

2020

Time : 3 hours

Full Marks : 75

Candidates are required to give their answer in their own words as far as practicable.

Figures in the margin indicate full marks

Answer five questions, in which Q.No. 1 which is compulsory.

1. Select the correct answer from the options given below:

1x15=15

- (a) Notochord is restricted to the tail region in
 - (i) Balanoglossus
 - (ii) Herdmania
 - (iii) Amphioxus
 - (iv) All of these
- (b) Notochord has been modified in the vertebral Column in:
 - (i) All Chordates
 - (ii) Vertebrates
 - (iii) Invertebrate Chordates
 - (iv) All of these
- (c) Coelacanth is the common name of which of the following fish.
 - (i) Chimaera
 - (ii) Latimeria
 - (iii) Petromyzon
 - (iv) Fistularia
- (d) Which one of the following is a Flying frog?

P.T.O.

- (i) Hyla
- (ii) Rhacophorus
- (iii) Alytes
- (iv) Draco
- (e) Bony fishes are characterised by:
 - (i) Operculum
 - (ii) Air bladder
 - (iii) Cycloid & ctenoid scales
 - (iv) All of these
- (f) Four chamber heart is found in which reptile?
 - (i) Lizard
 - (ii) Snake
 - (iii) Turtle
 - (iv) Crocodile
- (g) All flightless birds belong to a same group called
 - (i) Ratitae
 - (ii) Carinatae
 - (iii) Impennae
 - (iv) Odontognathae
- (h) Which of the following is a egg laying mammal?
 - (i) Pangolin
 - (ii) Kangaroo
 - (iii) Armadillo
 - (iv) Porcupine
- (i) Fishes possess
 - (i) Pronephros Kidney
 - (ii) Mesonephros Kidney
 - (iii) Metanephros Kidney
 - (iv) All of these
- (j) Which cells of the testis are responsible for secreting male hormones?
 - (i) Sertoli cells
 - (ii) Leydig cells
 - (iii) Neuro cells
 - (iv) All of these
- (k) The Placenta produces
 - (i) Prolactin

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- (ii) Oxytocin
 - (iii) Estrogen & Progesterone
 - (iv) G.H.
- (l) Coelom is a cavity surrounded by:
- (i) Ectoderm
 - (ii) Mesoderm
 - (iii) Endoderm
 - (iv) All of these
- (m) The extra embryonic membrane in chick are:
- (i) Amnion
 - (ii) Chorion
 - (iii) Allantois
 - (iv) All of these
- (n) The middle piece of the sperm contains:
- (i) Protein
 - (ii) Mitochondria
 - (iii) Nucleus
 - (iv) Centriole
- (o) Eye lens is formed from:
- (i) Ectoderm
 - (ii) Mesoderm
 - (iii) Endoderm
 - (iv) None of these

- 2. Write the characteristics feature of Aves and classify upto orders with example. 7+8=15
- 3. Give the comparative account of heart in fishes, amphibia, reptiles, aves and mammals. 15
- 4. Discuss with suitable diagrams the comparative structure of skin in amphibia, reptiles, Aves and mammals. 15
- 5. Describe the process of organogenesis of heart in chick embryo. <https://www.tmbuonline.com> 15
- 6. Give an account of development and types of placenta in mammals. 15
- 7. Describe the development and function of extra embryonic membrane in chick. 15
- 8. What is Parthenogenesis? Describe different the types of parthenogenesis in vertebrates. 3+12=15
- 9. Write short notes on any three of the following: 5x3=15
 - (a) Coelom formation
 - (b) Characteristics features of Elasmobranch
 - (c) Germinal layers
 - (d) Bony fishes
 - (e) Urochordates
