

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E -IVth SEMESTER–EXAMINATION – MAY- 2012

Subject code: 742701

Date: 12/05/2012

Subject Name: Wireless Sensor Network

Time: 02:30 pm – 05:00 pm

Total Marks: 70

Instructions:

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

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|------------|------------|--|----------|
| Q-1 | (a) | Draw and explain software component of Wireless Sensor Network. | 7 |
| | (b) | Explain challenges and limitation of Wireless Sensor Network. | 7 |
| Q-2 | (a) | Explain schedule based MAC protocol | 7 |
| | (b) | Explain access control and data exchange in S-MAC. | 7 |
| OR | | | |
| Q-2 | (a) | Explain contention based MAC protocol. | 7 |
| | (b) | Explain schedule selection and synchronization in S-MAC. | 7 |
| Q-3 | (a) | Explain different operating system for Wireless Sensor Network. | 7 |
| | (b) | Explain hidden-node and exposed node scenario in WSN, How to reduce effect of hidden node and exposed node scenario? | 7 |
| OR | | | |
| | (b) | Explain performance requirement of MAC protocol. | 7 |
| Q-4 | (a) | Explain routing challenges and design issues in WSNs. | 7 |
| | (b) | Write short note on LEACH network model. | 7 |
| OR | | | |
| Q-4 | (a) | Write short note on SPIN | 7 |
| | (b) | Explain flooding and its variants. | 7 |
| Q-5 | (a) | Write basic function of Middleware and explain general middleware architecture for WSNs. | 7 |
| | (b) | TCP(RFC 793). | 7 |
| OR | | | |
| Q-5 | (a) | Why TCP and UDP unsuitable for implementation for WSNs? | 7 |
| | (b) | Explain : (i) MiLAN (ii) IrisNET. | 7 |
