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

CLASS: MCA **SEMESTER : III**
BRANCH: MCA **SESSION : MO/2022**

SUBJECT: CA543 INTERNET OF THINGS

TIME: 03 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*. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates**

Q.1(a)	With an example differentiate between an M2M and IoT	[2]
Q.1(b)	List the requirements of data and its types used in an IoT application	[3]
Q.1(c)	Explain "everything as a service" in context to IoT.	[5]
Q.2(a)	Differentiate between a Functional model and operational model in IoT reference architecture.	[2]
Q.2(b)	Draw a neat diagram of ITU-T IoT reference model	[3]
Q.2(c)	Present the functions of: 1. Capillary networks 2. ETSI M2M interfaces	**[5]**
Q.3(a)	Explain the UMTS cellular network for IoT/M2M.	[4]
Q.3(b)	Differentiate with diagrammatic representations between : Piggy backed and separate CoAP response Zigbee protocol Stack Forward and Reverse Proxy	[6]
Q.4(a)	Differentiate between : 1. XMPP and AMQP 2. IPV6 and 6LOWPAN	[2]
Q.4(b)	With a diagram explain the traffic flow in an MPTCP application. How is it different from TCP?	[3]
Q.4(c)	Explain the MQTT protocol. What are the levels of QoS maintained in MQTT?	[5]
Q.5(a)	Does security in IoT networks ensure privacy and confidentiality? Justify your answer with an example.	[2]
Q.5(b)	Illustrate IPSec for IoT networks	[3]
Q.5(c)	With appropriate diagrams explain DTLS security in IoT. How is it different from TLS	[5]

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