C 1094

Name...

Reg. No...................................

SIXTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION, MARCH 2021

B.C.A.

BCA 6B 17 (E1)—MICROPROCESSOR AND APPLICATIONS

(2017 Admissions)

Time : Three Hours

Maximum : 80 Marks

Section A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. 8085 can address 2^8 I/O's, whereas 8086 can access —————— I/O's.

2. —————— is a 16-bit register used to hold the address of the next instruction to be executed.

3. —————— instruction is used to add with carry.

4. What does instruction JCXZ does ?

5. The DD directive is used to declare a —————— type variable.

6. The —————— directives are used control the location counter used by the assembler during the machine code generation

7. —————— pin determines the clock sources to latches in 8212.

8. Which signal indicates the DMA controller that the bus has been granted to the requesting peripheral by the CPU when it is set to 1 ?

9. 80186 contains —————— Bit data bus.

10. —————— is an interrupt request used by external circuitry to request an interrupt.

$(10 \times 1 = 10 \text{ marks})$

Section B

Answer at least **five** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 15.

11. What is the use of conditional flag ? Which are the various conditional flags present in 8086 ?

12. What is the use of QS0 and QS1 status signals in 8086 ?

13. Explain indirect addressing mode with an example.

Turn over

14. Explain indexed addressing mode with an example.

15. Write down the syntax of ENDS operator with an example.

16. What is the use of type directive ? Explain with an example.

17. Explain the control word register of 8255.

18. What does NMI signal indicate in 80186 ?

<div align="right">(5 × 3 = 15 marks)</div>

Section C

Answer at least five questions.
Each question carries 5 marks.
All questions can be attended.
Overall Ceiling 25.

19. Compare between 8085 and 8086 microprocessors.

20. Explain in detail about flags in 8086.

21. What are vectored and non-vectored interrupts ? Explain with examples.

22. Which are various *i* Instructions to transfer the instruction during an execution with some conditions ?

23. Explain the use of STRUCT assembler directive with examples. Write down the syntax.

24. Explain the use of procedure definition directives with examples.

25. With neat diagram explain the functional pin diagram of 8212.

26. List the features of 8259.

27. What does the CLTS, LAR, ARPL and VERR instructions does in 80286 ?

<div align="right">(5 × 5 = 25 marks)</div>

Section D

Answer any three questions.
Each question carries 10 marks.

28. With neat diagram explain the architecture of 8086 microprocessor.

29. Write a program to check whether a given number is prime or not.

30. What is the use of data definition directives ? Explain with examples the various data definition directives.

31. With neat diagram explain the pin configuration of 8255.

32. List down the basic features of 80186.

<div align="right">(3 × 10 = 30 marks)</div>