GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER-IV • EXAMINATION - SUMMER 2013

Subject Code: 742701 Date: 14-05-2013 **Subject Name: Wireless Sensor Networks** Time: 10.30 am - 01.00 pm **Total Marks: 70 Instructions:** 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. 0.1Briefly explain background and history of wireless sensor networks technology **07** (a) used in recent industries. List the application of wireless sensor network explain any two of 07 them in detail. Draw the block diagram of hardware and software component of WN and 07 Q.2(a) explain them all in detail. List the point of difficult environment of WN and explain it. Also describe the **(b)** 07 requirements of Wireless Sensor Networks. List the performance requirements of MAC Protocols and explain any two in 07 detail. Q.3 List all Random Assignment Protocol used for wireless sensor networks and (a) 07 explain any two in detail. List all Schedule based protocol used for wireless sensor networks and explain 07 **(b)** any two in detail. OR List all routing challenges and design issues for wireless sensor networks and 0.3 07 (a) explain any two in detail. List all routing strategies used for wireless sensor networks and explain any two **(b)** 07 of them in detail. Properly explain Schedule selection and coordination with schedule **Q.4** (a) 07 synchronization in detail. Draw and explain collision avoidance and message passing system for S-MAC 07 **(b)** protocol in detail OR List phases of operation of TCP and explain it. Also explain feature of transport 07 **Q.4** (a) protocol. List the transport layer design issues and explain them all in detail. 07 **(b) Q.5** List operating system design issues for wireless sensor networks and explain 07 them in detail. **(b)** What is principle of middleware? Draw middleware architecture and explain it 07 OR Write short note on the various existing operating system used in the wireless 07 Q.5 (a) networks List existing middleware of wireless sensor network and explain any two of **07 (b)** them in detail
