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Sixth Semester B.E. Degree Examination, Dec.2014/Jan.2015
Microprocessor

Time: 3 hrs.

Max. Marks: 100

**Note: Answer FIVE full questions, selecting
at least TWO questions from each part.**

PART - A

- 1 a. Explain in brief the function of execution unit, with neat block diagram. (06 Marks)
- b. i) Explain the role of the following with respect to 8086. Queue, general purpose register, segment register. (08 Marks)
- ii) How physical address is generated in 8086? (06 Marks)
- c. Explain transient program area and system area. (06 Marks)
- 2 a. Explain the significance of pins of 8086: i) ALE ii) Ready iii) INTR iv) BHE/S7. (06 Marks)
- b. Explain with examples the following instruction: (06 Marks)
- i) XLAT ii) AAA iii) DIV iv) IMUL (06 Marks)
- c. Write an assembly program to multiply two 32-bit number stored in memory m₁ and m₂ and store the product in memory location P. Write the program followed by comments. (08 Marks)
- 3 a. Explain string instruction with examples. (06 Marks)
- b. What is assembler directive? Explain the following assembler directive with syntax: (06 Marks)
- i) MACRO-ENDM ii) PUBLIC-EXTRN iii) PROC-ENDP
- iv) ASSUME
- c. Write the assembly program with comments: (08 Marks)
- i) To add two multiprecision number using string instruction.
- ii) To find the LCM of sixteen bit data.
- 4 a. Differentiate between MACRO and PROCEDURE with examples. (06 Marks)
- b. Explain the types of interrupts. Explain the action taken by 8086 microprocessor when an interrupt occurs. (06 Marks)
- c. Write an assembly program to find GCD of 4 numbers using a procedure. (08 Marks)

PART - B

- 5 a. Explain INT0, INT1, INT2, INT3, INT4 interrupts. (05 Marks)
- b. With the help of block diagram, explain programmable peripheral interface and also write the command word format of 8255. (07 Marks)
- c. Explain with diagram, how 4 × 4 keyboard is interfaced with 8086 through 8255. (08 Marks)
- 6 a. Draw the internal structure of 8087 numeric coprocessor and explain in brief the different units. (10 Marks)
- b. Explain various data types that 8087 can handle, with examples. (05 Marks)
- c. Explain the following co-processor instructions: (05 Marks)
- FSQRT, FSTP, Fscale, FCOM, FLD.

- 7 a. With block diagram, explain maximum mode operation of 8086. (08 Marks)
- b. Write short notes on:
- i) Peripheral component interface (PCI). (12 Marks)
 - ii) LPT (04 Marks)
 - iii) USB (06 Marks)
- a. Write a note on pentium processor. (07 Marks)
- b. Explain various special register of 80386. (08 Marks)
- c. Explain the modes of operation in 80386. (07 Marks)

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