



- Q2** a) Enumerate the evolution of various pipelining structures in ARM. How many general and special-purpose registers are there in ARM? Explain their functionalities. (10)
- b) What is THUMB? How does the THUMB instruction set differ from the ARM instruction set? Are the THUMB instructions executed directly? (10)
- Q3** a) With a suitable example, explain the difference between the traditional notion of time and real-time. Explain the important differences between hard, firm and soft real-time systems. What are the distinguishing characteristics of periodic, aperiodic and sporadic real-time tasks? (10)
- b) Explain briefly about PCI and PCI-X buses. (10)
- Q4** a) Write short notes on: (i) IrDA interface (ii) CAN (iii) Bluetooth (iv) ISA. (10)
- b) What's the difference between RS-232 and RS-485 serial interface? (10)
- Q5** a) What is hardware/software partitioning? Explain hardware/software partitioning using genetic algorithm. (10)
- b) What is hardware/software co-simulation? Specify the simulation requirements for this. (10)
- Q6** a) Define dynamic power dissipation. Explain various power reduction techniques. (10)
- b) Compare and contrast various system level power management policies. (10)
- Q7** a) What are the benefits and costs of having states in a system? Draw a state chart for the order object of the trade house automation software. (10)
- b) Write short notes on: (i) PetriNets (ii) SDL. (10)