

21U5115

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Name:

Reg.No:

FIFTH SEMESTER B.Voc. DEGREE EXAMINATION, NOVEMBER 2023

(CBCSS - UG)

CC21U SDC5 MC16 - MICROCONTROLLER AND APPLICATIONS

(Information Technology)

(2021 Admission - Regular)

Time : 2.5 Hours

Maximum : 80 Marks

Credit : 4

Part A (Short answer questions)

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

1. What is the purpose of PSW register?
2. What is stack pointer (SP)?
3. What is the job of TMOD register?
4. What are the instructions used to access external RAM?
5. Mention any two examples of direct addressing instructions.
6. What is indexed addressing?
7. What you mean by interrupt service routine?
8. What is interrupts signal?
9. What are the two type activation levels of external interrupts in 8051?
10. What you mean by a matrix keyboard?
11. What are the different types of pins in 16x2 LCD?
12. What is a roter in a stepper motor?
13. What you mean by general purpose processor?
14. What you mean by application specific processor?
15. What are the differences between DRAM and SRAM?

(Ceiling: 25 Marks)

Part B (Paragraph questions)

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

16. What is microprocessor and microcontroller?
17. What are the three types of buses?

18. Explain (a) ANL (b) ORL
19. Explain rotate instruction in 8051.
20. and RETI instructions.
21. Mention the registers used for timer/counter operation.
22. What are the characteristics of embedded system?
23. Compare and explain various state machine models.

(Ceiling: 35 Marks)

Part C (Essay questions)

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

24. List main feature of 8051 microcontroller. Give difference between 8051 and 8052 microcontroller. Also discuss RAM structure of 8051 microcontroller.
25. Explain different addressing modes used in 8051 microcontroller.
26. Compare polling and interrupt. What are the steps microcontroller performs upon activation of interrupt?
27. Write an assembly program to multiply two 16 bit numbers for 8051 microcontrollers.

(2 × 10 = 20 Marks)
