

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Nov – Dec 2023

(B.Tech) Program: Information Technology Scheme:II

Examination: TY Semester: V

Course Code: ITC504 and Course Name: Internet of Things

Date of Exam: 05/12/2023

Duration: 2.5 Hours

Max. Marks: 60

Instructions:

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.

		Max. Marks	CO	BT level
Q 1	Solve any six questions out of eight.	12		
i)	Describe M2M architecture.	U	CO1	U
ii)	Explain the NFC communication protocol.	U	CO2	U
iii)	What is RTC-DS3231?	U	CO2	U
iv)	Illustrate the Arduino Integrated Development Environment - or Arduino Software (IDE)	A	CO3	A
v)	Mention the basic features of Raspberry pi operating system.	U	CO4	U
vi)	Mention two different ways to connect the Arduino to Cayenne.		CO5	A
vii)	Describe Django.		CO6	A
viii)	What is Amazon EC2		CO6	U
Q.2	Solve any four questions out of six.	16		
i)	Explain the comparison of TCP to UDP.		CO1	U
ii)	Differentiate on BLE and NFC.		CO2	U
iii)	What is RTC-DS3231, Architect the connection diagram of ot with Arduino.		CO3	A
iv)	Explain the Raspberry pi 3 model B microcontroller board.		CO4	U

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v)	Identify and summarize the steps for an IoT Controlled LED with Blynk App and Raspberry Pi.		CO5	An
vi)	Mention three basic types of APIs and Explain what is Amazon EC2.		CO6	U
Q.3	Solve any two questions out of three.	16		
i)	Differentiate between M2M and IoT.		CO1	U
ii)	Explain the level sensor connection diagram with proper sketch.		CO2	U
iii)	Draw and describe the pins of the Arduino development board.		CO3	A
Q.4	Solve any two questions out of three.	16		
i)	Illustrate the connection diagram for servo motor control using Raspberry Pi and Blynk App also provide the script.		CO4	An
ii)	Write briefly the procedure for Installing an Operating System Using Raspberry Pi.		CO5	A
iii)	How Django as a web application framework is best suited for IoT applications, Explain. Also provide the below commands for creating a Django project and an application within a project. i)Create a new project. ii)Create an application within the project. iii)Starting development server. iii)Use port 8000 as local host for Django.		CO6	U
