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Your Roll No.....

5118

B.Sc. (Prog.)/III

B

LS-302—DEVELOPMENTAL BIOLOGY AND

PHYSIOLOGY : ANIMALS

(Admissions of 2008 and Onwards)

Time : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

All the questions are compulsory.

Section A

(Developmental Biology : Animals)

1. (a) Define the following : 4
- (i) Vitellogenesis
 - (ii) Primitive streak
 - (iii) Phylogeny
 - (iv) Spermiogenesis.

- (b) Differentiate between the following : 4
- (i) Viviparity and Ovoviviparity
 - (ii) Somatopleure and Splanchnopleure.
2. Describe the various types of Morphogenetic movements.
- Or*
- Discuss the role of Yolk in determining the various types of cleavage. 9
3. Write short notes on any *two* of the following : 4.4
- (i) Fate map
 - (ii) Principles of Experimental Embryology
 - (iii) Types of eggs.

Section B

(Physiology : Animals)

1. (a) Define the following : 4
- (i) Bohr effect
 - (ii) Renin-Angiotensin system
 - (iii) All-or-none Principle
 - (iv) Physiological dead space.

(b) Distinguish between the following : 6

(i) PCT and DCT

(ii) Haemopoiesis and Hemostasis

(iii) Diabetes mellitus and Diabetes insipidus

(iv) Acidosis and Alkalosis.

(c) Give the location and function of the following : 4

(i) β -cells of Islets of Langerhans

(ii) Kupffer cells

(iii) Juxtaglomerular cells

(iv) Interstitial cells of Leydig.

2. Describe the origin, excitation and conduction of impulses in

heart.

12

Or

Discuss the hormonal control of digestion.

3. Describe the histological changes and hormonal regulation of

Menstrual cycle.

12

Describe the molecular mechanism of Muscle contraction and its energy sources.

4. Write short notes on any *three* of the following : 4.4.4
- (i) Osmoregulation by kidney
 - (ii) O₂-dissociation curves
 - (iii) Nerve-impulse conduction
 - (iv) Gastro-intestinal disorders.