

**DEPARTMENT OF INFORMATION TECHNOLOGY
EMBEDDED SYSTEMS --V SEM**

**UNIT –II
Embedded Processor**

Part – A (2 Marks)

1. What is an Embedded System?
2. Define embedded processor.
3. Define the memory organization of Arm processor.
4. What is CPSR and the fields present in it?
5. Explain the instruction RSB & RSC.
6. What are load and store instructions of ARM processor?
7. Define base –plus offset addressing.
8. What is procedure call stack?
9. Explain four cycle handshake in bus protocol.
10. What is the purpose of bridge in bus configuration?
11. What are the two buses of ARM Processor?
12. Define Aspect Ratio.
13. What are the types of RAM?
14. Differentiate SRAM & DRAM.
15. Explain the types of ROM.
16. What the types are of field programmable ROM.
17. What is Boot Block Flask?
18. Explain Watch Dog Timer
19. What is switch bouncing in key board?
20. Write about Frame buffer.
21. What are the types of touch screens?
22. What are elements present in hardware architecture of embedded systems?
23. What are the advantages of PC?
24. Define plug and Play standard.
25. Define host and target system with diagram
26. What are the duties of host?
27. What is meant by test bench program?
28. What is break point in debugging?
29. What are the hardware tools for debugging?
30. Write about logical analyzer.
31. Define co verification.
32. What are the types of co verification techniques?
33. What is interrupt driven routine?
34. Define foreground program.

Part – B

1. Explain in detail the data operations in ARM Processor.
2. Write in detail about the flow control in ARM Processor.
3. Explain CPU bus configuration with diagram.
4. Explain Arm Bus in detail.
5. Explain Memory devices in detail.
6. Write about I/O Devices in detail.
7. Explain Designing with microprocessor in detail
8. Explain development Environment in detail.
9. Explain hardware and software debugging tools in detail.
10. Explain the design of alarm in detail

UNIT –III Embedded Programming

Part – A (2 Marks)

1. Define high level language.
2. List the advantages of high level languages.
3. Distinguish macros and functions.
4. What are the C program elements?
5. What is source file?
6. What is configuration file?
7. What is the use of preprocessor directives?
8. What are the various data structures in C program elements?
9. What is the use of function calls?
10. What is meant by reentrant function?
11. Explain brief about the Queue flags.
12. What are the four Boolean variables?
13. What are the unsigned short variables?
14. What are the characteristics of an object?
15. What are the advantages of C++?
16. What are the disadvantages of C++?
17. What are the advantages of assembly language programming?
18. How can optimization be used to eliminate the disadvantage in embedded C++ programs?
19. What is cross compiler?
20. What are the benefits of optimization of memory needs?
21. Define NuLL pointers.
22. What is function overloading and operator overloading?
23. Define Class.
24. Define polymorphism.
25. What is inheritance.

Part – B

1. (i) Tabulate program elements: Macros and Functions and their uses.
(ii) Explain the use of pointers, NULL pointers
2. Explain the multiple function calls in the cyclic order in the main.
Also write the advantages of building ISR queues.
3. Explain the 'C' program compiler and cross compiler.
- 4 Explain the optimization of memory codes.
5. Explain the Embedded programming in C++. (8)
6. Explain the function pointers, function queues and ISR queues.