*SH-V/Com. Sc.-501-C-11(PR)/19*

# B.Sc. 5th Semester (Honours) Practical Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: Internet Technologies

**Time: 2 Hours** **Full Marks: 15**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

LNB + Viva = 05 marks. Practical = 10 marks.

**1.** Answer *any one* question: 10×1=10

(i) Print a table of numbers from 5 to 15 and their squares and cubes using alert.

(ii) Print the largest of 3 numbers.

(iii) Find the factorial of a given number '*n*'.

(iv) Enter a list of positive numbers terminated by zero. Find the sum and average of these numbers.

(v) A person deposits Rs. 1,000 in a fixed account yielding 5% interest. Compute the amount in the account at the end of each year for *n* years.

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*SH-V/Com. Sc.-502-C-12/19*

# B.Sc. 5th Semester (Honours) Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: Theory of Computation

**Time: 2 Hours** **Full Marks: 40**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** Answer *any five* questions: 2×5=10

(a) Define *dfa* and *nfa*.

(b) What is regular grammar?

(c) What is simple grammar? How does it differ from a regular grammar?

(d) Define ambiguous grammar. Give example.

(e) What is λ-production? When a variable is called nullable?

(f) Define CNF of a context free grammar.

(g) State pumping lemma for context free languages.

(h) Define computable function.

**2.** Answer *any four* questions: 5×4=20

(a) Prove $1 + 2 + 3 + \cdots + n = \frac{n(n+1)}{2}$ by method of induction. What is meant by a language? 4+1=5

(b) Find all strings of length less than or equal to 4 from $L = a(a + b)^* b$. Find *dfa* for the following languages on $\sum = \{a, b\}$

(i) $L = \{w: |w| mod\ 3 \neq 0\}$

(ii) $L = \{w: n_a(w) mod\ 4 > 1\}$ 1+2+2=5

(c) Draw an *nfa* for $L = (a + b)^* abb$. Then find a *dfa* from it which accepts *L*. 1+4=5

(d) Prove that $L = \{a^n b^n : n \geq 0\}$ is not a regular language. If $L_1$ and $L_2$ are regular languages then prove that $L_1 \cup L_2$ is a regular language. 4+1=5

(e) Find a regular expression for

(i) $L = \{w \in \{0,1\}^* : w$ has exactly one pair of consecutive zeroes.

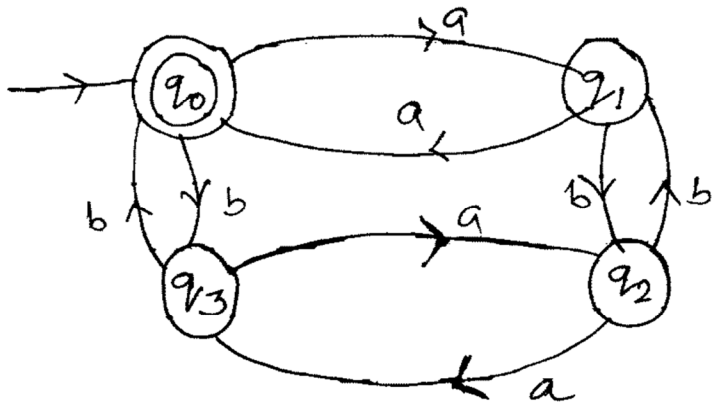
(ii) All string not ending in 01.

Find a context free grammar for $L = \{ww^R : w \in \{a, b\}^*\}$. 2+3=5

(f) Design a *pda* for $L = \{a^n b^n : n > 0\}$. Write difference between *dpda* and *npda*. 4+1=5

**3.** Answer *any one* question: 10×1=10

(a) State Arden's theorem. Find a regular expression for the *dfa* given below.




Draw *nfa* for $Q$ and $\{\lambda\}$. 2+6+2=10

(b) (i) Design a Turing machine for the following language.

$L = \{a^n b^n c^n : n > 0\}$

(ii) Design a Turing machine that will compute $f(x) = 3x$ where $x$ is a *+ve* integer represented in unary.

