

Enrollment No.....



Faculty of Engineering
End Sem (Even) Examination May-2022
OE00069 IoT with Applications

Programme: B. Tech

Branch/Specialisation: All

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. Through which network does Open IoT manage registration, **1**
 deployment of sensors?
 (a) LSM (b) HTTP (c) X-GSN (d) GSN
- ii. Identify the language preferred for IoT analytics. **1**
 (a) Python (b) HTML (c) PHP (d) C++
- iii. What role of the cloud in smart grid architecture is _____? **1**
 (a) Collect data (b) Manage data
 (c) Security (d) Store data
- iv. What are the 3 layers that make up SDN? **1**
 (a) The network layer, the physical layer and the transport layer
 (b) The application layer, the control layer and the physical layer
 (c) The application layer, the transport layer and the network layer
 (d) The transport layer, the network layer and the datalink layer
- v. Identify among the following which is not an IoT platform. **1**
 (a) Salesforce (b) AWS
 (c) Microsoft Azure (d) Flipkart
- vi. Various attribute details like its name, type and possible values/states **1**
 with their inter-relationships are represented in-
 (a) Structural model specification
 (b) Information model specification
 (c) Operational view specification
 (d) Functional view specification
- vii. Identify the challenge coming under securing the information. **1**
 (a) Security (b) Power consumption
 (c) Presence detection (d) Signaling

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- viii. Identify the last step of reliable data transfer. **1**
 (a) Selective recovery (b) Lost message detection
 (c) Message relaying (d) Initialization
- ix. Which of the following is not a sensor in IoT? **1**
 (a) BMP280 (b) DHT11
 (c) Photoresistor (d) LED
- x. Which of the following is not an actuator in IoT? **1**
 (a) Stepper motor (b) A fan
 (c) An LED (d) Arduino
- Q.2 i. What is IoT? **2**
 ii. What are various IoT Enabling Technologies, name them? **3**
 iii. What are various Communication Models of IoT? **5**
- OR iv. With the help of a generic block diagram explain the architecture of IoT. **5**
- Q.3 i. Difference between M2M and IoT. **4**
 ii. Explain the generic M2M System Solution with a neat diagram. **6**
- OR iii. Explain various trend in Information and communication technologies and its impact on IoT. **6**
- Q.4 i. What is domain model specification? **2**
 ii. Explain device and application functional group, communication functional group in detail with a neat diagram of IoT functional view. **8**
- OR iii. Explain IoT service functional group and virtual entity functional group in detail with a neat diagram of IoT functional view. **8**
- Q.5 i. Explain the terms: **4**
 (a) Access Control (b) Vulnerability
- ii. What are various security threats in IoT? Explain in brief. **6**
- OR iii. What is Layered Attacker Model? Explain in detail using neat diagram **6**
- Q.6 Write short on any two: **5**
 i. Use of IoT in smart parking **5**
 ii. Home automation **5**
 iii. Health fitness monitoring **5**

Marking Scheme - OE00069 IoT with Applications

Q.1	i.	Through which network does Open IoT manage registration, deployment of sensors? (c) X-GSN	1			
	ii.	Identify the language preferred for IoT analytics. (a) Python	1			
	iii.	What role of the cloud in smart grid architecture is_____? (b) Manage data	1			
	iv.	What are the 3 layers that make up SDN? (b) The application layer, the control layer and the physical layer	1			
	v.	Identify among the following which is not an IoT platform. (d) Flipkart	1			
	vi.	Various attribute details like its name, type and possible values/states with their inter-relationships are represented in- (b) Information model specification	1			
	vii.	Identify the challenge coming under securing the information. (c) Presence detection	1			
	viii.	Identify the last step of reliable data transfer. (a) Selective recovery	1			
	ix.	Which of the following is not a sensor in IoT? (d) LED	1			
	x.	Which of the following is not an actuator in IoT? (d) Arduino	1			
Q.2	i.	Definition of IoT	2 marks	2		
	ii.	What are various IoT Enabling Technologies, name them As per explanation	3 marks	3		
	iii.	Request response model Publish subscribe model	2 marks 3 marks	5		
	OR iv.	With the help of a generic Block diagram The architecture of IoT	2 marks 3 marks	5		
Q.3	i.	Any two difference each	(2*2) marks	4		
	ii.	Describe the generic M2M System Solution 3 marks With a neat diagram	3 marks	6		
OR	iii.	Explain various trend in Information Its impact on IoT	3 marks 3 marks	6		
Q.4	i.	Definition of domain model specification	2 marks	2		
	ii.	Explain device and application functional group Diagram	4 marks 4 marks	8		
OR	iii.	Explain IoT service functional group Diagram	4 marks 4 marks	8		
Q.5	i.	Explain the terms: (a) Access Control (b) Vulnerability	2 marks 2 marks	4		
	ii.	Various security threats in IoT Explain in brief	2 marks 4 marks	6		
OR	iii.	Explain in detail using neat diagram Diagram	3 marks 3 marks	6		
Q.6		Write short on any two:				
	i.	Use of IoT in smart parking Description Component Architecture	1 mark 2 marks 2 marks	5		
	ii.	Home automation Description Component Architecture	1 mark 2 marks 2 marks	5		
	iii.	Health fitness monitoring Description Component Architecture	1 mark 2 marks 2 marks	5		
