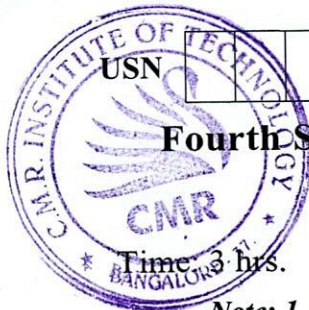


# CBCS SCHEME



BBOK407

## Fourth Semester B.E./B.Tech. Degree Examination, June/July 2025 Biology for Engineers

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. M : Marks , L: Bloom's level , C: Course outcomes.*

Module – 1			M	L	C
Q.1	a.	What are Nucleic acids? Mention its properties and functions.	10	L2	CO1
	b.	Write a short note on all the four types of stem cells.	10	L2	CO1
OR					
Q.2	a.	Explain the similarities and differences between plant and animal cell.	10	L2	CO1
	b.	Explain the properties and functions of hormones.	10	L2	CO1
Module – 2					
Q.3	a.	Explain the application of carbohydrates as cellulose based water filters, mention its advantages.	10	L2	CO2
	b.	Write short note on Meat analogue and Plant protein as food.	10	L2	CO2
OR					
Q.4	a.	Explain the DNA vaccine for rabies.	10	L2	CO2
	b.	Write short note on PLA as bioplastic.	10	L2	CO1
Module – 3					
Q.5	a.	Explain eye as a camera system.	10	L3	CO2
	b.	Describe the architecture of Lungs and gas exchange mechanism.	10	L2	CO2
OR					
Q.6	a.	Explain the Kidney as filtration system.	10	L3	CO2
	b.	Write a short note on Chronic Obstructive Pulmonary Disease (COPD).	10	L2	CO2
Module – 4					
Q.7	a.	Write a short note on : (i) Lotus Leaf effect      (ii) Shark skin	10	L1	CO3
	b.	Illustrate the HBO's and PFC's as human blood substituents.	10	L3	CO3
OR					
Q.8	a.	Write a short note on : (i) Photovoltaic cells      (ii) Bionic leaf	10	L1	CO3
	b.	Describe the engineering applications of GPS and Velcro technology.	10	L3	CO3
Module – 5					
Q.9	a.	Analyze the bio-engineering solutions for muscular dystrophy and osteoporosis.	10	L4	CO4
	b.	Write a short note on self healing bio-concrete.	10	L2	CO4
OR					
Q.10	a.	Examine the bioimaging and artificial intelligence for disease diagnosis.	10	L4	CO4
	b.	Explain the process of biomining via microbial surface adsorption.	10	L2	CO4

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