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Q.P. Code No.31613

Sixth Semester B.Sc., Degree Examinations

May /June 2026

(CBCS NEP Scheme)

ZOOLOGY Core Course - VII

NSF0630 : Evolutionary and Developmental Biology

Time: 2 hrs.] *[Max.Marks:60*

Instructions to the candidates

1. ***The students should legibly write Section number along with question numbers within the margin only.***
2. ***The answers without Section number and question numbers will not be valued.***
3. ***Draw neat and labelled diagrams wherever necessary.***
4. ***Answer Section – I Multiple Choice questions should be answered in the first page of the main answer book and same questions shall not be answered repeatedly.***
5. ***Any identifications like marking, ticking, dots etc., in the options of MCQ (SECTION - I) on the question paper is strictly prohibited. Do not write anything (except Reg No.) on the question paper.***

SECTION – I

I. ***Select the most appropriate answer from the options provided :*** ***10X 1= 10 Marks***

I -1) Chemical evolution theory was proposed by;

(a) A.I. Oparin (b) Lamarck

(c) Darwin (d) Stebbins

I -2) Factors affecting Hardy-Weinberg equilibrium are;

(a) Mutation (b) Recombination

(c) Genetic drift (d) All of these

I -3) Divergent evolution means;

(a) Similar environmental pressures lead to similar adaptations in different species.

(b) Similar adaptations evolve in different species independently.

(c) Single species diverges into two or more different species.

(d) Evolution of two or more species that interact each other.

I -4) Example for anatomical evidences are;

(a) Analogous organs (b)Vestigeal organs

(c) Homologous organs (d) All of these

Contd…2

I -5) _____ stage of human evolution is commonly called Handy man/First tool maker

(a) *Homo erectus* (b) Australopithecus

(c) *Homo habilis* (d) *Homo rhodesiensis*

I -6) Polyspermy is the process of _____

(a)Formation of many sperms (b) Fusion of many sperms with one egg

(c) Fusion of many eggs with one sperm (d) None of these

I -7) The plane of third cleavage in frog egg is;

(a) Meridional (b) Latitudinal

(c) Horizontal (d) Diagonal

I -8) Homeobox genes are involved in;

(a) Body patterning (b) Organogenesis

(c) Cell differentiation (d) All of these

I -9) The follicular phase of a menstrual cycle is from;

(a) 1-5 days (b) 6-14 days

(c) 15-28 days (d) None

I -10) Placenta develops from;

(a) Chorion (b) Amnion

(c) Allantois (d) Yolk sac

SECTION – II

II. ***Answer /Write short notes on any FIVE of the following. :*** ***5X 3= 15 Marks***

II -1) Explain Lamarckism.

II -2) Write a short note on Genetic drift.

II -3) Explain Vestigeal organs.

II -4) Write a note on Hyracotherium.

II -5) Write a short note on the limitations of biological species concept.

II -6) Explain the structure of Blastula of Frog with a neat labelled diagram.

II -7) Draw a neat labelled diagram of Hen's egg.

II -8) Write a note on fate map.

Contd…3

SECTION –III

III. ***Answer any THREE questions from the following.*** ***3X 5= 15 Marks***

III-1) Explain Darwin-Wallace theory of Natural selection.

III-2) Explain embryological evidences of evolution.

III-3) Write differences between Spermatogenesis and Oogenesis.

III-4) Describe the structure and function of Amnion Chorion

III-5) Explain the process of cleavage in frog.

SECTION - IV

IV. ***Answer the following:*** ***2X 10= 20 Marks***

IV- 1) Describe the mechanism of fertilization. Add a note on its significance.

OR

Describe the Biochemical evidences in support of evolution.

IV- 2) Trace the evolution of modern man.

OR

Write notes on :

(a) Oogenesis process.

(b) Menstrual cycle.

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