JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

SUPPLYMENTRY EXAMINATION- June 2017

B.Tech/ M.Tech IV Semester

COURSE CODE: 10B11CI401   MAX. MARKS: 100

COURSE NAME: Microprocessor and Controllers

COURSE CREDITS: 3   MAX. TIME: 2 Hrs

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

[Marks]

Q1. What do you mean by 8-bit, 16-bit, 32-bit microprocessor? [5]

Q2. In which scenario the memory mapped I/O will be preferred compared to the peripheral mapped I/O? [5]

Q3. Explain 2-key lockout and N-key rollover modes in 8279 keyboard display controller? [5]

Q4. What is the difference between an interrupt and a procedure? [5]

Q5. Explain the daisy chain mechanism for multiple IRQ (Interrupt request)? [5]

Q6. Draw a memory interfacing diagram to create a 64k x 8 memory using EPROM (size 8k x 8), using NAND gate decoding technique? [15]

Q7. What is the purpose of a DMA? Explain the interfacing of the DMA controller (8237) with the 8086 microprocessor? [15]

Q8. Explain the basic block diagram of the 16550 UART communication controller? [15]

Q9. Describe the functional diagram and command byte of the 8255 PPI? Explain the programming steps to set the Port A as an input port in Mode 1? [15]

Q10. Explain the use of Hamming codes to detect and correct the errors? [15]