



Reg. No.

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**BCACAC 209**

**Credit Based Third Semester B.C.A. Degree Examination, April 2021  
(2019-20 and Earlier Batches)  
MICROPROCESSORS**

Time : 3 Hours

Max. Marks : 80

**Note :** Answer **any ten** questions from Part – **A** and **one full** question from **each** Unit of Part – **B**.

**PART – A**

1. a) List any two features of 4004 microprocessor. (10×2=20)
- b) Represent  $(76)_{10}$  in packed and unpacked BCD format.
- c) Expand XMS and TPA.
- d) What is the use of SI and DI registers in string manipulation instructions ?
- e) What is the purpose of segment override prefix ? Give an example.
- f) Differentiate LDS and LES instructions.
- g) List the four ASCII arithmetic instructions.
- h) What is the use of CBW instruction ?
- i) Differentiate NOT and NEG instructions.
- j) What is the purpose of CALL instruction ? Give an example.
- k) List any four conditional jump instructions.
- l) What is the use of NOP instruction ?

P.T.O.





**Unit – III**

- 6. a) Explain different rotate instructions with examples.
- b) Explain DAA and DAS instructions with suitable examples.
- c) Explain LOOP, LOOPE and LOOPNE instructions with example. (6+5+4)
  
- 7. a) Explain different shift instructions with examples to each.
- b) Explain MUL and DIV instruction with suitable examples.
- c) Explain REP, REPE and REPNE instructions with example. (6+5+4)

**Unit – IV**

- 8. a) Explain NEAR and FAR calls with suitable diagrams :
  - b) Explain :
    - i) INT's    ii) INT 3    iii) INTO.
  - c) Explain :
    - i) LOCK prefix                      ii) BOUND instruction. (5+6+4)
  
  - 9. a) Explain the role of RET. Compare it with IRET.
  - b) Explain :
    - i) ENTER and LEAVE instructions
    - ii) ESC
  - c) What is a microcontroller ? Draw its block diagram. (5+6+4)
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