H.T.No. | | | | | | | | | | |

Code No: EC1528 **GEC-R14**

III B. Tech I Semester Supplementary Examinations, July 2017

COMPUTER ORGANIZATION AND MICROPROCESSORS

(Electronics and Communication Engineering)

Time: 3 Hours **Max. Marks: 60**

Note: All Questions from **PART-A** are to be answered at one place.
Answer any **FOUR** questions from **PART-B.** All Questions carry equal Marks.

PART-A

6 × 2 = 12M

1. Perform arithmetic operation of signed numbers (+36) + (-27).
2. Write the different instruction formats.
3. Draw the flag register format of 8086.
4. Define assembler directives? Write five assembler directives of 8086.
5. Explain the need for DMA.
6. Draw interrupt vector table of 8086.

PART-B

4 × 12 = 48M

1. a) Design and explain the operation of 4 bit ALU. (6M)
   b) Explain about pipeline hazards. (6M)
2. a) Explain about various addressing modes of CPU. (7M)
   b) Explain about register organization. (5M)
3. a) Explain the architecture of 8086 with a neat diagram. (7M)
   b) Draw and explain the write timing diagram for minimum mode of 8086 microprocessor. (5M)
4. a) Write the description for the following 8086 instructions
   i) POP ii) ROR iii) XCHG
   iv) CLD v) MOVSB (7M)
   b) Write an Assembly Language Program in 8086 to transfer the 16 bytes data from the offset 3000h to 4000h in segment 8000h. (5M)
5. a) Design a stepper motor controller and Write an ALP in 8086 to rotate shaft of stepper motor in clockwise direction for 5 rotations. (6M)
   b) Explain the internal a

rchitecture of 8255 PPI. (6M)

6. a) Explain the architecture of programmable interrupt controller 8259 with neat block diagram. (7M)
   b) Write short notes on serial communication standards. (5M)

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