

BENGAL ENGINEERING AND SCIENCE UNIVERSITY, SHIBPUR
B.E. 6TH SEMESTER (ETC) FINAL EXAMINATIONS, April May 2012
SUB: ADVANCED MICROPROCESSOR & COMPUTER ARCHITECTURE (ET-602)

Full Marks: 70

Time: 3 hours

FIRST HALF

ANSWAR Q. No. 1 and any two from the rest

1. (a) Describe the (i) AAM (ii) IMUL instructions in 8086. Make hardware realizations of these instructions separately using logic circuit.
(b) Describe the following assembler directives (i) ASSUME (ii) EXTRN (iii) PUBLIC (iv) LABEL (v) SEGMENT
(c) Describe the functionality of following IC chip Pins (i) RESET & $\overline{\text{BHE}}$ in 8086 (ii) $\overline{\text{PEACK}}$ & PEREQ in 80286 (iii) $\overline{\text{KEN}}$ & $\overline{\text{FLUSH}}$ in 80486 (15)
2. (a) Describe the following instructions in 8086 with examples (i) CMPSB (ii) CWD (iii) LAHF (iv) LODSB (v) LES
(b) Draw and explain internal block diagram of 80186 microprocessor. (10)
3. Describe the various types of 8086 interrupts. Explain with the help of flow chart and circuit diagram interfacing of matrix keyboard with microprocessor. (10)
4. Draw and explain internal block diagram of 80486 microprocessor. Describe the memory management unit using selector and descriptor in 80286 and 80386 microprocessor. (10)

SECOND HALF

ANSWAR Q. No. 5 and any three from the rest

5. Choose the correct or best alternative in the following with a brief narration:

i) Ready pin of a microprocessor is used

- (A) to indicate that the microprocessor is ready to receive inputs.
(B) to indicate that the microprocessor is ready to receive outputs.
(C) to introduce wait states. (D) to provide direct memory access.

ii) In which T-state does the CPU send the address to memory or I/O and the ALE signal for demultiplexing

- (A) T1. (B) T2. (C) T3. (D) T4.

iii) In a DMA write operation the data is transferred

- (A) from I/O to memory. (B) from memory to I/O.
(C) from memory to memory. (D) from I/O to I/O.

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