Total No. of Questions : 8]

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SEAT No. :

[Total No. of Pages : 2

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T.E. (**E**&**TC**)

SYSTEM PROGRAMMING AND OPERATING SYSTEM (2012 Pattern)

Time :2¹/₂ Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 and Q7 or Q8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right side indicate full marks.
- 4) Assume Suitable data if necessary.

Q1) a) Explain the Analysis and the synthesis phase in a language processor.[7]

- b) List and Explain advance macro facilities. [7]
- c) List the code optimization techniques and explain any 2 with example.[6]

OR

- *Q2*) a) Explain terms: preprocessor, translators, linkers and loaders. [7]
 - b) List the different loader schemes. Explain any 2 loader schemes. [7]
 - c) Explain different types of statements in assembly language. [6]
- **Q3**) a) Explain the Bankers Algorithm for deadlock avoidance with example.[6]
 - b) Explain the Producer-Consumer and the Reader- Writer IPC problems. [6]
 - c) Draw the process state diagram and explain the process states. [6]

OR

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Q4)	a)	Explain the difference between deadlock prevention and avoidand Explain the reasons why deadlocks to occur.	ce. [6]
	b)	List and explain the types of operating systems.	[6]
	c)	Explain with example the First Come First serve and the round rol process scheduling algorithms.	bin [6]
Q5)	a)	Explain with example First In First Out Page replacement algorithm.	[6]
	b)	List the design issues for paging systems and explain any 2.	[6]
	c)	Compare paging and segmentation.	[4]
		OR	
Q6)	a)	Explain the concept physical address, logical address, pages and pa frames. Explain the process of deriving physical address from the logic address.	age cal [6]
	b)	Explain with example First Fit, Best Fit and Worst Fit memory allocati algorithms with examples.	ion [6]
	c)	Compare internal and external fragmentation.	[4]
Q7)	a)	Explain memory mapped I/O and direct memory access.	[6]
	b)	Explain with diagram I/O software layers.	[6]
	c)	Explain file access methods the file and directory operations.	[4]
		OR	
Q8)	a)	Write short note on [1	[2]
		i) RAID disk and magnetic disk.	
		ii) Optical disks	
		iii) Linux Ext 2 file system	
	b)	Explain the concept of i-node	[4]



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