

(i) Printed Pages : 3

Roll No.

(ii) Questions : 7

Sub. Code :

6	6	5	7
---	---	---	---

Exam. Code :

9	0	5
---	---	---

B.Engg. 1st Semester

1125

INTRODUCTION TO COMPUTER SCIENCE AND ENGG.

Paper-CS-102

Time Allowed : Three Hours]

[Maximum Marks : 50

Note :- Attempt any five questions by selecting at least two questions each from Part A and Part B. Question first is compulsory. All questions carry equal marks.

1. (i) What do you understand by the term Computer Science ? Is it same as Computer Engineering ? Justify your answer.
- (ii) What is VIRUS ?
- (iii) List various add-on-cards which are used with motherboard.
- (iv) Differentiate between System Software and Application Software.
- (v) What is Cache Memory ? What are its advantages as compared to RAM and ROM ?
- (vi) What is Warm Booting ? How it is activated ?
- (vii) Convert $(777)_8$ to Hexadecimal and Decimal.
- (viii) Convert $(11010111)_2$ to Octal and Decimal.

- (ix) Define the term virtual memory.
(x) Define the term Expert System and its applications.

1×10=

PART-A

2. Brief the following :

- (1) Compiler
- (2) Assembler
- (3) Interpreter
- (4) Linker
- (5) Loader
- (6) POST
- (7) Worm
- (8) Auxiliary memory
- (9) Editor
- (10) Port and Slot.

6.

10

3. (i) Differentiate between the ways data are organized on a magnetic disk and an optical disk. Which data organization leads to faster random access time and why ? 5
- (ii) A disk pack consists of 6 disk plates. Each plate has 400 tracks and there are 50 sectors per track. If 512 bytes can be stored per sector, calculate its total storage capacity. 5

4. (i) List the logical steps taken by a computer system along with the roles of its main units in each step while transforming input data to useful information. 5
- (ii) Describe Von-Newman architecture. What are its bottlenecks? How these are overcome in Turing machines ? 5

PART-B

- (i) Draw a flowchart to find out whether a given triangle is isosceles. 5
 - (ii) Write an algorithm to check whether a given number is Even or Odd. 5
6. Describe the terms in the domain of Computer Science and Engg. :
- (i) Database and Data structure
 - (ii) Artificial Intelligence and Computer Vision
 - (iii) Web and Internet
 - (iv) Computer Network and Communication System. 10
7. (i) What do you understand by Social and Ethical issues related to the field of Computer Science and Engineering ? Being a computer science engineer, what measures you will take to deal with these issues. 5
- (ii) Define the term Theory of Computation and draw State Transition diagram for incrementing X by 2 when $X = 4$. 5

1124
B.E. (Computer Science and Technology) First Semester
CS-102: Introduction to Computer Science and Engineering

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting at least two questions from each unit.

x-x-x

- I.
- a) Discuss Von-Newman Computer model.
 - b) How virus and worm affect the computer?
 - c) Briefly explain virtual memory.
 - d) Describe about Web and Internet.
 - e) Convert the following decimal numbers to binary, octal and hexadecimal:
 - i) 478.33
 - ii) 0.677(5x2)

UNIT - I

- II.
- a) List the different types of computers which have come into being from their inception. Explain in detail the block diagram of a computer system
 - b) Name five input and output devices and explain in detail any one input and one output device used extensively today? (5,5)
- III.
- a) What is software? Explain briefly with the help of examples editor, interpreter, and compiler.
 - b) Explain in detail the similarities and the differences in the application as well as system software with examples. (5,5)
- IV.
- a) Why is memory is arranged in hierarchy? What are the functions of the memories RAM, ROM, PROM and EPROM and EEPROM?
 - b) What is a cache memory? How is it improving computer system's performance? (5,5)

UNIT - II

- V.
- a) Explain the technique of how a big problem is broken down in smaller problems and is solved?
 - b) What is the purpose of studying software engineering with an example? (5,5)
- VI.
- a) We are all connected in this world through networks. Take a scenario and explain how we are taking help from computer networks?
 - b) Write an algorithm to find the factorial of a number. Draw flow chart also. (5,5)
- VII.
- a) What are the ethical and social issues related to the computing technology in today's scenario?
 - b) What are the benefits and drawbacks of internet? (5,5)

x-x-x

(6656)

B.E. (Computer Science and Engineering)
First Semester

First Semester
CS-102: Introduction to Computer Science and Engineering

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Part.

$x-x-x$

x-x-x

B.E. (Computer Science and Engineering)
First Semester

Time allowed: 3 Hours

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Part.

Q1.	<ul style="list-style-type: none">i) Define the term Virtual memory and its significance?ii) Differentiate between a Computer Virus, Worm and Trojan.iii) What do you understand by hot and cold booting? How it is activated?iv) Convert $(456F)_{16}$ to Octal and Decimal.v) List various components of mother board and I/O ports?	(2x5)
-----	---	-------

Q2.	<p>a) Brief the following terms :</p> <ul style="list-style-type: none"> i. Super computer ii. Flash Memory iii. Spooling and buffering iv. Application and System Software 	(5)
	<p>b) What is primary memory? Explain its various types in detail.</p>	(5)

- | | | | |
|-----|----|--|-----|
| Q3. | a) | Discuss various social and ethical issues evolved with use of computer technology. | (5) |
| | b) | Compare and contrast the disciplines Computer science and Computer engineering. | (5) |

- | | | |
|----|--|-----|
| Q4 | a) Explain Turing and Von-Newmann model in detail. | (5) |
| | b) How do we convert High level language into low level language. | |
| | Explain different types of software required to convert high level | |
| | language into low level language. | (5) |

Q5	i) Draw a flowchart to find out the maximum and minimum of three given numbers.	(5)
	ii) Write an algorithm to check whether a given number is prime or not.	(5)

- | | | |
|-----|---|------|
| Q6. | Describe the terms in the domain of Computer science & Engg: | (10) |
| | <ul style="list-style-type: none"> • Web and Internet • Software Engineering • Data structures and algorithms • Computer Vision | |

- | | | |
|-----|---|-----|
| Q7. | i) What do you mean by the term artificial intelligence? Give its applications. | (5) |
| | ii) Write an algorithm to find the sum of squares of first 100 even numbers | (5) |

Scanned by CamScanner