FOURTH SEMESTER B.Voc. DEGREE EXAMINATION APRIL 2021

(Information Technology)

GEC4 MC12 – MICRO CONTROLLERS AND APPLICATIONS

(2018 Admission - Regular)

Time: Three Hours   Maximum: 80 Marks

PART A

Answer *all* questions. Each question carries 1 mark.

1. The 8052 has _____ bytes of on – chip RAM.

2. The 8051 family has _____ pins for I/O.

3. When the 8051 is reset and the EA line is HIGH the program counter points to the first program instruction in the _____ memory.

4. An alternate function of port pin p3.4 in the 8051 is _____

5. _____ Instruction will add the accumulator and register3.

6. 8051 series have _____ 16bit registers.

7. ANL instruction is used to _____ the contents of the two registers.

8. A port is by default a(n) _____ port.

9. "DJNZ R0, label" is _____ byte instruction.

10. After RETI instruction is executed then the pointer will move to _____ location in the program?

(10 × 1 = 10 Marks)

PART B

Answer any *eight* questions. Each question carries 2 marks.

11. What is assembler?

12. Define DPTR.

13. What is stack pointer (SP)?

14. List the various registers used in 8051

15. What is direct addressing mode?

16. What is SFR?

17. What are single bit instructions? Give example.

18. Mention the timers of 8051?

19. Draw the format of IE register.

20. What is DTE and DCE?

21. What is RS232?

22. What is DAC?

PART C
Answer any *six* questions. Each question carries 4 marks.

23. What is microprocessor and microcontroller?

24. List all the registers used in 8051 microcontrollers in brief.

25. Compare polling and interrupts. What is the steps microcontroller performing upon activation of interrupt?

26. What is duplex transmission? What are the different modes of serial communication?

27. Explain MAX 232 and MAX 233.

28. Explain the function of the pins of 9-pin RS 232.

29. What are the advantages of LCD over LED? Explain pin description for LCD.

30. What is SFR? What are the different categories of 8051 SFRs?

31. Mention any four addressing modes of 8051?

(6 × 4 = 24 Marks)

PART D
Answer any *two* questions. Each question carries 15 marks.

32. What are microcontrollers? With neat internal block schematic, explain the architecture of 8051.

33. Explain the Instruction set with examples

34. What is a Timer? Write a short note on Timer modes of operation.

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

(2 × 15 = 30 Marks)

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