

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2026
(Fourth Semester)

Branch – **ZOOLOGY**

EVOLUTION

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	The presence of homologous structures such as the forelimbs of mammals indicates: a) Convergent evolution b) Divergent evolution c) Analogous organs d) Mutation	K1	CO2
	2	Who proposed the “Primordial Soup” theory for the biochemical origin of life? a) Charles Darwin b) Oparin and Haldane c) Miller and Urey d) Lamarck	K2	CO1
2	3	Which of the following is the correct statement of Lamarck’s first law? a) Use and disuse of organs lead to their development or degeneration b) Evolution occurs through sudden large mutations c) Survival of the fittest d) Genetic recombination produces variation	K1	CO1
	4	According to Darwin, the chief force of organic evolution is: a) Inheritance of acquired characters b) Natural selection c) Mutations d) Genetic drift	K2	CO2
3	5	Which of the following best defines variation? a) Differences between species only b) Differences among individuals of a species c) Changes due to environment only d) Mutations that are always harmful	K1	CO1
	6	Seasonal breeding in frogs and birds is an example of which isolating mechanism? a) Geographic isolation b) Temporal isolation c) Behavioral isolation d) Gametic isolation	K2	CO2
4	7	When unrelated organisms evolve similar adaptations to occupy similar niches, it is called: a) Divergent evolution b) Convergent evolution c) Adaptive radiation d) Parallel evolution	K1	CO1
	8	Which of the following best illustrates parallel evolution? a) Eyes of octopus and mammals b) Marsupial and placental wolves c) Similar adaptations in deer and antelope d) Limbs of whale and bat	K2	CO2
5	9	The first ancestor in the evolutionary history of the horse was: a) Equus b) Merychippus c) Eohippus (Hyracotherium) d) Pliohippus	K1	CO1
	10	Which evolutionary trend is clearly observed in horse evolution? a) Decrease in body size and teeth b) Increase in body size, reduction in toes, development of grinding teeth c) Appearance of feathers d) Loss of backbone	K2	CO2

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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.	Construct the abiogenesis and biogenesis.	K2	CO2
		(OR)		
	11.b.	Explain with examples the embryological evidences supporting organic evolution.		
2	12.a.	Interview the concepts of Lamarckism and Neo-Lamarckism.	K3	CO3
		(OR)		
	12.b.	Organize the De Vries' theory of mutation .		
3	13.a.	Explain geographical and behavioral isolating mechanisms with examples.	K3	CO3
		(OR)		
	13.b.	Compare allopatric, sympatric, and parapatric speciation with examples.		
4	14.a.	Examine the types and ecological importance of mimicry and colouration in animals.	K4	CO3/ CO4
		(OR)		
	14.b.	Adaptive radiation promotes biodiversity." — Discuss this statement with examples.		
5	15.a.	Evaluate the role of fossil evidence in understanding the origin and evolution of man.	K4	CO3
		(OR)		
	15.b.	Assess the possible directions of future human evolution in response to environmental & technological changes.		

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	Explain the Biochemical origin of life.	K4	CO4
2	17	Catyegorize the Geological Time Scale and correlate it with major fossil discoveries.	K4	CO4
3	18	Analyze the ecological and genetic factors influencing parapatric speciation.	K5	CO4
4	19	"Critically analyze how adaptive radiation and mimicry together influence the survival and evolutionary success of organisms in changing environments."	K5	CO4
5	20	Appraise the impact of cultural evolution on the survival, adaptability, and diversity of modern humans.	K5	CO3

Z-Z-Z

END