JI-109

January-2021

BCA., Sem.-III

CC-204 : Fundamentals of Operating System

(New)

Time : 2 Hours] **[Max. Marks : 50**

Instructions : (1) All Questions in **Section – I** carry equal marks.

(2) Attempt any **TWO** questions in **Section – I**.

(3) Question **V** in **Section – II** is **COMPULSORY**.

Section – I

1. (A) Explain types of operating systems and operating system managers in detail. **10**

   (B) Explain difference between fixed partitions and dynamic partitions in memory management. **10**

2. (A) (1) Explain process control block in detail.

   (2) Differentiate job scheduler and process scheduler. **10**

   (B) (1) Calculate Average Turnaround Time for SJF and RR (q = 3) for the following :

Process	p1	p2	p3	p4	p5
BT	8	4	9	6	5

   (2) Explain process state diagram in detail. **10**

3. (A) Explain dining philosophers problem. **10**

   (B) Explain typical multiprocessing configurations. **10**

4. (A) Explain communication among devices. **10**

   (B) Explain contiguous and non-contiguous storage allocation in files. **10**

Section – II

5. MCQs. (any **five, two** marks each)   **10**

  (1)   _____ is called program in execution.

    (a) Job   (b) Process

    (c) File   (d) Processor

  (2) Switching of CPU between one process to another is called _____.

    (a) context switch   (b) content switch

    (c) turn around time   (d) all the above

  (3) Number of jobs completed per unit time is known as _____.

    (a) Turn around time   (b) Response time

    (c) Throughput   (d) None of these

  (4) _____ algorithm is used for deadlock avoidance.

    (a) Bankers   (b) Producers

    (c) Consumers   (d) Readers

  (5) _____ fragmentation occurs in fixed partitions scheme of memory management.

    (a) External   (b) Internal

    (c) Both (a) and (b)   (d) None of these

  (6) _____ is a non negative integer variable used for process synchronization.

    (a) Wait   (b) Signal

    (c) Semaphore   (d) CSW

  (7) A file is a collection of related _____.

    (a) Records   (b) Resources

    (c) Databases   (d) Cells

  (8) _____ is a method of data compression.

    (a) Repeated files   (b) Repeated characters

    (c) Backend files   (d) Backend characters

  (9) _____ is a not a condition for deadlocks to occur.

    (a) Mutual Exclusion   (b) Hold and Wait

    (c) Circular Wait   (d) Spooling

  (10) _____ are equal sized partitions of main memory.

    (a) Pages   (b) Frames

    (c) Segments   (d) Swaps

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