

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

**CLASS: BTECH
BRANCH: ECE EEE**

**SEMESTER : VII
SESSION : MO/2022**

SUBJECT: IT423 INTERNET OF THINGS

TIME: 3:00 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)	Briefly explain different principal building blocks of IoT Applications.	[2]	1 2
Q.1(b)	Briefly discuss the functional layers and their capabilities of an IoT solution.	[3]	2 2
Q.1(c)	Discuss and compare the different types IoT Application Enablement Platforms.	[5]	2 4
Q.2(a)	What are Sensors and Actuators? Briefly explain some of them and their usage.	[2]	1 2
Q.2(b)	Using a block diagram explain different interfacing & connectivity options of an IoT Device.	[3]	3 3
Q.2(c)	Explore the different types of Wireless Technologies that can be used for IoT Applications.	[5]	4 4
Q.3(a)	Explain the different types of communication modes supported in IoT.	[2]	1 2
Q.3(b)	Briefly discuss the features of MQTT protocol and its usage.	[3]	3 2
Q.3(c)	Discuss some of the features and functionalities of CoAP protocol mentioning why it is considered as RESTful. Compare it with HTTP for similarities and differences between them.	[5]	4 4
Q.4(a)	Briefly discuss some of the essential functions of DCA module.	[2]	2 2
Q.4(b)	What are Gateways? Show how they can be used to perform some additional tasks.	[3]	1 3
Q.4(c)	Using a block diagram describe the different essential components of an IoT Device.	[5]	2 3
Q.5(a)	What is Fog Computing and where is it used?	[2]	3 1
Q.5(b)	Discuss different types of cloud computing service models and deployment options.	[3]	4 2
Q.5(c)	How IoT can be used for planning and creating Smart Cities.	[5]	5 6

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