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*SH-V/Com. Sc.-503-DSE-I/19*

# B.Sc. 5th Semester (Honours) Examination, 2019-20

## COMPUTER SCIENCE

**Course ID : 51516** **Course Code : SH/CSC-503-DSE-I**

Course Title: Numerical Methods

**Time: 1 Hour 15 Minutes** **Full Marks: 25**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** Answer *any five* questions: 1×5=5

(a) What do you mean by the rate of convergence?

(b) What do you mean by the order of a numerical method?

(c) Write the ordinary format for floating point representation.

(d) Which method for root finding is most effective?

(e) Distinguish between Gauss and Gauss-Jordan method for solving a system of linear equations.

(f) Why interpolation is needed?

(g) Distinguish between interpolation and extrapolation.

(h) Name some methods for numerical integration.

**2.** Answer *any two* questions: 5×2=10

(a) Why Regula-Falsi method is used? Write an algorithm for Regula-Falsi method. 1+4=5

(b) Why Gauss-Seidel method is used? Discuss the method. 1+4=5

(c) Use Newton-Raphson method, with 3 as starting point, to find a fraction that is within $10^{-8}$ of $\sqrt{10}$. Show that your answer is indeed within $10^{-8}$ of the truth. 4+1=5

(d) Discuss various approaches for numerical differentiation.

**3.** Answer *any one* question: 10×1=10

(a) From the following data, estimate the number of persons earning weekly wages between Rs. 60 and Rs. 70:

| Wages (Rs.) | < 40 | 40–60 | 60–80 | 80–100 | 100–120 |
|---|---|---|---|---|---|
| No. of persons (in thousand) | 250 | 120 | 100 | 70 | 50 |

Name some extrapolation techniques. 8+2=10

(b) Using Rk method of fourth order, solve $\frac{dy}{dx} = 3x + y/2$ with $y(0) = 1$, at $x = 0{\cdot}2$, taking $h = 0{\cdot}1$. 10×1=10

# B.Sc. 5th Semester (Honours) Examination, 2019-20

## COMPUTER SCIENCE

**Course ID : 51516** **Course Code : SH/CSC-503-DSE-I**

Course Title: Operational Research

**Time: 1 Hour 15 Minutes** **Full Marks: 25**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** Answer *any five* questions: 1×5=5

(a) State some demerits of OR.

(b) In which century OR started to develop as a new field?

(c) What is convex set?

(d) What do you mean by linear independence of vectors?

(e) Define dual problem.

(f) Why sensitivity analysis is done?

(g) Why big-M method is so important?

(h) When phase switching is done in two phase method?

**2.** Answer *any two* questions: 5×2=10

(a) Prove that every convex polyhedron is a convex set.

(b) What are the various phases of OR? Discuss.

(c) Briefly discuss how OR may be used in decision making at management level.

(d) Consider the problem:

Max $z = 3x_1 + 4x_2$ subject to

$4x_1 + 3x_2 \geq 12, x_1 + 2x_2 \leq 2, x_1 \geq 0, x_2 \geq 0$

Show graphically that the problem has no feasible extreme points. What can be concluded regarding its solution?

**3.** Answer *any one* question: 10×1=10

(a) Solve the following problem using big-M Method:

Min $Z = 2x_1 - 3x_2 + 6x_3$ subject to

$3x_1 - 4x_2 - 6x_3 \leq 2$

$2x_1 + x_2 + 2x_3 \geq 11$

$x_1 + 3x_2 - 2x_3 \leq 5$

$x_1, x_2, x_3 \geq 0$

(b) Solve the following problem by solving its dual:

Max $Z = y_1 + y_2 + y_3$ subject to

$$2y_1 + y_2 + 2y_3 \leq 2$$

$$4y_1 + 2y_2 + y_3 \leq 2$$

$$y_1, y_2, y_3 \geq 0$$

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*SH-V/Com. Sc.-503-DSE-I(PR)/19*

# B.Sc. 5th Semester (Honours) Practical Examination, 2019-20

## COMPUTER SCIENCE

**Course ID : 51526** **Course Code : SH/CSC-503-DSE-I**

Course Title: Operational Research(Lab)

**Time: 2 Hours** **Full Marks: 15**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** Perform *any one* experiment: 10×1=10

(a) Use simplex method to verify that the following problem has no finite optimal solution:

