

Yakeen NEET 2.0 2026

Structural Organisation in Animals

TapasyaPractice Sheet

- Which of the following statement is correct about location of the male frog copulatory pad?
 - (1) First and Second digit of fore limb
 - (2) First digit of hind limb
 - (3) Second digit of fore limb
 - (4) First digit of the fore limb
- What is the name of the blood vessel that carries deoxygenated blood from the body to the heart in a frog?
 - (1) Aorta
 - (2) Pulmonary artery
 - (3) Pulmonary vein
 - (4) Vena cava
- In frog, the Renal portal system is a special venous connection that acts to link:
 - (1) Liver and intestine
 - (2) Liver and kidney
 - (3) Kidney and intestine
 - (4) Kidney and lower part of body
- Frogs respire in water by skin and buccal cavity and on land by skin, buccal cavity and lungs. Choose the correct answer from the following:
 - (1) The statement is true for water but false for land
 - (2) The statement is true for both the environment
 - (3) The statement is false for water but true for land
 - (4) The statement is false for both the environment

5. Match List-I with List-II.

	List-I		List-II
A.	Unicellular glandular epithelium	I.	Salivary glands
B.	Compound epithelium	II.	Pancreas
C.	Multicellular glandular epithelium	III.	Goblet cells of alimentary canal
D.	Endocrine glandular epithelium	IV.	Moist surface of buccal cavity

Choose the correct answer from the options given below.

- (1) A-III, B-IV, C-I, D-II
- (2) A-II, B-I, C-IV, D-III
- (3) A-II, B-I, C-III, D-IV
- (4) A-IV, B-III, C-I, D-II

6. Match List-I with List-II.

	List-I		List-II
A.	The structures used for storing of food.	I.	Gizzard
B.	Ring of 6-8 blind tubules at junction of foregut and midgut.	II.	Gastric Caeca
C.	Ring of 100-150 yellow coloured thin filaments at junction of midgut and hindgut.	III.	Malpighian tubules
D.	The structures used for grinding the food.	IV.	Crop

Choose the correct answer from the options given below.

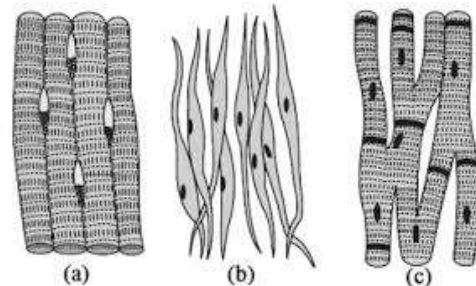
- (1) A-IV, B-III, C-II, D-I
- (2) A-III, B-II, C-IV, D-I
- (3) A-IV, B-II, C-III, D-I
- (4) A-I, B-II, C-III, D-IV

7. In both sexes of cockroach, a pair of jointed filamentous structures called anal cerci are present on:

- (1) 8th and 9th segment
- (2) 11th segment
- (3) 5th segment
- (4) 10th segment

8. Three type of muscles are given as a, b and c. Identify the correct matching pair along with their location in human body.

Name of muscle/location



- (1) (a) Skeletal - Biceps
(b) Involuntary - Intestine
(c) Smooth - Heart.
- (2) (a) Involuntary - Nose tip
(b) Skeletal - Bone
(c) Cardiac - Heart.

- (3) (a) Smooth - Toes
(b) Skeletal-Legs
(c) Cardiac - Heart.
(4) (a) Skeletal - Triceps
(b) Smooth - Stomach
(c) Cardiac - Heart

9. In cockroach, excretion is brought about by-

- A. Phallic gland
B. Urecose gland
C. Nephrocytes
D. Fat body
E. Collateral glands

Choose the correct answer from the options given below: **(2023 NEET)**

- (1) B, C and D only (2) B and D only
(3) A and E only (4) A, B and E only

10. Which of the following is characteristic feature of cockroach regarding sexual dimorphism?

(2023 NEET)

- (1) Presence of sclerites
(2) Presence of anal cerci
(3) Dark brown body colour and anal cerci
(4) Presence of anal styles

11. Given below are two statements:

Statement I: Ligaments are dense irregular tissue.

Statement II: Cartilage is dense regular tissue.

In the light of the above statements, choose the correct answer from the options given below.

