

## Model Question Paper-1 with effect from 2019-20 (CBCS Scheme)

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### Fourth Semester B.E. Degree Examination CELL CULTURE TECHNIQUES

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module -1			*Bloom's Taxonomy Level	Marks
Q.01	a	What are the factors to be considered while planning for a microbiology laboratory	L1	6
	b	Liquid nitrogen freezers can store culture without degrading its characteristics- Justify	L3	7
	c	Aseptic techniques followed in the laboratory leads to reduced expenses during research- elaborate	L4	7
OR				
Q.02	a	Sketch the layout of a large tissue culture laboratory detailing on the requirements for the same	L2	7
	b	Detail on the type of microscope that would you choose, if you have used molecules to tag the actin filaments of a cell.	L5	8
	c	Describe the use of CO2 incubators	L1	5
Module-2				
Q. 03	a	Identify the importance of animal cell culture?	L3	5
	b	Serum has a vital role in animal cell culture media. Justify	L5	8
	c	List the types of artificial media and their benefits.	L4	7
OR				
Q.04	a	Distinguish serum and serum-free media.	L4	5
	b	Describe chemically defined media and list its applications	L3	7
	c	Elaborate the importance of plant growth hormones and list few plant growth hormones that have been used	L5	8
Module-3				
Q. 05	a	Given an explant, describe the methods to culture explant	L4	10
	b	Describe the process to maintain and preserve animal cells	L2	10
OR				
Q. 06	a	Appraise the importance of organ culture with its applications	L5	5
	b	Biopsy taken from an animal is the explant enumerate the methods to disaggregate tissue and obtain single cells	L3	10
	c	Cryopreservation is important to maintain the characteristics of culture -justify	L4	5
Module-4				
Q. 07	a	List the applications of cellular totipotency	L3	5
	b	Synthetic seeds can aid in preservation of seeds- Justify	L5	7
	c	Develop a strategy to culture plants using anther.	L6	8
OR				
Q. 08	a	Describe and analyze the factors affecting organogenesis	L4	7

	b	Plants can be developed from endosperm-uphold the statement	L3	8
	c	Explain the production of diploid plants	L2	5
<b>Module-5</b>				
Q. 09	a	Replica-plating can allows the growth of auxotrophic mutants - uphold the statement	L5	8
	b	Explain the production of antibiotics with a case study	L4	12
OR				
Q. 10	a	Preservation Of microorganism for industrial use is essential - justify and enumerate the available preservation techniques	L5	10
	b	What are the characteristics of a good strain	L2	5
	c	Describe microbial leaching	L1	5

\*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.