PROFORMA FOR NEW COURSE

1.	Title of the Course	Queueing Theory
2.	Course Number	EE6024
3.	Status of the Course	Elective
4.	Structure of Credits	3-0-0-3
5.	Offered To	PG
6.	New Course/Modification to	New
7.	To be Offered by	Department of Electrical Engineering
8.	To take effect from	July 2019
9.	Prerequisite	CoT
10.	Whether approved by the Program	Yes
11.	**Course Objective:** To introduce techniques from queueing theory for modeling and solving problems that arise in communication networks.	
12.	**Course Content:** Stochastic processes: convergence of random sequences, law of large numbers; Discrete time Markov chains (DTMC): hitting time and recurrence, communicating classes and class properties, discrete time M/M/1 queue; Renewal theory: renewal reward process, Poisson process, stopping times, regenerative processes; Continuous time Markov chain (CTMC): structure of pure jump CTMC, birth and death processes, Little's law, M/M/1 queues, M/M/m queues, M/G/1, queueing systems.	
13.	**Text book(s):** 1. Wolff R W, *Stochastic Modelling and Theory of Queues*, Prentice Hall (1989)	
14.	**Reference(s):** 1. Bertsekas D and Gallager R G, *Data Networks*, Prentice Hall (1992) 2. Kumar A, *Discrete Event Stochastic Processes*, Lecture Notes Series, IISc Bangalore (2012)	