

**FIFTH SEMESTER B.C.A. DEGREE (SUPPLEMENTARY) EXAMINATION
NOVEMBER 2017**

(UG—CCSS)

CA 5B 08—MICROPROCESSOR

Time : Three Hours

Maximum : 30 Weightage

I. Answer all *twelve* questions :

- 1 8086 is a _____ bit microprocessor.
- 2 The _____ of a microprocessor is the list of commands that the microprocessor is designed to execute.
- 3 The parity flag (PF) is set, if the result has _____ parity.
- 4 The instruction _____ exchange the contents of AX and BX.
- 5 _____ is an example of bit manipulation instructions.
- 6 Which of the following is an unconditional transfer instruction ?
 - (a) CALL.
 - (b) JMP.
 - (c) RET.
 - (d) All the above.
- 7 _____ is an example of assembler directive.
- 8 Say True or False : In general, using MACRO results in larger code than using procedure / function.
- 9 _____ is an example of Non-maskable interrupt.
- 10 IVT stands for _____
- 11 _____ is the latest Pentium processor.
- 12 The 386 has three processing modes, protected, real address mode and _____.

(12 × ¼ = 3 weightage)

II. Answer all *nine* questions :

- 13 Explain how a physical memory address is computed internally.
- 14 Give the structure of Flag register.
- 15 What is a macro ?

Turn over

- 16 Explain the significance of stack in subroutines.
- 17 Give the syntax of SEGMENT directive.
- 18 Differentiate internal and external interrupts.
- 19 What is DMA ?
- 20 List any *four* features of 486.
- 21 What do you mean by pipelined architecture ?

(9 × 1 = 9 weightage)

III. Answer any *five* questions :

- 22 What is the purpose of 8086 $\overline{MN}/\overline{MX}$ pin ? If [DS] = 205FH and OFFSET = 0051H, what is the physical address ?
- 23 Draw the internal architecture of 8086.
- 24 Write 8086 instruction sequence to subtract two 64-bit numbers stored in memory.
- 25 Assume that a 16 bit number is stored in CX (bits 0 to 7 - the high order byte & 8 to 15-lower order byte) and another 16 bit number in AX (bit 0 to7 - the lower order byte & 8 to 15 - higher order bytes). Write 8086 instruction sequence to add the two numbers and store the result in DX.
- 26 Give the structure of a typical 8086 assembly language program.
- 27 Write an 8086 assembly language program to multiply the top two 16 - bit unsigned words of the stack. Store the 32 - bit result onto the stack.
- 28 List and explain features of Pentium.

(5 × 2 = 10 weightage)

IV. Answer any *two* questions. :

- 29 Discuss 8086 addressing modes.
- 30 Write 8086 instruction sequence to add 100, 16 - bit numbers stored in consecutive memory locations. Make necessary assumptions.
- 31 Explain in detail the features and applications of 8259, 8255, 8251 and 8257.

(2 × 4 = 8 weightage)