# AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING, MUTHAPUDUPET, AVADI-IAF, CHENNAI-600055 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING MODEL EXAMINATION OUESTION PAPER-2

# SUBJECT CODE: EC2051 SUBJECT NAME: WIRELESS SENSOR NETWORKS

## **MARKS:100**

(10\*2=20)

## PART-A

- 1. State the deployment options for WSNs.
- 2. What is Data-Centric Network?
- 3. Can ASIC be used in a Wireless Sensor Network?
- 4. Differentiate between active and passive sensors
- 5. List the factors that are essential for PHY design in WSNs.
- 6. Differentiate between contention based protocols and schedule based protocols.
- 7. Define Clustering
- 8. Give the equation of hop stretch factor and energy stretch factor
- 9. Define data centric storage
- 10. Define PSFQ modulation technique

#### PART-B

(16\*5=80)

- 11 a) (i) Discuss the characteristic requirements of WSN. (8)
  - (ii) Explain the innovative mechanisms to realize the characteristic requirements of WSN.(8) OR
  - b) i) Briefly discuss about the applications of WSNs.ii) Compare MANET and WSN.
- 12. a) Discuss in detail the Transceiver characteristics and structure.(16)

### OR

- b) Write notes on
  - (i). Dynamic Energy and power management (6)
  - (ii). TinyOS and nesC (4)
  - (iii). Programming Models in WSN (6)
- 13.a) Explain the design approaches and performance of S-MAC protocol. (16)

OR

- b) (i) Explain the concept of TRAMA protocol. (8)
  - (ii) Discuss the distributed assignment of network wide unique MAC address for WSN (8)
- 14 a) Explain in detail about the different topology control mechanisms (16)

OR

b) Explain about various clustering mechanisms in WSN. Also detail about the sensor tasking and Control

15 a) Briefly explain about the system architecture of a canonical sensor node. Also list the factors that make use of innovative development models particularly important (16)

OR

b) Explain in detail about the properties and characteristics of data dissemination protocol (16)