

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.

Q.1 (a) Briefly explain background and history of wireless sensor networks technology used in recent industries. **07**

(b) List the application of wireless sensor network explain any two of them in detail. **07**

Q.2 (a) Draw the block diagram of hardware and software component of WN and explain them all in detail. **07**

(b) List the point of difficult environment of WN and explain it. Also describe the requirements of Wireless Sensor Networks. **07**

OR

(b) List the performance requirements of MAC Protocols and explain any two in detail. **07**

Q.3 (a) List all Random Assignment Protocol used for wireless sensor networks and explain any two in detail. **07**

(b) List all Schedule based protocol used for wireless sensor networks and explain any two in detail. **07**

OR

Q.3 (a) List all routing challenges and design issues for wireless sensor networks and explain any two in detail. **07**

(b) List all routing strategies used for wireless sensor networks and explain any two of them in detail. **07**

Q.4 (a) Properly explain Schedule selection and coordination with schedule synchronization in detail. **07**

(b) Draw and explain collision avoidance and message passing system for S-MAC protocol in detail **07**

OR

Q.4 (a) List phases of operation of TCP and explain it. Also explain feature of transport protocol. **07**

(b) List the transport layer design issues and explain them all in detail. **07**

Q.5 (a) List operating system design issues for wireless sensor networks and explain them in detail. **07**

(b) What is principle of middleware? Draw middleware architecture and explain it in detail. **07**

OR

Q.5 (a) Write short note on the various existing operating system used in the wireless networks **07**

(b) List existing middleware of wireless sensor network and explain any two of them in detail **07**
