

## Evolutionary Biology **S23**

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COURSE OUTLINE	The present course provides an insight into origin of life and the processes & patterns of evolution. It provides a range of evidences in support of evolution from fossils to molecular level using various examples. It helps the learners to understand the causes of variations, forces of evolution (both qualitative and quantitative), products of evolution (i.e. formation of new species) and loss of biodiversity by mass extinction events. Also, a brief account of human origin and evolution is discussed towards the end.

## **COURSE DETAILS**

S.	Module ID/ Lecture ID	Lecture Title/Topic
No.		
		Historical Review of Evolutionary
1	Lecture 1	Concepts-I (Various theories) (PART-1)
		Historical Review of Evolutionary
2	Lecture 2	Concepts-I (Various theories) (PART-2)
		Historical Review of Evolutionary
3		Concepts-II (Lamarckism and Darwinism)
	Lecture 3	(PART-1)
		Historical Review of Evolutionary
4		Concepts-II (Lamarckism and Darwinism)
	Lecture 4	(PART-2)
		Life's Beginning (Biochemical theory of
5	Lecture 5	origin of life) (PART-1)
		Life's Beginning (Biochemical theory of
6	Lecture 6	origin of life) (PART-2)
7	Lecture 7	Evidences of Evolution (PART-1)

8	Lecture 8	Evidences of Evolution (PART-2)
		Evidences of Evolution (Paleontological
9	Lecture 9	Evidences) (PART-1)
		Evidences of Evolution (Paleontological
10	Lecture 10	Evidences) (PART-2)
		Evidences of Evolution (Paleontological
11	Lecture 11	Evidences) (PART-3)
		Evidences of Evolution (Geological Time
12	Lecture 12	Scale) (PART-1)
		Evidences of Evolution (Geological Time
13	Lecture 13	Scale) (PART-2)
		Evidences of Evolution (Phylogeny of
14	Lecture 14	Horse) (PART-1)
		Evidences of Evolution (Phylogeny of
15	Lecture 15	Horse) (PART-2)
		Evidences of Evolution (Molecular
16	Lecture 16	Evidences) (PART-1)
		Evidences of Evolution (Molecular
17	Lecture 17	Evidences) (PART-2)
		Evidences of Evolution (Phylogenetic
18	Lecture 18	Trees) (PART-1)
		Evidences of Evolution (Phylogenetic
19	Lecture 19	Trees) (PART-2)
		Variation: Raw Material for Evolution-I
20	Lecture 20	(PART-1)
		Variation: Raw Material for Evolution-I
21	Lecture 21	(PART-2)
		Variation: Raw Material for Evolution-II
22	Lecture 22	(PART-1)
		Variation: Raw Material for Evolution-II
23	Lecture 23	(PART-2)
		Variation: Raw Material for Evolution-II
24	Lecture 24	(PART-3)
		Forces of Evolution: Qualitative Studies
25	Lecture 25	(PART-1)
		Forces of Evolution: Qualitative Studies
26	Lecture 26	(PART-2)
		Forces of Evolution: Quantitative Studies
27	Lecture 27	(PART-1)

		Forces of Evolution: Quantitative Studies
28	Lecture 28	(PART-2)
29	Lecture 29	Products of Evolution-I (PART-1)
30	Lecture 30	Products of Evolution -I (PART-2)
31	Lecture 31	Products of Evolution -II (PART-1)
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32	Lecture 32	Products of Evolution -II (PART-2)
33	Lecture 33	Mass Extinctions (PART-1)
34	Lecture 34	Mass Extinctions (PART-2)
35	Lecture 35	Human Origin and Evolution (PART-1)
36	Lecture 36	Human Origin and Evolution (PART-2)

## **References:**

- Ridley, M. (2004). Evolution. IIIrd Edition, Blackwell Publishing.
- Hall, B.K. and Hallgrimson, B. (2014). Strickberger's Evolution. Vth Edition, Jones and Barlett Publishers.
- Douglas, J. Futuyma and Mark Kirkpatrick (2017). Evolution. IVth Edition, Sinauer Associates.