

Reg.No. _____



Karunya 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

Code : 14CS3051
Sub. Name : WIRELESS SENSOR NETWORKS

Semester : 2016-17 ODD
Duration : 3hrs
Max. marks : 100

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

| Q. No. | Sub Div. | Questions | Course Outcome | Marks |
|--------|----------|---|----------------|-------|
| | | <u>Compulsory:</u> | | |
| 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. | a. | 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 issues. | 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