PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2024
(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	Who coined the term gene? a) Bridges b) Johannsen c) Mendel d) Balbiani	K1	CO1
	2	Find the incorrect statement a) Nuclei are synthesised around nucleolar organizing regions b) Transcription of rDNA occurs in the fibrillar centre c) Only one nucleolus is found in the nucleus d) Nucleolus contains a high concentration of iron in various plant sp.	K2	CO1
2	3	An ability of a part of an early embryo to develop in a particular direction under a particular stimulus is termed as a) Competence b) Determination c) Tissue interaction d) Induction	K1	CO2
	4	Tick the correct statement by comparing the given option below. --------- acts as an organizer in fertilized egg. a) Grey crescent b) Blastopore c) Dorsal lip d) Chordomesoderm	K2	CO2
3	5	During stem cell transplantation,what test do the patients undergo? a) Panel reactive antibody test b) Cross matching c) Serology screening d)Tissue typing	K1	CO3
	6	Name the technique that is used to keep the biological samples in a deep freeze at subzero temperature. a) PCR b) Cryopreservation c) Cloning d) Micro encapsulation	K2	CO3
4	7	The action of vaginal diaphragm is a) Anti implantation b) Spermacidal c) Prevent the ova to come into the uterus d) Prevent the sperm to contact the ova	K1	CO4
	8	Which of the following is correct about a test tube baby? a) Both fertilization and development happens outside b) Rearing of prematurely born baby in an incubator c) Fertilization outside and gestation inside the womb of a mother d) Fertilization inside the female genital tract and growth in a test tube	K2	CO4

Cont...

5	9	The damaged leg is not regenerated in a) Frog b) Crab c) Salamander d) Frog's tadpole	K1	CO5
	10	Which of the following refers the repair of cell division in a damaged tissue? a) Epimorphosis regeneration b) Morphogenetic movement c) Polarity d) Peristalsis	K2	CO5

SECTION - B (35 Marks)

Answer **ALL** questions

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

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the Polarity in animal eggs.	K2	CO1
		(OR)		
	11.b.	Outline the role of genes in development.		
2	12.a.	Describe the theories postulated to explain the mechanism of induction.	K3	CO2
		(OR)		
	12.b.	Grey crescent is essential for the development of normal embryo. Prove the statement.		
3	13.a.	How the Tissue transplantation is applied to save the life of humans?	K3	CO3
		(OR)		
	13.b.	Embryo transplantation is an effective tool to overcome infertility-Discuss.		
4	14.a.	Test tube baby programme is a boon for infertile couples-Examine.	K4	CO4
		(OR)		
	14.b.	Analyze the importance of birth control.		
5	15.a.	Assess the role of epidermis and blastema during amphibian regeneration.	K4	CO5
		(OR)		
	15.b.	Teratogen-an agent interferes with normal fetal development. Examine.		

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	Justify the statement that 'the whole process of life activities of a cell is a constant interaction between its nucleus and cytoplasm.	K4	CO1
2	17	Differentiation is the vital factor during development. Examine.	K4	CO2
3	18	Analyze the steps and applications of cryopreservation.	K4	CO3
4	19	What do you infer from congenital anomalies?	K4	CO4
5	20	Investigate the regenerative experiments of T.H.Morgan.	K4	CO5

Z-Z-Z END