

Embedded Systems Design	S. Heath	Second Edition	Newnes Publication
Real-Time Systems: Theory and Practice.	Rajib Mall	First	Pearson Publication

**Practicals (PSIT4P3b):**

- 1) Schedule a task periodically; after 5 min xyz task has to perform (Hint JITTER).
- 2) Schedule a task non periodically; no specific time stamp is set for any task.
- 3) Shared resources management using SEMAPHORE.
- 4) Shared resources management using MUTEX.
- 5) Implement scheduling algorithm FIFO.
- 6) Implement scheduling algorithm ROUND ROBIN.
- 7) Implement scheduling algorithm RATE MONOTONIC.
- 8) Implement Inter process communication (IPC) using NAMED PIPES.
- 9) IPC using simple PIPES.
- 10) IPC using MAIL BOXES.
- 11) Using Client Socket & Server Socket (UDP/TCP) maintain data received from client node.
- 12) Small demonstration of Kernel Level & User Level Communications

<b>CLASS: M. Sc. (Information technology)</b>		<b>Semester – IV</b>	
<b>COURSE: Computer Forensics (PSIT403c)</b>			
<b>Periods per week 1 Period is 60 minutes</b>	<b>Lecture</b>	<b>4</b>	
	<b>TW/Tutorial/ Practical</b>	<b>4</b>	
		<b>Hours</b>	<b>Marks</b>
<b>Evaluation System</b>	<b>Theory Examination</b>	<b>3</b>	<b>60</b>
	<b>Internal</b>		<b>40</b>
	<b>Practical</b>	<b>--</b>	<b>50</b>

Unit – I	Computer Forensics and Investigation Processes, Understanding Computing Investigations, The Investigator's Office and Laboratory, Data Acquisitions.	<b>12 Lectures</b>
Unit- II	Processing Crime and Incident Scenes, Working with Windows and DOS Systems, Current Computer Forensics Tools.	<b>12 Lectures</b>
Unit-III	Macintosh and Linux Boot Processes and File Systems, Computer Forensics Analysis, Recovering Graphics Files.	<b>12 Lectures</b>
Unit-IV	Virtual Machines, Network Forensics, and Live Acquisitions, E-mail Investigations, Cell Phone and Mobile Device Forensics	<b>12 Lectures</b>
Unit –V	Report Writing for High-Tech Investigations,	<b>12</b>

	Expert Testimony in High-Tech Investigations, Ethics and High-Tech Investigations.	<b>Lectures</b>
--	---	-----------------

### Books / References

<b>Title</b>	<b>Author/s</b>	<b>Edition</b>	<b>Publisher</b>
Guide to Computer Forensics and Investigations	Bell Nelson, Amelia Phillips, Christopher Stuart	4 <sup>th</sup> Edition	Cengage Learning
Computer Forensics A Pocket Guide	Nathan Clarke		I.T G. vernance Publishing
1., Computer Forensics: Computer Crime Scene Investigation	John R. Vacca	2nd Edition,	Charles River Media

### Practicals (PSIT4P3c):

1. File System Analysis using The Sleuth Kit
2. Using Windows forensics tools
3. Using Data acquisition tools
4. Using file recovery tools
5. Using Forensic Toolkit (FTK)
6. Forensic Investigation using EnCase
7. Using Steganography tools
8. Using Password Cracking tools
9. Using Log Capturing and Analysis tools
10. Using Traffic capturing and Analysis tools
11. Using Wireless forensics tools
12. Using Web attack detection tools
13. Using Email forensics tools
14. Using Mobile Forensics software tools
15. Writing report using FTK

<b>CLASS: M. Sc. (Information technology)</b>		<b>Semester – IV</b>	
<b>COURSE: Design of Embedded Control Systems(PSIT404a)</b>			
<b>Periods per week 1 Period is 60 minutes</b>	<b>Lecture</b>	<b>4</b>	
	<b>TW/Tutorial/ Practical</b>	<b>4</b>	
		<b>Hours</b>	<b>Marks</b>
<b>Evaluation System</b>	<b>Theory Examination</b>	<b>3</b>	<b>60</b>
	<b>Internal</b>		<b>40</b>
	<b>Practical</b>	<b>--</b>	<b>50</b>

Unit – I	<b>Introduction to microcontrollers</b> Microprocessors and microcontrollers, History, Embedded vs external memory devices, 8-bit and 16-bit microcontrollers, RISC	<b>12 Lectures</b>
-------------	--	------------------------