NEET (UG)-2023 (Code-H3)

- (1) Statement I: is true but statement II is false
(2) Statement I is false but statement II is true
(3) Both statement I and statement II are true
(4) Both statement I and statement II are false

12. Match List-I with List-II.

Choose the correct answer from the options give below: **NEET (UG)-2023 (Code-H3)**

	List-I		List-II
A.	Mast cells	I.	Ciliated epithelium
B.	Inner surface of bronchiole	II.	Areolar connective tissue
C.	Blood	III.	Cuboidal epithelium
D.	Tubular parts of nephron	IV.	Specialised connective tissue

- (1) A-II, B-I, C-IV, D-III
(2) A-III, B-IV, C-II, D-I
(3) A-I, B-II, C-IV, D-III
(4) A-II, B-III, C-I, D-IV

13. Which of the following is not a connective tissue?

NEET (UG)-2022 (Code-Q1)

- (1) Blood (2) Adipose tissue
(3) Cartilage (4) Neuroglia

14. Match List-I with List-II.

Choose the correct answer from the options give below: **NEET (UG)-2023 (Code-H3)**

	List-I		List-II
(a)	Bronchioles	(i)	Dense Regular
(b)	Goblet cell	(ii)	Loose connective tissue
(c)	Tendons	(iii)	Glandular Tissue
(d)	Adipose Tissue	(iv)	Ciliated Epithelium

- (1) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)
(2) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)
(3) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)
(4) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)

15. Identify the types of cell junctions that help to stop the leakage of the substances across a tissue and facilitation of communication with neighbouring cells via rapid transfer of ions and molecules.

(2021)

- (1) Gap junctions and Adhering junctions, respectively.
(2) Tight junctions and Gap junctions, respectively.
(3) Adhering junctions and Tight junctions, respectively.
(4) Adhering junctions and Gap junctions, respectively

16. Which of the following statements wrongly represents the nature of smooth muscle?

(2021)

- (1) These muscle have no striations
(2) They are involuntary muscles
(3) Communication among the cells is performed by intercalated discs
(4) These muscles are present in the wall of blood

17. In cockroach, identify the parts of the foregut in correct sequence:

(2020 Covie Re-NEET)

- (1) Mouth → Crop → Pharynx → Oesophagus → Gizzard
(2) Mouth → Gizzard → Crop → Pharynx → Oesophagus
(3) Mouth → Pharynx → Oesophagus → Crop → Gizzard
(4) Mouth → Oesophagus → Pharynx → Crop → Gizzard

18. Select the incorrectly matched pair from following:
(2020 Covid Re-NEET)

- (1) Neurons - Nerve cells
- (2) Fibroblast - Areolar tissue
- (3) Osteocytes - Bone cells
- (4) Chondrocytes - Smooth muscle cells

19. Match the following columns with reference to cockroach and select the correct option:
(2020 Covid Re-NEET)

	Column-I		Column-II
1.	Grinding of the food particles	(i)	Hepatic caeca
2.	Secrete gastric juice	(ii)	10 th segment
3.	10 pairs	(iii)	Proventriculus
4.	Anal cerci	(iv)	Spiracles
		(v)	Alary muscles

(1) (2) (3) (4)

- (1) (iv) (iii) (v) (ii)
- (2) (i) (iv) (iii) (ii)
- (3) (ii) (iii) (i) (iv)
- (4) (iii) (i) (iv) (ii)

20. If the head of cockroach is removed, it may live for few days because:

(2020)

- (1) The cockroach does not have nervous system.
- (2) The head holds a small proportion of a nervous system while the rest is situated along the ventral part of its body.
- (3) The head holds a 1/3rd of a nervous system while the rest is situated along the dorsal part of its body.
- (4) The supra-oesophageal ganglia of the cockroach are situated in ventral part of abdomen.

21. Goblet cells of alimentary canal are modified from:

- (1) Columnar epithelial cells
- (2) Chondrocytes
- (3) Compound epithelial cells
- (4) Squamous epithelial cells

22. Cuboidal epithelium with brush border of microvilli is found in:

- (1) Ducts of salivary glands
- (2) Proximal convoluted tubule of nephron
- (3) Eustachian tube
- (4) Lining of intestine

23. Select the correct sequence of organs in the alimentary canal of cockroach starting from mouth
(2019 NEET)

- (1) Pharynx → Oesophagus → Crop → Gizzard
Ileum → Colon → Rectum
- (2) Pharynx → Oesophagus → Gizzard → Crop →
Ileum → Colon → Rectum
- (3) Pharynx → Oesophagus → Gizzard → Ileum →
Crop → Colon → Rectum
- (4) Pharynx → Oesophagus → Ileum → Crop →
Gizzard → Colon → Rectum

24. A researcher observes a mutation in the epithelial cells lining the pharynx that selectively impairs the function of adhering junctions. Which of the following consequences are most likely to occur?

