

**PRAGATI ENGINEERING COLLEGE: SURAMPALEM  
(AUTONOMOUS)**

**III B.Tech II Semester Regular Examinations, April -2024**

**WIRELESS SENSORS AND NETWORKS  
(IT)**

Time: 3 hours

Max. Marks: 70M

**Answer ONE Question from each Unit  
All Questions Carry Equal Marks**

Q. No.	Questions	BTL	CO	Marks
<b>UNIT – I</b>				
1.	a) Write short note on various characteristics of wireless sensor networks.	K2	CO1	7M
	b) Describe how wireless sensor networks are used in precision agriculture.	K2	CO1	7M
<b>OR</b>				
2.	a) Explain in detail about sensing subsystems in WSNs.	K2	CO1	7M
	b) Describe how wireless sensor networks are used in traffic control.	K2	CO1	7M
<b>UNIT – II</b>				
3.	a) Write short note on the basic components of physical layer in WSNs.	K2	CO2	7M
	b) With suitable diagram illustrate Quadrature amplitude modulation.	K2	CO2	7M
<b>OR</b>				
4.	a) Explain about Carrier sense multiple access protocol in wireless MAC protocols.	K2	CO2	7M
	b) Explain in detail about Traffic-Adaptive Medium Access Protocol.	K2	CO2	7M
<b>UNIT – III</b>				
5.	a) Explain about flooding and gossiping in the network layer of WSNs.	K2	CO3	7M
	b) With suitable diagram illustrate any one of the Data-centric routing techniques.	K2	CO3	7M
<b>OR</b>				
6.	a) Explain in detail about Multicast location-based routing.	K2	CO3	7M
	b) Describe briefly about any three local power management aspects.	K2	CO3	7M
<b>UNIT – IV</b>				
7.	a) List some of the challenges for time synchronizations.	K1	CO4	7M
	b) Illustrate how synchronization messages supports in time synchronization.	K4	CO4	7M
<b>OR</b>				
8.	a) Describe briefly about any two ranging techniques used for localization.	K2	CO4	7M
	b) Explain about Ad-hoc positioning system in WSNs.	K2	CO4	7M
<b>UNIT – V</b>				
9.	a) List some of the challenges of security in wireless sensor networks.	K1	CO5	7M
	b) Write short note on the following security attacks: a) Denial-of-service b) Attacks on routing c) Attacks on transport layer.	K2	CO5	7M
<b>OR</b>				
10.	a) Explain in detail about defenses against DoS and Aggregation attacks.	K2	CO5	7M
	b) Write short note on security in ZigBee networks.	K2	CO5	7M