



Sree Chitra Thirunal College of Engineering

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Consolidated Course Outcomes Report

Batch	Sno	Subject	CO	Topic	Bloom's taxonomy level
BT 2K20	1	PROBABILITY, STATISTICS AND NUMERICAL METHODS	CO1	Explain discrete and continuous random variables and different distributions	Understanding(U)
			CO2	Apply the density function of the distribution to find the probability of the random variables.	Applying(P)
			CO3	Apply characteristics of a population based on attributes of samples drawn from the population for statistical inferences.	Applying(P)
			CO4	Evaluate definite integrals and perform interpolation on given numerical data by standard numerical techniques.	Applying(P)
			CO5	Solve the algebraic equations, system of linear equations and ordinary differential equations using numerical methods.	Applying(P)
	2	CHEMICAL AND BIOLOGICAL REACTION ENGINEERING	CO1	Estimate the kinetics for chemical and biological reactions	Applying(P)
			CO2	Interpret the performance of Batch and Continuous reactors and recommend modifications for improvement	Applying(P)
			CO3	Calculate the conversion for ideal and non-ideal reactors	Applying(P)
			CO4	Explain the nature of catalytic reactions with regard to the multiple steps of mass transfer and surface reaction and the concept of rate limiting step	Understanding(U)
	3	PRINCIPLES OF BIOCHEMISTRY	CO1	Describe the role of cellular chemicals and their functions.	Understanding(U)
			CO2	Describe biosynthetic pathways and understand the key aspects of metabolism.	Understanding(U)
			CO3	Explain cellular energy requirement and how energy is utilized by a cell.	Understanding(U)
			CO4	Understand the behavior of enzymes and their kinetics.	Understanding(U)
	4	BIOPROCESS ENGINEERING	CO1	Outline the basic principles of upstream processing and fermentation in industrial biotechnology.	Understanding(U)
			CO2	Demonstrate the design of simple sterilization systems used in the bioprocess industry.	Applying(P)
			CO3	Use the principles of mass transfer and biochemical reaction kinetics in the modeling, design and scale-up of bioprocess systems. .	Understanding(U),Applying(P)
	5	DESIGN AND ENGINEERING	CO1	Explain the concepts and principles involved in design engineering	Understanding(U)
			CO2	Apply design thinking while learning and practicing engineering	Applying(P)
			CO3	Develop innovative, reliable, sustainable and economically viable designs incorporating knowledge in engineering	Applying(P)
	6	CONSTITUTION OF INDIA	CO1	Explain the background of the present constitution of India and features	Remembering(R)
			CO2	Utilize the fundamental rights and duties	Analyzing(A)
			CO3	Understand the working of the union executive, parliament and judiciary.	Understanding(U)
			CO4	Understand the working of the state executive, legislature and judiciary	Understanding(U)
			CO5	Utilize the special provisions and statutory institutions.	Applying(P)
CO6			Show national and patriotic spirit as responsible citizens of the country	Applying(P)	
			CO1	Prepare various chemical reagents and perform qualitative and quantitative experiments.	Applying(P)

7	BIOCHEMISTRY LAB	CO2	Extract proteins from various sources and quantify them using analytical instruments like a spectrophotometer.	Applying(P)
		CO3	Evaluate oral skills and prepare a report of the experiments.	Understanding(U)
8	ANALYTICAL TECHNIQUES IN BIOTECHNOLOGY LAB	CO1	Develop knowledge for the appropriate selection of instruments for the successful analysis of biomolecules	Understanding(U)
		CO2	Apply a knowledge of modern analytical techniques in the analysis of biomolecules	Applying(P)
		CO3	Understand the separation of biomolecules using various analytical techniques	Understanding(U)
		CO4	Apply the skills acquired to analyze and interpret experimental data obtained from different instrumental measurements and communicate results effectively.	Applying(P)