

**BRAINWARE UNIVERSITY****Term End Examination 2021 - 22****Programme – Bachelor of Technology in Electronics & Communication Engineering****Course Name – Microcontrollers****Course Code - PCC-EC403****( Semester IV )****Time allotted : 1 Hrs.15 Min.****Full Marks : 60**

[The figure in the margin indicates full marks.]

**Group-A**

(Multiple Choice Type Question)

1 x 60=60

*Choose the correct alternative from the following :*

- (1) Consider the following registers: 1. Accumulator and flag register 2. B and C register 3. D and E register 4. H and L register Which of these 8-bit registers of 8085 microprocessor can be paired together to make a 16-bit register?
  - a) 1 ,3 and 4
  - b) 2 ,3 and 4
  - c) 1 ,2 and 4
  - d) 1 ,2 and 3
- (2) ALU (Arithmetic and Logic Unit ) of 8085 microprocessor consists of
  - a) Accumulator, temporary register, arithmetic and logic circuits
  - b) Accumulator, arithmetic, logic circuits and five flags
  - c) Accumulator, arithmetic and logic circuits
  - d) Accumulator, temporary register, arithmetic, logic circuits and five flags
- (3) Which of the following microprocessors is a 4 bit microprocessor?
  - a) 4004
  - b) 8080
  - c) 8085
  - d) Z80
- (4) The program counter in a 8085 micro-processor is a 16-bit register, because
  - a) It counts 16-bits at a time
  - b) There are 16 address lines
  - c) It facilitates the user storing 16-bit data temporarily
  - d) It has to fetch two 8-bit data at a time
- (5) In an intel 8085A microprocessor, why is READY signal used?
  - a) To indicate to user that the microprocessor is working and is ready for use
  - b) To provide proper WAIT states when the microprocessor is communicating with a slow peripheral device
  - c) To slow down a fast peripheral device so as to communicate at the microprocessor's device
  - d) None of these

- (6) Which semiconductor technology is used for fabrication of 8085 microprocessor?  
 a) ECL  
 b) NMOS  
 c) NMOS and HMOS  
 d) NMOS and CMOS
- (7) The frequency of the driving network connected between pins 1 and 2 of 8085 microprocessor is  
 a) twice the desired frequency  
 b) equal to the desired frequency  
 c) four times the desired frequency  
 d) none of these
- (8) A microprocessor is a  
 a) SSI device  
 b) MSI device  
 c) LSI device  
 d) VLSI device
- (9) Accumulator based microprocessor example are:  
 a) Intel 8085  
 b) Motorola 6809  
 c) Intel 8085 and Motorola 6809  
 d) None of these
- (10) The address / data bus in 8085 is \_\_\_\_\_  
 a) multiplexed  
 b) demultiplexed  
 c) decoded  
 d) encoded
- (11) What is the meaning of the instruction MVI A,05H?  
 a) data 05H is stored in the accumulator  
 b) fifth bit of accumulator is set to one  
 c) address 05H is stored in the accumulator  
 d) none of the mentioned
- (12) Which one of the following is called non-vectored interrupt?  
 a) TRAP  
 b) INTR  
 c) RST 7.5  
 d) RST 0
- (13) In 8085 microprocessor, the RST6 instruction transfer Programme execution to following location  
 a) 0030H  
 b) 0032H  
 c) 0048H  
 d) 0024H
- (14) Which interrupt has the highest priority?  
 a) INTR  
 b) TRAP  
 c) RST6.5  
 d) RST6.6
- (15) Which interrupt is not level sensitive in 8085?  
 a) RST 6.5  
 b) RST 7.5  
 c) RST 5.5  
 d) RST 4.5
- (16) By issuing which one of the following signal, CPU releases the system bus to DMA controller?  
 a) HOLD  
 b) HLDA  
 c) ALE  
 d) READY
- (17) In 8086 microprocessor the following has the highest priority among all type interrupts?  
 a) NMI  
 b) DIV 0  
 c) TYPE 255  
 d) OVER FLOW
- (18) In 8086 microprocessor one of the following statements is not true?  
 a) coprocessor is interfaced in max mode  
 b) coprocessor is interfaced in min mode  
 c) i/o can be interfaced in max / min mode  
 d) supports pipelining

- (19) 8088 microprocessor differs with 8086 microprocessor in \_\_\_\_\_.
- |                             |                              |
|-----------------------------|------------------------------|
| a) data width on the output | b) address capability        |
| c) support of coprocessor   | d) support of MAX / MIN mode |
- (20) Which of the following is a four byte instruction?
- |                 |                      |
|-----------------|----------------------|
| a) MOV AX, 2345 | b) MUL BX            |
| c) DIV CL       | d) ADD AX, [BP+0200] |
- (21) 16 bit register of 8086 consist of
- |             |            |
|-------------|------------|
| a) 16 flags | b) 8 flags |
| c) 9 flags  | d) 7 flags |
- (22) Which of the following instruction is a logical instruction?
- |           |         |
|-----------|---------|
| a) DIV AB | b) TEST |
| c) CALL   | d) AAM  |
- (23) DS Stand for
- |                    |                   |
|--------------------|-------------------|
| a) Data segment    | b) Direct segment |
| c) Declare segment | d) Divide segment |
- (24) Which of the following registers are not bit addressable?
- |         |         |
|---------|---------|
| a) SCON | b) PCON |
| c) A    | d) PSW  |
- (25) A microcontroller at-least should consist of
- |   |  |
|---|--|
| a) RAM, ROM, I/O devices, serial and parallel ports and timers      | b) CPU, RAM, I/O devices, serial and parallel ports and timers |
| c) CPU, RAM, ROM, I/O devices, serial and parallel ports and timers | d) CPU, ROM, I/O devices and timers                            |
- (26) LCALL instruction takes
- |            |            |
|------------|------------|
| a) 2 bytes | b) 4 bytes |
| c) 3 bytes | d) 1 byte  |
- (27) The first microprocessor was
- |         |         |
|---------|---------|
| a) 4001 | b) 4002 |
| c) 4003 | d) 4004 |
- (28) The microprocessor was introduced in the year
- |         |         |
|---------|---------|
| a) 1940 | b) 1971 |
| c) 1973 | d) 1980 |
- (29) The number of output pins in 8085 microprocessors are
- |       |       |
|-------|-------|
| a) 27 | b) 40 |
| c) 19 | d) 28 |
- (30) Which pin is used for demultiplexing of address and data bus of 8085 microprocessor?
- |          |          |
|----------|----------|
| a) TRAP  | b) ALE   |
| c) IO/M' | d) READY |
- (31) In 8085 microprocessor, name the 16 bit register is called
- |                               |                  |
|-------------------------------|------------------|
| a) Stack Pointer              | b) PSW           |
| c) Both Stack Pointer and PSW | d) None of these |
- (32) Intel 8085A microprocessor ALE signal is made high to

