



BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Tech.(EE)]-2021/B.Tech.(EE)-2023

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) The instruction, MOV AX, 1234H is an example of
 - a) register addressing mode
 - b) direct addressing mode
 - c) immediate addressing mode
 - d) based indexed addressing mode
- (iii) 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
- (iv) The instruction, JMP 5000H:2000H; is an example of
 - a) intrasegment direct mode
 - b) intrasegment indirect mode
 - c) intersegment direct mode
 - d) intersegment indirect mode
- (v) NMI express as
 - a) nonmaskable interrupt
 - b) nonmultiple interrupt
 - c) nonmovable interrupt
 - d) none of the mentioned
- (vi) The latch or IC 74LS373 acts as
 - a) good input port
 - b) bad input port
 - c) good output port
 - d) bad output port
- (vii) Identify, the pin that clears the control word register of 8255 when enabled is
 - a) CLEAR
 - b) SET
 - c) RESET
 - d) CLK
- (viii) In BSR mode, only port C can be act to
 - a) set individual ports
 - b) reset individual ports
 - c) set and reset individual ports
 - d) programmable I/O ports

- (ix) The strobed input/output mode is another name of

 - a) mode 0
 - b) mode 1
 - c) mode 2
 - d) none

(x) Tell the popular technique that is used in the integration of ADC chips is

 - a) successive approximation
 - b) dual slope integration
 - c) successive approximation and dual slope integration
 - d) none

(xi) Select, in the signal integrate phase, the differential input voltage between IN LO(input low) and IN HI(input high) pins is integrated by the internal integrator for a fixed period of

 - a) 256 clock cycles
 - b) 1024 clock cycles
 - c) 2048 clock cycles
 - d) 4096 clock cycles

(xii) If more than one channel requests service simultaneously, the transfer will observe as

 - a) multi transfer
 - b) simultaneous transfer
 - c) burst transfer
 - d) none of the mentioned

(xiii) Choose, the number of clock cycles required for an 8257 to complete a transfer is

 - a) 2
 - b) 4
 - c) 8
 - d) none of the mentioned

(xiv) State, the priority of the channels varies frequently in

 - a) rotating priority scheme
 - b) fixed priority scheme
 - c) rotating priority and fixed priority scheme
 - d) none of the mentioned

(xv) In floppy disk, the small hole that enables the drive to identify the beginning of a track and its first sector is

 - a) inner hole
 - b) key hole
 - c) index hole
 - d) start hole

Group-B

(Short Answer Type Questions)

 $3 \times 5 = 15$

2. What does the Auxiliary Carry Flag (AF) indicate in the 8086 microprocessor? (3)
3. Describe the purpose of the Trap Flag (TF) in the 8086 microprocessor. (3)
4. Describe, how do GPIO (General Purpose Input/Output) pins function in microcontrollers. (3)
5. State, why crystal is a preferred clock source? (3)
6. Explain, how to microprocessor is synchronized with peripherals. (3)

OR

Explain the purpose of the AX register in the 8086 microprocessor. (3)

Group-C

(Long Answer Type Questions)

 $5 \times 6 = 30$

7. Write, the information that can be obtained from the status word of 8251. (5)
8. Illustrate parallel interface working. (5)
9. Differentiate between 8085 and 8086 microprocessor. (5)
10. Describe I/O interfacing. (5)
11. Describe direct memory access (DMA). (5)
12. Explain programmed I/O. (5)

OR

Explain the role of the stack in the 8086. (5)