Max $z = 2x_1 + x_2$ subject to

$x_1 - x_2 - x_3 \leq 1$

$x_1 - 2x_2 + x_3 \leq 2$

$x_1, x_2, x_3 \geq 0$

(b) Solve the following problem using simplex method:

Max $z = 5x_1 + 3x_2 + x_3$ subject to

$2x_1 + x_2 + x_3 = 3$

$-x_1 + 2x_3 = 4$

$x_1, x_2, x_3 \geq 0$

(c) Solve the following problem by solving its trial:

Min $z = x_1 + x_2$ subject to

$2x_1 + x_2 \geq 8$

$3x_1 + 7x_2 \geq 21$

$x_1, x_2 \geq 0$

(d) Solve the following problem by the dual simplex method:

Min $z = 2x_1 + 3x_2$ subject to

$2x_1 + 3x_2 \leq 30, x_1 + 2x_2 \geq 10, x_1 \geq 0, x_2 \geq 0$

(e) Solve the following problem by revised simplex method:

Min $z = -5x_1 + x_2 - x_3 + 10x_4 - 7x_5$ subject to

$$\begin{bmatrix} 3 & -1 & -1 & 0 & 0 \\ 1 & -1 & 1 & 1 & 0 \\ 2 & 1 & 2 & 0 & 1 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \\ x_5 \end{bmatrix} = \begin{bmatrix} 4 \\ 1 \\ 7 \end{bmatrix}, x \geq 0$$

# B.Sc. 5th Semester (Honours) Practical Examination, 2019-20

## COMPUTER SCIENCE

**Course ID : 51526** **Course Code : SH/CSC-503-DSE-I**

Course Title: Numerical Methods(Lab)

**Time: 2 Hours** **Full Marks: 15**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** Perform *any one* experiment: 10×1=10

(a) Using Newton's Forward interpolation formula find the polynomial $f(x)$ satisfying the following data:

| $x$ | 0 | 5 | 10 | 15 |
|---|---|---|---|---|
| $f(x)$ | 14 | 379 | 1444 | 3584 |

(b) The following data are taken from the stream table:

| Temperature (°C) | 140 | 150 | 160 | 170 | 180 |
|---|---|---|---|---|---|
| Pressure (kg/cm$^2$) | 3·685 | 4·854 | 6·302 | 8·076 | 10·22 |

Find pressure at temperature 175°C.

(c) Find the quadratic polynomial that fits $f(x) = x^4$ at $x = 0, 1, 2$ using Lagranges interpolation formula.

(d) Using Taylor's series find $y$ at $x = 0{\cdot}1$ if $\frac{dy}{dx} = x^2y - 1$, given that $y(0) = 1$.

(e) Use Euler method to approximate $y$ when $x = 0{\cdot}1$, given that $\frac{dy}{dx} = \frac{y-x}{y+x}$ with $y = 1$ for $x = 0$.

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*SH-V/Com. Sc.-504-DSE-2/19*

# B.Sc. 5th Semester (Honours) Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: Microprocessor and Digital Image Processing

**Time: 1 Hour 15 Minutes** **Full Marks: 15**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

### MICROPROCESSOR

**1.** Answer *any five* questions: 1×5=5

(a) Write two differences between 8085 and 8086 microprocessors.

(b) 'Memory size in 8086 is 1 MB.'— Explain why?

(c) How is the stack top address is calculated in 8086?

(d) What is the function of M/IO pin?

(e) Write function of INC instruction.

(f) What is the difference between Conditional Jump and Unconditional Jump?

(g) What is the function of reset pin in 8086?

(h) What is assembler?

**2.** Answer *any two* questions: 5×2=10

(a) Explain the function of following instructions:

(i) CMP

(ii) XCHG

What is instruction execution cycle? 2+2+1=5

(b) Write a program in 8086 ALP which will add two bytes from memory. 5

(c) Discuss about various memory segments available in 8086. 5

(d) Explain with example

(i) Register addressing mode

(ii) Base indexed addressing mode

Define addressing mode. 2+2+1=5

**3.** Answer *any one* from the following: 10×1=10

(a) Draw the PIN diagram of 8086 microprocessor and explain function of each pin in brief. 10

(b) What is meant by assembler directive? Explain different flag bits available in flag register of 8086. What is the difference between CALL and RET? 1+7+2=10

## DIGITAL IMAGE PROCESSING

**1.** Answer *any five* questions: 1×5=5

(a) Define Image Sampling.

