

QP CODE: 24900028

Reg No:	••
Name•	

MAHATMA GANDHI UNIVERSITY, KOTTAYAM FIRST SEMESTER MGU-UGP (HONOURS) REGULAR EXAMINATION NOVEMBER 2024

First Semester

Discipline Specific Core Course - MG1DSCBTS100

NEW BIOLOGY FOR THE NEW CENTURY

(2024 ADMISSION ONWARDS)

Duration: 1.5 Hours Maximum Marks: 50

Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Interest (I), Appreciation (Ap), and Skill (S)

Students should attempt at least one question from each course outcome to enhance their overall outcome attainability.

[Learning Domain][CO No(s)]

Part A

Multiple Choice Questions
Answer **all** questions
Each question carries **1** mark

1	What is the basic unit of life?		[K]	[1]
	a) Organ	b) Tissue		
_	c) Cell	d) Organism	FT 77	F43
2	What structure controls the movement of substances into and out of a cell?		[U]	[1]
3	a) Nucleusc) Plasma membraneThe limitation of histochemical	b) Cell wall d) Cytoplasm technique is	[S]	[2]
	a) Detection	b) Low resolution		
	c) Correlative analysis	d) Sample preparation		
4	The treatment of Nipah Virus re		[I]	[2]

5	a) c) Wh	Gene Therapy Monoclonal antibodies aich of the following represents a pl	b) d) henot	Chemotherapy Antibiotics ype?	[K]	[3]
	a)	Вь	b)	ВВ		
	c)	Brown eyes	d)	bb		
6	Wh	nich of the following components is	TON	part of a nucleotide?	[K]	[3]
	a) c)	Sugar Nitrogenous base	b) d)	Phosphate group Amino acid		
7		nat is the primary function of messe			[U]	[4]
	a)	Carry genetic information from	b)	Synthesize proteins		
	a)	DNA to ribosomes Form ribosomes	d)	Transfer amino acids		
8	c) Wh	nich organelle is responsible for pac			[U]	[5]
	a)	Mitochondria	b)	Golgi apparatus		
	c)	Ribosomes	d)	Nucleus		
9	Wh	nich of the following best describes	biodi	versity?	[U]	[6]
	a)	The number of individuals in a population	b)	The variety of life in a particular habitat or ecosystem		
	c)	The health of a specific organism	d)	The distribution of species across the globe		
10	The mechanism of mutation involves changes in:			[K]	[7]	
	a)	Phenotype	b)	Environment		
	c)	DNA sequence	d)	All of the above		
					(10	$0 \times 1 = 10$
		Closet Ass	Par			
				Γype Questions 6 questions		
				carries 4 marks		
11	Wha	at are plasmids? Give two examples	.		[U]	[1]
12	Briefly mention the nature and scope of Bioinformatics.				[U]	[1]
13	What are the main components of an ecosystem?				[U]	[2]
14	What is the significance of biodiversity hotspots?				[U]	[3]
15	5 Mention briefly on Genomics				[K]	[4]
16	What is the concept of "survival of the fittest," and how does it relate to				[U]	[6]

natural selection?

17 Differentiate Bioinformatics and Computational Biology. [An] [7]

Discuss the relationship between DNA, RNA, and proteins in the central dogma of molecular biology. [5]

 $(6 \times 4 = 24)$

Part C

Essay Type Questions
Answer any 2 questions
Each question carries 8 marks

19 Write a short essay on what is biotechnology and its applications [K] [1]

20 Write an essay on biological databases. [U] [2]

21 Describe in detail on NMR and X ray crystallography [A] [3]

Compare and contrast the structures and functions of smooth and rough endoplasmic reticulum in eukaryotic cells. [5]

 $(2 \times 8 = 16)$

END OF THE QUESTION PAPER
