15323

Reg. No. ☐☐☐☐☐☐☐

III Semester B.C.A. Degree Examination, April-2022
COMPUTER SCIENCE
Operating System
Paper : BCA305T
(CBCS Scheme)

Time : 3 Hours

Maximum Marks : 100

Instructions to candidates :
　　Answer all the questions.

SECTION - A

I.　Answer any **Ten** questions.　　　　　　　　　　　　(10×2=20)

　1) Define operating system. Give two examples.

　2) Mention the difference between a program & procen.

　3) What is a thread?

　4) How do you define deadlock?

　5) Define aging.

　6) What is critical region?

　7) Mention the difference between fixed size partition & dynamic partition.

　8) What do you mean by viren & warm?

　9) Define page fault & fragmentation.

　10) Mention the advantages of distributed operating system.

　11) What is fragmentation?

　12) Define semaphore.

SECTION - B

II.　Answer any **Five** questions.　　　　　　　　　　　(5×5=25)

　13) Explain services provided by operating system.

　14) With a neat diagram, explain procen states.

　15) What is critical section problem? Explain.

　16) Describe resource allocation graph with necessary diagram.

[P.T.O.

17) Short notes on Paging.

18) What are the different types of file accen methods? Explain in detail.

19) Write a short note on virtual machine.

20) Explain the goals of protection.

SECTION - C

III. Answer any **Three** questions. (3×15=45)

21) List the types of OS explain any three of them by listing advantages & disadvantages.
(15)

22) How do you define synchronization? List

    a) Clerical synchronization problems. Explain dising philosptis problem. (9)

    b) Discuss deadlock prevention and avoidance. (6)

23) Write short notes on

    a) External fragmentation (8)

    b) Segmentation (7)

24) a) Consider the following set of porcen with CPU burst time in ms.

Procen	CPU burst time
P1	5
P2	10
P3	6
P4	2

    Draw the Gantt chart illustrating the execution of there procenes using SJG algorithm. Final average waiting line & turn around time. (6)

    b) Explain the structure of hard disk (5)

    c) Explain system program. (4)

25) a) Differentiate between pre-emptive of non pre-emptive scheduling. (5)

    b) Explain the directory structure. (5)

    c) Explain the types of System Calls. (5)

SECTION - D

IV. Answer any **One** question.   (1×10=10)

26) a) Consider the reference string

   7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7

   Find the page fault rate using FIFO page replacement algorithm.   (6)

   b) Discuss structure of a hard disk with a neat diagram   (4)

27) a) Consider the disk queue with the requests find average head movement

   98 183 37 122 14 124 65 67,   Method.   (6)

   b) Explain Least-Recently used (LRU) _____ .   (4)

———————