



Reg. No. :

Name :

VI Semester B.Sc. Degree (CCSS – Reg./Supple./Improv.)
Examination, May 2015
CORE COURSE IN ZOOLOGY
6B11 ZLG : Physiology and Developmental Biology

Time: 3 Hours

Total Weight : 25

Instruction : Give illustrations wherever necessary.

SECTION – A

(Physiology)

- I. Answer **any one** of the following (4 Weightage).
- 1) Explain the mechanism of impulse propagation.
 - 2) Give an account of the different steps involved in clotting. (1×4=4)
- II. Answer **any two** of the following (2 Weightage).
- 3) Describe the mechanism of carbon dioxide transport.
 - 4) Comment on the defects of modern food habits.
 - 5) Write notes on counter current multiplier system.
 - 6) Explain the electrical and mechanical properties of heart muscles. (2×2=4)
- III. Answer **any two** of the following (1 Weightage each).
- 7) What is juxta glomerular apparatus ?
 - 8) What are neurotransmitters ?
 - 9) What is Haldane effect ?
 - 10) What is myocardial infarction ?
 - 11) What are gastrointestinal hormones ? (2×1=2)

P.T.O.



IV. Answer the following (1 Weightage each).

- 12) a) _____ is the hormone which regulates water excretion in urine.
 b) The functional junction between two neurons is _____
 c) The hormone which causes the release of bile from the gallbladder is _____
 d) The time required for the completion of the entire process of muscle contraction is _____ (1×1=1)

SECTION – B

(Developmental Biology)

V. Answer any one of the following (Weightage 4).

- 13) Explain the development of eye in frog.
 14) Give an account on the classification of eggs based on amount and distribution of yolk. (1×4=4)

VI. Answer any three of the following (2 Weightage each).

- 15) Give an account on different types of blastula.
 16) Explain the hormonal control of amphibian metamorphosis.
 17) Write notes on the physiological changes involved in regeneration.
 18) Describe the salient features of 24 hour chick embryo.
 19) What is grey crescent ? Mention its significance. (3×2=6)

VII. Answer any two of the following (1 Weightage each).

- 20) What are hox genes ?
 21) Mention the functions of placenta.
 22) What are embryonic stem cells ?
 23) What is capacitation ?
 24) What are primary organizers ? (2×1=2)

VIII. Answer the following (Weightage 1 each).

25) Match the following.

- | | |
|--------------------|-------------|
| a) Janus green | Egg |
| b) Optic cup | Star fish |
| c) Radial cleavage | Vital stain |
| d) Fertilizin | Ectoderm |
| | Sperm |

26) Fill in the blanks.

- a) Heart is a _____ derivative.
 (ectoderm, endoderm, mesoderm)
 b) Discoidal eggs are seen in _____
 (birds, insects, ascidians)
 c) Acrosome is seen in _____
 (sperm, egg, embryo)
 d) An example for pluripotent cell _____
 (egg, stem cell, nerve cell) (2×1=2)