

## Yakeen NEET 2.0 2026

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DPP: 13

## Structural Organization in Animals

**Q1** Which of the following characteristics is incorrect with respect to cockroach?

- (A) 10<sup>th</sup> abdominal segment in both sexes, bears a pair of anal cerci.
- (B) A ring of gastric caeca is present at the junction of midgut and hind gut.
- (C) Hypopharynx lies within the cavity enclosed by the mouth parts.
- (D) In females, 7<sup>th</sup> – 9<sup>th</sup> sterna together form a genital pouch.

**Q2** In cockroach, blood from \_\_\_A\_\_\_ enters the heart through \_\_\_B\_\_\_ and pumped anteriorly to \_\_\_C\_\_\_ again.

Choose the option which **correctly** fills up the blanks.

- (A) A – sinus, B – alary muscles, C-sinus
- (B) A-aorta, B – ostia, C – ventral diaphragm
- (C) A – anterior aorta, B– sinus, C-aorta
- (D) A – sinus, B – ostia, C-sinus

**Q3 Assertion (A):** Cockroaches have alary muscles.

**Reason (R):** Cockroaches are wild and are of many known economic importance.

- (A) Both **Assertion (A)** and **Reason (R)** are the true, and **Reason (R)** is a correct explanation of **Assertion (A)**.
- (B) Both **Assertion (A)** and **Reason (R)** are the true, but **Reason (R)** is not a correct explanation of **Assertion (A)**.
- (C) **Assertion (A)** is true, but **Reason (R)** is false.
- (D) **Assertion (A)** is false, but **Reason (R)** is true.

**Q4**

**Statement-I:** Circulatory system of cockroach contains aorta, vein and capillary.

**Statement-II:** Blood of cockroach does not contain any respiratory pigment.

- (A) Statement I and Statement II both are correct.
- (B) Statement I is correct, but Statement II is incorrect.
- (C) Statement I is incorrect, but Statement II is correct.
- (D) Statement I and Statement II both are incorrect.

**Q5** Read the following statements and find the **correct** one wrt cockroach.

- (A) Blood vascular system of cockroach is closed type.
- (B) Heart of cockroach consists of elongated muscular tube lying along mid-ventral line of thorax and abdomen.
- (C) Excretion is performed by Malpighian tubules. Each tubule is lined by ciliated cells. They absorb nitrogenous waste products and convert them into urea.
- (D) Each eye consists of about 2000 hexagonal ommatidia.

**Q6** Cockroach's blood does **not** contain respiratory pigment. It means:

- (A) it does not respire.
- (B) cockroach respire anaerobically.
- (C) oxygen passes to all the tissue through diffusion.
- (D) oxygen reaches tissue through tracheoles.



**Q7** Read the given statements about blood vascular system of cockroach.

- A. Circulatory system is of closed type.
- B. It contains no blood vessels except aorta of heart.
- C. Heart is six chambered.
- D. Haemolymph is composed of colourless plasma and haemocytes.

Which of the statement (s) given above is/are **incorrect**?

- (A) Only A
- (B) A, B and C
- (C) A and C
- (D) Only D

**Q8** In cockroach, how many spiracles are present in thoracic region and how many spiracles are present in abdominal region?

- (A) Two pairs and eight pairs
- (B) Two and eight
- (C) Eight pairs and two pairs
- (D) Eight and two

**Q9** In cockroach, exchange of gases takes place at the tracheoles by:

- (A) diffusion.
- (B) active transport.
- (C) imbibition.
- (D) osmosis.

**Q10** In cockroaches, the respiratory system consists of a network of trachea that open outside through small holes that are present on the lateral side of the body are called;

- (A) tracheoles and are of 9 pairs.
- (B) spiracles and are of 10 pairs.
- (C) sphincters and are of 8 pairs.
- (D) ostia and are of 13 pairs.

**Q11** Read the following statements and choose the **incorrect** one.

- (A) Excretion is performed by Malpighian tubules which occur at the junction of midgut and

hindgut.

- (B) Cockroach is uricotelic.
- (C) Male reproductive system consists of a pair of testes one lying on each lateral side in the 6<sup>th</sup> -10<sup>th</sup> abdominal segments.
- (D) Respiratory system consists of a network of trachea, that open through 10 pairs of spiracles.

**Q12** The Cockroach is:

- (A) ammonotelic only.
- (B) uricotelic only.
- (C) ureotelic only.
- (D) ureotelic and uricotelic.

**Q13** Malpighian tubule in cockroaches are present at the junction of:

- (A) foregut and midgut and help in the secretion of digestive enzymes.
- (B) midgut and hindgut and help in grinding the food particles.
- (C) foregut and midgut and help in the removal of excretory products from haemolymph.
- (D) midgut and hindgut and help in the removal of excretory products from haemolymph.

**Q14** Nitrogenous waste in malpighian tubule of cockroach passes into:

- (A) haemocoel.
- (B) intestine.
- (C) vacuole.
- (D) duodenum.

**Q15** In cockroach, excretion is brought about by:

1. Phallic gland.
2. Ureose gland.
3. Nephrocytes.
4. Fat body.
5. Collateral glands.

Choose the **correct** answer from the options given below.

- (A) 2 and 4 only
- (B) 1 and 5 only



- (C) 1, 2 and 5 only
- (D) 2, 3 and 4 only

**Q16** Cockroaches excrete nitrogenous waste through A in the form of B. Identify A and B respectively.

- (A) Malpighian tubules, uric acid
- (B) Green gland, urea
- (C) Malpighian tubule, ammonia
- (D) Antennal gland, uric acid



## Answer Key

Q1 (B)

Q2 (D)

Q3 (C)

Q4 (C)

Q5 (D)

Q6 (D)

Q7 (C)

Q8 (A)

Q9 (A)

Q10 (B)

Q11 (C)

Q12 (B)

Q13 (D)

Q14 (B)

Q15 (D)

Q16 (A)



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