

B.Sc. 5th Semester (Programme) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51510 Course Code : SP-CSC-504/SEC-3

Course Title : MySQL Programming

[Syllabus 2017-18]

Time : 1 Hour 15 Minutes Full Marks : 25

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

5×1=5

- What is domain ?
- What is a foreign key?
- Mention full form of DML and DCL.
- Mention some data types used in MySQL?
- What is query? Give example.
- What is MySql?
- What are the different types of joins in MySQL?
- What are fields in DBMS?

UNIT-II

2. Answer **any two** from the following questions:

2×5=10

- Write about various DDL command? What is the difference between commit and roll back?

3+2=5

- What is key? Write about different types of key. 1+4=5
- Describe different states of transaction. 5
- What is view? Why we use it? Write difference between DML and DCL. 2+3=5

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

- Consider the following tables, answer the queries given below.
Suppliers (SNo, Sname, Status, SCity)
Parts (PNo, Pname, Colour, Weight, City)
Shipment (Sno, Pno, Jno, Quantity)
 - Create supplier table with SNO as primary key.
 - Delete blue color parts.
 - Set Pno as foreign key in Shipment table reference to Pno in parts table.
 - Get supplier numbers for suppliers in Paris with status < 30.
 - Get suppliers details for suppliers who supply part P3. Display the supplier list in decreasing order of supplier numbers.
- What is transaction? Explain ACID properties with suitable example.

B.Sc. 5th Semester (Programme) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51510 Course Code : SP-CSC-504/SEC-3

Course Title : PHP Programming-Theory

[Syllabus 2017-18]

Time : 1 Hour 15 Minutes

Full Marks : 25

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

5×1=5

- What is the full form of PHP?
- What is Array? Give example.
- How to declare a string in PHP?
- What is local variable?
- What is the use of loop in PHP?
- How to set a page as home page in a PHP based site?
- What is the use of GET in PHP?
- How to declare an array in PHP?

[Turn Over]

2. Answer **any two** from the following questions:

2×5=10

- Differentiate between POST and REQUEST method.
- Explain conditional statements in PHP.
- Explain different operators in PHP.
- Write about objects in PHP.

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

- Explain String functions in PHP with examples.
- Create a page using functions for comparing three integers and print the smallest number. Write a function to calculate the square of a positive integer number. The function accept the number as an argument.

B.Sc. 5th Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51511 Course Code : SH-CSC-501/C-11

Course Title : Internet Technologies

[Syllabus 2017-18]

Time : 1 Hour 15 Minutes Full Marks : 25

*The figures in the right margin indicate marks.**Candidates are required to answer in their own words as far as practicable.***UNIT-I**1. Answer **any five** from the following questions:

5×1=5

- What is JavaScript's 'user agent'?
- How can we access an object?
- What is the meaning of '\r' in JavaScript regular expressions?
- What is Event in JavaScript?
- What is the difference between hide comment and output comment?
- What is Session Bean?

- What is garbage collection?
- How can we handle the exception in JSP?

UNIT-II2. Answer **any two** from the following questions:

2×5=10

- Describe ArrayList class.
- Write down the limitations of JavaScript.
- Describe data types in JavaScript with examples.
- Write the date and time to a webpage using JavaScript.

UNIT-III3. Answer **any one** from the following questions:

1×10=10

- What are the JDBC API components? Describe the Hooking Up Events in BeanBox. 4+6
- Write down a Java program that takes as input two integer values and finds the LCM through two different methods. Write a SQL query to delete a table 8+2

B.Sc. 5th Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51512 Course Code : SH-CSC-502/C-12

Course Title : Theory of Computation

[Syllabus 2017-18]

Time : 2 Hours

Full Marks : 40

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

5×2=10

- Explain when a language is accepted by finite automata.
- Compare sentences vs. sentential forms?
- Define pushdown automata.
- Find all strings of length 4 or less from $L=(p+q)^*pq$.
- State pumping lemma for context free languages.
- Give example of two context free languages.
- Define GNF.
- Define halting problem of Turing Machine.

