



DSC – 310

III Year B.Sc. Degree Examination, Sept./Oct. 2012
Directorate of Distance Education
ZOOLOGY (Paper – III)
Cell Biology, Genetics, Evolution, Apiculture and Sericulture

Time : 3 Hours

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) *Simple questions should be answered in the **first two** pages of the answer book.*
 - 4) *Draw labelled diagrams **wherever** necessary.*
 - 5) **All questions are compulsory.**
 - 6) **Question No. V is compulsory for 85 marks scheme.**

- I. Simple answer questions : **(1×10=10)**
Answer in a word, a phrase or a sentence :
- 1) What is palaeontology ?
 - 2) Define “mutation”.
 - 3) What is parthenogenesis ?
 - 4) Name any two carcinogens.
 - 5) Mention the function of Drones.
 - 6) What is a gene ?
 - 7) What is homeostasis ?
 - 8) What are polar bodies ?
 - 9) Give the chromosomal complement of turner syndrome.
 - 10) What is chawki rearing ?
- II. Short answer questions. Write **any FIVE** of the following : **(5×3=15)**
- 11) Explain the structure of ‘T’ cells.
 - 12) What is norm of reaction ? Give an example.

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- 13) Explain gynandromorphs.
- 14) Describe the structure of cancer cells.
- 15) Give an account of centrifugation.
- 16) Explain acrosome reaction.
- 17) Explain the chemical composition of honey.

III. Medium answer questions :

(5×6=30)

Answer **any FIVE** of the following :

- 18) Explain the embryological evidences for evolution.
- 19) Describe oogenesis.
- 20) Explain the bacterial diseases of silkworms.
- 21) Describe the mechanism of sex determination in *Bonellia viridis*.
- 22) Explain the role of mutation in evolution.
- 23) Describe the sting apparatus in honey bee.
- 24) Explain the CIB technique.

IV. Long answer questions :

(2×10=20)

Answer **any TWO** of the following :

- 25) What are multiple alleles ? Explain with an example.
- 26) Explain the Darwin's theory of evolution.
- 27) Describe the process of spermatogenesis.
- 28) Explain the life cycle of *Bombyx mori*.

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

Long answer questions :

(1×10=10)

- 29) Explain different types of isolating mechanisms.
 - 30) Describe the chromosomal mechanisms of sex determination.
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