

**University of Mumbai**

**Examination June 2021**

**Examinations Commencing from 1<sup>st</sup> June 2021**

**Program: Electronics**

**Curriculum Scheme: Rev2016**

**Examination: BE Semester VIII**

**Course Code: ELX801 and Course Name: Internet of Things**

**Time: 2 hour**

**Max. Marks: 80**

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	Which of the following is not a characteristics of IoT?
Option A:	Self configuring
Option B:	Unique Identity
Option C:	single communication protocol
Option D:	Dynamic global network & self adapting
2.	Which of the following is not a domain of M2M architecture?
Option A:	Device
Option B:	Session
Option C:	Application
Option D:	Network
3.	IETF gave _____ layer modified OSI layer for IOT/M2M.
Option A:	4
Option B:	5
Option C:	6
Option D:	7
4.	Which protocol is used to link all the devices in the IoT?
Option A:	Network
Option B:	UDP
Option C:	HTTP
Option D:	TCP/IP
5.	Ethernet, wimax, WiFi are IoT protocols of _____ layer.
Option A:	Application Layer
Option B:	Link Layer
Option C:	Transport Layer
Option D:	Network Layer
6.	MQTT stands for
Option A:	Message Queuing Telemetry Thing
Option B:	Message Queuing Transport Telemetry
Option C:	Message Queuing Transport Thing
Option D:	Message Queuing Telemetry Transport

7.	An HTTP connection enables a ____-way communication at an instance between Client API & server
Option A:	Two
Option B:	One
Option C:	on demand
Option D:	depends on API
8.	An HTTP transfer is
Option A:	Stateful
Option B:	Stateless
Option C:	Metadata
Option D:	can be both stateful or stateless
9.	HTTP, MQTT, SOAP, FTP are examples of ____ layer protocol
Option A:	Network
Option B:	Application
Option C:	Transport
Option D:	Session
10.	_____ is a protocol to dynamically provide new IP addresses and set subnet masks for the connected node
Option A:	SND
Option B:	DHCP
Option C:	SNS
Option D:	DNS
11.	Which IoT level can be deployed if data involved is not big and analysis requirement is not intensive?
Option A:	Level 1
Option B:	Level 2
Option C:	Level 3
Option D:	Level 4
12.	In level 2 of IoT,
Option A:	data is stored in cloud and analysis is done locally
Option B:	data is stored locally and analysis is done in cloud
Option C:	both analysis and storage in cloud
Option D:	both analysis and storage locally
13.	Which level of IoT involves coordinator node
Option A:	Level 1
Option B:	Level 2
Option C:	Level 5
Option D:	Level 4
14.	System for noise monitoring is an example of IoT
Option A:	Level 1
Option B:	Level 2
Option C:	Level 3
Option D:	Level 4

15.	The main concepts, entities and objects of IoT system is described at which stage of design methodology
Option A:	Purpose and Requirements specification
Option B:	Process Model Specification
Option C:	Domain Model Specification
Option D:	Information Model Specification
16.	Prescriptive analytics
Option A:	enables deriving additional information
Option B:	Extracts new facts
Option C:	enables derivation of the additional value and undertake better decision
Option D:	predicts facts
17.	_____ means a transaction must complete in full, treating it as indivisible
Option A:	Durability
Option B:	Consistency
Option C:	Isolation
Option D:	Atomicity
18.	_____ means that data after the transactions should remain consistent.
Option A:	Durability
Option B:	Consistency
Option C:	Isolation
Option D:	Atomicity
19.	A UART device sends 8-bit data at successive intervals, called
Option A:	Baud interval
Option B:	Time period
Option C:	Frequency
Option D:	baud rate
20.	LIN communication is single master with maximum
Option A:	7 slaves
Option B:	15 slaves
Option C:	23 slaves
Option D:	9 slaves

<b>Q2</b>	
A	<b>Solve any Two</b> <b>5 marks each</b>
i.	Explain MQTT and COAP protocol.
ii.	Short note on websocket.
iii.	Explain the case study on Home automation.
B	<b>Solve any One</b> <b>10 marks each</b>
i.	Explain design methodology for an IOT system.
ii.	Explain various cloud service models.

<b>Q3</b>	
<b>A</b>	<b>Solve any Two</b> <b>5 marks each</b>
i.	Define IoT and explain characteristics of IoT.
ii.	Explain difference between IoT and M2M.
iii.	Explain modified OSI layers for IoT.
<b>B</b>	<b>Solve any One</b> <b>10 marks each</b>
i.	Explain different IoT levels.
ii.	Explain data handling in IoT.