JHARKHAND Rai University
RANCHI

End Semester/Reappear (Semester III) Examination December, 2024

Programme:B. Tech CSE

Course: Biological Science for Engineers **Full Marks: 70**

Course Code: 3BSC202 **Time: 3 Hrs.**

Enrolment no. _____

Q. No.	Questions	CO	Bloom Taxonomy Category	Marks
	Section I			
1	**Short Answer type questions**			**4 x 5 = 20**
a	Write a brief note on Brownian motion.	CO1	Remember	
	or			
	Describe the laws of thermodynamics.	CO1	Remember	
b	Classify Kingdom Protista and Kingdom Animalia.	CO2	Remember	
	or			
	Define classification. What are the Divisions in Kingdom Plantae?	CO2	Remember	
c	What is cell cycle? What is meiosis and mitosis?	CO3	Remember	
	or			
	Write a brief note on sickle cell anemia with signs & symptoms.	CO3	Understand	
d	Write the mechanism of enzyme.	CO5	Remember	
	or			
	What is enzyme? Classify.	CO5	Remember	
	Section II			
Long Answer type questions				**3 x 10 = 30**
2	What are the functions of DNA? What are the salient features of DNA?	CO4	Apply	
	or			
	a. What are carbohydrates? Classify and explain monosaccharides. b. Write a short note on Nucleotides.	CO4	Understand	
3	Give brief account on hierarchy of DNA structure from single stand to double helix.	CO6	Apply	
	or			
	a. Explain coding and decoding genetic information transfer. b. Explain the flow of genetic information from DNA to RNA to protein.	CO6	Understand	
4	Write the pathway of glycolysis.	CO8	Apply	
	or			
	a. What is the Krebs cycle? What is its role in energy production? b. Explain Photosynthesis.	CO8	Understand	
	Section III			
	Application based questions			**1 x 20 = 20**
5	Write in detail about sterilization and various techniques used. Give an account on Growth kinetics.	CO9	Analyze	
	or			
	Explain identification and classification of microorganisms. How to prepare culture medium? Explain in detail.	CO9	Create	

COURSE OUTCOME

At the end the course the candidate will able to

CO1: Describe how biological observations of 18th Century that lead to major discoveries.

CO2: Convey that classification per se is not what biology is all about but highlight the underlying criteria, such as morphological, biochemical and ecological.

CO3: Highlight the concepts of recessiveness and dominance during the passage of genetic material from parent to offspring.

CO4: Convey that all forms of life have the same building blocks and yet the manifestations are as diverse as one can imagine.

CO5: Classify enzymes and distinguish between different mechanisms of enzyme action.

CO6: Identify DNA as a genetic material in the molecular basis of information transfer.

CO7: Analyse biological processes at the reductionistic level.

CO8: Apply thermodynamic principles to biological systems.

CO9: Identify and classify microorganisms.