(b) What is quantization?

(c) Give the condition for perfect transform.

(d) What is Image Enhancement?

(e) Explain Spatial filtering.

(f) What do you mean by Gray Level?

(g) What is meant by image compression?

(h) What is tuple?

**2.** Answer *any two* questions: 5×2=10

(a) Describe the fundamental steps in image processing. 5

(b) Describe the CMY color model. 5

(c) Describe Fast Fourier transform. 5

(d) Write short notes on image segmentation. 5

**3.** Answer *any one* question: 10×1=10

(a) What is the purpose of image averaging? Define histogram. Explain the different noise distribution in detail. 2+2+6=10

(b) Define encoder. What are the types of decoder? Define compression and explain the general compression system model. 2+2+6=10

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*SH-V/Com. Sc.-504-DSE-2(PR)/19*

# B.Sc. 5th Semester (Honours) Practical Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: Microprocessor and Digital Image Processing

**Time: 2 Hours** **Full Marks: 15**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

### MICROPROCESSOR

Experiment – 10, LNB+Viva – 5

Perform *any one* experiment.

**1.** WAP for 32 bit binary division.

**2.** WAP for 32 bit binary multiplication.

**3.** WAP for 32 bit BCD addition.

**4.** WAP for 32 bit BCD subtraction.

**5.** WAP for binary to ascii conversion.

**6.** WAP for linear search

**7.** WAP for ascii to binary conversion.

**8.** WAP for binary search.

### DIGITAL IMAGE PROCESSING

Experiment – 10, LNB+Viva – 5

Perform *any one* experiment.

**1.** WAP for translation of an Image.

**2.** WAP for rotation of an Image.

**3.** WAP for image restoration.

**4.** WAP to understand 2-D convolution process.

**5.** WAP for image frequency domain filtering apply FFT on given image.

**6.** WAP for image morphological operation of erosion.

**7.** WAP to obtain negative image.

**8.** WAP to obtain flip image of a given image.

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*SP-V/Com. Sc.-501-DSC-1A/19*

# B.Sc. 5th Semester (Programme) Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: Internet Technologies

**Time: 1 Hour 15 Minutes** **Full Marks: 25**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** Answer *any five* questions: 1×5=5

(a) What is Byte code?

(b) What is JDBC?

(c) What is the full form of API?

(d) What is Polymorphism?

(e) Difference between CC and BCC in E-mail.

(f) What is Javascript?

(g) What is negative infinity?

(h) What is the primitive datatype in Java?

**2.** Answer *any two* questions: 5×2=10

(a) (i) What is the difference between Java and Javascript?

(ii) What is the difference between while and do-while loop? 2½+2½=5

(b) What is the purpose of 'This' operator in Javascript? With example. 1+4=5

(c) Explain implicit objects in JSP. 5

(d) Explain the JSP Destroy () method, and explain the <jsp:param> action. 2½+2½=5

**3.** Answer *any one* question: 10×1=10

(a) Write a Java program for the following matrix operation: 10

(i) Addition of two matrices

(b) (i) Difference between include directive and include action of JSP.

(ii) Write a Javascript program to find out whether the given year is leap or not. 5+5=10

# B.Sc. 5th Semester (Programme) Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: Programming in Java

**Time: 1 Hour 15 Minutes** **Full Marks: 25**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** Answer *any five* questions: 1×5=5

(a) What is object?

(b) What do you mean by data hiding?

(c) What is constructor?

(d) Write down two application of Java programming?

(e) What are the difference between = and = = operator?

(f) What do you mean by ternary operator?

(g) What is variable?

(h) What is the use of new operator?

**2.** Answer *any two* questions: 5×2=10

(a) Write a program to print the following series:

1, 1, 2, 3, 5, 8, 13, 21...

(b) What is inheritance? Briefly describe their types.

(c) What are the difference between while loop and do while loop? Write syntax of switch statement.

