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UNIVERSITY OF MYSORE

Established: 1916

Vishwavidyanilaya Karyasoudha
Crawford Hall, Mysore-570 005

No.AC.2(S)/151/2021-22

Dated: 18.08.2021

NOTIFICATION

Sub: Approval of the lab program list of DSE & SEC of BSC & BCA course- LTP pattern & Examination pattern of BCA from the academic year 2021-22.

Ref: 1. Decision of Board of Studies in Computer (UG) meeting held on 25.11.2020.
2. Decision of the Faculty of Science & Technology Meeting held on 08.02.2021.
3. Decision of the Academic Council meeting held on 07.04.2021.

*****

The Board of Studies in Computer Science (UG) which met on 25.11.2020 has approved the lab program list of Discipline Specific Elective (DSE) and Skill enhancement course (SEC) of both BCA and B.Sc Programme and Scheme of Examination L:T:P credit patern and examination pattern for VI Semester BCA Project as 0:0:6 in the Scheme of Examination of Computer Science (UG) for the academic year 2021-22.

The Faculty of Science and Technology and Academic Council meeting held on 08.02.2021 and 07.04.2021 respectively have approved the above said proposal and the same is hereby notified.

The detailed changes in the lab program list and Scheme of Examination both BCA and B.Sc Programme of Computer Science (UG) course is annexed. The contents may be downloaded **from the University Website i.e., www.uni-mysore.ac.in**.

DRAFT APPROVED BY THE REGISTRAR

18/8

DEPUTY REGISTRAR (ACADEMIC)

Deputy Registrar (Academic)
University of Mysore
Mysore-570 005

To:

1. The Registrar (Evaluation), University of Mysore, Mysore.
2. The Dean, Faculty of Science & Technology, DoS in Psychology, MGM.
3. The Chairperson, DoS in Computer Science (UG), Manasagangotri, Mysore.
4. The Deputy/Assistant Registrar/Superintendent, AB and EB, UOM, Mysore.
5. The P.A. to the Vice-Chancellor/Registrar/Registrar (Evaluation), UOM, Mysore.
6. Office file.

Annexure-B

University of Mysore
B.Sc (Computer Science) and BCA Programme (CBCS)
List of Lab Programs
Course and Paper : B.Sc V – SEM COMPUTER GRAPHICS (DSE) LAB LIST (4:0:2)

PART-A

1. Program to draw a rectangle, lines as its diagonals and a circle.
2. Program to display concentric circle.
3. Program to display BAR graph.
4. Program to illustrate PIE chart.
5. Program to display rotating WHEEL.
6. Program to display a Flower.
7. Program to display Flag.
8. Program to display Human Face.
9. Program to display movement of Fish.

PART-B

1. Program to display movement of KITE.
2. Program to display CAR movement.
3. Program to rotate a circle between two ends of a line.
4. Program to display LINE using DDA.
5. Program to display CIRCLE using DDA.
6. Program to implement Bressenham's Line drawing algorithm.
7. Program to implement Bressenham's Circle drawing algorithm.
8. Program to show the text animation on the screen.
9. Program to implement Cohen-sutherland Line clipping algorithm.
10. Program to perform 2D transformation.

Course and Paper : B.Sc V Sem System Software and Operating System (DSE) 4:0:2

Lab Programs

PART A

1. Demonstrate the following Linux Commands
    a. File related commands : ls (with –l and –a options), cp (with –i option), mv, rm, cat, wc, cut, comm, diff
    b. Directory related commands : pwd, cd, mkdir, rmdir
    c. Command line commands : who, date, logname, man
2. Write a shell script to find largest of two numbers using if statement
3. Write a shell script to print the command line arguments in reverse order
4. Write a shell script to print integer numbers from 1 to 10
5. Write a shell script which counts the numbers of lines and number of words present in a given file.
6. Write a shell script to exchange the contents of two variables
7. Write a shell script to find factorial of a given number
8. Write a shell script to print the first n Fibonacci numbers.

PART B

1. Write a shell script to generate a multiplication table, the value of n must be taken from a file using input redirection.
2. Write a shell script to reverse the rows and columns of a matrix.
3. Write a shell script to sort a given set of numbers using bubble sort
4. Write a shell script to display the
    a. Version of the shell
    b. The user information
    c. Login date and time
    d. List of processes running on the system
    e. User home directory
5. Assume a file with the given information

    First Name Middle Name Age
    ---------- ---------- ---

    Write a shell script to
    a. Sort the first name in alphabetical order
    b. Sort the age in terms of ascending order
    c. Sort the age in terms of descending order
    d. Sort the middle name in alphabetical order
6. Write a shell script to perform arithmetic operation on two numbers depending on +, -, * and / (using case statement)
7. Write a shell script to find the scalar product of two vectors.
8. Write a C program to
    a. Display the PID of parent and PID of child process
    b. Copy the contents of one file into the other using command line arguments

Course and Paper : V Sem BCA (DSE): Digital Image Processing Lab (4:0:2)

PART A

1. Write a program to load an image and display the following
    a. Size of the image (Dimension)
    b. Average intensity value
    b. Maximum and minimum intensity value
2. Write a program to load a color image and display
    a. RGB image
    b. Red, Green and Blue Channel separately
3. Write a program to demonstrate the following neighbors of pixel
    a. N4(p) : 4 neighbors of pixel
    b. Np(D) : 4 Diagonal neighbors of a pixel
    c. N8(p): 8 neighbors of a pixel
4. Write a program to demonstrate the following Distance measures a. Euclidean Distance
    b. City-Block Distance
    c. Chess-Board Distance
5. Write a program to demonstrate use of the following arithmetic operations on an image
    a. Addition b. Subtraction c. Multiplication d. Division
6. Write a program to demonstrate use of logical operations on an image
   a. AND b. OR c. NOT
7. Write a program to obtain a histogram of a gray scale image
8. Write a program to perform histogram equalization on an image

