Sai Nath University

Assignment For B.TECH in C.S Engineering 7st Sem.

The Assignment will consist of two parts, A and B. Part A will have 5 short answer questions(40-60 words) of 4 marks each. Part B will have 2 long answer questions of 10 marks each

All questions are compulsory.

These Assignments should be completed and submitted in written form by the student to his/her respective Faculty/ Examiners. Assignment Submission Dates are:

- ➢ Nov-17

List Of Suggested Questions

The list of suggested questions are for students to practice. Although optional, we recommend that students solve these questions, as they will help them in preparing for exams as well as in clearing the important concepts of the subject.

List of Practical and suggested practical's

The list of practical's should be done by the students in their Lab Sessions. These are the basic practical's, which each student should be able to do himself independently. While the list of suggested practicals are optional, but it is recommended that students should perform those practical so as to have a thorough knowledge of the subject

Education Delivery Schedule (EDS)

As per University Semester scheme, the minimum contact hours of each paper has been Divided into two hours theory and practical class.
The faculty will maintain this attendance paper wise for his/her batch.

Subject Code	Subject Name
BTCSE 701	Pattern Recognition & Application
BTCSE -702	Digital Signal Processing
BTCSE-703	Data structures & Object Representation
BTCSE -704	Advanced Computer System Architecture
BTCSE -705	Advanced Computer System Architecture Practical

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Cover page of Assignment

ID NUMBER   ………………………………………….

NAME   …………………………………. …………

COURSE   **B.Tech**……………………

STREAM   C.S…………………………………

SEM 7ST………………………………………..

SUBJECT CODE   ……………………………………………..

SUBJECT NAME   ……………………………………………..

Assignments will be completed by the Student in his/her own handwriting.

BTCSE 701
Pattern Recognition & Application
Part A

1. Describe the basic modules in designing a pattern recognition system.

2. With a diagram explain the Minimum Spanning tree algorithm.

3. Briefly explain what is generalization in the context of pattern recognition problems?

4. Describe the basic competitive learning algorithm with relevant equations

5. Which are the two schemes of Hierarchical clustering algorithm? Give brief descriptions.

Part B

1. With a diagram explain the Minimum Spanning tree algorithm.

2. Describe the basic competitive learning algorithm with relevant equations

BTCSE 702
Digital Signal Processing

Part A

1. What is Twiddle factor?

2. How Many stages of decimations are required in the case of a 64 point radix 2 bit FFT algorithm.

3. Why is the Butterworth response called a maximally flat response?

4. What is frequency warping?

5. What is DEAD-bank of a filter?

Part B

1. What is decimation?

2. Find the expression for the following multirate systems.

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BTCSE-703
Data structures & Object Representation
Part A

1. Take a linear search algorithms and discuss best-case time analysis
2. Explain the basic of the markov algorithm and discuss two ways in which such an algorithm terminates.
3. What is the purpose of a stack in implementing a recursive procedure?
4. What is the need for using circular array to implement queues?
5. Give the tree T, find the in order and post order traversals.

Part B

1. Design a string manipulation algorithm for duplicating a given character string N times.
2. Design an algorithm which trims off all the trailing blanks of a character string.

BTCSE-704
Advanced Computer System Architecture
Part A

1. Explain the logic diagram of a 3 x 8 Decoder.
2. Explain three Displacement Addressing mechanisms with the help of examples.
3. (23.125) 10 to Hexadecimal number.
4. (6B•28) 16 to Binary number .
5. What are the various fields of a simple instruction ? Explain with the help of a diagram.

Part B

1. Simplify the following function using K-map :

F(A, B, C, D) = 1(2, 6, 10, 14)

Draw the resultant logic diagram.

2. What are flip-flops ? Describe the construction of a master-slave flip-flop using R-S flip-flops.

BTCSE-705
Advanced Computer System Architecture Practical

Part A

1. Determine the shear strength of the given specimen.

2. (a) Determine the Charpy's impact strength for the given specimens.

   (b) Determine the Brinnel's Hardness number for the given specimens.

3. (a) Find the Hardness number for the given thin metal sheet.

   (b) Determine the IZod impact strength for the given specimen.

4. Conduct a compression test on the given helical spring and determine the following

5. Determine the Young's modulus of the material of the steel beam by conducting the deection test.

Part B

1. Determine Rockwell Hardness number for the given specimens
2. Conduct the tension test on MS rod and determine the following values
       (a) yield stress   (b) ultimate stress