



# LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

**B.Sc. DEGREE EXAMINATION – ADVANCED ZOOLOGY AND BIOTECHNOLOGY**

**THIRD SEMESTER – NOVEMBER 2022**

**UAZ 3504 – EVOLUTIONARY BIOLOGY**

Date: 03-12-2022

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

## SECTION A

Answer ALL the Questions

<b>1. Define the following</b>		<b>(5 x 1 = 5)</b>
a) Endosymbiosis.	K1	CO1
b) Neo Darwinism.	K1	CO1
c) Recapitulation theory.	K1	CO1
d) Allopatric Speciation.	K1	CO1
e) Galapagos island	K1	CO1
<b>2. Fill in the blanks</b>		<b>(5 x 1 = 5)</b>
a) -----is a connecting link between reptiles and birds	K1	CO1
b) -----is the founder of Modern Eugenics movement.	K1	CO1
c) -----the earliest hominid to have an enlarged brain.	K1	CO1
d) World's largest collaborative biological project is _____	K1	CO1
e) The 2022 Nobel Prize for Physiology or Medicine has been awarded to -----	K1	CO1
<b>3. Match the following</b>		<b>(5 x 1 = 5)</b>
a) Vestigial structure – Reptiles and mammals	K2	CO1
b) Darwin – Marsupials	K2	CO1
c) Duck billed Platypus – Oldest fossils	K2	CO1
d) Adaptive radiations – Origin of species	K2	CO1
e) Stromatolites – Appendix	K2	CO1
<b>4. TRUE or FALSE</b>		<b>(5 x 1 = 5)</b>
a) Fossils are generally found in sedimentary rocks.	K2	CO1
b) The phenomenon of “Industrial melanism” demonstrates natural selection	K2	CO1
c) The wings of birds and butterflies is an example of adaptive radiation.	K2	CO1
d) Fossils are the only type of evidence that supports the theory of evolution.	K2	CO1
e) The earliest geological time period Cambrian.	K2	CO1

**SECTION B**

**Answer any TWO of the following in 100 words (2 x 10 = 20)**

5.	Evaluate major events in geological time scale.	K3	CO2
6.	Summarize the different evolutionary stages of modern man.	K3	CO2
7.	Give brief note on mass extinction.	K3	CO2
8.	Explain synthetic theory of evolution.	K3	CO2

**SECTION C**

**Answer any TWO of the following in 100 words (2 x 10 = 20)**

9.	Differentiate convergent evolution from divergent evolution.	K4	CO3
10.	What is Hardy-Weinberg equilibrium? Verify it with the factors affecting the equilibrium?	K4	CO3
11.	Analyse the reasons for extinction of Neanderthals.	K4	CO3
12.	Explain the formation estimation methods for finding the age of the fossils.	K4	CO3

**SECTION D**

**Answer any ONE of the following in 250 words (1 x 20 = 20)**

13.	Illustrate about the justification of the importance of Eugenics Euthenics and Euphenics.	K5	CO4
14.	Justify Lamarck's theory of evolution with examples.	K5	CO4

**SECTION E**

**Answer any ONE of the following in 250 words (1 x 20 = 20)**

15.	Explain in detail about evidences of evolution.	K6	CO5
16.	Explain the various speciation processes and mechanism.	K6	CO5

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