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**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

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

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

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

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **12I315** | **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** | **Marks** |
| 1. | a. | Describe the various radio propagation modes and the basic phenomena that affect the radio propagation. | (20) |
| (OR) | | | |
| 2. | a. | Describe various hardware and software components of a typical sensor node. | (10) |
| b. | Discuss Bluetooth and Wireless LAN technologies. | (10) |
| 3. | a. | Explain the performance requirements and different strategies followed to solve the shared medium access problem. | (20) |
| (OR) | | | |
| 4. | a. | Explain the IEEE 802.15.4 LR-WPANs standard in detail. | (20) |
| 5. | a. | Discuss the LEACH and PEGASIS routing algorithm with diagram | (20) |
| (OR) | | | |
| 6. | a. | List and explain the various routing challenges and design issues in wireless sensornetworks. | (10) |
|  | b. | Explain the general middleware architecture with a suitable diagram. | (10) |
| 7. | a. | Discuss the various operating system that are designed to be used in a wireless sensor networks. | (20) |
| (OR) | | | |
| 8. | a. | Describe in detail performance modeling of WSNs. | (20) |
|  | | **Compulsory:** |  |
| 9. | a. | Explain the category 1 and category 2 WSN applications in detail. | (20) |

ALL THE BEST