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[4957]-1078

**S.E. (Computer) (Second Semester) EXAMINATION, 2016**

**MICROPROCESSOR AND INTERFACING TECHNIQUES**

**(2012 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Answer total 4 questions : Q. 1 or Q. 2, 3 or Q. 4, 5  
or Q. 6, 7 or Q. 8

(ii) Support the answers with neat diagrams wherever necessary.

(iii) Figures to the right indicate full marks.

1. (a) Describe PSP and its importance. [2]
- (b) Draw and explain the bits of ICW1 in 8259. [4]
- (c) Write a program to determine whether the given (8 bit) number is even or odd. Initialize the number in data segment. [6]

*Or*

2. (a) Draw and explain IVT. Give one example for address calculation in IVT. [6]
- (b) Explain the terminologies : [4]
- (i) Assembler
- (ii) Linker.

P.T.O.

- (b) Write and explain any *two* internal DOS commands. [2]
3. (a) Given Clock frequency of 1.5 MHz and square wave is to be generated of period of 1 ms, what will be the count value? [2]
- (b) Draw and explain the block diagram of 8255. [8]
- (c) Explain the difference between synchronous and asynchronous Data Transfer. [2]

*Or*

4. (a) What is the difference between *n* key roll over and 2 key lockout in 8279. [4]
- (b) Explain the difference between mode 0 and mode 1 of 8253. [4]
- (c) Explain the terminologies for D/A converter : [4]

- (i) Linearity  
(ii) Monotonicity.

5. (a) Explain the instructions : [6]
- (i) FISTP  
(ii) FICOM  
(iii) FLDZ  
(iv) FTST
- (b) Draw and explain the interface between 8086 and 8087. [7]

*Or*

6. (a) Draw and explain timing diagram for write cycle in minimum mode for 8086. [6]

- (b) Explain use of 8282 and 8284. [4]
- (c) How does 8086 recognize instructions of 8087 ? [3]
7. (a) What is X58 chipset ? Explain the features of X58 chipset. [7]
- (b) Explain the following components of 82801JR I/O Controller hub : [6]
- (i) Direct Media Interface
  - (ii) Serial Peripheral Interface
  - (iii) Quiet System Technology.

*Or*

8. (a) What is QPI Technology ? Explain. [3]
- (b) What is the purpose of 82801 JR I/O Controller Hub ? List features of same. [4]
- (c) Explain the basic components of i5 processor with block diagram. [6]