Sai Nath University

Assignment For B.tech C.S 6st 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 4 long answer questions of 5 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:

- **June-17**

List Of Suggested Questions

The list of suggested questions is 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
BECSE601	Computer Network
BECSE602	Theory of Computation
BECSE603	Micro- processor
BECSE604	Principles of Programming
BECSE605	Industrial Economics & Management
BECSE606	Practical

SAI NATH UNIVERSITY

Cover page of Assignment

ID NUMBER	……
NAME	…… ……
COURSE	B.TECH……
STREAM	COMPUTER SCIENCE……
SEM	6Th……
SUBJECT CODE	……
SUBJECT NAME	……

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

BECSE601 :

COMPUTER NETWORK

PART-A

1. What are the advantages of having layered model for networking?
2. Explain IPv4 header field.
3. Attempt all question:
    A. Hub
    B. Switch
    C. Bridge
    D. Router
    E. Gateway
4. What is ALOHA? How many type of ALOHA?
5. What is IP over ATM? What are the advantages and disadvantages of small ATM cell size?

PART-B

1. An organization is granted the block 211.17.180.0/24. The administrator wants to create 32 subnets.
    A. What is the subnet mask in x.y.z.t/n notation?
    B. What is the range of addresses in first and last subnet?
    C. How many addresses are in each subnet?
2. Consider six wireless stations, A through F, arranged in a straight line in the order A to F,
3. Communicating using the MACA (Multiple Access using Collision Avoidance) protocol. Assume that each station can reach only to its nearest neighbors. How many stations can transmit simultaneously? Justify your answer.
4. A bit string 0111101111101111110 needs to be transmitted at the data link layer using HDLC protocol. Is there any modification is required to bit stream to send it across the link? Justify. If yes, what would be the correct bit stream?

BECSE602:

THEORY OF COMPUTATION

PART -A

1. What is alphabet and language? What are automata?
2. What are finite state automata? Differentiate between DFA & NFA.
3. What is Moore and Mealy Machines?
4. Prove that $L = \{a^i b^i \mid i \geq 0\}$ is not regular.

5. Find whether the lists

M = (abb, aa, aaa) and N = (bba, aaa, aa)

have a Post Correspondence Solution?

PART-B

1. Check whether the grammar G with production rules −

   X → X+X | X*X |X| a is ambiguous or not.

2. What is grammar? Explain the regular grammar.
3. What is Turing machine? Design a TM to recognize all strings consisting of an odd number of a's.
4. State the Arden's Theorem and prove it.

BECSE603

MICRO-PROCESSOR

PART -A

1. What is the difference between INR & INX instructions?
2. List all the interrupt signals of 8085 microprocessor.
3. Write short note on evolution of microprocessors.
4. Explain the functions of the ALE and IO/M signals of the 8085 microprocessor.
5. List the sequence of events that occurs when the 8085 MPU reads from memory.

PART-B

1. Draw and explain the block diagram of a microprocessor 8085.
2. (a)Why the lower order address bus is multiplexed with data bus? How they will be de-multiplexed?
   (b) Differentiate between maskable and non-maskable interrupts.
3. Discuss the interrupt system of Intel 8086. What is interrupt pointer? What is 'type' of an interrupt?

4. Write an 8086 program to add two 16-bit numbers in CX and DX and store the result in location 0500H addressed by DI.

BECSE604

Principles of Programming Languages

PART-A

1. What is the role of the function value->lit-exp in the substitution-evaluator? Why is it needed?
2. Explain why we can typecheck letrec expressions without specific problems related to recursion and without the need for recursive environment like we had in the interpreter.
3. List the advantages and disadvantages of keeping a small language core and a large library of derived expressions.
4. What is the difference between values and types? How are they related?
5. What do you mean by a general purpose language? Is C a general purpose language?

PART-B

1. Code lexical analyzer for your language in python
2. Define syntax and semantics.
3. Define Lexeme and Token.
4. Identify an application domain where a programming language can –
    - either do something which is not possible otherwise
    - or, simplify the procedure

BECSE605

Industrial Economics & Management

PART-A

1. What is black money? How the black money impact on market.
2. What is Inflation? How inflation is related to the value money?
3. What is inferior good? Draw and explain the demand and price graph.
4. Write sort note on central bank of India.
5. What is direct tax and indirect tax?

PART-B

1. What is Project Development life cycle? Explain the PRT chart.
2. Explain the role of advertisements in marketing.
3. What is perfect market? Differentiate between Oligopoly and Monopolistic.
4. Discuss the role of globalization in growth of Indian economy.

BECSE606
PRACTIAL

1. What type of wiring does your Lab use ? Write other popular wiring categories including this one, their meaning, usage and specification.
2. What is the IP address of your machine ? Write all the steps of assigning IP address to your machine.
3. Draw a hybrid topology having a star backbone with two ring networks and one bus network.
4. Write all the steps for accessing data from another computer in a network.
5. Draw the following diagram :
   a. There are two Ethernet segments. Each segment is having three computers connected with it.
   b. A bridge connects the two ethernet segments. Also write the use of a bridge in this diagram.