

Q.P. Code – 50830

Third Year B.Sc. Degree Examination

SEPTEMBER/OCTOBER 2013

(Directorate of Distance Education)

Zoology

**(DSC 310) Paper III – CELL BIOLOGY, GENETICS, EVOLUTION,
APICULTURE AND SERICULTURE**

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 85 marks.*
 - 3) *Simple question should be answered in first two pages of the answer books.*
 - 4) *Draw labelled 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. Define Gene Pool.
2. What are Homologous organs?
3. Give two examples for carcinogens.
4. What is Amphimixis?
5. Define multiple Alleles.
6. What is Gynandromorph?
7. Name two species of Honey bee.
8. Name the three social castes of Honey Bee.
9. Mention the two proteins of silk-fibre.
10. Mention two predators of silkworm.

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II. Short answer questions :

Write any **FIVE** of the following :

5 × 3 = 15

11. Mention any three factors influencing antigenicity.
12. Draw a neat labelled diagram of a mammalian sperm.
13. Explain the inheritance of Lethal genes in mice.
14. Write a note on the study of Human twins.
15. Write a note on Bottle-neck Phenomenon.
16. Draw a neat labelled diagram of sting apparatus of Honey Bee.
17. Write a note on Uzi-Fly.

III. Medium answer questions :

Answer any **FIVE** of the following :

5 × 6 = 30

18. Explain the structure and mode of action of Lac-operon.
19. Explain the chromosomal mechanism of sex-determination.
20. Explain the structure of IgG with a labeled diagram.
21. Explain the mechanism of Neo-Darwinism.
22. Describe the Role of Isolating mechanisms in speciation.
23. Write the economic importance of Honey. And mention its composition.
24. Write the method of construction of Modern rearing house of silkworm.

IV. Long answer questions :

Answer any **TWO** questions :

2 × 10 = 20

25. Describe the process of Oogenesis with neat labelled diagrams.
26. Explain the evolution of Horse.
27. Explain the modern method of Bee-keeping.
28. Write short notes on :
 - (a) Chawki rearing
 - (b) Silkworm rearing equipments