



SREENIVASA INSTITUTE OF TECHNOGY AND MANAGEMENT STUDIES
(AUTONOMOUS)
Murukambattu, Chittoor

MCA DEPARTMENT

QUESTION BANK

for

INTERNET OF THINGS

Subject Code : **16MCA325A**

Regulation – **R16**

Academic Year : **2019 – 20**

Prepared by

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UNIT - 1: Introduction		
Introduction, Background and Initial Visions - Definitions and Functional Requirements – Opportunities and Motivation – A Possible Architecture for the Future Internet of Things - IoT: A Web 3.0 View - Four Pillars of IoT - The Horizontal, Verticals, and Four Pillars M2M : The Internet of Devices ,RFID: The Internet of Objects, WSN: The Internet of Transducers. SCADA: The Internet of Controllers. The DNA of IoT - DCM: Device, Connect, and Manage, Device: Things that Talk, Connect: Via Pervasive Networks, Wired Networks, Wireless Networks Satellite IoT Manage: To Create New Business Value		
PART -A		
Q. No.	Questions	Blooms Taxonomy Level
1	How IOT Launched the initial vision?	Remembering
2	Define IOT	Remembering
3	List out the various opportunities and motivation of IOT	Remembering
4	Define NFC	Remembering
5	What are the key application functionalities of IOT system?	Analyzing
6	Diagrammatically show the Blending of IOT and enterprise	Understanding
7	List out six pillars of M2M	Remembering
8	Show the Barcode format standards	Understanding
9	Show the sensor network architecture	Understanding
10	What are the subsystem contains in SCADA?	Understanding
11	List and explain any two sensors	Remembering
PART –B		
1	Summarize the vision of Internet of Things that is based on EPC Information System	Understanding
2	Criticize the reason for which IOT is not covering the real essence of IOT	Evaluating
3	Discuss IOT: A web 3.0 view	Creating
4	Explain in detail about Internet to device	Understanding
5	Describe about Internet of object	Understanding
6	Explain in detail about Internet of transducer	Understanding
7	Discuss in detail about Internet of controllers	Understanding
8	Things that talk-Comment on it	Analyzing
9	How pervasive network connect at different level? Discuss	Understanding
UNIT - 2 : IoT Middleware and Protocols		
Middleware For IoT - Overview of Middleware, Communication Middleware for IoT-MTC/M2M Middleware, SCADA Middleware , RFID Middleware, WSN Middleware. Protocol Standards for IoT - IoT Protocol Standardization Efforts- M2M and WSN Protocols, SCADA and RFID Protocols, Issues with IoT Standardization, Unified Data Standards: A Challenging Task, Unified Identification of Objects.		
PART -A		
1	Define the term middleware	Remembering
2	Examine the key value that is brought by middleware	Evaluating
3	Compile few list of middleware	Creating



