GN-454

V Semester B.C.A. Examination, December - 2019
(Y2K14) (CBCS Scheme) (F+R)
COMPUTER SCIENCE
BCA-505 : Microprocessor and Assembly Language

Time : 3 Hours

Max. Marks : 70

Instructions : *(i)* **SECTION-A** : *Answer **any 10** questions.*
(ii) **SECTION-B** : *Answer **any 5** questions.*

SECTION - A

Answer **any 10** questions.

10x2=20

1. Define an Instruction. What are the two parts of an Instruction ?

2. Write the applications of 8085 microprocessor.

3. What are counters and time delays ?

4. Explain DAA instruction.

5. Differentiate between the following instructions :
   LDA 8000 and STA 9000.

6. What is machine cycle ?

7. Write an assembly language program to find the reverse of an 8-bit number.

8. How many bytes are required to store the following instructions ?
   (a) CPI OF (b) ADD B

9. Define Subroutine.

10. Differentiate between absolute and partial decoding.

11. What are handshake signals ?

12. What is an Interrupt ? Why it is needed ?

P.T.O.

SECTION - B

Answer **any 5** questions. 5x10=50

13. (a) Draw the Pin configuration of 8085 microprocessor. 5+5
    (b) Describe the demultiplexing of address/data bus.

14. (a) Explain the classification of instructions based on word size. Give 5+5 examples.
    (b) What are Flags ? Draw the format of flag register and explain their function.

15. (a) Explain the following instructions : 3+1+1
        (i) RRC (ii) LHLD 9000 (iii) XCHG
    (b) Draw the timing diagram for opcode fetch machine cycle. 5

16. (a) What is an Addressing mode ? Explain the various addressing modes of 5+5 8085 with examples.
    (b) Explain the unconditional and conditional Jump instructions.

17. (a) Write the steps to convert Binary to ASCII and ASCII to Binary code 5+5 conversion.
    (b) Write a program to exchange two 16-bit numbers.

18. (a) What is a Stack ? Explain the different operations that can be performed 5+5 on stack.
    (b) Explain RIM and SIM instructions of 8085 microprocessor.

19. (a) Distinguish between Peripheral-mapped I/O and Memory-mapped I/O. 5+5
    (b) What is DMA ? With block diagram explain how the data is transferred by a DMA controller.

20. Write short notes on : 5+5
    (a) CALL and RET instructions
    (b) Operating modes of 8255 PPI

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