Roll No. | | | | | | | | | | | | | **Total No. of Pages : 01**

Total No. of Questions : 08

M.Tech.(Emb Sys) (2016 & Onwards) (Sem.–1)

SOFTWARE TECHNOLOGY

Subject Code : MTED-104

M.Code : 74133

Time : 3 Hrs. **Max. Marks : 100**

INSTRUCTION TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWENTY marks.**

Q1: a) Instruction sequencing with proper diagram. (10)

b) Let a circular queue is maintained in an array A[0...n-1]. What is the size of the queue? What is the size of the queue, where F and R are front and rear of queue? Add elements 2,5,6,7,8 in a queue and then delete 2 and 5 from the queue. (10)

Q2: a) Compare and contrast the interface inheritance with class diagram. Discuss various relationships in UML using a class diagram. (10)

b) Define vent and signal. What are the four kinds of events which can be modelled by UML? (10)

Q3: Discuss fixed point representation and floating point representation in system's memory in detail. (20)

Q4: a) What is Interrupt vector table (IVR) and how that is used to write Interrupt service routine (ISR). (10)

b) Discuss stack and heap allocation memory management to show local and global scope. (10)

Q5: a) Discuss synchronization and Input-Output overlapped in detail. (10)

b) Discuss polled I/O or software driven I/O and discuss how it is useful for peripherals. (10)

Q6: a) Discuss micro C/OS in detail. (15)

b) Differentiate between pre-emptive and Non-pre-emptive kernel. (5)

Q7: a) Define the terms: Delay, Latency, Throughput, Jitter and bandwidth. (5)

b) Differentiate between structures and unions. Also write programs to Add Two Distances (in inch-feet) System Using Structures and unions. (15)

Q8: Discuss cousins of compiler: linker, loader, assembler, parser in detail. (20)

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.