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5	What is the role of CDC in SCADA middleware	Understanding
6	Draw RFID Architecture in RFID middleware	Remembering
7	Relate the examples of WSN architecture	Understanding
8	Draw the WSN middleware architecture	Understanding
9	What are the current status of IOT Standardization?	Understanding
10	What are the key objectives of IOT-A Consortium?	Analyzing
11	Draw the OPC standard for device connection	Remembering
12	Diagrammatically show the evolution of web	Understanding
PART -B		
1	Summarize the mechanism of M2M middleware	Understanding
2	Explain how SCADA middleware is used in different perspectives	Evaluating
3	Discuss about WSN middleware architecture	Understanding
4	How RFID middleware is incorporated in industry? Discuss	Understanding
5	Relate M2M and WSN protocol with suitable example	Understanding
6	Relate SCADA and RFID protocol with necessary example	Understanding
7	What are the issues with IOT standardization? Discuss	Understanding
8	Explain the Challenges of Unified Data Standards	Understanding
UNIT - 3 : Web of Things		
Web of Things versus Internet of Things - Two Pillars of the Web- Architecture standardization for WoT - Platform Middleware for WoT - Standards for M2M, Frameworks for WSN, Standards for SCADA, Extensions on RFID Standards- Unified Multitier WoT Architecture, SOA/EAI versus SODA/MAI, OSGi: The Universal Middleware, WoT Framework Based on Data Standards- WoT Portals and Business Intelligence, Challenges of IoT Information Security.		
PART – A		
1	Distinguish WOT and IOT	Analyzing
2	Diagrammatically show the two pillars of web	Understanding
3	What are the key elements of ETSI M2M architecture	Understanding
4	What are encoding standards that is enable by SWE work group?	Understanding
5	Draw the SODA architecture	Understanding
6	Draw the OSGi architecture	Understanding
7	Relate Artificial Intelligence with WOT portal	Understanding
8	List out security issues in IOT	Understanding
PART –B		
1	Explain about two pillars of web	Understanding
2	How Standardization of M2M is adapted in platform middleware of IOT? Explain.	Applying
3	How Standardization of SCADA is adapted in platform middleware of IOT? Explain.	Applying
4	How Standardization of RFID is adapted in platform middleware of IOT? Explain.	Applying
5	Distinguish SOA /EAI AND SODA/MAI	Analyzing
6	Describe WOT framework based on data standards	Understanding
7	What are the Challenges of IOT information security?	Remembering
UNIT - 4 : Integrated		
Integrated Billing Solutions in the Internet of Things - Cost of RFID and the Internet of		



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Things, Benefits of RFID and the Internet of Things, Cost Benefit Sharing, A Technical Framework for Integrating Billing Capabilities into the EPC global Network- Business Models for the Internet of Things-Business Models and Business Model Innovation- Value Creation in the Internet of Things -Exemplary Business Model Scenarios for the Internet of Things - Product as a Service (PaaS), Information Service Provider, End-user Involvement, Right-time Business Analysis and Decision making.

PART – A

1	List out the different cost level for IOT	Remembering
2	List out the benefits of RFID in IOT	Remembering
3	Define Cost benefits	Remembering
4	List out Law of Information	Remembering
5	What are the infrastructure component of business level?	Remembering
6	What is value proposition?	Remembering
7	Define value creation in IOT	Remembering
8	Define Business model	Remembering

PART –B

1	Discuss in detail about how cost of RFID is impact on IOT?	Understanding
2	Summarize any five benefits of RFID in IOT	Understanding
3	With neat diagram, Summarize the fact incorporated in business model frameworks.	Understanding
4	Consolidate the opportunities for new business and printing models for IOT with Law of Information.	Understanding
5	Describe any two scenario about Exemplary business model scenario for IOT	Understanding

UNIT - 5 : Applications

Ubiquitous IoT Applications - A Panoramic View of IoT Applications - Important Vertical Applications- Telematics and Intelligent Transport Systems, Smart Grid and Electric Vehicles , Smarter Planet and Smart Buildings- Using Internet of Things Concepts to Provide High Interoperability for Logistics Systems - Semantic Web- Ontology - Ontology and the Organizational Perspective, Ontology and the IT-System Perspective, Ontology and the Data Perspective, Ontologies in Multi-agent Systems, The Role of a Top-level Ontology

PART – A

1	List out the three different versions of vehicle to grid concepts	Remembering
2	Draw the Telematics terminal architecture	Remembering
3	List out the IOT / M2M classification of machine research	Remembering
4	Define Telemetry	Remembering
5	Define Semantic web	Remembering
6	Define Ontology	Remembering
7	Expand WSML and WSMX	Remembering

PART –B

1	Describe panoramic view of IOT Applications	Understanding
2	Apply IOT in Integrated Transport system	Understanding
3	How IOT is incorporated in Smart grid Technology?	Understanding
4	Discuss about Smart building Application in IOT	Understanding
5	Summarize the Semantic web service process and life cycle	Understanding
6	How Ontology is accustomed with different perspective? Explain in	Applying



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	detail	
7	Explain about Ontology on multi agent system	Understanding
8	Explain about role of top level systems of Ontology	Understanding