16220(D)   - 0 DEC 2016

B. Tech 7th Semester Examination

Peripheral System Design and 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 : (i) Attempt five questions in all selecting one question each from sections A, B, C and D. Section E is compulsory.

(ii) All Parts of a question should be answered at one place.

(iii) Answers should be brief and to the point and be supplemented with neat sketches.

SECTION - A

1. (a) Discuss the physical interface in context of RS-232 C. (10)

(b) Differentiate Serial and Parallel Communication.   (10)

2. (a) Describe the role of PCI bus in detail.   (10)

(b) Write a note on current loop interface.   (10)

SECTION - B

3. (a) Discuss the application of VESA-VL bus in detail.   (10)

(b) Discuss the merits and demerits of GPIB bus configuration.   (10)

4. With the help of an example explain difference between memories mapped I/O and Isolated I/O.   (20)

SECTION - C

5. Write a note on DMA Controller and CRT based display.   (20)

6. (a) When a DMA module takes control of a bus and while it retain control of a bus, what does the processor do?   (10)

(b) Briefly explain the role of communication controllers.   (10)

SECTION - D

7. Discuss the PLC scanning process. Discuss the role of on delay and off delay timers in detail.   (20)

8. Write note on:

(i) PC based data acquisition system.

(ii) Microprocessor development system.   (20)

SECTION - E

9. Answer the Following:

(i) What is the role of external buses in computer?

(ii) What are parallel PCI?

(iii) How PLC is used to control machines and processes?

(iv) What is the use of opto-isolator in PLC?

(v) Discuss the role of in-circuit emulators in microprocessor based system design.

(vi) What is asynchronous serial communication?

(vii) Explain software interrupt.

(viii) What is the width of memory data bus in Pentium?

(ix) What are the limitations of CRT based display?

(x) What is handshaking?   (10×2=20)