

one from the followings:  $10 \times 1 = 10$   
a short note on the evolution of  
aphical thought in India.

are the contributions of German and  
a school of Geographical thought.

UG/6th Sem/ZOOL-H-CC-T-13/23

U.G. 6th Semester Examination - 2023

ZOOLOGY

[HONOURS]

Course Code : ZOOL-H-CC-T-13

Time :  $2\frac{1}{2}$  Hours

Full Marks : 40

The figures in the right-hand margin indicate marks.

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

1. Answer any five questions of the following:  $2 \times 5 = 10$

- a) What is ZIFT?
- b) Difference between amniocentesis and chorionic villi sampling.
- c) What are evocators?
- d) Define germinal vesicle and GVBD. What is its significance?
- e) Role of ZP in fertilisation.
- f) What is FPP? Give its importance.
- g) Why Spermium called dorsal lip of blastopore of early amphibian gastrula organiser?
- h) Define deciduate and contradecciduate placenta.

[Turn Over]

2. Answer any two of the following:  $5 \times 2 = 10$

- a) What do you mean by activation of ovum? Describe the changes associated with penetration of sperm.  $1+$
- b) Describe the various processes of preparation of fate map.  $3+$
- c) How does yolk influence the process of cleavage? How does the vertical plane of cleavage differ from the meridional plane?  $3+$
- d) Discuss the process of neurulation and brain formation in chick.  $10 \times 2 = 20$

3. Answer any two of the following:  $10 \times 2 = 20$

- a) Define the terms Zona hatching, appositional adhesion, and decidualisation of placenta. Discuss the various mediators of implantation.  $2+2+2+2+$
- b) Discuss the changes associated with formation of head, middle piece and tail of sperm. Define spermiogenesis. How is spermatogenesis regulated?  $6+1+$

e) Adult stem cells are multipotent: Justify the statement. Distinguish between adult and embryonic stem cell. What is the source of pluripotent stem cell? How are ovaries stimulated to produce follicles in IVF?  $2+2+1+2+3$

d) What is dedifferentiation? Discuss the process of regeneration of salamander limb. Role of neurotrophic factor in the process.  $2+6+2$