

Code No: R20A6904

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Regular Examinations, December 2022

Wireless Sensor Networks

(CSE-IOT)

Roll No										
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Time: 3 hours

Max. Marks: 70

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

<u>SECTION-I</u>			
1	A	Explain the hardware architecture of WSNs?	[7M]
	B	Explain about the Wireless Mesh Networks?	[7M]
OR			
2	A	Discuss the motivation required for developing a WSNs?	[7M]
	B	Explain the characteristics of WSNs?	[7M]
<u>SECTION-II</u>			
3	A	Explain the architectural framework of physical layer?	[7M]
	B	Explain about the source encoding in detail?	[7M]
OR			
4	A	Write short notes on Channel encoding?	[7M]
	B	Discuss about gateways in WSNs?	[7M]
<u>SECTION-III</u>			
5	A	What are the characteristics of Hybrid MAC protocols?	[7M]
	B	Explain about the Z-MAC protocol?	[7M]
OR			
6			[14M]
<u>SECTION-IV</u>			
7		Explain about the On-Demand routing protocol in detail?	[14M]
OR			
8			
<u>SECTION-V</u>			
9	A	Explain the characteristics of QoS Based Routing Protocols?	[7M]
	B	Explain about the Dynamic Power Management?	[7M]
OR			
10		Explain about the Conceptual Architecture in QoS based routing protocols?	[14M]

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SECTION-I

- 1** **A** Define Wireless Sensor Networks? What are the components of wireless sensor nodes? [7M]
- B** Explain the applications of WSNs? [7M]
- OR
- 2** **A** What are the characteristics of WSNs? [7M]
- B** Explain the challenges of WSNs? [7M]

SECTION-II

- 3** **A** Explain the architectural framework of physical layer? [7M]
- B** Write short notes on Channel encoding? [7M]
- OR
- 4** **A** Explain about Optimization goals in WSNs? [7M]
- B** Discuss about gateways in WSNs? [7M]

SECTION-III

- 5** **A** Explain about the characteristics of MAC protocols in sensor networks? [7M]
- B** Explain about S-MAC protocol. [7M]
- OR
- 6** Explain about the IEEE 802.15.4? [14M]

SECTION-IV

- 7** **A** What is the importance of routing in WSNs? Explain about the various routing metrics? [7M]
- B** Write short notes on Flooding and Gossiping? [7M]
- OR
- 8** **A** Explain about the Hierarchical routing? [7M]
- B** Differentiate Proactive and Reactive Routing Protocols? [7M]

SECTION-V

- 9** **A** Explain the characteristics of QoS Based Routing Protocols? [7M]
- B** What factors are considered for Quality of Service? [7M]
- OR
- 10** Write short notes on
- i) Power Management [7M]
- ii) Local Power Management [7M]

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OR

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