

5 SEM TDC DSE ZOO (CBCS) 3 (H)

2024

(November)

ZOOLOGY

(Discipline Specific Elective)

(For Honours)

Paper : DSE-3

(**Endocrinology**)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Answer the following as directed : 1×5=5

(a) Father of Endocrinology is ____.

(Fill in the blank)

(b) ADH is secreted by ____.

(Fill in the blank)

(c) Gluconeogenesis is controlled by

(i) thyroxine

(ii) cortisol

(iii) Both (i) and (ii)

(iv) None of the above

(Choose the correct answer)

(2)

(d) Which of the following hormones never reaches to cytoplasm?

- (i) Progesterone
- (ii) FSH
- (iii) Estrogen
- (iv) Testosterone

(Choose the correct answer)

(e) Which of the following is not a second messenger?

- (i) Kinase
- (ii) cAMP
- (iii) Sodium
- (iv) Calcium

(Choose the correct answer)

2. Write notes on (any three) : 4×3=12

- (a) Classification of hormones
- (b) Physiological effects of estrogen
- (c) Functions of insulin
- (d) Addison's disease
- (e) Neurohormones

3. Describe the various ways of transport of hormones. 5

Or

What is feedback system and why is it important? 2+3=5

(3)

4. Enumerate the biological effects of male hormone. 5

Or

Explain the structure of thyroid gland and explain the role of hormones secreted by it. 2+3=5

5. Explain the hormonal regulation of calcium metabolism with suitable illustration. 8

Or

Describe the structure of adrenal cortex and explain the functions of glucocorticoids. 3+5=8

6. Explain any three types of endocrine disorders mentioning their causes, symptoms and possible treatments. 8

Or

Discuss the role of cAMP as second messenger in hormone action with suitable illustration. 8

7. Discuss regulation of hormone action at cellular and molecular level. 5+5=10

Or

Describe the structural and functional relationships between hypothalamus and the pituitary gland. 5+5=10

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5 SEM TDC DSE ZOO (CBCS) 4 (H)

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ZOOLOGY

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Paper : DSE-4

(Biology of Insecta)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Fill in the blanks :

1×5=5

- (a) The tracheal system bearing 10 pairs of functional spiracles is known as _____.
- (b) Nassanoff's glands are mainly found in _____ honeybees.
- (c) Corpora allata produces _____ hormone that regulates metamorphosis.

(2)

(d) Drones in a honeybee colony are ____ male.

(e) Mosquitoes have mouthparts of ____ and ____ types.

2. (a) Distinguish between the following pairs (any two) : $3 \times 2 = 6$

(i) Mechanical and Biological vectors

(ii) Workers and Soldiers in termite

(iii) Compound eye and Ocelli

(b) Write brief notes on (any two) : $3 \times 2 = 6$

(i) Tracheal respiration in insect

(ii) Function of insect integument

(iii) Paurometabola metamorphosis

3. Describe the general features of insects. 4

Or

Discuss the reasons of success of insects on the earth.

4. What are spiracles? Discuss about the types of tracheal system in insects. $2 + 6 = 8$

Or

Name different types of mouthparts found in insects. Write about any two types of mouthparts in insects. $1 + 7 = 8$

(3)

5. What is metamorphosis? Explain about different types of metamorphosis which are found in insects. $2 + 6 = 8$

Or

What is sensilla? Discuss about sensory receptors found in insects. $1 + 7 = 8$

6. What is parthenogenesis? Write about reproductive system in insects with diagram. $2 + 4 = 6$

Or

What is endocrine gland? Write down the function of insect endocrine system. $1 + 5 = 6$

7. Draw and discuss about social life in termite. 5

Or

Discuss about different castes which are found in honeybee.

8. What is theory of coevolution? Write about the role of insects as plant pests. $2 + 3 = 5$

Or

Write a note on mosquitoes as biological vectors. 5
