

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2025  
(Second Semester)

Branch-ZOOLOGY

EXPERIMENTAL EMBRYOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following develops during growth and differentiation of primary oocyte within the ovary? a) Symmetry b) Gradient c) Polarity d) Organizer	K1	CO1
	2	Tick the chemical substance present in cortex of eggs. a) Chemotaxis b) Estrogen c) Testosterone d) Lactogen	K2	CO1
2	3	The optic vesicle induces the ectoderm to develop into ----- a) Ear b) Eye c) lens d) Neural tube	K1	CO2
	4	The ability of a part of an early embryo to develop in a particular direction under a particular stimulus is termed as a) Determination b) Competence c) Induction d) Interaction	K2	CO2
3	5	What is the graft between different members of the same species termed? a) Autograft b) Allograft c) Xenograft d) Isograft	K1	CO3
	6	Find the term that infers the transplantation of organs from an animal source into a human recipient. a) Embryo transplantayion b) Xenotransplanttion c) Tissue transplantation d) Organ transplantations	K2	CO3
4	7	Fertility in women is impaired by a) Hernia b) Gall stones c) High blood pressure d) Obesity	K1	CO4
	8	Mother-fetus incompatibility problems result from a) The fetus antibodies agglutinating its own RBC b) The fetus antibodies agglutinating its mother's RBC c) The mother's antibody agglutinating the fetus Rh positive RBC d) The mother's antibody agglutinating the fetus Rh negative RBC	K2	CO4
5	9	Regeneration of a limb or tail is an example of a) Epimorphosis b) Autotomy c) Compensatory hypertrophy d) Morphallaxis	K1	CO5
	10	Name the substance that causes abnormal structures in an embryo. a) Teratogen b) Estrogen c) Progesterone d) Testosterone	K2	CO5

Cont...

**SECTION - B (35 Marks)**Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	What is gradient? Add a note on the factors affecting it.	K2	CO1
	(OR)			
	11.b.	Explain the interaction of nuclear and cytoplasmic factors based on protein synthesis.		
2	12.a.	Illustrate a note on Spemann's organizer concept.	K3	CO2
	(OR)			
	12.b.	Discuss the different levels of differentiation.		
3	13.a.	Elaborate a note on types and procedure of embryo transplantation.	K3	CO3
	(OR)			
	13.b.	Comment on the ethical issues of xenotransplantation.		
4	14.a.	Evaluate the output of multiple pregnancies.	K4	CO4
	(OR)			
	14.b.	Assess the types and causes of infertility.		
5	15.a.	Analyse the basic concepts of teratology.	K4	CO5
	(OR)			
	15.b.	Investigate the regenerative experiments of T.H.Morgan.		

**SECTION -C (30 Marks)**Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Genes play a vital role in development. Prove the statement.	K4	CO1
2	17	Analyze the origin and types of differentiation.	K4	CO2
3	18	Prior assessment of histocompatibility is essential for tissue transplantation. Discuss.	K4	CO3
4	19	Examine the role of Rh factor in fetus development.	K4	CO4
5	20	Amphibians are the potent regenerator. Justify the fact with examples.	K4	CO5

Z-Z-Z END