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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **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** |
|  | | **Compulsory:** |  |  |
| 1. | a. | Explain the generic protocol stack for sensor networks. | CO1 | 10 |
| b. | Compare and contrast between the building automation and military applications. | CO2 | 10 |
| 2. | a. | Sketch the hardware and software components of typical sensing node and elaborate on its subsystems? | CO1 | 15 |
|  | b. | Compare and contrast between zigbee and bluetooth technology. | CO1 | 5 |
| (OR) | | | | |
| 3. | a. | Write notes on RFID technology. | CO1 | 6 |
|  | b. | Explain the phenomena that affects the radio-wave propagation. | CO2 | 14 |
| 4. | a. | Differentiate CSMA/CD and CSMA/CA protocols with examples? | CO1 | 16 |
|  | b. | Why is power management important for wireless sensor network? | CO1 | 4 |
| (OR) | | | | |
| 5. |  | Explain sensor-MAC. | CO1 | 20 |
| 6. | a. | Explain the general middleware architecture for wireless sensor network. | CO1 | 10 |
|  | b. | Explain the flooding technique in routing strategy. | CO1 | 10 |
| (OR) | | | | |
| 7. | a. | Justify how SPIN protocol efficiently disseminates data gathered by individual sensor nodes to all the sensor nodes in the network? | CO2 | 20 |
| 8. | a. | Discuss on the network management design isssues. | CO1 | 10 |
|  | b. | Write short notes on TinyOS and EYES OS. | CO2 | 10 |
| (OR) | | | | |
| 9. | a. | Explain the performance modeling of wireless sensor networks. | CO1 | 20 |

ALL THE BEST