



Name :
Roll No. :
Invigilator's Signature :

CS/B.Sc (H) (BT/GE/MICRO/MOLBIO)/SEM-1/CA-101/2011-12

2011

INTRODUCTION TO COMPUTER

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

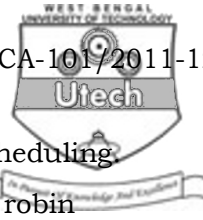
GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :
 $10 \times 1 = 10$
- i) The use of Integrated Circuit started from
 - a) 1st generation computers
 - b) 2nd generation computers
 - c) 3rd generation computers
 - d) 4th generation computers.
 - ii) C-SCAN is an algorithm of
 - a) CPU scheduling b) Memory management
 - c) Disk scheduling d) None of these.
 - iii) A system program is that which
 - a) provides services to computer users
 - b) provides services to the system
 - c) both (a) and (b)
 - d) none of these.



- iv) The amount of time that a job spends waiting in the ready queue is called time.
 - a) waiting
 - b) response
 - c) turn around
 - d) none of these.
- v) is a technique, the CPU leaves the process in the middle of execution, and diverts to some other job.
 - a) Preemption
 - b) Non-Preemption
 - c) Both (a) and (b)
 - d) none of these.
- vi) Collection of some track nos. in a disk is called
 - a) Sector
 - b) Track bunch
 - c) Drum
 - d) Cylinder.
- vii) The total time to prepare a disk drive mechanism for a block of data to be read from is
 - a) seek time
 - b) latency
 - c) both (a) & (b)
 - d) transmission time.
- viii) If the record sizes are same, which file access method is suitable to update a record ?
 - a) Sequential access
 - b) Indexed sequential
 - c) Indexed
 - d) Hashed.
- ix) The bootstrap program is stored in
 - a) RAM
 - b) CD-ROM
 - c) ROM
 - d) Pen Drive.
- x) Which file allocation technique is used by UNIX ?
 - a) Contiguous
 - b) I-node
 - c) Linked list
 - d) Linked list allocation with indexing.



xi) is an algorithm for CPU scheduling.

- a) Bubble sort b) Round robin
c) FCFS d) None of these.

xii) A thread is a

- a) light weight process b) program
c) hardware d) data.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. Explain the differences between programs & processes. Write the advantages of demand paging. 2 + 3
3. Explain the differences between shell & kernel. What do you mean by generation of computer technology ? 3 + 2
4. Discuss the main functionality of memory management.
5. Explain the differences between multiprogramming & multiprocessing. What is batch processing system ? 3 + 2
6. What do you mean by File and Directory ? Discuss briefly the types of file access methods.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

7. What are page and page frame ? Discuss demand paging. For page replacement discuss NRU (not recently used) and clock-page replacement techniques. 5 + 10



8. Discuss different memory allocation algorithms – first-fit, next-fit, best-fit and worst-fit. Write short note on 'Overlay'.

10 + 5

9. a) What is OS ? Write the functions of the OS in detail.
 b) Compare internal fragmentation with external fragmentation.
 c) Describe the classification of directory organization.

(2 + 3) + 3 + 7

10. a) Find out the average waiting time for the following processes if we follow the priority scheduling algorithm. Draw the Gantt chart. (Say 5 is the highest priority)

Processes	CPU burst	Priority	Arrival time
P1	10	3	0
P2	29	1	5
P3	3	4	9
P4	7	5	11
P5	12	2	15

b) What is swapping ? What is the purpose of TLB ?

10 + (2 + 3)

11. Write short notes on any *three* of the following : 3 × 5

- a) PCB
 b) Multithreading models
 c) Readers writers' problem
 d) Tree structured directories
 e) Segmentation hardware.