SARDAR PATEL UNIVERSITY
External Examination
B. Sc. – Information Technology – Fifth Semester
US05CINT06: Computer Architecture and Microprocessor
25th November, Monday, 2013

Time: 10:30 am to 01:30 pm   Total Marks: 70

Q-1 Select an appropriate option.   10

1. The _____ store intermediate data used during the execution of instruction.
    (a) Register Set   (b) CPU   (c) CU   (d) ALU

2. The _____ unit supervises the transfer of information among the register
    and instruct the ALU to which operation is performed.
    (a) Control   (b) Input   (c) Memory   (d) Arithmetic and Logical

3. A _____ is a storage device that stores information in such a manner
    that the item stored last in the first item retrieved.
    (a) Stack   (b) Link List   (c) Queue   (d) Tree

4. DMA stands for _____
    (a) Direct Memory Access   (b) Double Memory Access
    (c) Dual Memory Access   (d) Direct Mapping Access

5. The _____ register specifies the number of words that must be transferred.
    (a) Word Count   (b) Address   (c) Data   (d) Control

6. The _____ contains an address to specify the desired location in memory.
    (a) Address Register   (b) Word Count Register
    (c) Control Register   (d) All of these

7. IOP stands for _____.
    (a) Input Output Processor   (b) In Out Process
    (c) In Out Processor   (d) Inter Outer Processor

8. The group of four bit is called _____.
    (a) Bit   (b) Byte   (c) Nibble   (d) Kilo Byte

9. LED Stands for _____.
    (a) Light Energy Data   (b) Light Emitting Data
    (c) Light Emitting Diode   (d) Liquid Emitting Diode

10. PSW stands for _____.
    (a) Program Status Word   (b) Program Store Word
    (c) Program Set Word   (d) None of these

Q-2 Answer the following questions. (Any **TEN**)   20
1.   Define PUSH and POP operation of Stack.
2.   Define Prefix Notation with example.
3.   Explain Magnetic Tape.
4.   Define Bus Request (BR) and Bus Grant (BG).
5.   Define Virtual Memory.
6.   Define Multiprogramming.
7.   Define Microprocessor.
8.   Define Machine Level Languages.
9.   Define High Level Languages.
10. What is Program Counter?
11. Define Data Bus.
12. Define Flags.

Q-3
(a)   Explain Components of CPU.   5
(b)   Explain Two Address Instruction with example.   5
                                OR
Q-3
(a)   Explain Input – Output Interface.   5
(b)   Explain types of Printers.   5

Q-4
(a)   What is DMA? Explain DMA Controller.   5
(b)   What is Memory? Explain Memory Hierarchy in Computer System.   5
                                OR
Q-4
(a)   Explain Cache Memory with Associative Mapping.   5
(b)   Explain Binary Multiplication using Register Method.   5

Q-5
(a)   Explain Characteristics of Multiprocessor.   5
(b)   Explain Time Sharing Common Bus Structure.   5
                                OR
Q-5
(a)   Explain Multistage Switching Network.   5
(b)   Explain Operating System.   5

Q-6 Explain the Microprocessor Architecture in detail. Also explain Multiprocessor   10
     Initiated Operation.

                                OR
Q-6 Write short note on followings: 10
     I.   Explain Memory and Instruction Fetch.
     II.   Explain Memory Classification in detail.

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