Sai Nath University

Assignment For BCA 2nd 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-18**

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
BCA 210	**System Software**
BCA 220	OOPs concept with c++
BCA 230	Management Information System
BCA 240	Visual Basic Programming
BCA 250P	SOFTWARE LAB (WEB TECHNOLOGY)
BCA 260 P	SOFTWARE LAB (VISUAL BASIC)

SAI NATH UNIVERSITY

Cover page of Assignment

ID NUMBER ……

NAME …… ……

COURSE BCA……

STREAM ……

SEM 2nd ……

SUBJECT CODE ……

SUBJECT NAME ……

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

BCA 210

System Software

Part A

1. Explain the phases of compiler design. Give suitable diagrams. Also construct a context-free grammar for if-then and if-then-else statements.
2. Write a shell program to enter a number and find its factorial.
3. Explain the concept of address translation through associative memory. Give suitable diagram.
4. Explain Semaphores. Give a solution to readers-writers problem using semaphores and explain.
5. W rite UNIX commands for the following :

   (a) To create a directory labelled ABC.

   (b) To run a command several times.

   (c) To terminate the login session.

   (d) To change the permission of a file so that the user gets full perniissioti - (r, w, x).

   (e) To get a formatted output.

Part B

1. Explain the contiguous allocation method of file allocation. How is it different from non-contiguous allocation method ? Give diagram.
2. Explain an algorithm to handle deadlock and to avoid it. What are the essential conditions for a deadlock to
3. How is MS-Windows different from X-Windows environment ? Explain the architectures of both GUIs.
4. Give an example of semantic analysis of an arithmetic expression.

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BCA 220

OOPs Concept with C++

Part A

1. What is Object Oriented Programming (OOP) approach? Explain how OOP is better than structured programming.

2. Write a C++ program to overload '+' operator in such a way that it return the sum of lengths of two strings (Note: if S1 and S2 are two strings then S1+S2 or S2 + S1 should give the sum of lengths of S1 and S2).

3. What is inheritance? What are different types of inheritance? Explain how multiple inheritance is implemented in C++, with the help of a program.

4. What is constructor? Explain how it is overloaded, with the help of a C++ program

5. What is stream manipulator? Explain use of setw( ) and setprecision( ) as stream manipulator.

Part B

1. What is exception? How exceptions are handled in C++? Write program to handle stack overflow as exception.

2. What are containers? Explain use of List container class, with the help of an example.

3. (a) Write C++ program to create a file and store your contact details in it.

(b) Define class. Explain how an object is created in C++ ,with the help of an example. Also explain how destructor is defined in C++.

4.(a) What is template? Write appropriate statements to create a template class for Queue data structure in C++.

(b) Explain how an object is passed as a parameter to a function, with the help of a program.

BCA 230

Management Information System

Part A

1. How do I create a swap file in an existing Linux data partition?

2. I already have a large swap file in my Windows partition. Is there a way for Linux to use that swap space instead of creating another file?

3. How do I get Netscape for Linux to recognize my Netscape for Windows bookmark file?

4. If Linux is not using all the memory I have installed, how do I make it use the rest?

5. What is my floppy drive called in Linux?

Part B

1. What could possibly be the problem when a command that was issued gave a different result from the last time it was use

2. How can you append one file to another in Linux?

3. How you can run an Linux program in the background simultaneously when you start your Linux Server?

4. Explain how to uninstall the libraries in Linux?

BCA 440

Visual Basic Programming

Part A

1. Write a VB program which takes the diameter of a circle as input and displays its area. Use appropriate controls to design user interface.

2. Write a VB program to find the sum of the following series up to 20 terms :

1 + 3 + 5 + 7 +…….

3. Write a VB program which takes a string as input and displays whether that string is a palindrome or not. Use appropriate controls to design user interface.

4. Write a VB program to add two matrices A(M x N) and B(M x N). Display result in matrix C(M x N). Use appropriate controls to take inputs of elements of the matrices and to display the resultant matrix.

5. Write a VB program to create a simple calculator with basic arithmetic operations (+, x, ÷). Use appropriate controls to design user interface.

Part B

1. Write a VB program to create currency converter from "Rupees" to "Dollars". The program should take amount in Rupees and rate of exchange for Dollar as input and should display equivalent Dollars as output. Use appropriate controls to design user interface. Make necessary assumptions, if any.

2. Write a VB program which takes any six-digit number and displays the sum of digits in the number. If input number is not of six digits ask to input correct number again. Use appropriate controls to design user interface.

3. Write a VB program which takes your name as input and displays the following :

(a). Length of your name.

(b) . Nam in uppercase.

Use appropriate controls to design the user interface.

4. Write a VB program which takes rate of interest, duration and principal amount as input and displays the simple interest. Use appropriate controls in this program,

BCA-250P
SOFTWARE LAB (C++)

1. Design and implement a class "Phone" using C++ having the following features :

- The "Phone" class will store information about the brand, size, RAM size and storage space of the mobile device.
- The class should have the following member functions :

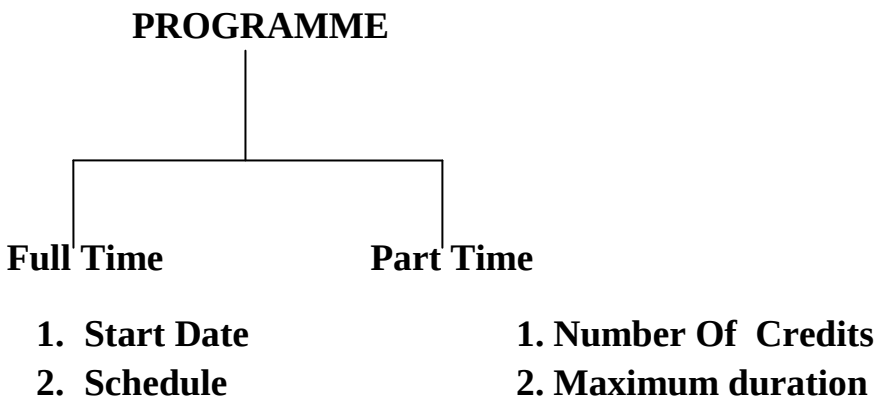
(a) A member function to put values in the data members of the object.

(b) A member function that displays the data stored in the data members.

(c) A member function that displays only the RAM size if the size is above 2 GB.

Write appropriate main( ) function that creates an array of three "Phone" class objects. Main( ) should demonstrate all the member functions. You must store meaningful values in the objects.

2. Consider the following class hierarchy along with suggested data members :



Design and implement the classes in the hierarchy using C++. You may add more data members in the classes. You should include at least one constructor in each class. All the classes should have one member function print_programme_info( ) which should display all the information of that object. You must demonstrate polymorphism using the print_programme_info( ) and main( ) functions.

BCA-260P
SOFTWARE LAB (VISUAL BASIC)

1.**Create a calculator**.