- I. The pharyngeal lining would lose its ability to secrete mucus effectively.
 - II. Substances would easily leak across the epithelial barrier, compromising tissue integrity.
 - III. Neighboring cells would struggle to remain structurally linked, leading to tissue weakening or detachment.
 - IV. Rapid transfer of ions and small molecules between adjacent cells would be hindered
- (1) I and IV only
 - (2) III only
 - (3) II only
 - (4) I, II and III

25. Which of the following is correct for biceps muscle fibres present in our forelimbs?

- (1) Can't be contracted merely by thinking about it
- (2) Has alternate light and dark bands.
- (3) Show tapering ends.
- (4) Has a single nucleus at its centre

26. In which of the following scenarios would a cell utilize light junctions most effectively?

- (1) Facilitating rapid transport of ions between cells in a cardiac muscle tissue.
- (2) Allowing for communication between cells in a nerve synapse.
- (3) Maintaining the integrity of the blood-brain barrier.
- (4) Enhancing the flexibility of connective tissue.

27. Match the following with reference to cockroach and choose the correct option.

	Column-I		Column-II
A.	Phallomere	i.	Chain of developing ova
B.	Gonopore	ii.	Bundles of sperm
C.	Spermatophore	iii.	Opening of the ejaculatory duct
D.	Ovarioles	iv.	The external genitalia

- (1) A-iii, B-iv, C-ii, D-i
 (2) A-iv, B-iii, C-ii, D-i
 (3) A-iv, B-ii, C-iii, D-i
 (4) A-ii, B-iv, C-iii, D-i

28. The epithelium of Proximal Convolute Tubule (PCT) has microvilli, and cuboidal epithelium is commonly found in ducts of glands. What can be inferred about the primary functional demands on these two locations?

- (1) PCT: Primarily protection; Ducts of glands: Primarily diffusion.
 (2) PCT: Enhanced secretion/absorption; Ducts of glands: Primarily secretion/conduction.
 (3) PCT: Movement of substances along the surface; Ducts of glands: Enhanced absorption only.
 (4) PCT: Protection from abrasion; Ducts of glands: Rapid ion exchange between cells

29. Given Flowchart (with relation to cockroach):
 Testes → Vasa deferentia → Seminal vesicle → X → Male genital pore
 What is "X"? What would occur if "X" is absent?

- (1) Ejaculatory duct, sperms won't reach genital pore
 (2) Phallomere; no fertilization will occur
 (3) Mushroom gland; no spermatophore formation
 (4) Spermatheca; female cannot receive sperms

30. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:
Assertion A: Adipose tissue is specialized for triglyceride storage.
Reason R: Excess, unused nutrients are converted into fats and stored within adipocytes. In the light of the above statements, choose the correct answer from the options given below:

- (1) A is true but R is false.
 (2) A is false but R is true.
 (3) Both A and R are true and R is the correct explanation of A.
 (4) Both A and R are true but R is NOT the correct explanation of A.

31. In frogs, one pair of limbs is shorter and supports the body during landing, while the other pair is longer and provides thrust for leaping and swimming. How many digits are present in each of these limb types, respectively (shorter, supporting limbs: longer, leaping limbs)?

- (1) 4:5 (2) 5:4
 (3) 4:4 (4) 5:5

32. Match the List-I with List-II.

	List-I		List-II
(A)	Sinus venosus	(I)	Joins the right atrium
(B)	Conus arteriosus	(II)	Sac-like chamber the ventricle opens in it
(C)	Mushroom gland	(III)	Accessory reproductive gland in male cockroach
(D)	Spermatheca	(IV)	Present in the 6 th segment which opens into the genital chamber.

Choose the correct answer from the options given below:

- (1) A-I, B-II, C-III, D-IV
 (2) A-II, B-I, C-IV, D-III
 (3) A-I, B-III, C-II, D-V
 (4) A-IV, B-V, C-III, D-II

33. Read the following statements (A-E).

- A. Salivary gland is a exocrine gland.
 B. Forewings of cockroaches arises from prothorax.
 C. Frog is a ureotelic animal.
 D. Functional units of kidneys are uriniferous tubules.
 E. Frog has three chambered heart.

