BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – B.Tech.(EE)]-2021
Course Name – Microprocessor & Microcontroller
Course Code - PCC-EE602
(Semester VI)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) The microprocessor of a computer can operate on any information if it is observe in _____ only.

a) Program Counter b) Flag
c) Main Memory d) Secondary Memory

(ii) Which of the following technologies was used by Intel to develop its first 8-bit microprocessor?

a) NMOS b) HMOS
c) PMOS d) TTL

(iii) Select, what is the word length of an 8-bit microprocessor?

a) 8-bits – 64 bits b) 4-bits – 32 bits
c) 8-bits – 16 bits d) 8-bits – 32 bits

(iv) Write, In 8-bit microprocessor, how many opcodes are present?

a) 246 b) 278
c) 250 d) 256

(v) Write, which of the following is not a property of TRAP interrupt in microprocessor?

a) It is a non-maskable interrupt b) It is of highest priority
c) It uses edge-triggered signal d) It is a vectored interrupt

(vi) Write, which of the following flag is used to mask INTR interrupt?

a) zero flag b) auxiliary carry flag flag
c) interrupt flag d) sign flag

(vii) Select, how many flip-flops are there in a flag register of 8085 microprocessor?

a) 4 b) 5
c) 7 d) 10

(viii) Write, whichhich of the following is not a status flag in microprocessor?

a) Overflow flag b) Direction flag
c) Interrupt flag d) Index flag

(ix) Write, which of the following is not a condition flag?

a) Trap flag
b) Auxiliary carry flag
c) Parity flag
d) Zero flag

(x) A memory connected to a microprocessor has 20 address lines and 16 data lines. Select the memory capacity?

a) 8 KB
b) 2 MB
c) 16 MB
d) 64 KB

(xi) Write, what is the word length of the Pentium-II microprocessor?

a) 8-bit
b) 32-bit
c) 64-bit
d) 16-bit

(xii) The instruction, MOV AX, [2500H] is an example of

a) immediate addressing mode
b) direct addressing mode
c) indirect addressing mode
d) register addressing mode

(xiii) If the data is present in a register and it is referred using the particular register, then it is state

a) direct addressing mode
b) register addressing mode
c) indexed addressing mode
d) immediate addressing mode

(xiv) If the offset of the operand is stored in one of the index registers, then it is tell

a) based indexed addressing mode
b) relative based indexed addressing mode
c) indexed addressing mode
d) none of the mentioned

(xv) If the location to which the control is to be transferred lies in a different segment other than the current one, then the mode is tell

a) intrasegment mode
b) intersegment direct mode
c) intersegment indirect mode
d) intersegment direct and indirect mode

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Describe the program counter. How is it useful in program execution? (3)
3. Name the main registers in the 8086 microprocessor? (3)
4. List the measures that can be taken to enhance the reliability of the 8086 Microprocessor system's bus structure? (3)
5. Write,are the features of Intel 8086 ? (3)
6. Explain the purpose of the AX register in the 8086 microprocessor. (3)

OR

Explain the function of the Carry Flag (CF) in the 8086 microprocessor. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Explain the 8086 Architecture. (5)
8. Write synchronous data transfer scheme? (5)
9. Describe interfacing in the context of microcontrollers? (5)
10. State, serial interfacing and why is it widely used? (5)
11. Summarize advanced interfacing techniques used in microcontroller applications? (5)
12. Write a short note on INTEL 8255? (5)

OR

Express, how DMA is initiated? (5)

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