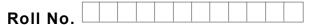
FirstRanker.com

www.FirstRanker.com

www.FirstRanker.com



Total No. of Pages : 02

Total No. of Questions : 8

M.Tech. (CSE Engg.)E-I (2018 Batch) (Sem.-1) WIRELESS SENSOR NETWORKS Subject Code : MTCS-106-18 Paper ID : [75156]

Time: 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

- 1. Attempt any FIVE questions out of EIGHT questions.
- 2. Each question carries TWELVE marks.
 - 1. a. What is the difference between passive sensors and active sensors? Explain.
 - b. What are the main challenges that need to be considered while designing wireless sensor networks? Explain.
 - 2. a. Describe sensor network architecture in detail
 - b. Write a short note on cross layer design.
 - 3. a. What is the main purpose of the MAC layer? Why is this challenging in networks with shared media? Explain.
 - b. Define discrete time Markov chain. Also explain its important properties.
 - 4. Describe the CIA security model. Which services described in this model do you think are essential for the following scenarios? Justify your answers.
 - a. A WSN that allows emergency response teams to avoid risky and dangerous areas and activities.
 - b. A WSN that collects biometric information collected at an airport.
 - c. A WSN that measures air pollution in a city for a research study.
 - d. A WSN that alerts a city of an impending earthquake.
 - 5. What is data -centric routing? Why is data-centric routing feasible (or even necessary) compared to routing based on identities (addresses)? Explain.



www.FirstRanker.com

- 6. Write a short note on Network simulator 3 (ns-3). Explain simulation of ns3 with the help of an example.
- 7. Write a short note on recent development in WSN standard. Also briefly explain software applications.
- 8. Write a short notes on the following :
 - a. Resource aware routing,
 - b. Geographic routing.
 - c. Opportunistic routing analysis.

www.firstRanker.com