2022

BCA (Hons)

B.Sc. Third Semester End Examination - 2022

PAPER - C6T

Full Marks : 40 ***Time : 2 hours***

The figures in the right-hand margin indicate marks.
Candidates are required to give their answers in their own words as far as practicable.
Illustrate the answers wherever necessary.

Group-A

1. Answer any five questions : **5×2**

a) What do you mean by Latency time?

b) What is busy waiting?

c) What is PCB?

d) What are the functions of dispatcher?

e) What do you mean by resource allocation graph (RAG)?

f) What is the function of medium term scheduler?

g) What is storage compaction?

h) What is the difference between paging and segmentation?

Group - B

Answer any four questions :

2. Consider a system which has Logical address =7 bits, physical address - 6 bits, page size = 8 byte. Find the number of pages and number of frames?

3. Find the average waiting time and average turn around time using SRTF

Process	Arrivation	Execution Time
A	0	7
B	1	5
C	2	3
D	6	2
E	12	3

4. Define the following allocation algorithms 5
(i) Next fit (ii) Best fit (iii) Worst fit

5. What is deadlock? Explain the deadlock prevention algorithm. 1+4

6. What is semaphore? What is the difference between binary semaphore and counting semaphore? 2+3

7. What is thrashing? Describe the action taken by the operating syetem when a page fault occurs?

Group - C

Answer any one question.

8. a) A disk contains 200 tracks (0-199). Requent queue contains track number 85, 173, 46, 146, 27, 18, 192 respectively. If the current position of R/W head in 50, then calculate total number of tracks movement by R/W head using SCAN algorithm. 5

b) Explain Peterson's solution for mutual exclusion problem. 5

9. a) How many page fault occurs for the following reference string for 4 page frames using LRU. 5

1, 2, 3, 4, 5, 3, 4, 1, 6, 7, 8, 7, 8, 9, 7, 8, 9, 5, 4, 5, 4, 2

b) What is virtual memory? What is the difference between logical address and physical address? 2+3

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