

SE (EXTC) SEM IV KT Winter 'C' scheme 2025
19/12/2025

Duration: 3hrs

[Max Marks:80]

- N.B.: (1) Question No 1 is Compulsory.
(2) Attempt any three questions out of the remaining five.
(3) All questions carry equal marks.
(4) Assume suitable data, if required and state it clearly.

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| 1 | Attempt any FOUR | [20] |
| a | Explain IE and IP register use in 8051 microcontroller. | 5 |
| b | Differentiate between Von-neumann and Harvard architecture. | 5 |
| c | List the features of PIC16F886. | 5 |
| d | List the features of ARM7. | 5 |
| e | Differentiate between segmentation and paging in concern with the memory system. | 5 |
| 2 | a What is paging? Explain the paging mechanism in the memory system. | [10] |
| | b Write a program to multiply F0H ,0BH data and store 16 bit result in memory location 10H and in 11H memory location. | [10] |
| 3 | a Display Character "C" serially using mode1 with baud rate 9600, using 8051 microcontroller. | [10] |
| | b What is exception handling? Explain exception handling using ARM7. | [10] |
| 4 | a What is banking? Why is it needed? Explain banking with respect to 8051 microcontroller | [10] |
| | b What is DMA? Explain DMA with a block diagram. | [10] |
| 5 | a What is the size of registers in ARM7? Explain the register model of ARM7. | [10] |
| | b Write a program to transfer 5 memory location contents from address (20H to 25H) to (50H to 55H) using 8051 microcontroller (use suitable data). | [10] |
| 6 | a What are the factors to consider while selecting a microcontroller for a given application? | [10] |
| | b Explain Timer structure of 8051 microcontroller. | [10] |

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