

Total No. of Questions : 5]

SEAT No. :

P-6398

[Total No. of Pages : 2

[6155]-61

T.Y. B.Sc. (Computer Science)
CS361 : OPERATING SYSTEMS - II
(2019 Pattern) (Semester-VI)

Time : 2 Hour]

[Max. Marks : 35

Instructions to the candidates :

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicates full marks.*

Q1) Attempt any Eight of the following.

[8×1=8]

- a) List all dead lock recovery methods.
- b) List file system free space management techniques.
- c) What is disk scheduling?
- d) What is deadlock?
- e) Define object-based architecture.
- f) List system architectures.
- g) List any Four commercial mobile operating systems.
- h) What is kernel?
- i) What are the features of mobile operating systems?
- j) List the types of distributed systems.

Q2) Attempt any Four of the following. (Out of Five)

[4×2=8]

- a) What are the goals of distributed systems.
- b) Differentiate scan and c-scan disk scheduling.
- c) What is ARM?
- d) What is native code?
- e) Explain resource - allocation graph with example.

P.T.O.

Q3) Attempt any two of the following. (Out of Three)

[2×4=8]

- a) Consider the following snapshot of system A,B,C,D are the resource types.

Allocation					MAX					Available			
	A	B	C	D		A	B	C	D	A	B	C	D
P ₀	0	0	1	2	P ₀	0	0	1	2	1	5	2	0
P ₁	1	0	0	0	P ₁	1	7	5	0				
P ₂	1	3	5	4	P ₂	2	3	5	6				
P ₃	0	6	3	2	P ₃	0	6	5	2				
P ₄	0	0	1	4	P ₄	0	6	5	6				

Answer the following questions using Banker's Algorithm:

- What are the contents of need array?
 - Is the system in safe state? If yes give safe sequence.
 - If a request from P₁ arrives for (0,4,2,0) can it be granted immediately?
- b) Explain the architecture of Android OS.
- c) Explain access methods of file system management.

Q4) Attempt any two of the following. (Out of Three)

[2×4=8]

- Differentiate Desktop OS and Mobile OS.
- Explain the necessary conditions of deadlock with suitable example and diagram.
- Write a short note on directory structure.

Q5) Attempt any ONE of the following. (Out of two)

[1×3=3]

- a) Consider following work queue : 23, 89, 132, 42, 187 & show schedule using following algorithms :
- SSTF
 - SCAN
 - C-LOOK

Also find total head movements in each algorithm.

- b) Differentiate between Android OS and iphone OS.

