DIGITAL FUNDAMENTALS & COMPUTER ARCHITECTURE

Marks: 10 x 5 = 50

Answer all the Questions

1) Convert $(0.513)_{10}$ to Octal, convert $(673.124)_8$ to Hexa decimal

(Or)

Write a short note on two valued Boolean algebra?

2) Discuss some of the basic theorems is properties of Boolean algebra?

(Or)

Explain briefly about digital logic gates?

3) Simply the Booleans function:

F(x,y,z) = £(2,3,4,5)using map method

(Or)

What is don't care condition in map simplification, explain it with example.

4) Explain briefly about internal memory

(Or)

Write a short note on a) cache memory b) external memory

5) Discuss about instruction set in detail.

(Or)

Lists out the difference between RISC and CISC architecture.

6) Write any seven addressing modes with example.

(Or)

How does a processor organized in computer.

7) What is programmed I/O & interrupt driven I/O?

(Or)

Explain the basic concept behind direct memory access.

8) What are the I/O channels connect over architecture?

(Or)

How does an asynchronous data transfer is made.

9) Explain symmetric multiprocessor in parallel processing processors

(Or)

What are all the issues would occur on software performance in multi core computer?

10) Explain inter core i7 – 990 X 676 processor?

(Or)

Illustrate the generic concept of cloud computing?

MATHEMATICAL FOUNDATIONS OF COMPTER APPLICATIONS

Marks: 10 x 5 = 50

Answer all the Questions

1. ST. Pu(QnR) and (PuQ)n(PuR)
2. ST 7(Pu(7PnQ)) and 7Pn7Q are logically equivalent by developing a series of logical equivalences.
3. Let r={(1,1), (2,1), (3,2), (4,3)} find the Powers R^n, n=2,3,4.
4. How many reflexive relations are there on a set n element?
5. A graph is planner iff it has a dual.
6. A connected graph G with at least 3 vertices is an eulerian graph iff if all the vertices of G are of even degree.
7. State and Prove bayes theorem
8. Three balls are drawn at random without replacement from a box containg two white, three red and four black balls. If x denotes the number of white balls drawn find the joint probability distribution of (x, y).
9. A simple sample of heights of 6400 english has a mean of 170cm and a S.D of 6.5cm. While simple sample of heights of 1600 americans has a mean of 172cm and S.D of 6.3cm. Do the data indicate that Americans are, on the average taller than English man?
10. Two sample of sizes 9 and 8 have the sums of squares of deviations from their respective means equal to 160 and 91 respectively can they be regarded as drawn from the same normal population?

PROBLEM SOLVING AND PROGRAMMING IN C

Marks: 10 x 5 = 50

Answer all the Questions

1) How to check the efficiency of algorithms in detail.

(Or)

Discuss in detail about Top-Down Design.

2) Explain efficiency of algorithms.

(Or)

Explain analysis of algorithms.

3) Explain the building blocks for simple programs.

(Or)

What is meant by flow chart? Explain its types.

4) Discuss the term: i) Compiler ii) Interpreter

(Or)

Explain in detail about Structured Programming.

5) Explain the terms: i) Identifier ii) Keywords iii) Variables and Constants

(Or)

What is meant by type conversion explain with example

6) Discuss in detail about Nested loops.

(Or)

Distinguish between Continue and Break statement.

7) What is array? Explain 1-D array.

(Or)

Explain the concept of recursion with suitable example.

8) Define pointer. List out the uses of pointers in C.

(Or)

Explain dynamic memory allocation.

9) Difference between Structure and Union.

(Or)

Explain the concept of enumeration and its types.

10) Explain about file handling functions in detail.

(Or)

Discuss in detail about sequential access file.