15313

B. Tech 7th Semester Examination

Peripheral System Design & Interfacing (NS)

EC-411(c)

Time : 3 Hours   **Max. Marks : 100**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all selecting one from each of the Sections A, B, C & D. Section E is compulsory.

SECTION - A

1. (a) What is the difference between microprocessor and microcontroller?   (10)

    (b) What is the importance of RS-232C in serial communication? Name some application where you see its use.   (10)

2. (a) Explain the internal architecture of a microprocessor.   (10)

    (b) Give comparison of the serial data transfer and parallel data transfer methods.   (10)

SECTION - B

3. (a) What do you mean by external and internal data bus? Describe features of PCI bus.   (10)

    (b) Classify GPIB bus configurations and bus signals, and explain in detail control signals.   (10)

4. (a) What is an interrupt? Discuss various software interrupts.   (10)

    (b) What is 16-bit ISA? Compare it with 8-bit ISA bus. (10)

[P.T.O.]

SECTION - C

5. (a) What are the differences between CGA and VGA graphics adapters?   (10)

    (b) List and explain major components of the keyboard/display interface.   (10)

6. (a) Draw and explain the block, diagram of DMA controller. Also explain the various modes in which DMA controller works.   (10)

    (b) Describe various interfaces for keyboard.   (10)

SECTION - D

7. (a) Write note on cross compiler and in-circuit emulator.   (10)

    (b) What do you understand by Microprocessor Development System (MDS)? What are its hardware and software support?   (10)

8. (a) Explain with example automated test equipment.   (10)

    (b) Describe in brief use of simulator and emulator in embedded system design and testing.   (10)

SECTION - E

9. (a) What is a peripheral?

    (b) Describe the concept of interfacing in computers.

    (c) What is interrupt map?

    (d) Explain integrated development environment.

    (e) What is PS/2?

    (f) What is an online system?

    (g) What metrics can be used to define quality of display devices?

    (h) What is key bouncing?

    (i) Differentiate between simulator and emulator.

    (j) What is front side bus?   (2×10=20)