



Reg. No. : .....

Name : .....

**VI Semester B.Sc. Degree (CCSS – Reg./Supple./Improv.)**  
**Examination, May 2016**  
**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) Give an account of the different steps involved in clotting.
  - 2) Explain the mechanism of transportation of gases. **(1×4=4)**
- II. Answer **any two** of the following : **(2 weightage)**
- 3) Explain the role of contractile proteins.
  - 4) Comment on the defects of modern food habits.
  - 5) Explain the hormonal control of kidneys.
  - 6) Give an account on synaptic transmission. **(2×2=4)**
- III. Answer **any two** of the following : **(1 weightage each)**
- 7) What are neurotransmitters ?
  - 8) Draw a simple muscle twitch and label it.
  - 9) Write any two gastrointestinal hormones.
  - 10) Describe dissociation curves.
  - 11) Comment on haemodialysis. **(2×1=2)**



IV. Answer the following :

(1 weightage)

12) Fill in the blanks :

- The functional junction between two neurons is \_\_\_\_\_
- Juxta glomerular apparatus is a part of \_\_\_\_\_
- Intercalated disc is a characteristic feature of \_\_\_\_\_
- 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)

- Describe the development of brain in frog.
- What is regeneration ? Explain the major events in regeneration and the different factors influencing it.

(1×4=4)

VI. Answer **any three** of the following :

(2 weightage each)

- Give an outline classification of eggs based on the amount and distribution of yolk.
- Describe transplantation experiments.
- Mention the different types of extra embryonic membranes and comment on its functions.
- Explain the hormonal control of amphibian metamorphosis.
- Describe the major events taking place during the gastrulation of frog.

(3×2=6)

VII. Answer **any two** of the following :

(1 weightage each)

- What is grey crescent ?
- What is discoblastula ?
- What are homeotic genes ?
- Mention the functions of placenta.
- Describe the salient features of 33 hour chick embryo.

(2×1=2)



VIII. Answer the following :

(1 weightage each)

25) Match the following :

- |                         |             |
|-------------------------|-------------|
| a) Janus green          | Egg         |
| b) Eye                  | Insects     |
| c) Superficial Cleavage | Vital stain |
| d) Fertilizin           | Ectoderm    |
|                         | Sperm       |

26) Choose the correct answer :

- The type of blastula found in mammals (Blastocyst, stereo blastula, discoblastula)
- Acrosome is seen in (Sperm, egg, embryo)
- An example for pluripotent cell (Egg, stem cell, nerve cell)
- The total gestation period of man (280 days, 12 months, 2 days)

(2×1=2)