

Note : Attempt All question each question carry equal marks

1. Answer the following questions (very short Answers).
 - (a) Define embedded system with an example.
 - (b) What is real time clock?
 - (c) State the term interrupt latency.
 - (d) What is Inter Process Communication?
 - (e) Write the basic difference between general purpose operating system and RTOS.
2. Answer the following questions (short questions Answers).
 - (a) Write short notes on embedded system on-chip.
 - (b) What is parallel port device? Give an example.
 - (c) What are the difference between message queue functions and mail box function.
 - (d) Write the different interrupt sources? Define ISR.
 - (e) Define the term process management and scheduling. How it relates to OS.
3. Part (a) is compulsory and attempt any one of part (b) or part (c).
 - (a) Write the short notes on different types of embedded system with example.
 - (b) With help of suitable flow chart explain the design process of an embedded system.
 - (c) Explain in software models and tools for the detailed designing of an embedded system.
4. Part (a) is compulsory and attempt any one of part (b) or part (c).
 - (a) What are the sophisticated interfacing features in device ports?
 - (b) Give the name of any three wireless devices used in an embedded system and also write short notes on it.
 - (c) Explain the functions of PCI. Also write the difference between PCI and PCI-X
5. Part (a) is compulsory and attempt any one of part (b) or part (c).
 - (a) Define device driver. How it works in any embedded device.
 - (b) What is context-saving angle? Classify the processor interrupt service mechanism from context-saving angle.
 - (c) What are the periods for context switching? Also explain the context switching and how it is useful for embedded system.
6. Part (a) is compulsory and attempt any one of part (b) or part (c).
 - (a) Write the clear –cut distinction between functions ISRS and Task by their characteristics.
 - (b) With the help of suitable diagram explain the RPC function in details.
 - (c) What is semaphore functions? How it is applicable for communication between devices.
7. Part (a) is compulsory and attempt any one of part (b) or part (c).
 - (a) What is operating system? Explain the operating system services in details.
 - (b) With the help of suitable diagram explain the RTOS task scheduling models.
 - (c) Explain the interrupt routine in RTOS environment and handling of interrupt source calls.