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| **B. E. Degree (Autonomous) Eighth Semester End Examination (SEE), May 2020/June 2020** | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | |
| **INTERNET of THINGS** | | | | | | | | | | | | | | | | | | | |
| **(Model Question Paper – I)** | | | | | | | | | | | | | | | | | | | |
| **Time: 3 Hours ]** | | | | | | | | | | |  | | | | **[ Maximum Marks: 100** | | | | |
|  | | | | | | | **Instructions to students:**  **Answer FIVE FULL questions.** | | | | | | | | | |  | | |
|  | | | | | | | | | | | | | | | | | | | |
| **Q.No.** | | | **Questions** | | | | | | | | | | | | | **Marks** | | **CO** | **RBT Cognitive Level** |
| **1.** | **a)** | | Explain the generic M2M System Solution with a neat diagram | | | | | | | | | | | | | 10 | | CO1 | L3 |
| **b)** | | Summarize the Megatrends, Capabilities and implications of IoT. | | | | | | | | | | | | | 10 | | CO1 | L2 |
| **OR** | | | | | | | | | | | | | | | | | | | |
| **2.** | **a)** | | Explain various trend in Information and communication technologies and its impact on IoT. | | | | | | | | | | | | | 10 | | CO1 | L3 |
| **b)** | | Explain the potential and benefits of an IoT oriented approach over M2M by considering a Health band as the real world use case example. Compare the main characteristics of M2M and IoT. | | | | | | | | | | | | | 10 | | CO1 | L3 |
|  | | | | | | | | | | | | | | | | | | | |
| **3.** | **a)** | | Describe M2M value chain with a neat diagram | | | | | | | | | | | | | 10 | | CO2 | L2 |
| **b)** | | Explain an information driven value chain for IoT with a neat diagram | | | | | | | | | | | | | 10 | | CO2 | L3 |
| **OR** | | | | | | | | | | | | | | | | | | | |
| **4.** | **a)** | | Discuss the design objectives of IoT architecture needed to target a horizontal system of real-world services. | | | | | | | | | | | | | 10 | | CO2 | L2 |
| **b)** | | Explain the functional layers and capabilities of an IoT solution with a neat diagram. | | | | | | | | | | | | | 10 | | CO2 | L3 |
|  | | | | | | | | | | | | | | | | | | | | 8 Marks |
| **5.** | **a)** | | Cite the various M2M/IoT device types and explain their characteristics and the deployment scenarios. | | | | | | | | | | | | | 10 | | CO3 | L2, L3 |
| **b)** | | Explain how gateways are used for data management, local applications and device management in IoT. | | | | | | | | | | | | | 10 | | CO3 | L3 |
| **OR** | | | | | | | | | | | | | | | | | | | |
| **6.** | **a)** | | Explain ETSI M2M Functional architecture with a neat diagram. | | | | | | | | | | | | | 10 | | CO3 | L3 |
| **b)** | | Discuss various standards and technologies that enables Adhoc connectivity between devices that forms the basis of IoT. | | | | | | | | | | | | | 10 | | CO3 | L3 |
|  | | | | | | | | | | | | | | | | | | | |
| **7.** | **a)** | | Illustrate ETSI M2M High Level architecture with a neat diagram | | | | | | | | | | | | | 10 | | CO4 | L2 |
| **b)** | | Explain ETSI M2M service capabilities in detail with a neat diagram | | | | | | | | | | | | | 10 | | CO4 | L3 |
| **OR** | | | | | | | | | | | | | | | | | | | |
| **8.** | **a)** | | Discuss IETF Working Groups and Specifications Scope. | | | | | | | | | | | | | 10 | | CO4 | L2 |
| **b)** | | Explain OGC functional architecture and interactions with a neat diagram. | | | | | | | | | | | | | 10 | | CO4 | L3 |
|  | | | | | | | | | | | | | | | | | | | |
| **9.** | **a)** | | Explain device and application functional group, communication functional group, IoT service functional group and virtual entity functional group in detail with a neat diagram of IoT functional view. | | | | | | | | | | | | | 10 | | CO5 | L3 |
| **b)** | | Explain IoT process management functional group, service organization functional group, security functional group and management functional group in detail with a neat diagram of IoT functional view. | | | | | | | | | | | | | 10 | | CO5 | L3 |
| **OR** | | | | | | | | | | | | | | | | | | | |
| **10.** | **a)** | | Explain the flow of information through a context enrichment process in IoT | | | | | | | | | | | | | 10 | | CO5 | L3 |
| **b)** | | Describe the information exchange patterns in IoT. | | | | | | | | | | | | | 10 | | CO5 | L2 |

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