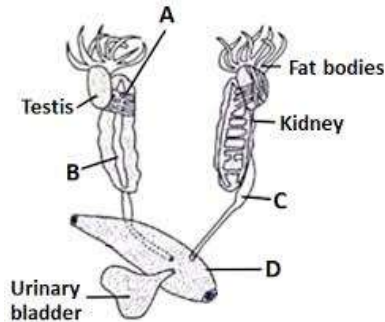
Which of the following statements are correct?

- (1) A, B and D only
- (2) D and E only
- (3) B and C only
- (4) A, C, D and E only

34. Which of the following statements is incorrect?

- (1) Female cockroach possesses sixteen ovarioles in both ovaries
- (2) Cockroach segments feature dorsal sternites and ventral tergites.
- (3) A mushroom-shaped gland is present in the 6th-7th abdominal segments of male cockroach
- (4) A pair of spermatheca is present in the 6th segment of female cockroach.

35. Go through the following figure indicating the male reproductive system of frog. Identify A to D.



	A	B	C	D
(1)	Bidder's Canal	Adrenal gland	Urinogenital duct	Rectum
(2)	Bidder's Canal	Adrenal gland	Urinogenital duct	Cloaca
(3)	Vasa Efferentia	Adrenal gland	Urinogenital duct	Cloaca
(4)	Vasa Efferentia	Thyroid gland	Urinogenital duct	Cloaca

36. Which type of animal tissue changes the diameter of a blood vessel?

- (1) Epithelium
- (2) Connective
- (3) Muscle
- (4) Neural

37. A pathologist examines a dense connective tissue and observes that its collagen fibers are oriented in a highly disorganized, interwoven pattern, rather than being arranged in parallel rows. This tissue sample would most likely be derived from:

- (1) A tendon, connecting a muscle to a bone.
- (2) A ligament, attaching one bone to another.
- (3) The dermis of the skin.
- (4) The tip of the nose, providing pliable support.

38. **Assertion (A):** In *P. americana* the development is paurometabolous type.

Reason (R): In *P. americana*, development involves nymphs not resembling adults, growing through about 13 moults to reach the adult form.

- (1) Statement I is correct but Statement II is incorrect.
- (2) Statement I is incorrect but Statement II is correct.
- (3) Both Statement I and Statement II are correct.
- (4) Both Statement I and Statement II are incorrect.

39. A glandular epithelium composed of a "cluster of cells" (e.g., salivary gland) is distinct from goblet cells because the salivary gland:

- (1) Is an endocrine gland, whereas goblet cells are exocrine.
- (2) Lacks ducts for secretion, unlike goblet cells which have them.
- (3) Is multicellular and its secretions are released via ducts, whereas goblet cells are unicellular exocrine structures.
- (4) Is primarily involved in absorption, while goblet cells are for protection

40. On an average, females produce oothecae, each containing eggs, respectively.

- (1) 9-10, 14-16.
- (2) 14-16, 9-10.
- (3) 13-15, 8-6.
- (4) None of these

41. Choose the incorrect statement.

- (1) All voluntary muscle fibres are striated but all striated muscle fibres are not voluntary. are no
- (2) All smooth muscle fibres are involuntary but all involuntary muscle fibres are not smooth. are involuntary
- (3) All connective tissues have fibres but all fibre forming tissues are not connective tissue.
- (4) Excitable cells are present in neural tissue but all cells of neural tissue are not excitable.

42. **Assertion (A):** Oviducts of each ovary unite into a single median oviduct (also called vagina) which opens into the genital chamber of genital pouch.

Reason (R): the ova from the ovary are stored within the egg case

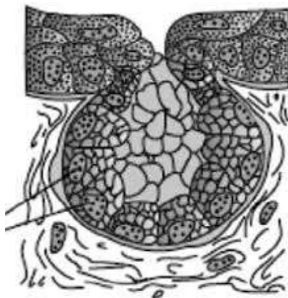
- (1) Statement I is correct but Statement II is incorrect.
- (2) Statement I is incorrect but Statement II is correct.
- (3) Both Statement I and Statement II are correct.
- (4) Both Statement I and Statement II are incorrect.