2. Answer **any four** from the following questions:

4×5=20

- Draw nfa for $L = a(a+b)^*b$. convert this nfa into equivalent dfa. Find a regular expression for "all strings of a, b not ended with bb".

1+3+1=5

- Design a pda for $L = \{ a^{2n}b^n : n > 0 \}$. Explain functioning of it with instantaneous description.

4+1=5

- Prove that complement of a regular language is also regular. Is the following grammar ambiguous? Justify your answer.

$E \rightarrow E+E | E^*E | id$ 2 $\frac{1}{2}$ × 2 = 5

- Design a Turing machine for $L = \{ a^n b^n c^n ; n > 0 \}$.

5

- Write context free grammars for $L_1 = \{ a^l b^m c^n : l, m, n > 0 \ \& \ l + m = n \}$ & $L_2 = \{ a^n b^m : n \neq m \}$

2 $\frac{1}{2}$ × 2 = 5

- Prove that $L = \{ ww : w \text{ is in } (a+b)^* \}$ is not regular. What is the difference between DPDA & NPDA?

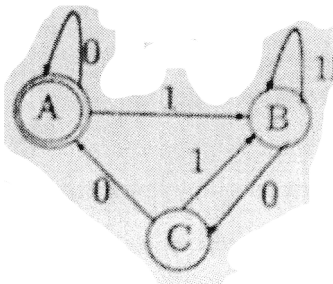
4+1=5

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

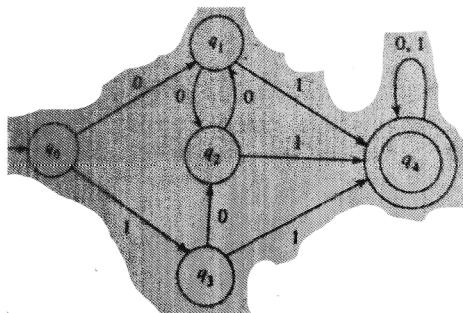
a) Find a regular expression for the following dfa-



Prove by method of induction:

$$1+2+3+ \dots +n = \frac{n(n+1)}{2} \qquad 5+5=10$$

b) Minimize the following dfa:



Explain the Chomsky hierarchy of languages.

6+4=10

B.Sc. 5th Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51516 Course Code : SH-CSC-503/DSE-1

Course Title : Numerical Methods - Theory

[Syllabus 2017-18]

Time : 1 Hour 15 Minutes

Full Marks : 25

*The figures in the right margin indicate marks.**Candidates are required to answer in their own words as far as practicable.*

UNIT-I

1. Answer **any five** from the following questions:

5×1=5

- How do you estimate the computational efficiency of numerical methods?
- Round-off 0.0036812 correct up to three significant digits.
- Determine the percentage of error when $\frac{1}{3}$ is approximated by 0.333.
- Prove that $E)C^* > 0$ where C is a constant.
- Distinguish between first and second order derivatives.

- Name any one method used for numerical differentiation.
- Distinguish between algebraic and transcendental equation.
- Why does Newton-Raphson method run faster than bisection method?

UNIT-II

2. Answer **any two** from the following questions:

2×5=10

- Using an appropriate interpolation formula, find the value of $f(0.36)$ from the following table:

x	0.1	0.2	0.3	0.4
f(x)	1.005	1.020	1.045	1.081

- Explain the Newton-Raphson method for computing the real root of the equation $f(x)=0$.

State an advantage of Secant method over Newton-Raphson method.

4+1=5

- Evaluate the following integral using the Trapezoidal rule and compare the result with the exact value:

4+1=5

$$\int_0^2 \sin x dx$$

[Turn Over]

- d) Using bisection method determine a real root of $x^3 - 2x - 5 > 0$ in $[2, 3]$.

