Srinivasa Ramanujan Institute of Technology
(AUTONOMOUS)
Rotarypuram Village, B K Samudram Mandal, Ananthapuramu - 515 701

III B. Tech I Sem – Semester End Examinations – Supplementary - Jul 2022

Subject Name: COMPUTER ORGANIZATION & OPERATING SYSTEM

Subject Code: 194GA05508

Name & Signature of the Examiner: Mr. M. Narasimhulu, Assistant Professor, CSE.

AY: 2021-22 | **Scheme of Evaluation** | **SRIT R19**

PARTA **(Compulsory Question)** ***			
1 Answer the following: (10 X 02 = 20 Marks)			
a)	Definition of Contempory Computer.		2M
b)	Step 1: Align Mantissa Step 2: Add Two Numbers Step 3: Normalize the result		2M
c)	Classification of Addressing modes like immediate, Direct, Indirect, Relative, Indexing etc.		2M
d)	The Most Comomly used in Instruction Fields are I, OPCODE, and Address of the Operand.		2M
e)	Specifing Serives like Program execution, I/O operations, File System manipulation, Communication, Error Detection, Resource Allocation, Protection.		2M
f)	• The primary goal of an Operating System is to provide a user-friendly and convenient environment. • The secondary goal of an Operating System is efficiency		2M
g)	A program under execution is known as process.		2M
h)	Deadlock is a situation where a set of processes are blocked because each process is holding a resource and waiting for another resource acquired by some other process.		2M
i)	A file is a named collection of related information that is recorded on secondary storage such as magnetic disks, magnetic tapes and optical disks. In general, a file is a sequence of bits, bytes, lines or records whose meaning is defined by the files creator and user.		2M
j)	Name of the file, identifier of the file, type of the file, location, size, protection and Time and Date are the Directory attributes.		2M
PARTB **(Answer all five units, 5 X 10 = 50 Marks)**			
UNIT1			
2	a)	Functional Units of a Computer block diagram (2M) Explanation of each functional unit of a computer (3M)	5M
	b)	Flow chart of Bhoot's Algortihm (3M) Explantion of Booths Algortihm by considering a suitable example. (2M)	5M

		(OR)	
3	a)	Draw the flow chart of division algorithm (3M) Explain with a suitable example (2M)	5M
	b)	Any five differences between multicompure and multiprocessor .	5M
		UNIT2	
4	a)	Any Five diferrences between RISC & CISC	5M
	b)	Draw Instruction Cycle flow Chart diagram (3M) Take an instruction as example and explain how Instruction executed.	5M
		(OR)	
5	a)	i) Direct Addressing mode description with example explantion (3M) ii) Immediate Addressing Mode Description with suitable example explanation (2M)	5M
	b)	Stack Organinization expalnation with suitable diagram	5M
		UNIT3	
6	a)	Write brief information about the ability of the operating systems.	5M
	b)	Defintion of Sytem call.(2M) A Scenario-based system call execution with a suitable diagram (3M)	5M
		(OR)	
7	a)	Explanation about the need of protection and secutirty in operating system	5M
	b)	Explantion about resource managemnet in operationg system.	5M
		UNIT4	
8	a)	Dead lock Avoidance explantion with a Baker's Algorihm (2M) Example of Banker's Algorithm with knowning whether given sequnce of process request the resoures is safe or not.	5M
	b)	Explantion of any two process scheduling algoritms with suitable examples.	5M
		(OR)	
9	a)	Breif explanation about Inter process communications like shared-memory systems and Message-passing Systems.	5M
	b)	List page replacement algortihms (1M) Explantion about one page replacement algorithms with suitable exampes.	5M
		UNIT5	
10	a)	There are three ways to access a file into a computer system: Sequential-Access, Direct Access, Index sequential Method (1M) Explanation of each acess method(4M)	5M
	b)	There are three main disk space or file allocation methods. Contiguous Allocation. Linked Allocation. Indexed Allocation. (1M) Explantion of each allocation method (4M)	5M
		(OR)	
11	a)	Explantion of SCAN and FCFS disk scheduling algorithms with an example. (3M + 2M)	5M
	b)	Explanation of RAID Levels with suitable diagram.	5M