

## CBCS SCHEME

18ECS323

## Third Semester M.Tech. Degree Examination, Jan./Feb. 2021 Real Time Systems

Time: 3 hrs.

Max. Marks: 100

ë.		Λ	lote: Answer any FIVE full questions, choosing ONE full question from each mo	dule.
olank pages. 50, will be treated as malpractice.				
nalp	1	a.	Discuss the brief history of Real Time Systems.	(10 M/L L )
as 1		b.	Explain the Real Time Services with necessary diagrams.	(10 Marks)
ated			diagrams.	(10 Marks)
ss. e tre			OR	
Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be	2	a.	Explain the three types of Resource Utility in Real time Embedded System.	(10 Maulza)
ank 0, w		b.	Explain the following with respect to Real time System:	(10 Marks)
g bl			(i) Scheduler concepts	
uinin 12+8			(ii) Preemptive and non-preemptive schedules	(10 Marks)
ems.				
the 1	2		Module-2	
writ	3	a. b.	Explain the types of feasibility tests in Real time Systems.	(10 Marks)
lines		υ.	Explain: (i) Deadline-monotonic policy	
oss quat			(ii) Dynamic-priority policy	772
al cr or e			(a) Symmetry poncy	(10 Marks)
nogn			OR	
<ol> <li>On completing your answers, compulsorily draw diagonal cross lines on the remaining</li> <li>Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8</li> </ol>	4	a.	Explain the IO Architectures with a neat diagram.	(00 N/L L )
drav alua		b.	Explain the usage of flash file system.	(08 Marks) (07 Marks)
rily o ev		C.	Explain shared memory concept.	(05 Marks)
uiso eal t				(or many)
omp app			Module-3	
ion,	5	a.	Explain the following:	
ficat			(i) Dead lock	
lenti			(ii) Live lock (iii) Priority inversion	
of id		b.	Explain the ways of Handling Missed Deadlines and Quality of Service (QoS)	(12 Marks)
ing			Time System.	
veal				(08 Marks)
n co ny re			OR	
. A.	6	a.	Explain Mixed Hard and Soft Real Time Services.	(08 Marks)
		b.	Explain conditions that are necessary for unbounded inversion scenario.	(12 Marks)
lo N				( 1124115)
tant			Module-4	
ıodu		a.	Explain Firmware components of embedded system.	(08 Marks)
		b.	Explain the most fundamental services and mechanisms provided by operating sys-	tem.
				(12 Marks)

OR

- 8 a. Explain message Queue communication and Heap Queue Communication between Tasks with diagram. (10 Marks)
  - b. Explain the following:
    - (i) Test access ports

(ii) Trace ports

(10 Marks)

Module-5

- 9 a. Explain basic concepts of drill-down tuning. (10 Marks)
  - b. Discuss the similarities and differences of reliability and availability. (10 Marks)

OR

10 a. Explain Hardware-supported profiling and tracing. (10 Marks)

b. Write short notes on:

- (i) Reliable software
- (ii) Design Trade-offs

(10 Marks)

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