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**SEMESTER END SUPPLEMENTARY EXAMINATIONS (AR19/20), JUNE – 2024**

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| U.G. | **CSE** | | Degree | Bachelor of Technology | |
| Academic Year | 2023-24 | | Sem. | VI | |
| Course Code | **19CS602/20CS602** | Course Title | | | |
| **Internet of things** | | | |
| Duration | 3 Hours | Maximum Marks | | | 60 (Sixty) |

**SECTION-I**

6 x 2 = 12 Marks

1.

|  |  |  |
| --- | --- | --- |
| No. | Questions (a to f) | COs |
| a | What is vision of IoT? | 1 |
| b | Define sensor. | 1 |
| c | What are the protocols needed in web connectivity in IoT applications? | 3 |
| d | Define static IP and dynamic IP. | 3 |
| e | List four types of deployment models for cloud computing. | 4 |
| f | List any four applications of IoT . | 6 |

**SECTION-II**

4 x 12 = 48 Marks

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| --- | --- | --- | --- | --- | --- | --- |
| No. | | Questions (2 to 9) | | | COs | Marks |
| 2 | | (a) | | With neat sketch explain the IETF layered architecture of IOT. | 1 | 7M |
| (b) | | Explain in detail about CoAP. | 2 | 5M |
| **OR** | | | | | | |
| 3 | | (a) | | Discuss the Modified OSI Model for the IoT/M2M Systems with a neat diagram. | 1 | 7M |
| (b) | | Draw message exchanges between devices, MQTT broker and web applications. | 2 | 5M |
| 4 | | (a) | | Explain about LoRaWAN. | 3 | 7M |
| (b) | | Show diagrammatically and explain the features of LWM2M. | 2 | 5M |
| **OR** | | | | | | |
| 5 | | (a) | Explain IPv4 addressing in IOT. | | 3 | 7M |
| (b) | Why do constrained environment and data ROLL network need a distinct set of  protocols? | | 2 | 5M |
| 6 | | (a) | Develop a Cloud Computing Paradigm for Data Collection, storage and Computing for IoT/M2M Applications. | | 4 | 7M |
| (b) | Show by diagram nine building blocks of a business model canvas. | | 5 | 5M |
| **OR** | | | | | | |
| 7 | | (a) | | Discuss various sources of data and phases of participatory sensing process for IoT applications and services? | 4 | 7M |
| (b) | | Outline the Security Model for differing security profiles. | 5 | 5M |
| 8 | | (a) | | Show Data flow diagram and domain architecture reference model for home  automation | 6 | 7M |
| (b) | | Develop the steps for Key Generation and Exchange for authentication and authorization by secure communication of an application/service message to the device/gateway. Draw the diagram also. | 5 | 5M |
| **OR** | | | | | | |
| 9 | (a) | | | Briefly describe the concept of Smart agriculture using IoT. | 6 | 7M |
| (b) | | | Explain the top ten vulnerabilities of IoT Applications/Services. | 5 | 5M |

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