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



**End Semester Examination – Nov/Dec – 2017**

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

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

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. | a. | Sketch the hardware and software components of typical sensing node and elaborate on its subsystems? | CO1 | 12 |
| b. | Compare and contrast between category 1 WSN and category 2 WSN with examples? | CO1 | 8 |
| (OR) | | | | |
| 2. | a. | List out all properties/characteristics of wireless sensor networks? | CO1 | 8 |
| b. | Discuss & elaborate on the challenges and hurdles of wireless sensor networks operating environment. | CO1 | 12 |
| 3. | a. | Explain the phenomenon that affects the radio-wave propagation. | CO2 | 12 |
|  | b. | Analyze the characteristics of fixed-based, demand-based and random-based channel assignment protocols. | CO2 | 8 |
| (OR) | | | | |
| 4. | a. | Why is power management important for wireless sensor network? | CO1 | 5 |
|  | b. | Explain the method used to relieve the hidden terminal and exposed terminal node problem in wireless networks. | CO1 | 15 |
| 5. | a. | Elaborate how SPIN protocol efficiently disseminates data gathered by individual sensor nodes to all the sensor nodes in the network? | CO2 | 12 |
|  | b. | Illustrate the working of PEGASIS routing protocol. | CO1 | 8 |
| (OR) | | | | |
| 6. | a. | Analyze the performance of transport control protocols in wireless sensor networks. | CO2 | 10 |
|  | b. | Write notes on CODA & GARUDA transport control protocol of wireless sensor networks. | CO1 | 10 |
| 7. | a. | Outline the middleware functions of wireless sensor networks. | CO1 | 5 |
|  | b. | List out the importance of network management in wireless sensor networks. | CO1 | 5 |
|  | c. | Sketch and explain the management architecture of wireless sensor network. | CO1 | 10 |
| (OR) | | | | |
| 8. | a. | List out the functions of sensor operating systems | CO3 | 4 |
|  | b. | Write notes on tinyos and magnetos. | CO3 | 6 |
|  | c. | Explain the middleware architecture of wireless sensor networks. | CO1 | 10 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Analyze the case study for the computation of system life span in wireless sensor networks. | CO2 | 20 |

ALL THE BEST