UNIT-III

3. Answer **any one** from the following questions:

$$1 \times 10 = 10$$

- a) Solve the following system of equations by Gauss elimination method:

$$2x_1 + 3x_2 + x_3 = 9$$

$$x_1 + 2x_2 + 3x_3 = 6$$

$$3x_1 + x_2 + 2x_3 = 8$$

- b) Discuss Newton's forward interpolation with a suitable example. For the differential equation given below evaluate $y(0.1)$ taking $h = 0.025$

$$\frac{dy}{dx} = \frac{Y \cdot X}{Y, X}$$

$$4 + 6 = 10$$

B.Sc. 5th Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51516 Course Code : SH-CSC-503/DSE-1

Course Title : Operational Research - Theory

[Syllabus 2017-18]

Time : 1 Hour 15 Minutes

Full Marks : 25

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

$$5 \times 1 = 5$$

- Name some creators of LPP.
- Why do we need null vector?
- Why do we need matrices?
- What do you mean by a basic feasible solution of a LPP?
- What do you mean by interior and boundary point of a set?
- What do you mean by a close set?
- Show that $\{x : |x| \leq 2\}$ is a convex set.
- What do you mean by a non-degenerate basic solution?

- d) Using bisection method determine a real root of $x^3 - 2x - 5 > 0$ in $[2, 3]$.

UNIT-III

3. Answer **any one** from the following questions:

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- a) Solve the following system of equations by Gauss elimination method:

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B.Sc. 5th Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51516 Course Code : SH-CSC-503/DSE-1

Course Title : Operational Research - Theory

[Syllabus 2017-18]

Time : 1 Hour 15 Minutes

Full Marks : 25

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- What do you mean by interior and boundary point of a set?
- What do you mean by a close set?
- Show that $\{x : |x| \leq 2\}$ is a convex set.
- What do you mean by a non-degenerate basic solution?

UNIT-II

2. Answer **any two** from the following questions:

$$2 \times 5 = 10$$

- a) Make a graphical representation of the following LPP:

$$\text{Max } z = 2x_1 + x_2$$

$$\text{Subject to: } 4x_1 + 3x_2 \leq 12$$

$$4x_1 + x_2 \leq 8$$

$$4x_1 + x_2 \leq 8$$

- b) Geometrically draw the feasible space, if any, given by the following LPP and find out the extreme points of the feasible region:

$$\text{Min } z = 4x_1 + 5x_2$$

$$\text{Subject to: } x_1 + 2x_2 \leq 2$$

$$5x_1 + 3x_2 \leq 15$$

- c) What do you mean by linearly independent and linearly dependent variables? Show that following vectors form a basis for E^3 :

$$(3, 0, 2), (7, 0, 9) \text{ and } (4, 1, 2) \quad 2+3=5$$

- d) Transform the following LPP in standard maximization form:

$$\text{Min } z = 3x_1 + 4x_2 + x_3$$

$$\text{Subject to: } x_1 + 4x_2 + 5x_3 = 5$$

$$x_1 + 3x_2 + 4x_3 = 12$$

$$2x_1 + x_2 + x_3 = 20$$

Where $x_1 \geq 0$ and x_2 and x_3 are unrestricted in sign.

UNIT-III

3. Answer **any one** from the following questions:

$$1 \times 10 = 10$$

- a) An agricultural firm has 180 tones of Nitrogen fertilizers, 50 tons of Phosphate and 220 tons of Potash. It will be able to sell 3:3:4 mixtures of these substances at a profit of Rs 15 per ton and 2:4:2 mixtures at a profit of Rs 12 per ton respectively. Form a LPP to show how many tones of these two mixtures should be prepared to obtain the maximum profit. Solve the resulting LPP by using any method.

$$5+5=10$$

b) Solve the following LPP by simplex method:

$$\text{Max } z = 4x_1 + 10x_2$$

$$\text{Subject to: } 2x_1 + x_2 \leq 50$$

$$2x_1 + 5x_2 \leq 100$$

$$2x_1 + 3x_2 \leq 30$$

$$x_1, x_2 \geq 0$$

B.Sc. 5th Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51517 Course Code : SH-CSC-504/DSE-2

