Shri Mata Vaishno Devi University, Katra

School of Electronics & Communication Engineering

B. Tech. (E&CE) -5th Semester

Minor -II, Examination (Even Semester) 2022-23

Entry No._____ **Date: 27/03/2023**

Course Title: Introduction to Wireless Networks

Course Code: ECE 3101

Time Allowed: 1 ½ Hours **Max Marks: [20]**

i. **Attempt All Questions. ii. Make Assumptions as needed**

Q1.	a) Define Wireless Sensor Networks. Draw the design of a typical Wireless Sensor Node. **(2 Marks)** b) What are the various issues in the design and usage of Wireless Sensor Networks. **(2 Marks)** c) Define Ubiquitous Computing/Pervasive Computing. **(2 Marks)**
Q2.	a) What is the role of routing algorithms and on what layer of the OSI model do these operate? **(2 Marks)** b) Write briefly about the functioning of SPIN routing algorithm with its pros and cons. **(4 Marks)**
Q3.	a) Explain the various phases of working of LEACH routing algorithm. **(4 Marks)** b) Write about the functioning of TEEN and APTEEN algorithm along with their respective pros and cons. **(4 Marks)**

Course Outcomes

After Successful Completion of this Course, students shall be able to;

CO No.	Course Outcome
CO1	Understand the concept of Wireless Networks and the various protocols
CO2	Categorize and perform comparative analysis of various layers including Network , MAC Layer, of various protocols

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B. Tech. (E&CE) -5th Semester

Minor -I, Examination (Even Semester) 2022-23

Entry No._____ Date: 21/02/2023

Course Title: Introduction to Wireless Networks

Course Code: ECE 3xx1

Time Allowed: 1 ½ Hours Max Marks: [20]

i. Attempt All Questions. ii. Make Assumptions as needed

Q1.	a) What is the Exposed Terminal Problem and Hidden Terminal Problem as seen in wireless networks and how can these problems be resolved? Show the usage of the RTS/CTS mechanism in conjunction with Virtual Carrier Sense and Network Allocation Vector for this purpose. **(4 Marks)** b) Write briefly about the following services offered by the various components of IEEE 802.11 **(3 Marks)** i) Distribution ii) Integration iii) Re-association c) What are the various issues to be addressed by MAC layer of IEEE 802.11 **(3 Marks)**
Q2.	a) Write briefly about the various Service Set supported by WLAN IEEE 802.11 (**4 Marks)** b) Write briefly about the network topologies supported in Bluetooth protocol? **(2 Marks)**
Q3.	How are DCF & PCF mechanism used for media access in IEEE 802.11? (**4 Marks)**

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