Reg. No.: ……..

Name:……...

U7398

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University of Kerala

First Semester Degree Examination,November 2024

Four Year Under Graduate Programme

Discipline Specific Core Course

BIOTECHNOLOGY

UK1DSCBIT100 - Essentials of Biotechnology

Academic Level: 100-199

Time: 1½Hours **Max.Marks:42**

Part A.

Answer All Questions, Objective Type. 1 Mark Each.

(Cognitive Level: Remember/Understand)

6 Marks.Time: 6 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome(CO)
1.	Identify an end product of white biotechnology	Remember	CO1
2.	Name the enzyme that can synthesize DNA from RNA	Remember	CO2
3.	Identify the branch of biology that deals with the study of how biological systems respond to the conditions of space	Understand	CO3
4.	Describe the significance of CRISPR- Cas9 technique in modern biotechnology	Understand	CO1
5.	Identify the microbe used for the production of antibiotic Penicillin	Understand	CO5
6.	Cite a growth parameter of microbe that critically affect the industrial fermentation process	Understand	CO5

Part B.

Answer All Questions Short Answer. 2 Marks Each.

(Cognitive Level: Understand/Apply)

8 Marks. Time: 24 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome(CO)
7.	Discuss the industrial application of microbial amylase	Understand	CO5
8.	Describe the properties of an ideal plasmid vector	Understand	CO2
9.	Distinguish between bioethanol and biodiesel	Apply	CO3
10.	Discuss how SciFi foods will revolutionize future food industry	Apply	CO3

Part C.

Answer all 4 Questions, choosing among options within each question.
Long Answer. 7 marks each. (Cognitive Level: Apply/Analyse/Evaluate/Create)
28 Marks. Time: 60 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome(CO)
11.	A. Interpret the future prospects of biotechnology in India Or B. The next industrial revolution is expected to be based in biotechnology. Illustrate the major areas of biotechnology impacts the statement	Apply	CO1
12.	A. Examine how microorganisms become very convent for industrial production of desirable compounds Or B. Analyse the significance of monoclonal antibody in various fields of medical sector.	Analyze	CO5
13.	A. Evaluate the phrase "Bioenergy: Fueling a greener world" Or B. Evaluate the applications of transgenic animals (a) ATryn cow (b) Enviropig (c) Spidergoat	Evaluate	CO3
14.	A. Develop a protocol based on genetic engineering principles to generate a transgenic bacteria producing a therapeutic protein Or B. Outline a procedure for producing a GM crop that can resist insect pests.	Create	CO2