Code No.: EC831OE	R20	H.T.No.			8	R						

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–II–Semester End Examinations (Regular) – April - 2025
ADHOC AND WIRELESS SENSOR NETWORKS
(IT)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1.	a)	Explain the key components of a WLAN.	[2M]
	b)	What is HYPERLAN standard?	[2M]
	c)	What are the challenges in designing a MAC protocol for Ad hoc wireless networks?	[2M]
	d)	How do polling-based MAC protocols work in Ad hoc networks?	[2M]
	e)	What are the trade-offs between proactive and reactive routing approaches?	[2M]
	f)	What are the different classifications of routing protocols in Ad hoc networks?	[2M]
	g)	Explain how flow control works in transport layer protocols.	[2M]
	h)	Compare TCP and UDP in terms of reliability, latency?	[2M]
	i)	What is a Wireless Sensor Network (WSN)?	[2M]
	j)	What are the applications of a WSN?	[2M]

PART-B **(50 Marks)**

2.	What are the different types of fundamentals used in WLANs?	[10M]
	OR	
3.	What are the different IEEE 802.11 standards and their key differences?	[10M]
4.	What role does RTS/CTS play in Contention-Based MAC protocols?	[10M]
	OR	
5.	What are the challenges associated with using Directional antennas in MAC protocols?	[10M]
6.	Explain the importance of route discovery and route maintenance in Ad hoc routing protocols.	[10M]
	OR	
7.	What is hierarchical routing, and why is it used in Ad hoc networks?	[10M]
8.	How are transport layer solutions classified in Ad hoc networks?	[10M]
	OR	
9.	Define transport layer protocols handle fairness in Ad hoc networks?	[10M]
10.	Explain the hierarchical and cluster-based Sensor network architecture.	[10M]
	OR	
11.	How is Quality of Service (QoS) defined in the context of WSNs?	[10M]

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