

Total No. of Questions : 9]
(2034)

[Total No. of Printed Pages : 4

UG (CBCS) Ist Year Annual Examination

2712

B.Sc. ZOOLOGY

**(Comparative Anatomy and Developmental
Biology of Vertebrates)**

(Core)

Paper : ZOOL-102 TH

Time : 3 Hours]

[Maximum Marks : 50

Note :- Attempt *five* questions in all, selecting *one* question from each Section. Section A is compulsory.

Section-A

(Compulsory Question)

1. Do as required :

(i) Claws, nails and horns are mainly formed of :

(a) Chitin

(b) Keratin

(c) Lignin

(d) Cutin

CH-12

(1)

Turn Over

- (ii) First Visceral arch is :
- (a) Hyoid (b) Mandibular
(c) Lacrimal (d) Branchial
- (iii) Compound stomach is found in
- (iv) Swim bladder helps in and
- (v) Dermal scales occur in
- (vi) How many aortic arches are present in basic plan ?
- (vii) Bowman's capsule and glomerulus are collectively called
- (viii) Hearing apparatus of mammalian ear is
- (ix) Centrolecithal eggs are found in
- (x) Cavity of gastrula is called $1 \times 10 = 10$

Section-B

2. (a) Describe the types of skin glands found in mammals.

(b) Write short notes on the following :

(i) Femoral glands

(ii) Hoofs

$6 + 4 = 10$

3/ (a) Describe Visceral arches of basic plan with the help of suitable diagram.

(b) Write short notes on the following :

(i) Ruminants stomach

(ii) Air sacs

6+4=10

Section-C

4. (a) Draw a well labelled diagram of internal structure of mammalian heart.

(b) Write short notes on the following :

Pronephros and Opisthonephros.

6+4=10

5/ (a) Describe the structure and working of mammalian eye with the help of labelled diagram.

(b) Write short notes on the following :

(i) Meninges of brain

(ii) Ventricles of brain

6+4=10

Section-D

6. (a) Describe the process of fertilization and its significance.
- (b) Draw a well labelled diagram of Mammalian Ovum. 6+4=10
7. (a) Describe the process of oogenesis in mammals.
- (b) Write short notes on the following :
- (i) Epiboly
- (ii) Fate maps 6+4=10

Section-E

8. (a) Describe the types of placenta on the basis of intimacy between foetal and maternal parts.
- (b) Write short notes on the following :
- (i) Implantation of embryo in human
- (ii) Metamorphosis in frog 6+4=10
9. (a) Discuss in detail cell movements and cell death.
- (b) Give a brief account of intercellular communication. 6+4=10

Roll No.

Total No. of Questions : 9]
(2042)

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UG (CBCS) Ist Year Annual Examination
2012

B.Sc. ZOOLOGY

**(Comparative Anatomy and Developmental
Biology of Vertebrates)**

(Core)

Paper : ZOOL-102 TH

Time : 3 Hours]

[Maximum Marks : 50

Note :- Attempt *five* questions in all, selecting *one* question from each Section. Question No. 1 is compulsory.

Section-A

(Compulsory Question)

1. (A) Do as required :

(i) Acrosome is formed from the :

- (a) Golgi apparatus
- (b) Mitochondria
- (c) Cytoplasm
- (d) Lysosomes

CH-731

(1)

Turn Over

(ii) Foetal hairy coat is called as :

- (a) Pelage (b) Lanugo
(c) Vellus (d) Underfur

(iii) Nervous system develops from :

- (a) Mesoderm (b) Blastocoel
(c) Ectoderm (d) Endoderm

(iv) The opening of coronary sinus is guarded by valve.

(v) If gland is removed the tadpole fail to turn into frog.

(vi) The formation and deposition of yolk is called as 1×6=6

(B) Write short notes on the following :

(i) Polyspermy

(ii) Capacitation 2×2=4

Section-B

2. (a) Describe the structure and functions of feathers or hair.

(b) Draw a well labelled diagram of V.S. of mammalian skin. Discuss the functions of skin. 5,5

3. (a) Give a detailed account of visceral arches in birds.
- (b) Discuss in detail the liver of different vertebrates. 5,5

Section-C

4. (a) Draw a well labelled diagram and discuss in detail the air sacs in pigeon.
- (b) Write short notes on swim bladder and holobranch. 5,5
5. (a) Give a comparative account of aortic arches of vertebrates.
- (b) Explain the internal structure of mammalian heart with the help of neat and labelled diagram. 5,5

Section-D

6. (a) Give a detailed account of urinogenital ducts in reptiles and mammals.
- (b) Enumerate morphology of mammalian brain with the help of neat and labelled diagram. 5,5
7. (a) Write short notes on skin receptors and protective structures of eyes.
- (b) Give a comparative account of ear in reptiles and mammals. 5,5

Section-E

8. (a) Write short notes on fate maps and cortical reaction.
- (b) Explain the hormonal control of spermatogenesis and oogenesis. 5,5
9. (a) Define Apoptosis. Explain the regulatory mechanism of apoptosis. State the benefits of apoptosis.
- (b) Define Implantation. Explain mechanism and hormonal control of implantation. 5,5