PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2023
(Second Semester)

Branch – **ZOOLOGY**

DEVELOPMENTAL BIOLOGY / EMBRYOLOGY

Time: Three Hours Maximum: 50 Marks

SECTION-A (5 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 1 = 5)

1. Where gametogenesis occurs.
   i) Nucleus ii) Liver
   iii) Ovary iv)Small intestine

2. Fate map of embryo is prepared in which stage?
   i) Morula ii) Blastula
   iii) Gastrula iv) Neurula

3. During embryonic development which of the following organs is formed first?
   i) Skin ii) Brain
   iii) Heart iv) Neural tube

4. Which one of the following is the placenta is connected to foetus?
   i) Umbilical cord ii) Amniotic sac
   iii) Amniotic fluid iv) Corpus luteum

5. Who first invented IVF?
   i) Theodor and Matthias ii) Schwann and Schleiden
   iii) Steptoe and Robert Edwards iv) Albert von Kolliker

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6 a) Explain the sperm motility.
(OR)
b) Narrate the egg membrane and its types.

7 a) Bring out the role of fate map in frog development.
(OR)
b) Describe the salient features of cleavages.

8 a) Classify the part of the egg and their function.
(OR)
b) State the process of blastulation in chick.

Cont...

9 a) Describe the formation of blastocyst
(OR)
b) Explain the function of placenta.

10 a) Narrate the advantages of embryo transfer.
(OR)
b) Analyze the isolation of donor nucleus.

SECTION -C (30 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11.a) Enumerate the process of spermatogenesis.
(OR)
b) Elucidate the mechanism of fertilization and their significance.

12.a) Summarise the patterns of meroblastic cleavage in frog
(OR)
b) Determine the development of heart in frog.

13. a) Elucidate the development of nucleus in vertebrates
(OR)
b) Justify the development of extra embryonic membranes in chick.

14.a) Design the pattens of cleavage in Rabbit with neat diagram.
(OR)
b) Categorize the sexual cycle and role of hormone.

15.a) Give a detailed account on artificial insemination and its uses.
(OR)
b) Classify the embryonic stem cells and its applications.

Z-Z-Z END