National Institute of Technology, Hamirpur (HP)
(Dual Degree- Computer Science and Engineering)

Branch: Computer Science and Engineering (Dual Degree)   Semester: 2nd
Course Name: Wireless Sensor Networks   Course Code: CS-614
Time: 3 hrs   Max Marks: 50

1. What are the issues and challenges in the design of wireless sensor networks? How these issues are different from the issues and challenges in infrastructural networks?

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2. Explain various components of a wireless sensor node with neat diagram. Give at least five sensor nodes commercially available: Give detailed configuration of each including microprocessor, RAM, bus size, type of sensors, communication range, size, battery, radio frequency etc.   8

3. State the reason for not using the CSMA/CA based MAC protocol for wireless sensor network. Explain hidden node and exposed node problems.

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4. Explain the difference between Proactive routing protocols and Reactive routing protocols. Give at least two examples of each category and . Give suitability of each one for a specific scenario with proper justification.

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5. Explain TEEN and APTEEN clustering/routing protocols. How are these protocols better or worse than the LEACH protocol.

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6. Elaborate Two tier Data dissemination (TTDD) Protocol in detail. Clearly give the grid construction mechanism over the irregular shaped sensor field. How does TTDD handles multiples and mobile sinks.   8