22U5113

Name: ....

Reg.No: ....

FIFTH SEMESTER B.Voc. DEGREE EXAMINATION, NOVEMBER 2024

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC21U SDC5 MC16 - MICROCONTROLLER AND APPLICATIONS

(Information Technology - Skill Component Course)

(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. How many bit addressable location are placed in internal RAM?

2. How to switch register banks in 8051?

3. What is stack pointer (SP)?

4. Explain the two power saving mode of operation.

5. Mention the different fields in assembly language instructions.

6. What is the difference between a JUMP and CALL INSTRUCTION?

7. Mention any two examples of direct addressing instructions.

8. MOV R4, R7 is invalid. Why?

9. What you mean by a subroutine?

10. What are the registers associated with serial interrupt?

11. Compare edge triggered and level triggered external devices.

12. What is ADC?

13. What you mean by general purpose processor?

14. What are the classification of memory in a computer system?

15. What is k way set associative cache mapping?

(Ceiling: 25 Marks)

Part B (Paragraph questions)
Answer *all* questions. Each question carries 5 marks.

16. What is microprocessor and microcontrolle.

17. Draw the architecture of 8051.

18. Explain the different jump instruction in 8051.

19. Mention the function of the following instructions of 8051 CPU: 1) CJNE 3) MUL AB 4) DJNZ 5) A CALL

20. Name the interrupt sources of 8051?

21. Explain the interrupt structure of 8051 microcontroller. Explain how interrupts are prioritized.

22. What are the characterestics of embedded system?

23. Compare general purpose, single porpose and application specific processors.

(Ceiling: 35 Marks)

Part C (Essay questions)

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

24. Explain different addressing modes used in 8051 microcontroller.

25. Explain interfacing of 4x4 matrix keyboard with 8051 microcontroller. Write program for detection and identification of key activation.

26. Explain in detail interfacing of LCD with microcontroller.

27. Explain interfacing of stepper motor with microcontroller in detail.

(2 × 10 = 20 Marks)

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