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

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–II–Semester End Examinations (Advanced Supply) – June - 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)	What are the advantages and disadvantages of WLANs?	[2M]
	b)	List the different types of HYPERLAN standards and their features	[2M]
	c)	What is a contention-based MAC protocol, and how does it work?	[2M]
	d)	What are the main challenges in designing a MAC protocol for Ad hoc wireless networks?	[2M]
	e)	What is a routing protocol in wireless Ad hoc networks?	[2M]
	f)	Why is energy efficiency important in Ad hoc routing protocols?	[2M]
	g)	Compare TCP and UDP protocols	[2M]
	h)	How do transport layer protocols ensure reliable data transmission?	[2M]
	i)	What is a Wireless Sensor Network (WSN)?	[2M]
	j)	What are the key components of a WSN?	[2M]

PART-B **(50 Marks)**

2.	Describe the architecture of WLAN and the role of access points.	[10M]
	OR	
3.	Compare HYPERLAN and IEEE 802.11 standards in terms of performance and applications.	[10M]
4.	Why is collision avoidance more challenging in contention-based MAC protocols?	[10M]
	OR	
5.	How do directional antennas reduce interference in Ad hoc networks?	[10M]
6.	What are the different classifications of routing protocols in Ad hoc networks?	[10M]
	OR	
7.	Explain the difference between Table–driven routing protocol and hybrid routing protocols.	[10M]
8.	What are the major challenges are require to designing a transport layer protocol for Ad hoc networks?	[10M]
	OR	
9.	Explain the impact of high packet loss rates on transport layer performance in Ad hoc networks	[10M]
10.	What is the typical architecture of a Wireless Sensor Network?	[10M]
	OR	
11.	How can congestion control improve QoS network in WSNs?	[10M]

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