U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

June 2025 Semester End Main Examinations

Programme: B.E. **Semester: VI**

Branch: Electronics and Telecommunication Engineering **Duration: 3 hrs.**

Course Code: 19ET6PE3IT **Max Marks: 100**

Course: IOT and Wireless Sensor Networks

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			UNIT - I	*CO*	*PO*	Marks
1	a)		With diagram and example explain IoT level 3 deployment template	*CO1*	-	**10**
	b)		With diagram explain REST based communication APIs	*CO1*	-	**10**
			OR			
2	a)		Explain with diagram push - pull and exclusive pair communication model	*CO1*	-	**10**
	b)		With diagram explain Websocket based communication APIs	*CO1*	-	**10**
			UNIT - II			
3	a)		Explain Constrained RESTful Environment (CoRE) and unconstrained environment	*CO1*	-	**10**
	b)		What are the architectural layers in modified OSI model for internet of smart streetlights application with an diagram	*CO1*	-	**10**
			OR			
4	a)		With diagram explain MQTT protocol broker	*CO1*	-	**10**
	b)		With diagram explain CoAP-SMS	*CO1*	-	**10**
			UNIT - III			
5	a)		Explain with diagram IPv4 Datagram format	*CO1*	-	**10**
	b)		Explain with diagram TELNET	*CO1*	-	**10**
			OR			
6	a)		Explain DHCP with an example along with steps	*CO1*	-	**10**
	b)		Explain with diagram of TCP/IP suite	*CO1*	-	**10**

			UNIT - IV			
	7	a)	Explain vulnerabilities of IoT	*CO1*	-	**10**
		b)	Write a program for Arduino usages of RFID ID serial-data reading using UART port: An RFID Integrated circuit (IC) sends serial data to an Arduino board using UART protocol Tx and Rx inputs at the RFID tag pins. How will serial data be read at pins 2 and 3 as Rx and Tx, respectively using Arduino board?	*CO3*	*PO2*	**10**
			OR			
	8	a)	Explain with diagram Security function group components in functional view in IoT reference architecture	*CO1*	-	**10**
		b)	Write an Arduino program for room temperature monitoring system	*CO3*	*PO2*	**10**
			UNIT - V			
	9	a)	With diagram explain sensor node components	*CO1*	-	**10**
		b)	With diagram explain different types of mobility	*CO1*	-	**10**
			OR			
	10	a)	Explain with diagram single and multi-hop networks	*CO1*	-	**10**
		b)	With diagram explain aggregation and Distributed source coding and distributed compression	*CO1*	-	**10**

****