- a) Enable the data bus to be used as low order address bus      b) To latch data D0-D7 from data bus
- c) To disable data bus      d) To achieve all the functions listed above
- (33) Consider the following statements: In 8085 microprocessor, data-bus and address bus are multiplexed in order to I)Increase the speed of microprocessor. II)Reduce the number of pins. III)Connect more peripheral chips. Which of these statements is/are correct?
- a) (I) only      b) (I) Only
- c) (II) & (III)      d) (I) ,(III) & (IV)
- (34) If the microprocessor is capable of addressing 64 Kbytes of memory, its address bus width is
- a) 16 bits      b) 20 bits
- c) 8 bits      d) none of these
- (35) In 8085 name of the 16 bit registers is
- a) stack pointer      b) program counter
- c) Stack pointer and program counter      d) none of these
- (36) Temporary registers in 8085 are
- a) B and C      b) D and E
- c) H and L      d) W and Z
- (37) The word size of 8085 microprocessor is
- a) 8-bits      b) 16-bits
- c) 20-bits      d) 4-bits
- (38) How many times will the following loop be executed? XRA A MVI C, 05H LOOP; DCRC JNZ LOOP
- a) once      b) five
- c) infinite times      d) four times
- (39) The address bus of microprocessor is
- a) unidirectional      b) bi-directional
- c) unidirectional as well as bi-directional      d) none of these
- (40) The parity flag of 8085 microprocessor is set to HIGH when
- a) The total number of 1's is odd      b) The total number of 1's is even
- c) The total number of 1's is odd and the total number of 1's is even      d) None of these
- (41) What does microprocessor speed depends on?
- a) Clock      b) Data bus width
- c) Address bus width      d) Control bus width
- (42) After execution of instruction RRC, which one of the following flag will be affected
- a) Auxiliary Flag      b) Zero Flag
- c) Sign Flag      d) Carry Flag
- (43) The CALL location for TRAP is
- a) 0023H      b) 0032H
- c) 0042H      d) 0024H
- (44) The number of T-States required for PCHL instruction execution is
- a) 4      b) 6

- c) 8
- d) 10
- (45) Let 81H & C2H are added. The RAR is executed. The content of the Accumulator will be
  - a) 82H
  - b) 87H
  - c) 90H
  - d) 97H
- (46) HLT op-code means
  - a) Load data to accumulator.
  - b) Store result in memory.
  - c) Load accumulator with contents of register.
  - d) End of program
- (47) XCHG is an
  - a) data transfer instruction
  - b) logical instruction
  - c) arithmetic instruction
  - d) none of these
- (48) In an Intel 8085A, which is the first machine cycle of an instruction?
  - a) An op-code fetch cycle
  - b) A memory write cycle
  - c) A memory read cycle
  - d) An I/O read cycle
- (49) Which of the following instruction is not possible in 8085?
  - a) POP PSW
  - b) POP B
  - c) POP D
  - d) POP 30 H
- (50) Which instruction is required to rotate the content of accumulator one bit right along with carry?
  - a) RLC
  - b) RAL
  - c) RRC
  - d) RAR
- (51) What is the RST for the TRAP?
  - a) RST5.5
  - b) RST4.5
  - c) RST4
  - d) RST3
- (52) What are software interrupts?
  - a) RST 0-7
  - b) RST 5.5 - 7.5
  - c) INTR, TRAP
  - d) RST 4.4 - 6.4
- (53) STA 2070H is an instruction of
  - a) One byte
  - b) two byte
  - c) three byte
  - d) four byte
- (54) STA 3526H is an instruction of
  - a) direct addressing mode
  - b) indirect addressing mode
  - c) register addressing mode
  - d) Immediate addressing mode
- (55) CMA is an instruction of
  - a) direct addressing mode
  - b) indirect addressing mode
  - c) register addressing mode
  - d) Implicit addressing mode
- (56) During IO operation the IO/M ' signal will be
  - a) LOW
  - b) Tristate
  - c) HIGH
  - d) None of these
- (57) In 8086 microprocessor, the size of each segment is
  - a) 32 KB
  - b) 64 KB
  - c) 16 KB
  - d) 8 KB
- (58) In which year, 8086 microprocessor was introduced?

a) 1978

b) 1979

c) 1977

d) 1971

(59) In which year, 8088 microprocessor was announced?

a) 1979

b) 1988

c) 1999

d) 2000

(60) 8088 microprocessor has

a) 16 bit data bus

b) 4 byte pre-fetch queue

c) 6 byte pre-fetch queue

d) 16 bit address bus