Regulation R18 *Subject code: 2E7FL*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech VII Semester Supplementary Examinations, July 2022

WIRELESS SENSOR NETWORKS

(Information Technology)

Maximum Marks: 70 Date: 07.07.02022 Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 What are components of wireless sensor networks?
2 Write a short note on TinyOS.
3 Define Slotted ALOHA.
4 Explain Zebra MAC.
5 Define Data-Centric Routing Protocol.
6 Distinguish between Unicast Location-based and Multicast Location –based routing.
7 Define Synchronization Message.
8 Define GPS-Based Localization.
9 What is ZigBee security?
10 Explain TinySec.

Part-B

Answer All the following questions. (10MX 5=50Marks)

11 a) What are the characteristic of wireless sensor networks?[5M]
b) Explain about components of wireless sensor networks. [5M]

OR

12 Write short note on functional Aspects and Nonfunctional Aspects of Operating System.[10M]
13 Describe Contention-Free MAC Protocol and explain LEACH protocol.[10M]

OR

14 a) Explain the Pulse Code Modulation and Delta Modulation.[5M]
b) Describe the salient feature of FDMA with a neat diagram.[5M]
15 Discuss any two of Dynamic Power Management Modes.[10M]

OR

16 a) Explain the DSR-Routing Protocol with neat diagram.[5M]
b) Describe about OSLR-Routing Protocol with an example.[5M]

17 a)What are the challenges for Time Synchronization. [5M]
b) Explain Lightweight Tree-Based Synchronization. [5M]

OR

18 Discuss Range-Free Localization. [10M]

19 Explain Security Attacks in Sensor Networks.[10M]

OR

20 What are challenges of security in wireless sensor networks.[10M]