

PART B (10 x 2 = 20 Marks)

(Answer not more than 40 words)

11. What are the typical characteristics of an embedded system?
12. List the main components of an embedded system
13. Differentiate synchronous communication and iso-synchronous communication.
14. List the functions of a software timer.
15. Expand FSR.
16. List the significance of brown out reset mode
17. Define Task Control Block (TCB)
18. Give the needs for memory management.
19. Name any two queue related functions for the inter task communications.
20. What are the real time system level functions in UC/OS II? State some?

PART C (5 x 14 = 70 Marks)

(Answer not more than 400 words)

Q.No. 21 is Compulsory

21. Discuss the software tools employed in the designing of an embedded system.

22. (a) (i) Illustrate on the characteristics taken into consideration when interfacing a device port. (7)
(ii) Explain the sophisticated interfacing features in device ports. (7)
- (OR)**
- (b) Explain the following parallel communication devices:
 - (i) ISA bus (7)
 - (ii) PCI and PCI/X (7)

23. (a) (i) Describe the various modes of operation of timer in PIC microcontroller (7)
(ii) Explain the structure of program memory in PIC microcontroller. (7)
- (OR)**
- (b) (i) Discuss briefly the architecture of PIC 16c6x/7x microcontroller (7)
(ii) Write a note on ADC and PWM in PIC microcontroller environment (7)

24. (a) (i) Elaborate on the Interrupt Service Handling process in RTOS. (7)
(ii) Write about Semaphores with types in detail. (7)

(OR)

- (b) (i) Discuss briefly the functions of event registers. (7)
(ii) Explain priority inversion problem with an example. (7)
25. (a) (i) Explain RTOS system level functions with an example (7)
(ii) How does an RTOS semaphore protect data? Explain by giving an example. (7)
- (OR)**
- (b) (i) Discuss briefly about mailbox related functions (7)
(ii) Explain the components on an SoC for a contact less smart card with neat (7)
diagram.
