22U153 (Pages: 2) Name: .....

Reg.No: .....

FIRST SEMESTER B.Voc. DEGREE EXAMINATION, NOVEMBER 2022

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC21U SDC1 IE01 - INTRODUCTION TO IOT AND ELECTRONICS

(Information Technology)

(2021 Admission onwards)

Time : 2.5 Hours Maximum : 80 Marks

Credit : 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 2 marks.

1. Define the term diffusion current.
2. Explain how zener diode maintains constant voltage across the load.
3. Why h parameter model is important for BJT?
4. Mention any two non-linear applications of Op-amp.
5. Write down the applications of precision diode.
6. What is even parity?
7. What are the different types of flip-flop?
8. Define Half Adder.
9. Define parallel processing.
10. Mention the number of register banks and their addresses in 8051.
11. Define Actuators.
12. Define Wireless Sensor Networks.
13. llustrate the building blocks of IoT device.
14. Explain the characteristics of Python programming language.
15. Discuss the role of communication protocols and embedded systems in IoT.

(Ceiling: 25 Marks)

Part B (Paragraph questions)

Answer ***all*** questions. Each question carries 5 marks.

16. Discuss working of Bridge rectifier and derive its Ripple factor and efficiency.

17. With a block diagram and waveforms, explain the working of the counting analog to digital converter.

18. Construct a logic diagram for expression A. B + B.C.

19. Compare LEDs and LCDs.

20. Explain the working of two inputs TTL NAND gate.

21. Describe the applications of IoT.

22. Differentiate between Logical and physical design of IOT.

23. Difference between REST and WebSocket-based Communication APIs.

(Ceiling: 35 Marks)

Part C (Essay questions)

Answer any ***two*** questions. Each question carries 10 marks.

24. Add A3B816 and 8BA16.

25. Explain with figures how NAND gate and NOR gate can be used as Universal gate.

26. Explain the architecture and various generations of a basic Computer.

27. Explain in detail about the applications of IOT.

(2 × 10 = 20 Marks)

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