Reg. No. : | | | | | | | | | | |

Question Paper Code: 52934

M.E. DEGREE EXAMINATION, JUNE 2016

Elective

Computer Science and Engineering

15PCS518 – PROTOCOLS AND ARCHITECTURES FOR WIRELESS SENSOR NETWORKS

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. Radio transceivers transmit a _____ stream as radio wave.

   (a) a bit (b) a byte (c) both (a) and (b) (d) none of these

2. Centralized medium access have a _____ when a node may access the medium.

   (a) sub-station control (b) main station control
   (c) central station control (d) none of these

3. Localization and positioning determine physical position or

   (a) logical location (b) gate location
   (c) latitude location (d) none of these

4. Data aggregation is needed for

   (a) distribute data (b) gather data (c) assign data (d) none of these

5. Distribute a packet explicitly to a denoted sub group is called

   (a) multipoint relays (b) multi-access relay
   (c) both (a) and (b) (d) none of these

PART B - (5 x 3 = 15 Marks)

6. State the four different platforms used in sensor networks.

7. List out challenges of WSN.

8. Differentiate flooding and gossiping.

9. Illustrate the concepts of Gateway.

10. What are the approaches used to determine node's position?

PART C - (5 x 16 = 80 Marks)

11. (a) Discuss the characteristics and mechanisms expected for wireless sensor networks. (16)

Or

(b) Explain the challenges of WSN and its application. (16)

12. (a) Draw and explain single node architecture. (16)

Or

(b) Describe the salient features of Tiny OS and nesC. (16)

13. (a) State different techniques used for single hop localization and explain any six techniques in detail. (16)

Or

(b) Explicate the concepts of issue in design of MAC protocol WSN and describing term B MAC protocol. (16)

14. (a) Write a detailed note on issues in Designing Routing Protocols. (16)

Or

(b) Illustrate the concept of compression technologies for WSN, data aggregation technique. (16)

15. (a) Explain in detail about node level simulators. (16)

Or

(b) What are the programming challenges ahead for sensor network designer? Elaborate. (16)