

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

SEVENTH SEMESTER B.TECH DEGREE EXAMINATION (S), FEBRUARY 2024**(2020 SCHEME)****Course Code: 20ECT443****Course Name: IoT and Applications****Max. Marks: 100****Duration: 3 Hours****PART A*****(Answer all questions. Each question carries 3 marks)***

1. Outline the standard IoT characteristics.
2. Explain the functional blocks of IoT.
3. Compare M2M and IoT.
4. Illustrate and explain the SDN architecture.
5. Explain LoRAWAN protocol specifications and concepts.
6. Briefly explain the Zigbee.
7. List and explain various cloud service models.
8. summarize IoT security concepts.
9. Explain the significance of I2C device.
10. Briefly explain the IoT air pollution model and state its linkage with IoT deployment level.

PART B***(Answer one full question from each module, each question carries 14marks)*****MODULE I**

11. a) Explain the physical design of IoT. (8)
- b) Illustrate any three latest IoT enabling technologies. (6)

OR

12. a) Illustrate and explain the deployment levels of IoT. (8)
- b) Describe the logical design of IoT. (6)

MODULE II

13. a) Illustrate and explain the architecture of wireless sensor networks. (10)
- b) Briefly explain the communication criteria for connecting smart objects. (4)

OR

14. a) Describe NFV for IoT and compare it with conventional networks. (8)
b) Explain the concepts of smart objects, sensors and actuators. (6)

MODULE III

15. a) Explain IEEE 802.15.4 specifications with physical layer details. (8)
b) Briefly explain and compare IEEE 802.15.4e and IEEE 802.15.4g. (6)

OR

16. a) Explain LoRaWAN standardization and alliances. (8)
b) Elaborate on IP based protocols 6LoWPAN. (6)

MODULE IV

17. a) Illustrate and explain various cloud deployment models. (8)
b) Explain cloud based platform with an example. (6)

OR

18. a) Explain SaaS and IaaS cloud service models in detail. (8)
b) Describe IoT privacy requirements. (6)

MODULE V

19. a) Illustrate the layer wise architecture of IoT for smart city. (8)
b) Explain the board details of Raspberry Pi. (6)

OR

20. a) Describe the interfacing of Raspberry Pi with an example. (8)
b) Explain the concepts and significance of IoT devices and building blocks. (6)
