

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BCA
BRANCH: BCA**

**SEMESTER: VIth
SESSION: SP/2025**

SUBJECT: CA359 INTERNET OF THINGS

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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Q.1(a)	Explain the differences between IT and OT networks and their various challenges.	[5] 1	2
Q.1(b)	Explain in detail the IOTWF standardized reference model Architecture.	[5] 2	3
Q.2(a)	Define smart objects and explain their characteristics; also provide the definition for SANET. Explain the advantages and disadvantages of it.	[5] 3	2,3
Q.2(b)	Explain the communication criteria's in detail.	[5] 2	3
Q.3(a)	Explain the need for IP optimization by considering Constrained Nodes, Networks, and IP Versions.	[5] 4	3
Q.3(b)	Illustrate the routing protocol for low-power and lossy networks with a neat diagram	[5] 4	3
Q.4(a)	Describe the raw tunneling of SCADA using different scenarios.	[5] 4	2,3
Q.4(b)	Illustrate the working of MQTT Publish/Subscribe Framework.	[5] 2	3
Q.5(a)	Explain the smart home automation system in an IOT.	[5] 5	3
Q.5(b)	Describe the application of Securities and industrial automation in an IoT.	[5] 5	3

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