Total No. of Questions: 6 *Total No. of Printed Pages:3*

Enrollment No.....

Faculty of Engineering

End Sem Examination May-2024

EE3EI03 IOT Applications in Electrical Engineering

Programme: B.Tech. Branch/Specialisation: EE

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Q.1 i. What is an IoT network? **1**

(a) A collection of networked devices

(b) A collection of Interconnected devices

(c) Collection of signaling devices

(d) None of these

ii. M2M stands for- **1**

(a) Man to Man Communication

(b) Medium to Medium Communication

(c) Machine to Machine Communication

(d) None of these

iii. Which of the following layers provides end-to-end communication in IoT? **1**

(a) Logical layer (b) Data link layer

(c) Transport layer (d) Session layer

iv. The relation between IoT and M2M is _____. **1**

(a) IoT is part of M2M (b) M2M is the part of IoT

(c) Both are same (d) None of these

v. WAP Stands for- **1**

(a) Wireless Application Protocol

(b) Wireless Amplitude Protocol

(c) Wireless Access Point

(d) Wireless Application Principle

vi. DTLS and UDP are _____ layer protocols. **1**

(a) Physical (b) Adaption

(c) Network (d) Transport

vii. Data Analytics uses _____ to get insights from data. **1**
(a) Statistical figures (b) Numerical aspects
(c) Statistical methods (d) None of these

viii. MQTT stands for- **1**
(a) Message Queue Telemetry Transport
(b) Message Queue Telecom Transport
(c) Message Queue Telecom Transmission
(d) Message Queue Telemetry Transmission

ix. An actuator is a- **1**
(a) Device that produces mechanical motion
(b) Device that produces linear motion
(c) Device that produces electrical signals
(d) Device that produces acceleration

x. WSNT stands for- **1**
(a) Wireless Sensitive Network Technology
(b) Wireless Security Network Topology
(c) Wireless Sensor Neural Technology
(d) Wireless Sensor Network Technology

Q.2 i. What is Internet of Things (IOT)? **3**
ii. Explain the architecture of IOT with a neat sketch. **7**
OR iii. What is M2M Communication? Distinguished between IOT and M2M. **7**

Q.3 i. What are the various types of layers in IOT? **3**
ii. Explain the concept of data enrichment and data consolidation with example. **7**
OR iii. Describe the IETF six-layer OSI model of IoT/M2M. **7**

Q.4 i. What is the significance of IP addressing in IOT? **2**
ii. What are the significance and features of Constraint Application Protocol (CoAP)? **8**
OR iii. Define HTTP, TELNET, FTP and TFTP with features. **8**

Q.5 i. What is the difference between flat-file and relational databases? **3**
ii. Explain the process of date acquiring, storage, organizing and analytics. **7**
OR iii. What is the significance of cloud service in IOT? Explain the various features of xively cloud platform. **7**

Q.6 Write short note on any two:
i. Actuator and sensor **5**
ii. Radio frequency identification technology **5**
iii. Smart home and smart cities in context of IOT **5**

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Marking Scheme

IOT Applications in Electrical Engineering (T) - EE3EI03(T)

Q.1	i)	(b) a collection of Interconnected devices	**1**
	ii)	(c) Machine to Machine Communication	**1**
	iii)	(c) Transport layer	**1**
	iv)	(b) M2M is the part of IoT	**1**
	v)	(a) Wireless Application Protocol	**1**
	vi)	(d) Transport	**1**
	vii)	(c) Statistical methods	**1**
	viii)	(a) Message Queue Telemetry Transport	**1**
	ix)	(a) device that produces mechanical motion	**1**
	x)	(d) Wireless Sensor Network Technology	**1**

Q.2	i.	What is Internet of Things (IOT)	3 Marks	**3**
	ii.	Explain the architecture of IOT	3.5 Marks	**3.5**
		Nneat sketch.	3.5 Marks	**3.5**
	iii.	What is M2M Communication	3.5 Marks	**3.5**
		Distinguished between IOT and M2M.	3.5 Marks	**3.5**

Q.3	i.	What are the various type layers in IOT	3 Marks	**3**
	ii.	Data enrichment with example	3.5 Marks	**3.5**
		Data consolidation with example.	3.5 Marks	**3.5**
OR	iii.	Diagram	4 Marks	**7**
		Description	3 Marks	

Q.4	i.	Significance of IP addressing in IOT	2 Marks	**2**
	ii.	What are the significance and	3 Marks	**3**
		Features of Co…… Protocol (CoAP).	5 Marks	**5**
OR	iii.	Define HTTP, TELNET, FTP and TFTP with features. **(2 Marks each)**		

Q.5	i.	What is the difference between flat-file and relational databases?	**3**
	ii.	Explain the process of	
		date acquiring, 2 Marks	**2**
		storage, 1 Mark	**1**
		organizing and 2 Marks	**2**
		analytics. 2 Marks	**2**

OR	iii.	What is the significance of cloud service in IOT	3 Marks	**3**
		Various features of xivesly cloud platform.	4 Marks	**4**

Q.6		Attempt any two:		
	i.	Actuator	2.5 Marks	**5**
		Sensor	2.5 Marks	
	ii.	Description	5 Marks	**5**
	iii.	Smart home	2.5 Marks	**2.5**
		Smartcities in context of IOT.	2.5 Marks	**2.5**

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