Course Title : Digital Image Processing - Theory

[Syllabus 2017-18]

Time : 1 Hour 15 Minutes

Full Marks : 25

*The figures in the right margin indicate marks.**Candidates are required to answer in their own words as far as practicable.***UNIT-I**1. Answer **any five** from the following questions:

5×1=5

- Define gray image.
- Define image sharpening.
- Define gradient of an image.
- What is mean filter?
- Define image compression.
- Define wavelet transformation.
- What is edge?
- Define image histogram.

UNIT-II2. Answer **any two** from the following questions:

2×5=10

- Explain Fourier transformation.
- Write short note on RGB color model.
- Write short note on median filtering.
- Write down some applications of digital image processing.

UNIT-III3. Answer **any one** from the following questions:

1×10=10

- What is the purpose of image restoration? Explain the model of image degradation and restoration process using suitable block diagram.
- Explain discrete cosine transform and write its application. Define image segmentation.

3+7=10

COMPUTER SCIENCE

Course ID : 51517 Course Code : SH-CSC-504/DSE-2

Course Title : Microprocessor - Theory

[Syllabus 2017-18]

Time : 1 Hour 15 Minutes Full Marks : 25

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

5×1=5

- a) Define instruction cycle.
- b) What is the necessity of two MSB bits of Count register in DMA controller?
- c) What is addressing mode?
- d) Define machine cycle.
- e) Define microprocessor.
- f) Define microcontroller.
- g) What is addressing mode?
- h) Explain the difference between a JUMP and a CALL instruction.

UNIT-II

2. Answer **any two** from the following questions:

2×5=10

- a) Explain the functioning of Execution Unit.
- b) Write short note on write Cycle Timing Diagram for maximum mode.
- c) What are disadvantages of synchronous and asynchronous data transfer mode? How they can be removed in Interrupt driven mode?
- d) Explain PIN diagram of 8086 microprocessor.

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

- a) Explain the 8086 microprocessor's register organization.
- b) Write assembly level program for 8086 microprocessor to computer 5+5
 - i) two 8-bit addition
 - ii) decimal to binary conversion.

B.Sc. 5th Semester (Programme) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51518 Course Code : SP-CSC-501/DSE-1A

Course Title : Internet Technologies - Theory

[Syllabus 2017-2018]

Time : 1 Hour 15 Minutes

Full Marks : 25

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

5×1=5

- What is web page?
- What is http?
- What is html?
- What are data types in java script?
- What do you mean by array?
- When does html tag?
- What is exception handling?
- List down two major advantages of jdbc.

UNIT-II

2. Answer **any two** from the following questions:

2×5=10

- Write a JAVA program to find the prime number. 5
- Describe how to make a web table with HTML. 5
- Explain working with result set objects with JDBC. 5
- Explain with example of implementation SQL statements with JDBC. 5

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

- What is object? Describe it. Write a java program to calculate factorial of a number. Transpose of a matrix. 4+6=10
- What is polymorphism? Make a HTML program to implement a image. Develop a standalone java program for multiple inheritances. 2+6+2=10

COMPUTER SCIENCE

Course ID : 51518 Course Code : SP-CSC-501/DSE-1A

Course Title : Programming in JAVA - Theory

[Syllabus 2017-18]

Time : 1 Hour 15 Minutes Full Marks : 25

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

5×1=5

- a) What is unchecked exception?
- b) What is byte stream?
- c) List down two major advantages of use of applet.
- d) What is polymorphism?
- e) What is overloading?
- f) What is object?
- g) What do you mean by file handling?
- h) When does inheritance require?

