

Roll No. 2200480020

Total No. of Questions : 9]
(2034)

[Total No. of Printed Pages : 7

UG (CBCS) IIIrd Year Annual Examination
3041

B.A. COMPUTER APPLICATION

(Operating System)

(DSE-1A)

(Common with B.Sc. Physical Science)

(DSE-2A)

Paper : COMP 301 TH

Time : 3 Hours]

[Maximum Marks : 70

Note :- Attempt *five* questions in all. Question No. 1
(Part-A) is compulsory. Attempt *one* question each
from Units I, II, III and IV.

Part-A

(Compulsory Question)

1. Answer the following MCQ's by selecting the most appropriate option :

CH-341

(1)

Turn Over

- (i) CPU scheduling is the basis of :
- (a) Multiprogramming operating systems
 - (b) Larger memory sized systems
 - (c) Multiprocessor systems
 - (d) None of these
- (ii) In real time operating system :
- (a) Process scheduling can be done only once
 - (b) All processes have the same priority
 - (c) Kernel is not required
 - (d) A task must be serviced by its deadline period
- (iii) Operating System maintains the page table for :
- (a) Each process
 - (b) Each thread
 - (c) Each instruction
 - (d) Each address

- (iv) Which one of the following is the deadlock avoidance algorithm ?
- (a) Banker's algorithm
 - (b) Round-robin algorithm
 - (c) Elevator algorithm
 - (d) Karn's algorithm
- (v) Which is true with regards to the shell prompt ?
- (a) It can be accidentally erased with backspace
 - (b) The prompt cannot be modified
 - (c) The prompt can be customized (modified)
 - (d) None of these
- (vi) Which vi editor command copies the current line of the file ?
- (a) yy
 - (b) yw
 - (c) yc
 - (d) None of these

(vii) Which of the following is not the state of a process ?

- (a) New
- (b) Old
- (c) Waiting
- (d) Running

Fill in the blank spaces :

(viii) The only state transition that is initiated by the user process itself is

(ix) The number of processes completed per unit time is known as

(x) The circular wait condition can be prevented by

1×10=10

Part-B**(Unit-I)**

2. What is a System Software ? Discuss in detail the functions performed by an operating system in the computer. 15
3. What do you mean by Multi-Programming, Multi-User and Multi-Processing operating systems ? Highlight their advantages and disadvantages. 15

Part-C**(Unit-II)**

4. (a) What is a process in Operating System ? Explain various stages of the process.
- (b) What is a deadlock ? Why does it occur ? What are the necessary conditions that lead to a deadlock ? 7,8
5. Discuss the following Scheduling methods :
- (i) FCFS
 - (ii) Priority Scheduling
 - (iii) Round Robin Scheduling 5,5,5

Part-D

(Unit-III)

6. What are the three major activities of an operating system in regard of secondary storage management ?

Discuss in detail.

15

7. Explain the following :

(i) Swapping

(ii) Internal Fragmentation and External Fragmentation

(iii) Virtual Memory

5,5,5

Part-E

(Unit-IV)

8. Discuss various editors present in Linux. Explain

different modes of operation in vi editor.

15

Total No

9. Explain the following :

- (i) User Mode v/s Kernel Mode
- (ii) Shell variables
- (iii) System calls

555