

Q.P. Code – 50725

Second Year B.Sc. Degree Examination

SEPTEMBER/OCTOBER 2013

(Directorate of Distance Education)

Zoology

**(DSB 310) Paper II – HISTOLOGY, COMPARATIVE ANATOMY,
BIOCHEMISTRY, BIOTECHNOLOGY AND PHYSIOLOGY**

Time : 3 Hours]

[Max. Marks : 75/85

- Instructions :**
- 1) *Students who have attended 25 marks I-A scheme will have to answer for total of 75 marks.*
 - 2) *Students who have attended 15 marks I-A scheme will have to answer for total of 85 marks.*
 - 3) *One mark question should be answered in first two pages of the answer books.*
 - 4) *Draw a neat labeled diagram wherever necessary.*
 - 5) *All questions are compulsory.*
 - 6) *Question No.V is compulsory for 85 marks scheme.*

I. Simple answer questions :

Answer in a word, phrase or a sentence :

10 × 1 = 10

1. What are conjugated proteins?
2. Expand LH.
3. Name the hormone produced by Leydig cells.
4. What is foramen of Panizza?
5. What is carbon monoxide poisoning?
6. Define aestivation.
7. What is myogenic heart?
8. What are granulocytes?
9. Which vitamin is called antihemorrhagic factor?
10. What are neurotransmitters?

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II. Short answer questions :

Write any **FIVE** of the following :

5 × 3 = 15

11. Draw a neat labeled diagram of T.S. of mammalian adrenal gland.
12. Write a short note on pBR322.
13. What is chloride shift? Explain.
14. Write a short note on bioluminescence.
15. Explain the endocrine role of placenta.
16. Explain osmoregulation in fresh water teleosts.
17. Explain induced fit theory of enzyme action.

III. Medium answer questions :

Answer any **FIVE** of the following :

5 × 6 = 30

18. Compare the heart of frog with that of lizard.
19. Explain DNA fingerprinting technique.
20. What are carbohydrates? Mention the biological importance of carbohydrates.
21. Draw a labeled diagram of skull of rabbit.
22. Describe the histology of mammalian ovary.
23. Explain terminal oxidation with the help of schematic diagram.
24. Explain the role of haemoglobin in respiration.

IV. Long answer questions :

Answer any **TWO** of the following :

2 × 10 = 20

25. Trace the evolutionary trends in the structure of vertebrate kidneys.
26. Explain the origin and conduction of nerve impulse.
27. Give an account of hormones of pituitary and their functions.
28. Describe the ultra structure of skeletal muscle fibre and mechanism of muscle contraction.

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V. **Compulsory** question for **85** marks scheme only :

Answer any **ONE** of the following :

1 × 10 = 10

29. Describe the steps of monoclonal antibody formation. Add a note on the applications of monoclonal antibodies.

30. Write note on :

(a) Biological importance of proteins

(b) HMP pathway