UNIT-II

2. Answer **any two** from the following questions:

2×5=10

- a) Write a JAVA program to find Armstrong number. 1+4=5
- b) Describe implementation of polymorphism. 5
- c) Explain types of applets. 5
- d) Explain with example of implementation of polymorphism in JAVA. 5

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

- a) What do you mean by Jvm? Develop a standalone java program for multiple inheritances. What is child class? 2+6+2=10
- b) What is object? Describe recursion. Describe exception handling using try catch method. 2+2+6=10

COMPUTER SCIENCE

Course ID : 51518 Course Code : SP-CSC-501/DSE-1A

Course Title : Programming in JAVA - Theory

[Syllabus 2017-18]

Time : 1 Hour 15 Minutes Full Marks : 25

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

5×1=5

- a) What is unchecked exception?
- b) What is byte stream?
- c) List down two major advantages of use of applet.
- d) What is polymorphism?
- e) What is overloading?
- f) What is object?
- g) What do you mean by file handling?
- h) When does inheritance require?

UNIT-II

2. Answer **any two** from the following questions:

2×5=10

- a) Write a JAVA program to find Armstrong number. 1+4=5
- b) Describe implementation of polymorphism. 5
- c) Explain types of applets. 5
- d) Explain with example of implementation of polymorphism in JAVA. 5

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

- a) What do you mean by Jvm? Develop a standalone java program for multiple inheritances. What is child class? 2+6+2=10
- b) What is object? Describe recursion. Describe exception handling using try catch method. 2+2+6=10

B.Sc. 5th Semester (Programme) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51520 Course Code : SP-CSC-504/SEC-3

Course Title : PHP Programming
(Practical)

[Syllabus 2017-18]

Time : 2 Hours

Full Marks : 15

[Problem = 10, LNB + Viva voce = 05]

*The figures in the right margin indicate marks.
Candidates are required to answer in their own
words as far as practicable.*

1. Answer **any one** of the following questions:

$$1 \times 10 = 10$$

- Create a PHP page using functions for comparing three integers and print the largest number.
- Write a function to calculate the factorial of a number (non-negative integer). The function accept the number as an argument.
- WAP to check whether the given number is prime or not.
- Create a PHP page which accepts string from user. After submission that page displays the reverse of provided string.

[Turn Over]

- Write a PHP function that checks whether string is in all lower case or not.
- WAP to sort an array.
- Write a PHP script that removes the whitespaces from a string. Sample string: 'The quick "' brown fox' Expected Output : Thequick""brownfox
- Write a PHP script that finds out the sum of first n odd numbers.
- Write a PHP script that checks if a string contains another string.
- Create a script to construct the following pattern, using nested for loop.


```
*
**
***
****
*****
```
- WAP to print first n even numbers.

B.Sc. 5th Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51521 Course Code : SH-CSC-501/C-11

Course Title : Internet Technologies (Practical)

[Syllabus 2017-18]

Time : 2 Hours

Full Marks : 15

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

[Problem = 10, LNB + Viva voce = 05]

1. Answer any **one** of the following questions:

10×1=10

- a) Create an event driven program to find the factorial of a number n.
- b) Create an event driven program for the following:
A person deposits Rs. 1000 in a fixed account yielding 5% interest. Compute the amount in the account at the end of each year for n years.
- c) Create an event driven program to print a table of numbers from 5 to 15 and their squares and cubes using alert.

- d) Create an event driven program to print the largest of three numbers.
- e) Create an event driven program that accepts a list of positive numbers terminated by Zero. Find the sum and average of these numbers.

B.Sc. 5th Semester (Honours) Examination, 2023-24**COMPUTER SCIENCE**

Course ID : 51526 Course Code : SH-CSC-503/DSE-1

Course Title : Numerical Methods (Practical)

[Problem = 10, LNB + Viva voce = 05]

*The figures in the right margin indicate marks.
Candidates are required to answer in their own
words as far as practicable.*

1. Answer **any one** of the following questions:

$$1 \times 10 = 10$$

- a) Based on the data tabulated as follows, using Newton's forward interpolation formula determine the number of students who obtain marks in 45-50

