E 1962 (Pages : 2) Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2021

Sixth Semester

Core Course—REPRODUCTIVE AND DEVELOPMENTAL BIOLOGY

(Common for B.Sc. Zoology Model I and Model II, B.Sc. Industrial Microbiology and Zoology and B.Sc. B.T. and S.P.)

[2013—2016 Admissions]

Time : Three Hours Maximum Marks : 60

Part A

Answer **all** *questions.*

Each question carries 1 *mark.*

1. What is corpus luteum ?
2. What are mosaic eggs ?
3. What is grey crescent ?
4. What is meant by heteromorphosis ?
5. Define Capacitation.
6. What are transgenic animals ?
7. Differentiate between de-differentiation and re-differentiation.
8. Explain Biogenetic law.

(8 × 1 = 8)

Part B

Answer any **six** *questions.*

Each question carries 2 *marks.*

9. What is primitive streak ? What is its significance ?
10. Explain the teratogenic effect of heavy metals.
11. Explain recapitulation theory and germplasm theory.
12. What are stem cells? Comment on their significance and application.
13. Distinguish between invagination and involution.
14. Differentiate between homeotic genes and hox genes.

Turn over

15. What is IVF and ET ?
16. Differentiate between discoidal and superficial cleavage.
17. Explain inborn errors of metabolism giving examples.
18. What is chromosomal mosaicism ?

(6 × 2 = 12)

Part C

Answer any **four** *questions.*
Each question carries 4 *marks.*

19. Explain different germ layers and their derivatives.
20. What is meant by cell lineage? Trace the lineage of mesentoblast cell in *Planocera*.
21. Discuss the various technologies used to solve infertility problems.
22. With suitable diagram explain the cleavage in frog.
23. Explain Spemann's constriction experiment to explain the potency of nuclei and grey crescent.
24. Distinguish between estrous cycle and menstrual cycle.

(4 × 4 = 16)

Part D

Answer any **two** *questions.*
Each question carries 12 *marks.*

25. Classify eggs based on :
    (a) Amount of yolk.
    (b) Distribution of yolk.
    (c) Presence or absence of shell.
    (d) Development.
26. With suitable diagrams explain the development of eye in frog.
27. Classify placenta based on mode of implantation and histological intimacy of foetal and maternal tissues giving examples.
28. Explain the salient features of 18 hour and 24 hour chick embryo.

(2 × 12 = 24)