Question Paper

Exam Date & Time: 29-Dec-2022 (02:30 PM - 05:30 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

SEVENTH SEMESTER B.TECH END SEMESTER EXAMINATIONS (MAKE UP), ICE DEPT.
DEC-JAN 2023

Wireless Sensor Technology [ICE 4070]

Marks: 50 **Duration: 180 mins.**

A

Answer all the questions.

Instructions to Candidates: Missing data may be suitably assumed

1)		Explain in detail about Energy efficient routing in WSN. (CO3, PO1, PO2, PO3, BL3)	(5)
	A)		
	B)	Differentiate flat and hierarchical network architectures with an example for each. (CO1, PO1, PO 2, PO6, BL4)	(2)
	C)	Illustrate any '4' crucial points influencing design of physical layer in WSN. (CO2, PO1, PO2, PO6, BL3)	(3)
2)		Explain the working of ALOHA with the help of a timing diagram. Also, explain the difference between pure ALOHA and slotted ALOHA. (CO3, PO1, PO2, PO3, BL3)	(5)
	A)		
	B)	Illustrate with an example the use of providing addresses and names to nodes in a network. Explain the different address allocation techniques. (CO3, PO1, PO2, PO3, BL4)	(3)
	C)	Illustrate the factors to be balanced for the choice of modulation scheme. (CO2, PO 1, PO 2, PO 6, BL4)	(2)
3)		Explain the concept of Clustering, its advantages and algorithm for determining independent sets. (CO 4, PO 1, PO 2, PO 3, BL3)	(4)
	A)		
	B)	Explain with appropriate example the various services offered by localization. (CO 4, PO1, PO2, PO3, BL3)	(2)
	C)	Explain the concept of Localization and Positioning in wireless sensor networks. (CO4, PO 1, PO 2, PO 3, BL3)	(4)
4)		Describe the various node level simulators available for sensor networks. Mention the advantages of using those platforms for real-time simulation. (CO5, PO 1, PO 2, PO 6, BL3)	(4)
	A)		
	B)	Illustrate with an example the working of geographic routing in WSN. Also list out its limitations. (CO5, PO 1, PO 2, PO6, BL3)	(4)
	C)	Explain the programming challenges for sensor networks. (CO5, PO 1, PO2, PO6, BL2)	(2)

5)		Write a short note on (i) Berkley Notes (ii) Programming Challenges. (CO5, PO 1, PO 2, PO 6, BL1)	(4)
	A)		
	B)	Explain the concept of centric programming and its collaborative groups with relevant examples. (CO5, PO 1, PO 2, PO 6, BL3)	(4)
	C)	Highlight the salient feature of component-based operating system. (CO 5, PO 1, PO 2, PO6, BL3)	(2)

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