Marks	30-40	40-50	50-60	60-70	70-80
No. of Students	31	42	51	35	31

- b) Based on the data tabulated as follows, using Newton's backward interpolation formula determine the population in 1924

Year	1891	1901	1911	1921	1931
Population	45	66	81	90	101

- c) Solving the following system of linear

equations using Gaussian elimination method

$$x - 2y + z = 0$$

$$2x + y - 3z = -5$$

$$4x - 7y + z = -5$$

- d) Evaluate $\int_0^{\infty} \log x \cdot dx$ using Simpson's 1/3rd rule, taking $h = 0.2$ where the values of x and $\log x$ are tabulated as below:

x	4.0	4.2	4.4	4.6	4.8	5.0	5.2
log x	1.40	1.43	1.48	1.52	1.55	1.60	1.65

- e) Consider the differential equation given by: $dy/dx = (x + y + xy)$. Find $y(0.1)$ with initial condition $y(0) = 1$ and step size $h = 0.025$.

B.Sc. 5th Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51516 Course Code : SH-CSC-503/DSE-1

Course Title : Operational Research (Practical)

[Syllabus 2017-18]

[Problem = 10, LNB + Viva voce = 05]

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

1. Perform **any one** of the following experiments:

1×10=10

a) Solve the following LPP using graphical method:

Minimize: $C = 60X + 90Y$

Subject to :

$4X + 5Y \geq 8$ $5X + 2Y \geq 11$, $X \geq 0$, $Y \geq 0$

b) Solve the following LPP using simplex method:

Maximize: $P = 7X + 6Y$

Subject to:

$4X + 3Y \leq 240$ $2X + 7Y \leq 100$, $X \geq 0$, $Y \geq 0$

c) Solve the following LPP using big-M method:

Minimize: $C = 60X + 80Y$

Subject to: $3X + 5Y \geq 8$ $5X + 2Y \geq 12$, $X \geq 0$, $Y \geq 0$

d) Solve the following LPP using big-M method:

Maximize: $P = 7X + 5Y$

Subject to:

$4X + Y \leq 240$ $2X + 3Y \leq 100$, $X \geq 0$, $Y \geq 0$

e) Solve the following LPP using Two-Phase method:

Minimize: $C = 60X + 80Y$

Subject to: $3X + 5Y \geq 8$ $5X + 92Y \geq 15$, $X \geq 0$, $Y \geq 0$

B.Sc. 5th Semester (Honours) Examination, 2023-24**COMPUTER SCIENCE****Course ID : 51527 Course Code : SH-CSC-504/DSE-2****Course Title : Digital Image Processing
(Practical)****[Syllabus 2017-18]**

Time : 2 Hours

Full Marks : 15

*The figures in the right margin indicate marks.
Candidates are required to answer in their own
words as far as practicable.*

[Problem = 10, LNB + Viva voce = 05]1. Answer any **one** of the following questions:

10×1=10

- a) Write and execute a program to add two digital images.
- b) Write a program to remove noise from digital image using spatial filter.
- c) Write and execute a C program to separate color image in R, G and B planes and also resize the given image.
- d) Write a program in C for edge detection using different edge detection mask.
- e) Write and execute program for wavelet

transform on given image and perform inverse wavelet transformation to reconstruct image.

- f) Write and execute a program for Water Marking using XOR operation.
- g) Write and execute a program to perform low pass and high pass filtering in frequency domain.
- h) Write a C program for histogram calculation and equalization of an image.
- i) Write and execute a program for image scaling.

[Turn Over]

B.Sc. 5th Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51527 Course Code : SH-CSC-504/DSE-2

Course Title : Microprocessor (Practical)

[Syllabus 2017-18]

[Problem = 10, LNB + Viva voce = 05]

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

1. Answer **any one** of the following questions:

1×10=10

- a) Write an assembly language program for 32-bit binary division and multiplication.
- b) Write an assembly language program to add and subtract two arrays.
- c) Write an assembly language program for ASCII to binary conversion.
- d) Write an assembly language program for 32-bit BCD addition and subtraction.
- e) Write an assembly language program for Linear Search and Binary Search.
- f) Write an assembly language program for binary to ASCII conversion.

