Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 91492

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019
Fifth/Sixth Semester
Manufacturing Engineering
EE6502 – MICROPROCESSORS AND MICROCONTROLLERS
(Common to Fifth Semester Electronics and Instrumentation Engineering/ Instrumentation and Control Engineering, Robotics and Automation Engineering and Electrical and Electronics Engineering)
(Regulations 2013)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A **(10×2=20 Marks)**

1. What is the function of program counter in 8085 microprocessor ?
2. Mention the purpose of SID and SOD lines.
3. How is time delay generated using subroutines ?
4. Explain the functioning of CMP instruction.
5. Explain the interrupts of 8051 microcontroller.
6. What is the significance of PSEN and EA pin in 8051 microcontroller ?
7. Give the difference between maskable and non-maskable interrupts.
8. How is keyboard interfaced with microprocessor ?
9. Explain the function of DJNZ instruction.
10. What is meant by bit oriented instructions ?

PART – B **(5×13=65 Marks)**

11. a) Explain with a neat block diagram, the architecture of 8085 microprocessor.

(OR)

b) i) Explain the interrupt structure of 8085 microprocessor. **(7)**

ii) Draw the timing diagram of Opcode Fetch machine cycle. **(6)**

12. a) i) Explain the logical instructions with examples. **(6)**

ii) Write an 8085 Assembly program to convert a Hexadecimal Number to ASCII code. **(7)**

(OR)

b) Write an 8085 Assembly language program to multiply two numbers in memory locations 4200 and 4201 and store the product in memory locations 4202 and 4203.

13. a) i) Explain the vectored interrupts in 8051 microcontroller. **(7)**

ii) Explain the different addressing modes of 8051 microcontroller. **(6)**

(OR)

b) Explain with a neat block diagram the architecture of 8051 microcontroller.

14. a) Draw the block diagram of 8255 (PPI) and explain its various operating modes.

(OR)

b) With a neat diagram, explain the internal architecture of keyboard and display controller IC-8279.

15. a) Explain the interfacing of stepper motor control with 8051 and write an assembly language program for running the stepper motor in clockwise direction.

(OR)

b) Explain the closed loop control of a servo motor using 8051 with a neat diagram.

PART – C **(1×15=15 Marks)**

16. a) Propose and develop a schematic sketch for closed loop control of position control using servo-motor and explain its controls using 8051.

(OR)

b) Develop a schematic sketch for washing machine controls with display using 8051.
