

Sai Nath University

Assignment For BCA 6TH 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 610	Software Testing And Quality Insurance
BCA 620 (E-I)	Artificial Intellegence
BCA 620(E-II)	Computer Graphics
BCA 620(E-III)	MULTIMEDIA
BCA 630	SOFTWARE LAB (WEB TECHNOLOGY)
BCA 640	SOFTWARE LAB (.NET FRAME WORK AND C#)

SAI NATH UNIVERSITY

Cover page of Assignment

ID NUMBER
NAME
COURSE BCA.....
STREAM
SEM 6TH
SUBJECT CODE
SUBJECT NAME

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

BCA 610

Software Testing And Quality Insurance

Part A

1. Develop SRS as per IEEE standard for Grade Card Generation System. Make assumptions wherever necessary.
2. Develop Design Document for the System mentioned in Question no.1
3. What is meant by Verification? How does it differ from Validation?
4. What is Re-Engineering ? How does it differ from Reverse Engineering.
5. What is structured methodology ? What are its features and how is it beneficial to . constituents like the Management, • End-users, Analysts and Programmers ?

Part B

1. Describe software reliability. Also, explain how this has an impact on the overall quality of the s/w product.
2. Explain how GGLs help to solve the 8 problems in s/w development
3. The best team structure depends on the management style of an organization, the no. of people who will populate the team, their skill levels and the overall problem difficulty". Keeping the view of this fact explain the following team organizations :
 - (i) Democratic decentralized
 - (ii) Controlled decentralized
 - (iii) Controlled centralized
4. Write short notes on :
 - a. Software Processes.
 - b. Code Generators.
 - c. Prototype Model.

BCA 620 (E-1)

Artificial Intelligence

Part A

1. What is the purpose of Chinese Room test ? Give a brief outline of Chinese. Room test.
2. What is an Expert System ? Briefly discuss the architecture of an Expert System.
3. Write a LISP program to find the maximum of three numbers.
4. Write a prolog program to identify the grandfather relation. You can create a knowledge base of your choice.
5. Briefly discuss the term 'Truth Maintenance System (TMS)'.

Part B

1. What do you mean by the term Backtracking ? Describe this concept of Backtracking with the help of a suitable program in prolog.
2. Express the following knowledge as a semantic network .structure with interconnected nodes and labelled arcs : "Anu is the Principal of XYZ School. She is married to Raj and has a female child, Anita. Anita goes to school. Raj plays golf and owns a silver coloured German made car, Benz."
3. Express the following knowledge as a semantic network .structure with interconnected nodes and labelled arcs : "Anu is the Principal of XYZ School. She is married to Raj and has a female child, Anita. Anita goes to school. Raj plays golf and owns a silver coloured German made car, Benz."
4. What do you understand by a rule of inference ? Discuss any four rules of inference.

BCA 620 (E-11)

Computer Graphics

Part A

1. With the help of a diagram, explain the working of CRT. Why is refreshing needed in CRT ?
2. What do you mean by composite transformation ? Prove that two successive reflections about either of the co-ordinate axes is equivalent to a single rotation about the co-ordinate origin.
3. What are vanishing points ? Explain the conditions to obtain one, two and three vanish
4. Define the term Authoring tool. Discuss different types of authoring tools.
5. Explain the Scan line method for visible surface detection.

Part B

1. Obtain the mirror reflection of the triangle formed by the vertices A(0, 3), B(2, 0) and C(3, 2) about the line passing through the points (1, 3) and (— 1, — 1).
2. A clipping window ABCD is located as follows : A(100, 10), B(160, 10), C(160, 40) D(100, 40)
Using Cohen — Sutherland line clipping algorithm, find the visible portion of the line segment EF and GH E(50, 0), F(70, 80), G(120, 20) and H(1
3. Derive Bresenham's line generation algorithm. Draw the line segment joining the points (20, 10) and (25, 14) using Bresenham's line generation algorithm.
4. Find the transformation matrix for the reflection about the lines
 - (i) $y = x$
 - (ii) $y = x$

BCA 620 (E-III)

Multimedia

Part A

1. With the help of an illustration for an Online Entertainment Company (which produces real time shows, dance programmes, serials, etc.), explain the planning and design, production and distribution of a small "multimedia promo" for that company.
2. Write the latest hardware and software requirements for a multimedia computer for home-use.
3. What type of applications development are best suited using Image software, and why ? Give two examples of such applications.
4. Explain how multimedia can be used for business communication and for presentation purposes.
5. Propose and design a multimedia-based e-commerce website which offers various categories of products for sale online. Prepare a logic flow chart and storyboard template for this.

