



**DSB – 310**

**Second Year B.Sc. Degree Examination, September/October 2012**

**Directorate of Distance Education**

**ZOOLOGY**

**Paper – II : Histology, Comparative Anatomy, Biochemistry,  
Biotechnology and Physiology**

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

I. Simple answer questions. Answer in a word, phrase or a sentence. **(1×10=10)**

- 1) What is synapsis ?
- 2) What is diastema ?
- 3) Give an example for heterocrine gland.
- 4) What is Bohr pressure ?
- 5) Define blood pressure.
- 6) What are co-enzymes ?
- 7) Expand T.S.H.
- 8) What is Biotechnology ?
- 9) What is xerophthalmia ?
- 10) What is Hibernation ?

II. Short answer questions. Write **any FIVE** of the following : **(5×3=15)**

- 11) Write a note on secondary structure of protein.
- 12) Give an account of osmoconformers.
- 13) Draw a neat labelled diagram of pelvic girdle of Frog.

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- 14) Give an account of applications of Biotechnology.
- 15) Classify carbohydrates with examples.
- 16) Write the structure of Pancreas.
- 17) Explain Bioluminescence in Noctiluca.

III. Medium answer questions. Answer **any FIVE** of the following : **(5×6=30)**

- 18) Describe the adaptive changes of animals in cold environment.
- 19) Explain 'Northern Blotting' technique and add a note on it's applications.
- 20) Give an account of osmoregulation in Fishes.
- 21) Describe the process of blood clotting. Add a note on functions of blood.
- 22) What are vitamins ? Explain the functions and deficiency symptoms of fat soluble vitamins.
- 23) Explain the histology of kidney.
- 24) Give an account of physiological functions of Placenta and Testis.

IV. Long answer questions. Answer **any TWO** of the following : **(2×10=20)**

- 25) Explain the oxygen and carbon dioxide dissociation curves. Add a note on deleterious effects of Tobacco smoking.
- 26) Describe the role of Biotechnology in Human health.
- 27) Explain T.C.A. cycle.
- 28) Explain the evolutionary trends in the structure of aortic arches of vertebrates.

V. **Compulsory** question for **85** marks scheme only. Long answer questions.

Answer **any ONE** of the following : **(1×10=10)**

- 29) Explain the properties of Enzymes. Add a note on mechanism of enzyme action.
  - 30) Describe the ultra structure of striated muscle. Add a note on energetics of muscle contraction.
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