B.Sc. 5th Semester (Programme) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51528 Course Code : SP-CSC-501/DSE-1A

Course Title : Internet Technologies (Practical)

[Syllabus - 2017-18]

Time : 2 Hours

Full Marks : 15

[Problem = 10, LNB + Viva voce = 05]

The figures in the right margin indicate marks.

Perform any **one** experiment: $1 \times 10 = 10$

1. Create a table using html.
2. Write a java script program to move an image across serene using Set Internet ().
3. Create a HTML code to make a form with your own hands.
4. Write a java script to change the color of text using Set Time Out ().
5. Write a java script program to create functions to perform the following checks:
 - i) Address should be an string.
 - ii) Name should be an alphabetical value (String)

6. Write a java program for the following matrix operation:
 - i) matrix transpose.
7. Create table "Student " and 'teacher' in 'College' database and insert two rows in this newly created table using JDBC API and do following: update already created table 'Teacher' in 'College' database by updating a teachers name with 'Dr' append before the name, whose name is 'Rita'.

B.Sc. 5th Semester (Programme) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51528 Course Code : SP-CSC-501/DSE-1A

Course Title : Programming in JAVA

(Practical)

[Syllabus - 2017-18]

Time : 2 Hours

Full Marks : 15

[Problem = 10, LNB + Viva voce = 05]

The figures in the right margin indicate marks.

Perform any *one* of the following experiments:

1×10=10

1. Write a java program using applet.
2. Write a program for the following string operations:
 - i) Compare two strings.
 - ii) Compute length of a string.
3. Write a program to find odd numbers.
4. Write a programme to draw a line between two coordinates in a window.
5. Write a programme to print the sum and product of digits of an Integer and reverse the integer

B.Sc. 5th Semester (Programme) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 51520 Course Code : SP-CSC-504/SEC-3

**Course Title : MySQL Programming
(Practical)**

[Syllabus 2017-18]

Time : 2 Hours

Full Marks : 15

[Problem = 10, LNB + Viva voce = 05]

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

1. Answer **any one** of the following questions:

1×10=10

- a) EMPLOYEES (Employee_id, First_Name, Last_Name, Email, Phone_Number, Hire_Date, Job_Id, Salary, Commission_Pct, Manager_id, Department_id)
- Find out the employee id, names, salaries of all the employees
 - List out the employees who works under manager 100
 - Find the names of the employees who have a salary greater than or equal to 4800
 - List out the employees whose last name is 'Roy'
 - Find the names of the employees who works in departments 60,70 and 80
 - Display the unique Manager_id.
- b) An Enterprise wishes to maintain a database to automate its operations. Enterprise is divided into certain departments and each department consists of employees. The following two tables describes the automation schemas

Dept (deptno, dname, loc)

Emp (empno, ename, job, mngr, hiredate, sal, comm, deptno)

- Update the employee salary by 15%, whose experience is greater than 10 years.
 - Delete the employees, who completed 30 years of service.
 - Display the manager who is having maximum number of employees working under him?
 - Create a view, which contain employee names and their manager.
- c) Write PL/SQL queries to create Triggers.
- d) Write a PL/SQL program to demonstrate Cursors.
- e) An Enterprise wishes to maintain a database to automate its operations. Enterprise is divided into certain departments and each department consists of employees. The following two tables describes the automation schemas
- Dept (deptno, dname, loc)
- Emp (empno, ename, job, mngr, hiredate, sal, comm, deptno)
- Determine the names of employee, who earn more than their managers.
 - Determine the names of employees, who take highest salary in their departments.
 - Determine the employees, who are located at the same place.
 - Determine the employees, whose total salary is like the minimum Salary of any department.
 - Determine the department which does not contain any employees.