Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **14CS3051** | **Duration :** | **3hrs** |
| **Sub. Name :** | **WIRELESS SENSOR NETWORKS** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Differentiate Category1 WSN and Category2 WSN. | CO1 | 10 |
| b. | Write the research issue that challenges the implementation of sensor networks. | CO1 | 10 |
| **(OR)** | | | | |
| 2. |  | Explain basic sensor network architectural elements and design principles for WSN. | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | Explain wave propagation phenomena and its effect. | CO1 | 20 |
| **(OR)** | | | | |
| 4. |  | What are the needs for hardware and software subsystems? Explain the various subsystems. | CO2 | 20 |
| 5. |  | Enumerate the parameters used to analyse the performance of the MAC protocols designed for WSN. Describe the said parameters. | CO2 | 20 |
| **(OR)** | | | | |
| 6. |  | “The data-centric negotiation based family of information dissemination protocols for WSN efficiently disseminates the information gathered to all the sensor nodes”. Justify the statement and explain how the goal is achieved by SPIN and its variants. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | What are the issues that have to be considered for developing an operating system suitable for WSN? List the challenges of the operating system for WSN. | CO3 | 20 |
| **(OR)** | | | | |
| 8. |  | Explain MANNA management architecture for wireless sensor network. | CO3 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Illustrate the application of sensor networks in the field of health care. | CO3 | 10 |
| b. | Elucidate the application of sensor networks in automobiles. | CO3 | 10 |