

**2023**

***Time - 3 hours***

***Full Marks - 60***

*Answer all groups as per instructions.*

*Figures in the right hand margin indicate marks.*

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

*Draw labelled diagrams wherever necessary.*

**GROUP – A**

1. Answer all questions and fill in blanks as required. [1 × 8]
- (a) The fusion of male and female pronuclei is called \_\_\_\_\_.
- (b) On the basis of egg shell, the birds eggs are \_\_\_\_\_.
- (c) In placental mammals, \_\_\_\_\_ type of cleavage occurs.
- (d) Unstable adhesion of blastocyst to the uterine wall is called \_\_\_\_\_.
- (e) After complete period of gestation the child birth is called \_\_\_\_\_.
- (f) Human Chorionic Gonadotropin (HCG) hormone is secreted by \_\_\_\_\_.

P.T.O.

[ 2 ]

(g) Which germ layer gives rise to muscle cell ?

(h) The repair by cell division in the damaged tissue is called \_\_\_\_\_.

### GROUP – B

2. Answer any eight of the following questions within two to three sentences each. [1½ × 8

- (a) What are cytoplasmic determinants ?
- (b) What are the significance of unequal cytokinesis in oogenesis ?
- (c) What is amphimixis ?
- (d) How cleavage differs from mitosis ?
- (e) What are the endocrine functions of human placenta ?
- (f) What is Implantation ?
- (g) What is blastoma ?
- (h) What is heteromorphosis ?
- (i) What are the functions of amniotic fluid ?
- (j) What is blastula ?

**GROUP – C**

3. Answer any eight of the following questions within 75 words each. [2 × 8
- (a) Differentiate between determinate and indeterminate cleavage.
  - (b) What are various types of morphogenetic movements ?
  - (c) Write different types of blastula with examples.
  - (d) Describe the development of allantois and amnion in chick.
  - (e) How many types of eggs are found in chordates on the basis of yolk content ?
  - (f) What are the fate of Mesoderm ?
  - (g) Discuss the regressive and progressive changes during amphibian metamorphosis.
  - (h) Explain the functions of extra embryonic membranes in bird.
  - (i) State theory of pre formation.
  - (j) Differentiate between epiblast and hypoblast.

**GROUP – D**

4. Answer any four of the following questions within 500 words each.
- (a) Give an account of Oogenesis. [6
  - (b) Give an account of Mechanism of fertilization. [6

- (c) What is cleavage ? Describe various types of cleavage. [6]
- (d) Describe the methods of In Vitro Fertilization (IVF). [6]
- (e) What is amniocentesis ? Discuss its procedure and significance. [6]
- (f) What is Placenta ? Describe types and functions of placenta. [6]
- (g) Give an account of various types of changes in ageing process. [6]