

Enrollment No.....



Faculty of Engineering
End Sem (Odd) Examination Dec-2018
CA5EL46 Internet of Things

Programme: MCA

Branch/Specialisation: Computer
Application**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.

- Q.1 i. A server on internet is also known as **1**
 (a) Hub (b) Host (c) Gateway (d) Repeater
- ii. Internet of Things needs a lot of network connection. What is the **1**
 proposed “white Space” radio standard called?
 (a) Bluetooth (b) WiMax (c) Weightless (d) Zigbee
- iii. Who invented the term Internet of Things? **1**
 (a) Bill Gates (b) Steve Job (c) McDonald (d) Kevin Ashton
- iv. What are the key components of a M2M system? **1**
 (a) Vortex DDS (b) Smart Homes
 (c) Sensors and Wi-Fi (d) Protocols
- v. The IoT platforms are mainly divided into how many types **1**
 (a) 3 types (b) 5 types (c) 4 types (d) 2 types
- vi. The core element of architecture of smart city is _____ **1**
 (a) Mobile Unified Service
 (b) Urban Application Platform
 (c) Management center
 (d) Integrated Information Provider
- vii. Which protocol is lightweight? **1**
 (a) MQTT (b) HTTP (c) CoAP (d) SPI
- viii. Which protocol has a quality of service? **1**
 (a) XMPP (b) HTTP (c) CoAP (d) MQTT
- ix. Operators with the same precedence are evaluated in which **1**
 manner?
 (a) Left to Right (b) Right to Left
 (c) Can't say (d) None of these

- x. What is Instantiation in terms of OOP terminology? **1**
 (a) Deleting an instance of class
 (b) Modifying an instance of class
 (c) Copying an instance of class
 (d) Creating an instance of class

- Q.2 i. What is IoT functional model? **2**
 ii. Discuss IoT architecture outline with diagram. **3**
 iii. Define IoT. Explain about things / objects in IOT with example. **5**
 OR iv. Discuss in detail Smart City application of IoT. **5**

- Q.3 i. Briefly explain data storage in IoT. **2**
 ii. Define M2M. Explain reasons of shifting from M2M to IoT. **8**
 Explain the difference between M2M and IoT.
 OR iii. What is SDN? Explain the architecture of SDN in details. **8**

- Q.4 i. Briefly explain different IoT levels. **3**
 ii. Explain functional view, information view, deployment and **7**
 operational view, other relevant architectural views of IoT
 reference architecture.
 OR iii. What are the requirements that IoT application for industrial **7**
 application should meet?

- Q.5 i. Explain IPv6 in details. **4**
 ii. Explain Constrained Application Protocol(CoAP) in details. **6**
 OR iii. Write a detail note on comparison of AMQP and MQTT. **6**

- Q.6 Attempt any two:
 i. Explain the types of methods available in python with a suitable **5**
 example of each method.
 ii. Write a Python program to implement the concept of inheritance. **5**
 iii. Appraise the arithmetic operator in python with an example. **5**

P.T.O.

Marking Scheme
CA5EL46 Internet of Things

Q.1	i.	A server on internet is also known as (b) Host		1
	ii.	Internet of Things needs a lot of network connection. What is the proposed “white Space” radio standard called? (c) Weightless		1
	iii.	Who invented the term Internet of Things? (d) Kevin Ashton		1
	iv.	What are the key components of a M2M system? (c) Sensors and Wi-Fi		1
	v.	The IoT platforms are mainly divided into how many types (c) 4 types		1
	vi.	The core element of architecture of smart city is _____ (d) Integrated Information Provider		1
	vii.	Which protocol is lightweight? (a) MQTT		1
	viii.	Which protocol has a quality of service? (c) CoAP		1
	ix.	Operators with the same precedence are evaluated in which manner? (a) Left to Right		1
	x.	What is Instantiation in terms of OOP terminology? (d) Creating an instance of class		1
Q.2	i.	IoT functional model		2
	ii.	Discussion IoT architecture Diagram.	1 mark 2 marks	3
	iii.	Definition of IoT Things / objects in IOT Example.	1 mark 2 marks 2 marks	5
OR	iv.	Discussion Smart City application of IoT	2 marks 3 marks	5
Q.3	i.	Data storage in IoT.		2
	ii.	Definition of M2M Reasons of shifting from M2M to IoT Difference between M2M and IoT	1 mark 3 marks 4 marks	8

OR	iii.	SDN Architecture of SDN Diagram	2 marks 3 marks 3 marks	8
Q.4	i.	Different IoT levels Any three	(1 mark * 3)	3
	ii.	Functional view Information view Deployment view Operational view	2 marks 2 marks 2 marks 1 mark	7
OR	iii.	Requirements of IoT application Mapping with IA	3 marks 4 marks	7
Q.5	i.	IPv6 Explanation		4
	ii.	Constrained Application Protocol(CoAP) Definition Procedure	2 marks 4 marks	6
OR	iii.	Comparison of AMQP and MQTT At least 4 comparison	1.5 marks each (1.5 marks * 4)	6
Q.6		Attempt any two:		
	i.	Types of methods Any four methods	1.25 marks each (1.25 marks * 4)	5
	ii.	Python program to implement the concept of inheritance.		5
	iii.	Explanation of arithmetic operator Example	2 marks 3 marks	5
