

**2021****ZOOLOGY****[HONOURS]****Paper : XI**

Full Marks : 50

Time : 2 Hours

*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** of the following:  $2 \times 5 = 10$
- What is involution?
  - Differentiate between primary and secondary inductor.
  - What do you mean by tail organiser?
  - Name two ketogenic and two glycogenic amino acids.
  - What is semiplacenta?
  - Write the significance of  $\beta$ -oxidation of fatty acid.

- Distinguish between totipotent and pluripotent stem cells.
  - Give the significance of the resact protein during fertilization.
2. Answer any **two** of the following:  $5 \times 2 = 10$
- What do you mean by ornithine cycle? Briefly describe the process of ornithine cycle in mammals.  $5$
  - Name two inhibitors of ETC. Mention their mechanism of inhibition. Define epiboly and emboly.  $1+2+2=5$
  - What is induction? Describe the organizer-graft experiment.  $1+4=5$
  - Briefly describe the hormonal regulation of menstrual cycle. Name the debranching enzyme in glycogen degradation.  $4+1=5$
3. Answer any **three** of the following:  $10 \times 3 = 30$
- Briefly describe the process of development of brain in chick with suitable diagram.  $7+3=10$
  - Briefly describe the main steps required for IVF. State the properties of stem cell. Discuss different types of stem cell.  $5+2+3=10$

c) What is Pentose Phosphate Pathway?  
Describe it. State its significance. Why red  
blood cells have Pentose Phosphate Pathway?

$$2+5+2+1=10$$

d) Briefly describe the formation of Amnion and  
Chorion in chick with suitable sketches. State  
the function of yolk sac.

$$4+4+2=10$$

e) Describe the difference between oxidative and  
non-oxidative deamination. Write the sources  
and products of amino acids in the body. How  
amino group is transferred to a keto group in  
the process of Transamination? What is  
Transmethylation?

$$3+2+3+2=10$$

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