Part B

1. Define Morphing . How and where can it be used ? Give an example
2. Differentiate between Animation and Simulation. Write the names of any two software packages used for Animation.
3. Describe the important features of Macromedia Director. Also, mention what kind of applications can be designed using this software. Give examples.
4. Explain the role of 'Compressors' and 'Timing mechanism' of Quick Time software in designing multimedia application.

BCA 630 P

SOFTWARE LAB (WEB TECHNOLOGY)

1. Create a website for an e-commerce company selling only the electronic goods. The website uses divisions and an external CSS file. Every page of the website is divided into four divisions namely – HEADING, FOOTER, MENU and CONTENT as displayed in the following figure:

The diagram illustrates the layout of a website for 'XYZ MOBILE SHOP'. The layout is divided into four main sections, each labeled with a callout bubble:

- MENU DIVISION:** Located on the left side, it contains a vertical list of links: LOGIN, CATEGORY, ITEM LIST, and FEED BACK.
- HEADING DIVISION:** Located at the top right, it contains the text 'XYZ MOBILE SHOP'.
- CONTENT DIVISION:** Located in the center, it contains a login form with the following elements:
 - USER NAME: A text input field.
 - PASSWORD: A text input field.
 - SUBMIT: A button labeled 'SUBMIT'.
- FOOTER DIVISION:** Located at the bottom right, it is currently empty.

The layout is structured as follows:

LOGIN OF THE COMPANY		XYZ MOBILE SHOP	
MENU DIVISION LOGIN CATEGORY ITEM LIST FEED BACK	CONTENT DIVISION USER NAME <input type="text"/> PASSWORD <input type="text"/> SUBMIT		
	FOOTER DIVISION		

Perform the following tasks for the website as given above.

- (A) Create four pages for the website viz Login, Category, Item List and Feedback; all the four pages should have same Heading, Footer and Menu division but different Content division. The Menu division should be linked to these pages. The content division of the four pages should display information as given below: Create four pages for the website viz Login, Category, Item List and Feedback; all the four pages should have same Heading, Footer and Menu division but different Content division. The Menu division should be linked to these pages. The content division of the four pages should display information as given below:
- The content division of login page should display the form containing the fields as shown in the figure above, viz. Username, Password and a SUBMIT button.
 - The Category page should display four categories – Mobile Phone, Laptops, iPads and Storage Devices .

- (iii) The Item List displays four item names related to a category (you are requested to restrict item names to four in every category)
- (iv) Feedback page displays a form asking for the name of the person, product of interest, comment and a Submit Feedback button using this CSS.
- (b) Create an external CSS that give different background color to each area. You may choose the format of other elements as per your choice.

BCA 640 P

SOFTWARE LAB (.NET FRAME WORK AND C#)

1. Write a program in C# Sharp to find the length of a string without using library function
2. Write a C# Sharp program to compare four sets of words by using each member of the StringComparison enumeration. The comparisons use the conventions of the English (United States) and Sami (Upper Sweden) cultures.
3. Write a C# Sharp program to compare three versions of the letter "I". The results are affected by the choice of culture, whether case is ignored, and whether an ordinal comparison is performed
4. Write a C# Sharp program to determine the day of the week 40 days after the current date
5. Write a C# Sharp Program to create a date one year previously and the date one year in the future compare to the current date.
6. Write a program in C# Sharp to create and write some line of text into a file which does not contain a given string in a line.
7. Write a C# Sharp program to sort a list of elements using Heap sort.
 8. Write a program in C# Sharp to display the n terms of even natural number and their sum.