C 30904 (Pages : 2) Name.....

Reg. No.....

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 MN/$\overline{\text{MX}}$ 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)