Total No. of Questions : 8]

SEAT No. : ____

PA-282

[Total No. of Pages : 2

[5927]-166

B.E. (Electronics & Telecommunication)

WIRELESS SENSOR NETWORKS

(2015 Pattern) (404192C) (Elective - IV) (Semester - II)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates :

1) ***Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, and Q.7 or Q.8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) a) Explain performance matrics of WSN in detail. **[8]**

b) What is the main purpose of MAC layer? **[6]**

c) Write a short note on : Zigbee protocol. **[6]**

OR

Q2) a) What are the design constraints and challenges in WSN? Explain any two in detail. **[8]**

b) Explain the low rate WPAN wireless standard architecture with details. **[6]**

c) Explain the need and objectives of cross layer design. Draw cross layer protocol stack architecture. **[6]**

Q3) a) List and explain various ranging techniques of WSN with suitable diagram. **[8]**

b) Why localization is needed in WSN? Explain range based localization technique in detail. **[8]**

P.T.O.

OR

Q4) a) List various categories of routing protocols of WSN. Explain unicast and multicast location based routing. **[8]**

b) Explain the need of multi-hop communication with suitable diagram. **[8]**

Q5) a) What is the need of data aggregation in WSN? Draw data aggregation architecture. Explain compressive sampling in WSN. **[10]**

b) List various security attacks in WSN and explain in brief. **[8]**

OR

Q6) a) Explain In-network data processing and clustering approach in WSN. **[10]**

b) Describe security requirements and threat models in WSN. **[8]**

Q7) a) Explain design and deployment of any one application of WSN. **[8]**

b) Write a short note on Top-down design process in WSN. **[8]**

OR

Q8) a) Explain general testing and validation methods in WSN. **[8]**

b) Write a short note on Bottom-up implementation process in WSN. **[8]**