43. Simple cuboidal epithelium is present everywhere except
 (1) Ovary (2) Pancreatic duct
 (3) Thyroid follicle (4) Fallopian tube

44. In following given options, series of same type of tissues are given with a single odd one. Choose the option which represents the same series of tissues without odd one.
 (1) Areolar tissue, blood, neuron, tendon
 (2) Myocardium, blood, bone, cartilage
 (3) Endothelium, tendon, ligament, dermis of skin
 (4) Squamous, cuboidal, columnar and ciliated epithelium

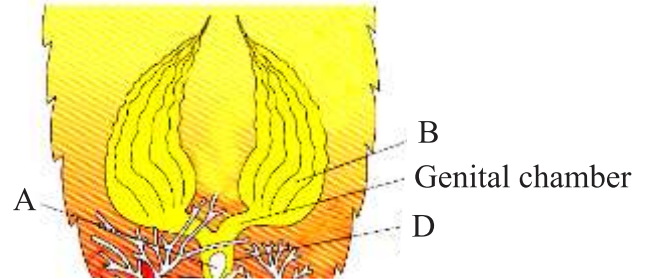
45. Given below are two statement: one is labelled as Assertion A and the other is labelled as Reason R:
Assertion (A): Like mammals, the lymph in frog is different from blood as it lacks many proteins and enucleated RBCs.
Reason (R): Frogs and mammals share many similarities in their organ systems due to their shared vertebrate ancestry
 In the light of the above statements, choose the correct answer from the options given below:
 (1) A is true but R is false.
 (2) A is false but R is true.
 (3) Both A and R are true and R is the correct explanation of A.
 (4) Both A and R are true but R is NOT the correct explanation of A.

46. Identify the incorrect option with respect to the diagram given below.



- (1) It represents a multicellular glandular epithelium
 (2) It can be endocrine or exocrine.
 (3) It is a modification of simple squamous epithelium.
 (4) These types of glandular epithelium is present in salivary glands.

47. Which of the option represents wrong identification for the given alphabet.



- (1) A- spermatheca
 (2) B- collateral glands
 (3) C - Genital pouch
 (4) D-Vagina

48. Which of the option represents the mouth part given in the following diagram.



- (1) Labrum (2) Labium
 (3) Hypopharynx (4) Maxillae

49. Given below are two statement: one is labelled as Assertion A and the other is labelled as Reason R:

Assertion A: The cockroach's exoskeleton is a jointed structure that facilitates body movement.

Reason R: The exoskeleton comprises hardened plates called sclerites, which are interconnected by thin and flexible articular membranes.

In the light of the above statements, choose the correct answer from the options given below:

- (1) A is true but R is false.
 (2) A is false but R is true.
 (3) Both A and R are true and R is the correct explanation of A.
 (4) Both A and R are true but R is NOT the correct explanation of A.

50. Identify the following statements as true(T) or false(F).

- A. Male cockroaches have a single testis located on lateral sides of 4th-6th abdominal segments.
- B. In cockroaches, sperms are stored together in seminal vesicles and are glued together in the form of bundles called spermatheca.
- C. Mosaic vision has more sensitivity and less resolution.
- D. Brain in cockroach is located in the head region and represented by sub-oesophageal ganglion.

	A	B	C	D
(1)	F	T	T	F
(2)	F	F	T	F
(3)	F	T	F	T
(4)	T	F	F	T

51. Which of the following statements are true with respect to cockroach?

- I. Cockroaches are dioecious.
- II. Male reproductive system consists of a pair of testes one lying on each lateral side in 4th -6th abdominal segments.
- III. Each ovary is formed of a group of eight ovarioles.
- IV. A single spermatheca is present in the 6th segment, which opens into the genital chamber.

- (1) I, II and III only
- (2) I, II, III and IV
- (3) III and IV only
- (4) I, II and IV only

Answer Key

1. (4)	27. (2)
2. (4)	28. (2)
3. (4)	29. (1)
4. (3)	30. (3)
5. (1)	31. (1)
6. (3)	32. (1)
7. (4)	33. (4)
8. (4)	34. (2)
9. (1)	35. (3)
10. (4)	36. (3)
11. (4)	37. (3)
12. (1)	38. (1)
13. (4)	39. (3)
14. (1)	40. (1)
15. (2)	41. (3)
16. (3)	42. (1)
17. (3)	43. (4)
18. (4)	44. (4)
19. (4)	45. (2)
20. (2)	46. (3)
21. (1)	47. (4)
22. (2)	48. (2)
23. (1)	49. (3)
24. (2)	50. (2)
25. (2)	51. (1)
26. (3)	



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