(d) Write a program to find whether a given number is prime or not.

**3.** Answer *any one* question: 10×1=10

(a) (i) Write a program in Java to accept a value of $n$ and find the value of $s = 1! + 2! + 3! + \cdots + n!$.

(ii) What are parameterized constructors? 8+2=10

(b) (i) Write a program count the no. of vowel : string : COMPUTER APPLICATION.

(ii) Draw the life cycle of thread? 7+3=10

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*SP-V/Com. Sc.-501-DSE-1A(PR)/19*

# B.Sc. 5th Semester (Programme) Practical Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: Internet Technology

**Time: 2 Hours** **Full Marks: 15**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

Viva + LNB = 5, Experiment = 10

Perform *any one*. 10×1=10

**1.** Write arrange pattern programme in Java:

7 6 5 4 3 2 1

7 6 5 4 3 2

7 6 5 4 3

7 6 5 4

7 6 5

7 6

7

**2.** WAP count number of vowel in given string:

String : COMPUTER APPLICATION

**3.** WAP to check a number is palindrome or not.

**4.** WAP to check whether a year leap year or not.

**5.** Display Good Morning <uname>, Good Afternoon <uname> or Good Evening <uname> based on the current time of the day in JSP.

**6.** WAP in JSP, validate user input entered in a form. Then input Name, DOB, E-mail ID, etc.

**7.** Write a javascript

(a) to change the colour of text using set time out ().

(b) to move an image across screen using set Interval ().

# B.Sc. 5th Semester (Programme) Practical Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: Programming in Java

**Time: 2 Hours** **Full Marks: 15**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** WAP to check whether a given string is palindrome or not.

**2.** Write a Java programme that computes the area of a circle, rectangle and a cylinder using function overloading.

**3.** Write a program in Java to store the word 'SCHOOL' in an appropriate variable and generate the following output:

S

S C

S C H

S C H O

S C H O O

S C H O O L

**4.** Write a program in Java to accept a number and find its largest digit.

**5.** Write a programme in Java to find the sum of the series $S = 1 + (1 * 2) + (1 * 2 * 3) + \cdots$ up to $n$ terms.

**6.** Write a menu-driven program in Java to perform either of the following conversions depending on the user choice:

(i) km to cm

(ii) Hours to minute

**7.** WAP to store the names of 50 students in a single-dimensional array and to arrange them in alphabetical order using the bubble sort technique only.

**8.** WAP to check whether a year is leap year or not.

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*SP-V/Com. Sc.-504-SEC-3/19*

# B.Sc. 5th Semester (Programme) Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: MySQL Programming

**Time: 1 Hour 15 Minutes** **Full Marks: 25**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** Answer *any five* questions: 1×5=5

(a) What is the default port for MySQL server?

(b) Mention full form of DDL and DCL.

(c) Mention some data types used in MySQL?

(d) What is Data Base Management system? Give example.

(e) What are the different types of strings used in MySQL?

(f) Can we use MySQL and LINUX operating system? What is the syntax for it?

(g) What are the different types of joins in MySQL?

(h) What is transaction in DBMS?

**2.** Answer *any two* questions: 5×2=10

(a) Differentiate between SQL and PL/SQL? What is the difference between CHAR and VARCHAR? 3+2=5

(b) What is the syntax to add a primary key in an already created table? What is the difference between delete, truncate and drop command? 2+3=5

(c) Describe different states of transaction.

(d) What is view? Why we use it? Write the command to create a view with some condition.

**3.** Answer *any one* question: 10×1=10

(a) 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)**

(i) Create supplier table with SNo as primary key.

(ii) Delete red color parts.

(iii) Set Pno as foreign key in Shipment table reference to Pno in parts table.

(iv) Get supplier numbers for suppliers in Paris with status >20.

(v) Get suppliers details for suppliers who supply part P2. Display the supplier list in increasing order of supplier numbers.

(b) Explain different types of joining used in MySQL with example. (SQL queries must be given in example.)

# B.Sc. 5th Semester (Programme) Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: PHP Programming

**Time: 1 Hour 15 Minutes** **Full Marks: 25**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** Answer *any five* questions: 1×5=5

(a) What is PHP?