PART B

1. Demonstrate the following filters and perform smoothening on an image
    a. Minimum Filter
    b. Maximum Filter
2. Demonstrate the following filter and perform smoothing on an image
    a. Mean Filter
    b. Median Filter
3. Write a program to perform sharpening on an image using First order derivative
4. Write a program to perform sharpening on an image using second order derivative
5. Write a program to demonstrate color transformation on an image using tonal correction
6. Write a program to demonstrate the steps of Canny's edge detection algorithm on an image
7. Write a program to demonstrate the steps of Sobel's edge detection algorithm on an image

Course and Paper (DSE) VI Sem B.Sc/VI Sem BCA : Web Technologies (4:0:2)

List of Lab programs

Part A

1. Develop and demonstrate HTML pages containing basic text formatting tags, hyperlink, images, different types of list.
2. Develop and demonstrate a HTML page containing a college time table using table tag and its properties such as rowspan, colspan etc.

3. Develop and demonstrate a HTML page that illustrates the use of external level, document level and inline level CSS style specification.

4. Develop and demonstrate HTML pages that illustrate the concept of frames.

5. Develop and demonstrate a HTML page that includes JavaScript script for the following problem:
   Input: A number n obtained using prompt
   Output: The first n Fibonacci numbers

6. Develop and demonstrate a HTML page that includes JavaScript script for the following problem:
   Input: A number n obtained using prompt
   Output: A table of numbers from 1 to n and their squares

7. Develop and demonstrate a PHP program to demonstrate the usage of sort() , asort() and rsort() sorting function of array object.

Part B

1. Develop and demonstrate a HTML page containing JavaScript function to compute the median of an array.
2. Develop and demonstrate a HTML page containing JavaScript function to change the font style of a paragraph on mouse over and on mouse out events.

3. Develop and demonstrate a HTML file that collects the register number of student (the valid format is: Three uppercase characters, followed by two digits followed by two upper case characters and followed by three digits Ex: UOM19BC111) from the user. Use JavaScript that validates the content of the document. Suitable messages should be displayed in the alert if errors are detected in the input data.

4. Develop and demonstrate a simple calculator to perform arithmetic (addition, subtraction, multiplication and division) operations on given two numbers using HTML and JavaScript. Use an HTML form element that allows the user to input two numbers and to display the result of arithmetic operation.

5. Develop and demonstrate a HTML-PHP document to display a welcome message and the current day of the week, month, and day of the month.

6. Develop and demonstrate a PHP program to collect name, course and age information entered by the user and save the input into a table created using MySQL and to display the current contents of this table.

Course and Paper (DSE) V Sem B.Sc/V Sem BCA : Latex Programming (0:1:1)

Part-A

1. Write the Latex command to print pmatrix,bmatrix,Bmatrix,vmatrix,Vmatrix.

2. Write code to produce the following equations and refer the below equations in your Latex document.
   1. $y = \sqrt{\frac{x^2}{z}}t$
   2. $\frac{d}{dx}\int_0^\infty f(s)ds = dx$

3. Write code to generate the following table in Latex.

Items	Quantity	Price(Rs)
Idli	1	25
Dose	2	40
Coffee	1	20
Vada	2	20

4. Write latex commands to insert an image in PDF and JPEG format into your document in Latex.

5. Write the latex code to get the following output

Courses offered

1.B.Sc
- PMCS
- EMCS
- SMCS

2.BCA

3.B.Com

4.B.A
- HEP
- HPS

Part-B

1. Write the latex commands to carry out the following operations
   - Set paper size to A4, margin to 2 inches and orientation to landscape.
   - Insert a web address in blue color.
   - Insert a link to local files in Magenta color.

2. Write an algorithm to check whether the given number is prime or not using latex commands.

3. Using beamer class create a simple presentation of 3 slides with the following features
   - Highlight important text
   - Use Madrid theme
   - Two column slide

4. Using latex commands create a model question paper for 20 marks with two sections.

5. Using latex commands create a simple resume of yours.

Course and Paper : VI Sem B.Sc/VI Sem BCA(SEC) : Android Programming (0:1:1)

a. Setting Up the Development Environment.
b. Create Simple Application that uses GUI Components, Font and Colours.
c. Create Application about Layouts.
d. Create Application about Intents.
e. Implement an Android Application that demonstrates the use of Alert Box.
f. Create an Application that will change colour of the screen based on selected options from the menu.
g. Create simple Application about Android Data.

Course and Paper : VI Sem BCA/VI Sem B.Sc Python Programming (SEC-0:1:1)

1. Program to illustrate the usage of different operators in Python
2. Program to illustrate different data types in Python
3. Program to illustrate the usage – tuples and range
4. Program to illustrate the usage of conditional statement
5. Program to illustrate the usage of iterative statements
6. Program to illustrate one dimensional arrays – Searching and sorting
7. Program to illustrate two dimensional array – Matrix manipulations
8. Program to illustrate the usage of functions
9. Creating data frame from Excel spreadsheet
10. Program to illustrate data visualization