LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

SECOND SEMESTER – **APRIL 2022**

UAZ 2503 – CELL BIOLOGY

(21 BATCH ONLY)

Date: 18-06-2022 Dept. No. Max. : 100 Marks

Time: 01:00-04:00

SECTION A

Answer ALL the Questions

1.	**Answer the following**	**(5 x 1 = 5)**		
a)	Define genetic code.		K1	CO1
b)	What is a mordant?		K1	CO1
c)	Write a note on metastasis.		K1	CO1
d)	Comment on annulate lamellae.		K1	CO1
e)	What are the phases of cell cycle?		K1	CO1
2.	**Fill in the blanks**	**(5 x 1 = 5)**		
a)	_____ is used to converge electrons in electron microscope.		K1	CO1
b)	Viruses which infect bacteria are called _____.		K1	CO1
c)	_____ is an example of vital stain.		K1	CO1
d)	Moist heat sterilization under high pressure is performed using _____.		K1	CO1
e)	_____is known as suicidal bags of cell.		K1	CO1
3.	**Match the following**	**(5 x 1 = 5)**		
a)	Primary constriction	Expelling	K2	CO1
b)	Exocytosis	Nucleolar organizer	K2	CO1
c)	Secondary constriction	Cell drinking	K2	CO1
d)	Pinocytosis	Natural cell death	K2	CO1
e)	Apoptosis	Centromere	K2	CO1
4.	**TRUE or FALSE**	**(5 x 1 = 5)**		
a)	Microtubules are absent in amoeba.		K2	CO1
b)	Fetal stem cells are totipotent.		K2	CO1
c)	Chromatins are thin threads of DNA.		K2	CO1
d)	Fixation stops autolysis.		K2	CO1
e)	Differential migration of compounds in chromatography depends on the solubility in the mobile phase.		K2	CO1

SECTION B

Answer any TWO of the following in 100 words			**(2 x 10 = 20)**
5.	Explain GERL system.	K3	CO2
6.	Illustrate and explain the structure of an animal cell.	K3	CO2
7.	Explain the principle and applications of SDS-PAGE.	K3	CO2
8.	Explain the structure of Golgi complex with a diagram and list out the functions.	K3	CO2

SECTION C

Answer any TWO of the following in 100 words			**(2 x 10 = 20)**
9.	Analyze the role of mitochondria in cellular respiration and explain its structure.	K4	CO3
10.	Comment on axoneme and the mechanism of ciliary movement.	K4	CO3
11.	Distinguish between Electron microscope and Light microscope.	K4	CO3
12.	Comment on Lampbrush chromosome.	K4	CO3

SECTION D

Answer any ONE of the following in 250 words			**(1 x 20 = 20)**
13.	List out the various steps involved in transcription and translation and explain with diagram.	K5	CO4
14.	Evaluate the causes of cancer and explain the hall marks of cancer.	K5	CO4

SECTION E

Answer any ONE of the following in 250 words			**(1 x 20 = 20)**
15.	Endoplasmic reticulum plays a major role in synthesis, transportation and storage of macromolecules in the cells – Justify.	K6	CO5
16.	Summarise the various stages of mitosis and meiosis and discuss the significance.	K6	CO5

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