(b) What is top down programming approach? Give example.

(c) How to declare a variable in PHP?

(d) How to find length of a string?

(e) What is the use of 'isset()' in PHP?

(f) How to set a page as home page in a PHP based site?

(g) What is the use of echo in PHP?

(h) How to declare an array in PHP?

**2.** Answer *any two* questions: 5×2=10

(a) Differentiate between GET, POST and REQUEST method.

(b) Describe different errors in PHP.

(c) Explain different operators in PHP.

(d) What is SESSION and why do we use it? How to create a SESSION?

**3.** Answer *any one* question: 10×1=10

(a) What is dynamic page? Create a login and logout page using PHP.

(b) Create a 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.

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*SP-V/Com. Sc.-504-SEC-3(PR)/19*

# B.Sc. 5th Semester (Programme) Practical Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: MySQL Programming

**Time: 2 Hours** **Full Marks: 15**

*Candidates are required to give their answers in their own words as far as practicable.*

Perform *any one* experiment from the following.

**1.** (i) Create table Student(roll, Fname, Lname, City, Phone).

(ii) Insert 5 records in the table.

(iii) Add subject column in the table.

(iv) Add data to the subject column.

(v) Find all the students who have taken comp sc as subject.

**2.** (i) Create table Library(Bid, tile, author, publisher).

(ii) Create table issued(id, Bid, idate, rdate, sid).

(iii) Add primary key and foreign key.

(iv) Insert 5 records in each table.

**3.** (i) Create table Library(Bid, tile, author, publisher, subject).

(ii) Add primary key.

(iii) Insert 5 records in each table.

(iv) Drop primary key.

(v) Delete records of mathematics subject.

**4.** (i) Create table Parts(pid, pname, color, sid).

(ii) Create table Supply(Sid, sname).

(iii) Add primary key and foreign key.

(iv) Insert 2 records in each table.

(v) Join two tables.

**5.** (i) Create table student(roll, name, dob, adds, marks).

(ii) Add primary key.

(iii) Insert 5 records in the table.

(iv) Find the students who got more than 80 marks in Bankura.

(v) Sort the records according to marks.

# B.Sc. 5th Semester (Programme) Practical Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: PHP Programming

**Time: 2 Hours** **Full Marks: 15**

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** Answer *any one* question:

(a) Write a function to calculate the factorial of a number (non-negative integer). The function accept the number as an argument.

(b) Create a PHP page which accepts string from user. After submission that page displays the reverse of provided string.

(c) Write a PHP function that checks if a string is all lower case.

(d) Write a PHP script that checks whether a passed string is palindrome or not? (A palindrome is word, phrase, or sequence that reads the same backward as forward, e.g., madam or nurses run)

(e) Create a login page having user name and password. On clicking submit, a welcome message should be displayed if the user is already registered (i.e. name is present in the database) otherwise error message should be displayed.

(f) Write a PHP script that checks if a string contains another string.

(g) Create a simple 'birthday countdown' script, the script will count the number of days between current day and birthday.

(h) Write a simple PHP program to check that e-mails are valid.

(i) $color = array('white', 'green', 'red'). Write a PHP script which will display the colors in the following way:

Output : white, green, red

- green
- red
- white

(j) Write a PHP script to replace the first 'the' of an user given string with 'That'.

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*SH-V/Com. Sc.-501-C-11/19*

# B.Sc. 5th Semester (Honours) Examination, 2019-20

## COMPUTER SCIENCE

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

Course Title: Internet Technologies

**Time: 1 Hour 15 Minutes** **Full Marks: 25**

*The figures in the right hand side margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1.** Answer *any five* questions: 1×5=5

(a) What is an array?

(b) What is JDBC?

(c) What is the full form of SQL?

(d) Write full form of HTTP.

(e) What is JSP?

(f) What is Servlet?

(g) What is method?

(h) What is event?

**2.** Answer *any two* questions: 5×2=10

(a) Describe different data types.

(b) Write short note on methods.

(c) Write down the applications of JSP.

(d) Write short note on error handling.

**3.** Answer *any one* question: 10×1=10

(a) Describe the procedure to develop a simple Bean.

(b) Describe the basics of a Servlet.

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