th sternum forming a brood pouch.

68. In males, the genital pouch or chamber lies at the hind end of the abdomen, bounded dorsally by the 9th and 10th terga and ventrally by the _____.
(a) 8th sternum (b) 11th sternum
(c) 10th sternum (d) 9th sternum

69. Which part of the thorax connects the head and bears the first pair of wings in cockroaches?
(a) Prothorax (b) Mesothorax
(c) Metathorax (d) Neck

70. What are the characteristics of the forewings and hind wings of cockroaches?
(a) Forewings are transparent and membranous, while hind wings are opaque and leathery.
(b) Both forewings and hind wings are transparent and membranous.
(c) Both forewings and hind wings are opaque and leathery.
(d) Forewings are opaque, dark, and leathery, while hind wings are transparent and membranous.

71. Where does the exchange of gases primarily occur in the respiratory system of insects?
(a) Tracheoles (b) Spiracles
(c) Trachea (d) Alveoli

72. **Assertion (A):** Thin branching tubes, known as tracheal tubes, which are subdivided into tracheoles, carry oxygen from the air to all parts of the insect's body.
Reason (R): Tracheoles provide a vast surface area for gas exchange, allowing oxygen to diffuse from the air-filled tracheae into the cells of the insect's tissues.
(a) Assertion and reason are both true, and the reason is a correct explanation of the assertion.
(b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.
(c) Assertion is true, but the reason is false.
(d) Both assertion and reason are false.

73. **Assertion (A):** Blood from sinuses enters the heart through ostia and is pumped anteriorly to sinuses again.
Reason (R): The heart of a cockroach is a muscular tube lying along the mid-dorsal line of the thorax and abdomen, and it pumps hemolymph anteriorly into the sinuses.
(a) Assertion and reason are both true, and the reason is a correct explanation of the assertion.
(b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.
(c) Assertion is true, but the reason is false.
(d) Both assertion and reason are false.

74. Which part of the digestive system is broader than the midgut and is differentiated into ileum, colon, and rectum, with the rectum opening out through the anus?
(a) Small intestine (b) Large intestine
(c) Stomach (d) Esophagus

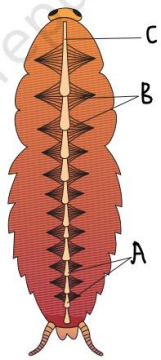
75. Which type of circulatory system is observed in the blood vascular system of a cockroach?
(a) Closed circulatory system
(b) Open circulatory system
(c) Lymphatic system
(d) Pulmonary circulatory system

76. What are the main components of haemolymph in insects?
(a) Red blood cells and platelets
(b) Plasma and leukocytes
(c) Plasma and haemocytes
(d) Erythrocytes and lymphocytes

77. What structures open through spiracles present on the lateral side of the body in the respiratory system of insects?
(a) Bronchi (b) Alveoli
(c) Trachea (d) Lungs

78. The respiratory system consists of a network of trachea, that open through .....of small holes called spiracles present on the lateral side of the body.
(a) 10 Pairs (b) 6 Pairs
(c) 11 Pairs (d) 9 Pairs

79. Identify A,B & C in the given diagram below and choose the correct option.



(a) A- Alary muscles, B- Chambers of heart, C- Anterior aorta
(b) A-Chambers of heart, B- Anterior aorta, C- Alary muscles
(c) A-Alary muscles, B- Chambers of heart, C- Anterior aorta
(d) A-Chambers of heart, B- Alary muscles, C- Anterior aorta

80. Which of the following best describes the structure of the heart in a cockroach?
(a) Tubular with multiple chambers
(b) Spherical with multiple chambers
(c) Funnel-shaped with ostia on either side
(d) Rectangular with valves

ANSWER KEY

1. (d)	9. (a)	17. (c)	25. (b)	33. (a)	41. (d)	49. (d)	57. (a)	65. (b)	73. (a)
2. (d)	10. (a)	18. (c)	26. (c)	34. (b)	42. (b)	50. (d)	58. (b)	66. (c)	74. (b)
3. (b)	11. (c)	19. (c)	27. (a)	35. (c)	43. (d)	51. (c)	59. (c)	67. (b)	75. (b)
4. (b)	12. (c)	20. (b)	28. (b)	36. (d)	44. (c)	52. (c)	60. (a)	68. (d)	76. (c)
5. (a)	13. (c)	21. (c)	29. (a)	37. (c)	45. (b)	53. (c)	61. (a)	69. (b)	77. (c)
6. (b)	14. (c)	22. (c)	30. (c)	38. (a)	46. (c)	54. (c)	62. (b)	70. (d)	78. (a)
7. (b)	15. (c)	23. (b)	31. (d)	39. (b)	47. (b)	55. (b)	63. (b)	71. (a)	79. (d)
8. (b)	16. (a)	24. (c)	32. (c)	40. (d)	48. (a)	56. (d)	64. (a)	72. (a)	80. (c)