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6 SEM TDC CSC G 1

2014

(May)

COMPUTER SCIENCE

(General)

Course : 601

(Computer Organization and Architecture)

Full Marks : 48
Pass Marks : 19

Time : 2 hours

The figures in the margin indicate full marks for the questions

1. Choose and write the correct option : 1×6=6

   (a) The hexadecimal equivalent of the binary number 1011010101l0111 is

   (i) 2 9 A 7

   (ii) 2 A B 7

   (iii) 2 B C 7

   (iv) 2 C D 7

(b) TRAP is a type of

(i) interrupt

(ii) register

(iii) BUS

(iv) instruction code

(c) LDA 2500 H is an example of

(i) one-byte instruction

(ii) two-byte instruction

(iii) three-byte instruction

(iv) four-byte instruction

(d) The input and output devices are known as

(i) accessories

(ii) interrupt devices

(iii) peripherals

(iv) DMA

(Continued)

(e) Which memory is a high-speed memory that is used to hold frequently executed instructions and is usually placed inside the CPU?

(i) RAM

(ii) Virtual memory

(iii) Auxiliary memory

(iv) Cache memory

(f) Intel 8085 microprocessor is a/an —— architecture.

(i) 4-bit

(ii) 8-bit

(iii) 16-bit

(iv) 32-bit

2. Answer the following : 2×6=12

(a) Define combinational and sequential circuits.

(b) What are instruction cycles?

(c) What is stack? Why is it used?

(d) Explain the process of program-controlled data transfer.

(Turn Over)

(e) How is virtual memory implemented?

(f) What is the use of the status register of the 8085 microprocessor?

3. Answer any *five* from the following : 6×5=30

(a) What is an I/O interface? Explain the logic gates used in digital design. 2+4=6

(b) Explain the bus system used in microprocessors. What is auxiliary memory? 4+2=6

(c) Explain the addressing modes used by microprocessor. What is PSW of 8085? 5+1=6

(d) Explain the DMA technique for data transfer. 6

(e) What is associative memory? Discuss the memory hierarchy of a modern computer briefly. 1+5=6

(f) Draw and explain the block diagram of an 8085 microprocessor. 6

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