Name: Printed Pages:
Student University Roll No.:

School of Engineering
Second Sessional Examination, Odd Semester (AS: 2023-24)

B. Tech: CSE(IOTBC) Year: 2ND	Semester: III
Course Title: Internet of things Application development Course Code: IOTBC3301	Max Marks: 60 Time: 3*hrs*

Instructions if any: Read the question Carefully.

	SECTION 'A' Q.N.1. Attempt all parts of the following:	Course Objective	Marks
a)	How are analog sensor readings converted for digital processing in IoT systems?	CO1	1
b)	When was MQTT first introduced, and by whom?	CO2	1
c)	What is Node-RED?	CO2	1
d)	What is IBM Cloud, and what services does it offer?	CO2	1
e)	What is the official app store for downloading and installing apps on Android devices?	CO3	1
f)	What are the initial steps for getting started with the Watson IoT Platform?	CO2	1
g)	What is a Node-RED "dashboard," and how is it used?	CO2	1
h)	What is Android, and which company developed it?	CO3	1

	SECTION 'B' Q.N.2. Attempt any two parts of the following:	Course Objective	Marks
a)	Define all context of security problems in IoT	CO1	6
b)	What is a REST API and How can REST APIs be utilized in the context of IoT applications?	CO2	6
c)	Describe the role of the Broker in MQTT	CO2	6
d)	Define ANDROID app development and all versions of ANDROID till now.	CO3	6

	SECTION 'C'	Course Objective	Marks
Q.N.3. Attempt any two parts of the following:			
a)	Difference between Sensor and Actuator	CO1	5
b)	What is the role of cloud computing in IoT?	CO1	5
c)	Define the architecture of DDOS and DOS	CO1	5
Q.N.4. Attempt any two parts of the following:			
a)	What are HTTP methods commonly used in RESTful APIs?	CO2	5
b)	What is an SDK (Software Development Kit), and how is it used by developers?	CO2	5
c)	What are the two primary types of databases mentioned, and what are their key characteristics?	CO2	5
Q.N.5. Attempt any two parts of the following:			
a)	Explain the role of a Subscriber and Publisher in MQTT.	CO2	5
b)	Explain the concept of mesh networking and cluster tree topology in Zigbee.	CO2	5
c)	Describe the HTTP protocol and how is it work with its workflow.	CO2	5
Q.N.6. Attempt any two parts of the following:			
a)	What is the foundation of the Android operating system, providing core services like hardware abstraction and security?	CO3	5
b)	Define the Architecture of Android with a neat diagram	CO3	5
c)	What is the Android Software Development Kit (SDK), and which programming languages are commonly used for Android app development?	CO3	5

Table 1: Mapping between COs and questions
(Number of COs may vary from course to course)

COs	Questions Numbers	Total Marks
CO1	1(a),2(a),3(a),3(b),3(c)	22
CO2	1(b),1(c),1(d),1(f),1(g),2(b),2(c),4(a),4(b),4(c), 5(a),5(b),5(c)	47
CO3	1(e),1(h),2(d),6(a)6(b),6(c)	23