



S J P N Trust's

Hirasugar Institute of Technology, Nidasoshi.*Inculcating Values, Promoting Prosperity*

Approved by AICTE, Recognized by Govt. of Karnataka and Affiliated to VTU Belagavi.

ECE Dept.

Exam.

Internal Assessment

Odd Sem(2018-19)

FIRST INTERNAL ASSESSMENT

Sem: 7

Date: 11.09.2018

Sub: Real Time Systems

Time: 03pm to 4pm

Sub. Code: 15EC743


Max. Marks: 25

Note: Answer two full questions, draw sketches wherever necessary.


Q. No	Description of Question	Marks	CO	RBT LEVEL
1	a What is real time system? Explain general computer control system with neat block diagram.	7	CO40433.1	L1L2
	b Classify RTS based on time constraints.	6	CO40433.1	L1L2
OR				
2	a Explain the following: 1. Clock based tasks. 2. Event based tasks. 3. Interactive system.	7	CO40433.1	L1L2
	b Explain the different types of programs in system design.	6	CO40433.1	L1L2
3	a Explain sequence control for a single chemical reactor vessel with neat sketch.	6	CO40433.2	L1L2L3
	b With neat sketch, explain hierarchial systems.	6	CO40433.2	L1L2L3
OR				
4	a Explain DDC and its advantages with neat diagram.	6	CO40433.2	L1L2L3
	b Explain Dual computer scheme.	6	CO40433.2	L1L2L3


Course Coordinator

Prof. S S Patil


Module Coordinator

Prof. N M Patel


HOD

Dr. V G Kasabegoudar

IA - I SCHEME OF EVALUATION

15EC743

Sem :	7	Subject :	RTS	Sub Code :	Date :	Marks	CO's	RBT LEVEL
Q. No.	Bit	Description						
Q1.	a.	<p><u>Defn:</u> Real-Time systems are those which must produce correct responses within a definite time limit, should computer responses exceed these time bounds then performance degradation and/or malfunction results.</p>					7	4 L2
	b.	<p><u>RTS are divided in two categories:</u></p> <ul style="list-style-type: none"> <u>Hard Real-time:</u> these are systems that must satisfy the deadlines on each and every occasion. (3) <u>Soft real-time:</u> these are systems for which an occasional failure to meet a deadline does not compromise the correctness of the system. (3) 				6	4 L2	
Q2.	a.	<p><u>Clock Based Tasks (cyclic, periodic):</u> Synchronisation between the external processes and the internal actions (tasks) carried out by the computer may be defined in terms of the passage of time or the actual time of day, in which case the system is said to be clock based. EX: NR (3)</p> <p><u>Event Based Tasks (aperiodic):</u> These are many systems where actions have to be performed not at particular times or time intervals but in response to some event. EX: Turn off of valve when tank full. (2)</p> <p><u>Interactive Tasks:</u> Interactive systems probably represent the largest class of real-time systems and cover such systems as automatic bank tellers, reservation systems for hotels. (2)</p>				7	4 L2	
	b.	<p><u>Types of programs:</u></p> <ul style="list-style-type: none"> Sequential (2) Multitasking (2) Real-time (2) 				6	4 L2	

Staff-In-Charge

Module Coordinator

HOD



IA - I SCHEME OF EVALUATION

15EC743

Sem : 5	Subject : RTS	Sub Code :	Date : 11/09/18	Marks	CO's	RBT LEVEL
Q. No.	Bit	Description				
Q3.	a.	<p>Chemical Reactor vessel's</p> <p>Diagram</p>		6	6	L1 L2 L3
	b.	<p>Hierarchical System?</p> <p>Long Decision time scale</p> <p>short decision-making structure</p> <p>Decision-making function</p>		6	6	L1 L2 L3
Q4.	a.	<p>Direct Digital Control:</p> <p>Set point</p> <p>Computer and Human Supervision</p> <p>Measured values</p>		6		L1 L2 L3
	b.	<p>Dual Computer scheme:</p> <p>Control Plant</p> <p>Interface</p> <p>Switch</p> <p>Computer 1</p> <p>Computer 2</p> <p>I/P - O/P device</p> <p>Management Information</p>		6		L1 L2 L3

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