

Final Year B.Sc., Degree Examination**August/September 2010***(Distance Education)**(Freshers)***ZOOLOGY****Paper III: Cell Biology, Genetics, Evolution, Apiculture and Sericulture***Time: 3 hrs]**[Max.Marks: 85****Instructions to Candidates:***

1. *All questions are compulsory.*
2. *Answer one mark questions in the first two pages of the main answer book.*
3. *Draw diagrams wherever necessary.*

I. *Simple Questions.****Answer in a word, phrase or in a sentence:***

12 X 1 = 12 Marks

1. Define limit of resolution.
2. What is metastasis?
3. Define humoral immunity.
4. What is spermateleosis?
5. What is theletoky?
6. Define norm of reaction.
7. What is the sex index in an intersex *Drosophila*?
8. Define a cistron.
9. What are frame shift mutations?
10. What is prodigality of nature?
11. Define evolutionary divergence.
12. How is pebrine caused?

II. *Short Answer Questions.****Answer any SIX of the following:***

6 X 3 = 18 Marks

13. Briefly explain autoradiography.
14. Write a short note on carcinogens.
15. Explain arrhenotoky with an example.

Contd... 2

16. What is Klinefelter syndrome? Mention its symptoms.
17. Briefly explain substitution mutation.
18. Distinguish sympatric speciation from allopatric speciation.
19. Draw a labelled diagram of mouth parts of honey bee.

III. Medium Answer Questions.

Answer any SEVEN of the following:

7 X 5 = 35 Marks

20. Explain the principle and applications of electron microscopy.
21. Distinguish T-lymphocytes from B-lymphocytes.
22. Discuss the operon concept of gene action.
23. Explain multiple allelism with reference to coat colour in rabbit.
24. Describe CIB technique of detection of mutation.
25. Explain embryological evidence in favour of organic evolution.
26. Outline the major steps involved in modern bee keeping practice.
27. Give an account on bacterial diseases of Silkworm.

IV. Long Answer Questions.

Answer any TWO of the following:

2 X 10 = 20 Marks

28. Give a detailed account on modern silk worm rearing methods.
29. Discuss the modern concept of organic evolution.
30. Describe the genic balance theory of sex determination in *Drosophila*.
31. Explain the mechanism of fertilization. Add a note on its significance.
