

B.Sc. ZOOLOGY
SIXTH SEMESTER (SPECIAL REPEAT)
DEVELOPMENTAL BIOLOGY
BSZ – 601

(Use Separate Answer Scripts for Objective & Descriptive)

Duration : 3 hrs.

Full Marks : 70

(PART-A: Objective)

Time : 20 min.

Marks : 20

Choose the correct answer from the following:

1 × 20 = 20

1. Assisted reproductive technology, IVF involves transfer of
 - a. Ovum into the Fallopian tube
 - b. Embryo upto 8 celled stage into the fallopian tube
 - c. Embryo upto 8 celled stage into the uterus
 - d. Embryo with 16 blastomeres into the fallopian tube
2. Moephallaxis is
 - a. Reconstruction of the whole body
 - b. Growth of lost limb
 - c. Healing of injury
 - d. Regeneration with the help of blastema
3. Yolk sac is not found in
 - a. Amphioxus
 - b. Chick
 - c. Frog
 - d. Mammal
4. Union of sperm and ovum results
 - a. Blastula
 - b. Morula
 - c. Diploid zygote
 - d. Gastrula
5. In multicellular organism, the process of differentiation produces cells that are specialized to perform specific functions because
 - a. The DNA is the same, but it contains different genes
 - b. The DNA is different, but it contains the same gene
 - c. The DNA is different, but the same genes are activated
 - d. The DNA is the same, but different genes are activated
6. The test tube baby programme employs which one of the techniques
 - a. Intra cytoplasmic sperm injection (ICSI)
 - b. Intra uterine insemination (IUI)
 - c. Gamete intra fallopian transfer (GIFT)
 - d. Zygote intra fallopian transfer (ZIFT)
7. Ageing is characterized by
 - a. Decline in metabolic activity
 - b. Increase metabolic activity
 - c. Increase anabolism
 - d. Increase catabolism
8. In chick, yolk sac is the primary organ for
 - a. Shock absorbtion
 - b. Nutrition
 - c. Respiration
 - d. Excretion

9. Which of the following organelle takes part in acrosome formation during spermiogenesis?
- Mitochondria
 - Centriole
 - Ribosome
 - Golgi body
10. Who is the father of embryology
- Aristotle
 - Von Baer
 - Spemann
 - Darwin
11. In vitro fertilization is a technique that involves transfer of which one of the following into the fallopian tube?
- Embryo only, up to 8 cell stage
 - Either zygote or early embryo upto 8 cell stage
 - Embryo of 32 cell stage
 - Zygote only
12. Healing of cuts and wounds is
- Repair
 - Regeneration
 - De differentiation
 - growth
13. Foetal part of placenta is derived from
- Placental septa
 - Trophoblast
 - Umbilical cord
 - Extraembryonic membranes
14. In Oogenesis, how many polar bodies are formed at the end of meiotic division?
- 2
 - 3
 - 4
 - none
15. Which one is the proteoglycan that is found in the extracellular matrix
- Chondroitin sulphate
 - Laminin
 - Fibronectin
 - Cadherin
16. Artificial insemination means
- Transfer of sperms of a healthy donor to a test tube containing ova
 - Transfer of sperms of husband to a test tube containing ova
 - Artificial introduction of sperms of a healthy donor into the vagina
 - Introduction of sperms of healthy donor directly into the ovary
17. Which response identifies a true statement regarding complete and incomplete metamorphosis
- Incomplete metamorphosis has no larva stage
 - Incomplete metamorphosis contains two adult stages
 - Complete metamorphosis contains a nymph stage
 - Complete metamorphosis contains no pupa stage
18. In Chick, embryonic membranes namely yolk sac and allantois are composed of
- Endoderm and mesoderm
 - Ectoderm and endoderm
 - Ectoderm and endoderm
 - None of the above

19. Which of the following produces centrolecithal eggs

- a. Amphibia
- b. Fish
- c. Bird
- d. Insects

20. The establishment of the anterior-posterior or dorsal ventralbody axes is called

- a. Division
- b. Morphogenesis
- c. Growth
- d. Pattern formation

-- --- --

(PART-B : Descriptive)

Time : 2 hrs. 40 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. What is aminocentesis? What is its purpose? Describe its procedure. 2+3+5
=10
2. Describe the main cause of sterility of man and women. 5+5=10
3. What is regeneration? What do you understand by epimorphosis and morphallaxis. 2+8=10
4. Describe the arrangement of extra embryonic membranes around the embryo with a fully labelled diagram. 6+4=10
5. Define metamorphosis. What is its significance? Describe the metamorphosis with respect to the life history of amphibian. 2+2+6
=10
6. Name the extra-embryonic membranes of chick embryo. Discuss the necessity of these membranes 4+6=10
7. Define pattern formation. What are the three-main pattern that are formed during blastogenesis? 2+8=10
8. Describe the early development of chick embryo upto three germinal layers stage. 10

= = *** = =