

B.Sc. 6th Semester (Honours) Examination, 2023 (CBCS)**Subject : Zoology****Course : CC-XIII****(Developmental Biology)****Time: 2 Hours****Full Marks: 40***The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.***Group – A**

1. Answer *any five* questions of the following: 2×5=10
- What is follicular atresia?
 - Where does the allantois derive from?
 - What do you mean by placental barrier?
 - State the source and function of 'uterine milk'.
 - What is epimorphic regeneration?
 - Write the significance of sertoli-sertoli junctional complex.
 - Mention basic steps involved in the process of '*in-vitro*' fertilization.
 - During which stage of foetal development are teratogens most harmful?

Group – B

2. Answer *any two* of the following questions: 5×2=10
- Give a brief account of different types of eggs in accordance to distribution of yolk with examples for each. 5
 - What is blastodisc? Represent the formation of primitive streak in chick with proper diagram. 1+4
 - What is the relationship between organizer and competence? Discuss briefly the role of organizer in embryonic development with suitable example. 2+3
 - What is amniocentesis? Does it help to detect genders? Mention the limitations of amniocentesis. 2+1+2

Group – C

3. Answer *any two* of the following questions: 10×2=20
- Discuss briefly primary neurulation and secondary neurulation during the development of brain in vertebrates with proper diagram. State the role of N-cadherin in brain development. 8+2

- (b) Distinguish between A-type and B-type spermatogonia. Describe the process of spermatogenesis with diagrams. Add a brief note on the role of hormones in regulation of spermatogenesis. 2+6+2
- (c) Define stem cell. Differentiate between embryonic and adult stem cells. Explain the possibilities of stem cell therapy in treatment of diseases. Add a brief note on stem cell potency. 1+2+4+3
- (d) Write notes on: 2½×4=10
- (i) Acrosomal reaction
 - (ii) Chorio-allantoic placenta
 - (iii) Fertilization cone
 - (iv) Capacitation
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