

2025

ZOOLOGY — HONOURS

Paper : CC-13

(Developmental Biology)

Full Marks : 50

The figures in the margin indicate full marks.

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

Answer question no. 1 and any four questions from the rest.

1. Answer *any five* questions : 2×5
 - (a) What is oogenesis?
 - (b) What is gastrulation?
 - (c) State the role of Leydig cells.
 - (d) Give examples of micro and macrolecithal eggs.
 - (e) What is haemochorial placenta? Give one example.
 - (f) What is secondary oocyte?
 - (g) What is the role of amniotic fluid?
 - (h) What is vital dye?
 - (i) What is manchette?
2. (a) Explain the steps of *in vitro* fertilization.
(b) How can stem cell therapy be used in cartilage regeneration? 6+4
3. (a) Describe the process of spermiogenesis with suitable illustration.
(b) Describe acrosome reaction and state its role. 6+(3+1)
4. (a) What is induction?
(b) Describe the process of formation of optic cup and lens in chick embryo with diagram.
(c) Comment on cornea formation. 2+(4+2)+2
5. (a) What is blastopore? Mention its function.
(b) What is ingression?
(c) Distinguish between holoblastic and meroblastic cleavage with example and suitable diagram. (2+1)+2+5

6. (a) What do you mean by 'animal pole' and 'vegetal pole' of an egg?
(b) Classify egg on the basis of distribution of yolk.
(c) Write a brief note on different types of egg membranes. 2+4+4
7. (a) What is fertilization?
(b) State the role of resact in species specific recognition.
(c) What is amphimixis? State its significance. 2+4+(2+2)
8. Write brief notes on : 2½×4
(a) Chorda mesoderm
(b) Allantois formation
(c) Capacitation
(d) Polar body.
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