

**Final Year B.Sc., Degree Examinations**

**September/October 2015**

*(Directorate of Distance Education)*

**ZOOLOGY**

**DSC 310 : Paper III : Cell Biology, Genetics, Evolution, Apiculture and Sericulture**

*Time: 3 hrs.]*

*[Max.Marks:75/85*

- Instructions :*
- 1. Students who have attended 25 Marks IA Scheme will have to answer for total of 75 Marks.*
  - 2. Students who have attended 15 Marks IA Scheme will have to answer for total of 85 Marks.*
  - 3. One mark questions should be answered in first two pages of the answer book.*
  - 4. Draw neat labelled diagrams wherever necessary.*
  - 5. Question No.V. is compulsory for 85 marks scheme.*

**I. Simple answer questions.**

**Answer in a word or a phrase or a sentence.**

**10X1=10**

1. What is Phenocopy?
2. What is amphimixis?
3. What is Morigulture?
4. Define genetic drift.
5. What is Atavism?
6. What are exons?
7. Name the sterile caste of honey bee.
8. What is vaccination?
9. What is genotype?
10. What is cell fractionation ?

**II. Short answer questions.**

**Answer any FIVE of the following.**

**5X3=15**

11. Explain the method of sex determination in Bonellia.
12. Write a note on the by-products of apiculture.
13. Differentiate Penetrance and expressivity.
14. Give an account of vestigial organs.
15. List the differences between male and female silk moths.

**Contd...2**

16. Give an account of types of fertilization.
17. Write the differences between active and passive immunity.

**III. Medium answer questions.**

**Answer any FIVE of the following.**

**5X6=30**

18. Compare Klinefelter's syndrome with Turner's syndrome.
19. Give an account of cells of immune system.
20. Explain the gene interaction resulting in the death of the possessor with an example.
21. Explain the structure of sting apparatus of a honey bee.
22. Explain the acrosome reaction.
23. Explain CLB technique.
24. Give a detailed account of different diseases of silk worm.

**IV. Long answer questions.**

**Answer any TWO of the following.**

**2X10=20**

25. What is speciation? Explain the different types of speciation.
26. Write a brief note on components of Sericulture.
27. Explain different types of Parthenogenesis.
28. Describe nature and nurture with reference to *Potentilla glandulosa*.

**V. Compulsory question for 85 Marks scheme only.**

**Long answer questions.**

**Answer any ONE of the following.**

**1X10=10**

29. Describe the differences between Spermatogenesis and Oogenesis.
30. **Explain the following:**
  - a) Structure of IgG
  - b) Multiple alleles.

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