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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute)

Affiliated to Dr. A.P. J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow

Course B.Tech Branch CSBS

Semester IV

Sessional Examination-I

Year- (2021 - 2022)

Subject Name: OPERATING SYSTEMS

Time: 1.15 Hours

[SET- A]

Max. Marks:30

General Instructions:

- This Question paper consists of 2 pages & 5 questions. It comprises of three Sections, A, B, and C
- **Section A** - Question No- 1 is objective type questions carrying 1 mark each, Question No- 2 is very short answer type carrying 2 mark each. You are expected to answer them as directed.
- **Section B** - Question No-3 is Short answer type questions carrying 5 marks each. Attempt any two out of three questions given.
- **Section C** - Question No. 4 & 5 are Long answer type (within unit choice) questions carrying 6 marks each. Attempt any one part a or b.

		<u>SECTION – A</u>	[08Marks]	
1.	All questions are compulsory		(4×1=4)	
	a.	Machine which does not required operating system 1. Bare Machine 2. Wear and Tear Machine 3. IBM 701 4. All of above	(1)	CO1
	b.	Which system call is used to terminate a process abnormally 1. Stop() 2. End() 3. Exit() 4. Abort()	(1)	
	c.	Which one of the following is not a state of Process 1. New 2. Ready 3. Stop 4. Wait	(1)	
	d.	Program is a/an 1. Active Entity 2. Passive Entity 3. Creative Entity 4. Both (a) and (c)	(1)	
2.	All questions are compulsory		(2×2=4)	
	a.	What is Operating System	(2)	CO1
	b.	Define Kernel.	(2)	
<u>SECTION – B</u>			[10Marks]	

3.	Answer any two of the following-		(2×5=10)																
	a.	What is SYSGEN? What kind of information is determined by it?	(5)	CO1															
	b.	What are the differences between Hard-RTOS and Soft-RTOS?	(5)																
	c.	What is System Call? Explain with example	(5)																
SECTION – C			[12Marks]																
4	Answer any one of the following-		(1×6=6)																
	a.	What are the functions of Operating System?	(6)	CO1															
	b.	Explain 5 states Process states Transition with diagram.	(6)																
5.	Answer any one of the following-		(1×6=6)																
	a.	What are the different types of Operating System? Explain any one in Detail.	(6)	CO1															
	b.	What are the differences between Preemptive and non-preemptive CPU scheduling? Calculate Average Waiting Time and Average Turn Around Time for Preemptive SJF and Non-preemptive SJF (SRTF) for the following process.	(6)	CO2															
		<table><tr><td>Process</td><td>Arrival Time</td><td>Burst Time</td></tr><tr><td>P1</td><td>0</td><td>8</td></tr><tr><td>P2</td><td>1</td><td>4</td></tr><tr><td>P3</td><td>2</td><td>9</td></tr><tr><td>P4</td><td>3</td><td>5</td></tr></table>	Process	Arrival Time	Burst Time	P1	0	8	P2	1	4	P3	2	9	P4	3	5		
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