Code No: **RT42044A** **R13** **Set No. 1**

**IV B.Tech II Semester Supplementary Examinations, July/August- 2017**

# WIRELESS SENSORS AND NETWORKS

**(Common to Electronics & Communication Engineering, Electronics & Instumentation Engineering and Electronics & Computer Engineering)**

**Time: 3 hours** **Max. Marks: 70**

***Question paper consists of Part-A and Part-B***
***Answer ALL sub questions from Part-A***
***Answer any THREE questions from Part-B***

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## PART–A *(22 Marks)*

1. a) What is Wireless sensor network? State few characteristic requirements of WSNs. [4]
   b) Explain the function of a transceiver [3]
   c) List out the important classes of MAC protocols. [4]
   d) What are on-demand routing protocols? [4]
   e) What are the various responsibilities of Transport layer. [4]
   f) What is state-centric programming? [3]

## PART–B *(3x16 = 48 Marks)*

2. a) Discuss the design principles for Wireless Sensor Networks. [8]
   b) Explain the optimization goals and figure of merit of WSN [8]

3. a) Write the main functions of physical layer for WSNs. Produce the most important parameters to be considered while designing the physical layer in WSNs. [8]
   b) Enumerate in detail about the selection of Physical layer with three choices [8]

4. a) Discuss the requirements for wireless MAC protocols. [8]
   b) Describe in detail about contention based protocols in WSN. [8]

5. a) Discuss various issues in Designing a Routing Protocol for Ad Hoc Wireless Networks [8]
   b) Explain the Hierarchical Routing Protocols [8]

6. a) Examine the design issues on Transport layer in WSN [8]
   b) List out the important classes of Transport Layer Solutions [8]

7. a) Explain in detail the node level software platforms. [8]
   b) Explain about the wireless fidelity systems. [8]





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