



B. TECH DEGREE EXAMINATIONS: NOV / DEC 2024

(Regulation 2018)

Sixth Semester

INFORMATION TECHNOLOGY

U18ITT6002: Internet of Things – Architecture and Protocols

COURSE OUTCOMES

- CO1:** Explain the architectural overview of IoT
CO2: Describe the IoT Reference Architecture and real-world design constraints
CO3: Discuss the various protocols for IoT
CO4: Explain the Security constraints behind IoT
CO5: Analyze IoT applications in real time scenario.
CO6: Describe the relationship of IoT with other domains

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

(Answer not more than 40 words)

- | | | |
|--------------------------------------------------------------------|-----|-------------------|
| 1. List out the vision of M2M and IoT. | CO1 | [K ₂] |
| 2. What is Service support Layers? | CO1 | [K ₂] |
| 3. Differentiate functional and nonfunctional requirements. | CO2 | [K ₂] |
| 4. What is Mirror server directory? | CO2 | [K ₂] |
| 5. Give the diagrammatic representation of the CoAP message types. | CO3 | [K ₂] |
| 6. Differentiate IPV4 and IPV6 protocols. | CO3 | [K ₂] |
| 7. List any two IEEE 802.15.4 standard versions. | CO4 | [K ₂] |
| 8. List any four features offered by ETSI M2M architecture | CO4 | [K ₂] |
| 9. What is Hybrid cloud? | CO5 | [K ₂] |
| 10. Define Qualitative analysis. | CO6 | [K ₂] |

Answer any FIVE Questions:-

PART B (5 x 16 = 80 Marks)

(Answer not more than 400 words)

- | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------|----|-----|-------------------|
| 11. a) With the neat diagram explain the functionalities of M2M data management. | 10 | CO1 | [K ₂] |
| b) What is cloud of things? With the neat diagram explain the cloud of things as an enablement for value added services and IoT apps. | 6 | CO1 | [K ₂] |

12.	a)	What is ETSI M2M architecture? With the neat diagram explain the set of services that offered with ETSI M2M service capabilities.	16	CO2	[K ₂]
13.	a)	Explain the protocols with its structures in detail:		CO3	[K ₂]
		a. Wireless HART protocol	8		
		b. Zigbee protocol	8		
14.	a)	What is one M2M IoT architecture approach? With the neat diagram explain the one M2M architecture and its common service functionalities in detail.	16	CO4	[K ₂]
15.	a)	Explain the following protocol topology in detail:		CO5	[K ₂]
		a. IEEE 802.15.4 Star topology	5		
		b. IEEE 802.15.4 Peer to Peer topology	5		
	b)	List out the features offered by ETSI M2M architecture.	6	CO5	[K ₂]
16.	a)	With the neat diagram explain the M2M cloudsim architecture and the features offered by the cloudsim tool.	16	CO6	[K ₂]
