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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-3 EXAMINATION – May 2018

B.Tech, IV<sup>th</sup> Semester (CSE)

COURSE CODE: 10B11CI401

MAX. MARKS: 35

COURSE NAME: MICROPROCESSORS AND CONTROLLERS

COURSE CREDITS: 4

MAX. TIME: Two Hrs

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*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Missing data, if any, can be appropriately assumed.*

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1. Design a circuit to interface eight 2764 EPROMs for a 64K $\times$ 8 section of memory with microprocessor to address memory range 40000H - 4FFFFH. (5)
  2. What is DMA? Describe the cycle stealing operation mode of DMA. (5)
  3. Explain the internal structure of 8254 Timer/ Counter. What are its different modes of operation? (5)
  4. Write short notes on following: (5)
    - a) 80X87 Arithmetic Coprocessor
    - b) Pentium Processor
  5. Differentiate between a microprocessor and a microcontroller. Explain the architecture of 8051 micro controller. (1+4)
  6. What is an interrupt? How many different types of interrupts are available in the 8086 microprocessor? How does RET and IRET instructions differ from each other? (5)
  7. a) Which are the instructions used for transferring data between an Input/Output port and 80X86 microprocessor? Explain how these instructions are used? (2)  
b) What is a stack memory in a 80X86 based system? Explain the instructions that are used to access stack memory in 80X86. (3)
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