

Time: 3 Hours

OCTOBER 2012

Max. Marks: 100

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE: There are 9 Questions in all.

- Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.
- The answer sheet for the Q.1 will be collected by the invigilator after 45 minutes of the commencement of the examination.
- Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

Q.1 Choose the correct or the best alternative in the following: (2×10)

a. Intel's 80186 and 80286 microprocessors are

- (A) 16-bit (B) 8-bit
(C) 32-bit (D) None of the above

b. What will be the contents of register AL after the following has been executed

MOV BL, 8C
MOV AL, 7E
ADD AL, BL

- (A) 0A and carry flag is set (B) 0A and carry flag is reset
(C) 6A and carry flag is set (D) 6A and carry flag is reset

c. For MOVS instruction, if DF =1, the contents of index register SI and DI are

- (A) Automatically decrements (B) Automatically increments
(C) Both get subtracted (D) Both get added

d. The term SUPERSCALAR is used for the processor

- (A) Which contains GHz clock
(B) Which contains more CACHE's
(C) Which contains more than one pipeline
(D) None of the above

Code: AC23

Subject: MICROPROCESSOR BASED SYSTEMS

- e. Which is the tool used to connect the user and the computer?
- (A) Assembler (B) Interpreter
(C) Both (A) and (B) (D) None
- f. Maximum how many I/O devices can be connected employing two 8259 IC's
- (A) 16 (B) 64
(C) 8 (D) None of the above
- g. The PCI bus is the important bus found in all the new Pentium systems because
- (A) It has plug and play characteristics
(B) It has ability to function with a 64 bit data bus
(C) Any Microprocessor can be interfaced to it with PCI controller or bridge
(D) All of the above
- h. Which type of JMP instruction assembles if the distance is 0020 h bytes
- (A) near (B) far
(C) short (D) none of the above
- i. If the crystal oscillator is operating at 15 MHz, the PCLK output of 8284 is
- (A) 2.5 MHz (B) 5 MHz
(C) 7.5 MHz (D) 10 MHz
- j. Which Flags can be set or reset by the programmer and also used to control the operation of the processor
- (A) Trace Flag
(B) Trace Flag and Interrupt Flag
(C) Trace Flag, Interrupt Flag, Direction Flag
(D) Interrupt Flag and Direction Flag

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

- Q.2** a. Differentiate between real and protected modes of an Intel microprocessor. Discuss protected mode memory addressing in brief. (5)
- b. Discuss the register organization of 8086. Explain the function of each register. (6)
- c. Explain the working of memory paging. (5)
- Q.3** a. Explain the functions of the following: (6)
- (i) Debugger (ii) Assembler
(iii) Linker

