

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: BTECH
BRANCH: ECE

SEMESTER : VII
SESSION : MO/2025

SUBJECT: EC433 WIRELESS SENSORS AND NETWORKS

TIME: 02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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		CO	BL
Q.1(a)	Describe the characteristics of electromagnetic waves.	[2] 1	1,2
Q.1(b)	Derive received power for free space propagation model	[3] 1	3
Q.2(a)	If the wavelength of radiating wave increases then what will be the effect on phase difference between LOS ray and reflected ray .Is the distance of reflected wave greater than the distance of LOS.	[2] 1	3
Q.2(b)	Explain MANET. How MANET differ from Wireless Sensor Network?	[3] 1	2
Q.3(a)	How the lifetime of the sensor network increases?	[2] 1	2
Q.3(b)	Describe Data Aggregation Strategies.	[3] 2	2
Q.4(a)	Compare between Multi Hop communication and mobile relay.	[2] 2	2
Q.4(b)	Illustrate the hardware components of a sensor node.	[3] 2	2,3
Q.5(a)	Explain the advantages and disadvantages of Tree based architecture.	[2] 2	2
Q.5(b)	Distinguish peer to peer architecture and Cluster based architecture of wireless sensor network.	[3] 2	2

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