



**SAI VABHANUKSHATRIYA COLLEGE**  
(AruppukottaiNadargalUravinmuraiPothu Abi ViruthiTrustukuPathiyapattathu)  
**ARUPPUKOTTAI**  
**DEPARTMENT OF ZOOLOGY**  
**QUESTION BANK**

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Class :	B.Sc Zoology		
Semester (UG - III & V; PG - III) :	III	Subject Code :	SZYJC31
Name of the Subject :	Developmental Biology		

**Section A (Multiple Choice Questions)**

**Unit I**

1. Spermatozoa develop from -----.  
a). Interstitial cells b). Sertolicells c). Germinal epithelium d). Basement membrane
2. The mitochondrial enzyme converts soluble yolk into insoluble yolk during Cogenesis.  
a). Proteinkinase b). ATP synthetase c). Glutamate dehydrogenase d). None of these
3. The membrane converts into fertilization membrane  
a). Plasma membrane b). Hyline layer c). Corticle granules d). Vitelline membrane
4. An unfertilized egg develops into a diploid animal -----  
a). Parthenogenesis b). Arrhenotoky c). Thelyotoky d). None of these.
5. The egg membrane called as secondary membrane  
a). White albumen b). Zonapellucida c). Chorion d). Zona radiata

**Unit II**

6. Each cell of cleavage division is called as  
a). Blastula b). Blastocoel c). Blatomere d). Blastoderm.
7. The holoblastic cleavages are  
a). Indeterminate b). Discoidal c). Superficial cleavage. c).None of these
8. The movement of cell on the surface of embryo  
a). Invagination b). Divergence c). Involution d). Epiboly
9. The macromere of the vegetal pole develops into  
a). Notochord b). Endoderm c). Mesoderm d). Neuroectoderm
10. The archenteron develops into -----in the adult  
a). Nervous system b) Skin c). Vascular system d). Alimentary canal



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**Unit III**

11. In organogenesis of frog which germ layer develop the circulatory system  
a). Ectoderm b). Endoderm c). Mesoderm d) Blastofore
12. In the development of frog brain the optic cup develops from  
a). Prosencephalon b) Mesencephalon c) Rhombencephalon d) None of these
13. The extra embryonic membrane of chick excrete excretory product  
a). Chorion b). Yolk sac c). Allontois d). Amnion
14. The placenta, the villi are uniformly distributed throughout the surface of the blastocyst.  
a). Diffuse b). Zonary c).discoidal d). Cotyledonary
15. In the blastocyst of animal the villi arranged in one or more circle around it.  
a). Sheep b). Elephant c). Horse d). Pig

**Unit IV**

16. In organizer of amphibian fertilized egg is-----  
a). Dorsal lip b) Chordomesoderm c). Grey crescent d). Yolk plug
17. The retention of larval characters by the adult  
a) Neoteny b) Paedogenesis c). Neonatal d). None of these.
18. The hormone helps for the transformation of frog tadpole into adult is-----  
a) Adrenalin b) Thyroxin c) Glucagon d) None of these
19. The ability of regeneration is high in  
a) Protozoa b) Echinodermata c. Annelida d) Chordata
20. In planarians the source of regeneration blastema is----  
a) mesenchme cell b) Neoblasts c) interstitial cell d) reserve cell

**Unit V**

21. The onset of reproductive cycle-----  
a) Oestrous cycle b) puberty c) pregnancy d) Ovulation
22. The pregnancy hormone can be identified on the first week by urine test  
a) Relaxin b) Chorionic gonadotropins c) prolactine D) Oestrogen
23. Twins develops from two independent zygotes are called-----  
a) Identical b) Fraternal c) Siamese d) Double monsters
24. The transfer of fertilized and developing egg into the uterus of a mother  
a) Test tube baby b) IVF c) Embryo transfer d) Transgenesis
25. The menstrual cycle is a female sexual cycle occurs in  
a) Monkey b) Dogs c) Elephant d) cats



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**Section B (7 mark Questions)**

**Unit I**

26. Write short notes on the origin of primordial germ cell in different chordates.
27. Explain the structure of spermatozoa.
28. Mention the role of egg membranes.
29. What are the chemical factors involved in fertilization-Explain.
30. Explain the significance of parthenogenesis.

**Unit II**

31. List out the salient feature of cleavage.
32. Explain the plane of cleavage.
33. Analysis the Factors affecting cleavage.
34. Explain the types of blastula in chordates.
35. Write short notes on fate map of frog.

**Unit III**

36. Describe the development of neural tube in frog.
37. Explain the development of heart in frog.
38. Analysis the structural and functional role of extra embryonic membrane in chick.
39. List out the functions of placenta
40. Explain the types of chorio-allantoic placenta.

**Unit IV**

41. Mention the importance of genetics in development.
42. Write down the organizer in Amphibian.
43. Explain the role of embryonic induction for embryo development
44. Explain the factor causing neoteny.
45. Define regeneration and explain its types.

**Unit V**

46. List out maternal body changes during pregnancy.
47. Mention the causes for male infertility.
48. Describe the mechanism of formation of twins.
49. Analysis the reason for artificial insemination.
50. Mention the physiological changes occur in puberty.



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**Section C (10 mark Questions)**

**Unit I**

51. Describe the process of spermatogenesis in human being.
52. Write on account on physical, chemical and cytological changes occurs in fertilization.

**Unit II**

53. Explain the different types of patterns of cleavage.
54. Analyze the morphogenetic movement in gastrulation of frog.

**Unit III**

55. Describe the development of frog brain.
56. Discuss the events in development of placenta in rabbit.

**Unit IV**

57. Explain the events in the regeneration of amphibian.
58. Mention the importance of hormone in morphological changes of frog metamorphosis.

**Unit V**

59. Discuss the different types of cryopreservation methods.
60. Explain the process of test tube baby formation and its advantages.