

Total No. of Questions :12]

SEAT No. :

P799

[Total No. of Pages : 2

[4659] - 211

B. E. I. T.

INFORMATION TECHNOLOGY

Embedded System (Elective - II(a))

(2008 Pattern) (Semester - I)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Answers to the two sections should be written in separate books.*
- 2) *Assume suitable data wherever necessary.*
- 3) *Neat diagrams must be drawn wherever necessary.*

SECTION - I

Q1) a) What are the desirable typical characteristics of an Embedded processor/controller. [10]

b) What are the challenges of embedded systems? [8]

OR

Q2) a) Explain multiprocessor system in detail. [10]

b) What is an Embedded System? What are the components of embedded system? [8]

Q3) a) What is Timer? How can it be used in Embedded System? [8]

b) Explain Serial Transmission Using UARTs [8]

OR

Q4) a) What is Watchdog timer? Explain its use in embedded system. [8]

b) Explain the different types of memories used in embedded system? [8]

Q5) a) Write the notes on LCD and LED displays used in Embedded systems. [10]

b) List and brief the different technologies used in keyboard design. [6]

P.T.O.

OR

- Q6)** a) Explain null modem communication using RS232 serial communication? [10]
b) What is ISR? How is it typically executed? [6]

SECTION - II

- Q7)** a) How does the pointer work in C? How can we optimize the coding using pointers? [12]
b) Write a note on IN-Circuit emulator. [6]

OR

- Q8)** a) Write a detailed note on QUEUE data structure with its use by System. [10]
b) Discuss Requirement Analysis related to an Embedded System. [8]

- Q9)** a) What is critical section problem in RTOS? [8]
b) Discuss inter-process communication and synchronization in RTOS. [8]

OR

- Q10)** a) Explain state transition diagram of RTOS. [10]
b) What is Thread? What are the advantages of Multithreading? [6]

- Q11)** How will you design an application for Chocolate Vending Machine in detail? (Write with design and code fragments.) [16]

OR

- Q12)** How will you design a application for sending Application Layer Byte Stream on a TCP/IP Network in detail. (Write with design and code fragment.) [16]

