



**B.Tech VII Semester Supplementary Examinations, December 2024**

**WIRELESS SENSOR NETWORKS**  
*(IT)*

**Maximum Marks: 70**

**Date:07.01.2025**

**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)		CO	Bloom Tx
1	What are the components of wildlife sensor networks?	1	L1
2	Define piezoelectric effect.	1	L1
3	Define Zebra MAC.	2	L1
4	Define Pure ALOHA.	2	L1
5	What are the Network layer responsibility?	3	L1
6	Define data centric routing protocol.	3	L1
7	Define GPS-Based Localization.	4	L1
8	Define synchronization message.	4	L1
9	Define privacy attacks.	5	L1
10	Define Denial of service.	5	L1

**Part-B**

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	a) What are the characteristics of wireless sensor networks. [5M] b) Explain about components of wireless and sensor networks. [5M]	1	L2
OR			
12	Explain about Node Architecture in wireless sensor networks. [10M]	1	L2
13	a) Characteristics of MAC protocol in sensor networks. [5M] b) Explain Channel Encoding in Physical layer. [5M]	2	L2
OR			
14	Define Wireless MAC Protocol and explain the MACAW. [10M]	2	L2
15	Explain the DSR routing protocol with neat diagram. [10M]	3	L2
OR			
16	Explain the any two source initiated On-Demand Routing Protocol in Ad-Hoc Networks. [10M]	3	L2

17	a) What are the challenges for time synchronization. [5M] b) Explain lightweight tree based synchronization. [5M]	4	L2
	OR		
18	Discuss in details of any two Time Synchronization protocol in wireless sensor networks. [10M]	4	L2
19	Explain security attacks in sensor networks. [10M]	5	L2
	OR		
20	Discuss in details of any two Protocol and Mechanism for security.[10M]	5	L2