SRI VENKATESWARA UNIVERSITY
BCA II SEMESTER W.E.F. 2015-16

S.No	Course	Total Marks	Mid Sem Exam	Sem End Exam	Teaching Hours	Credits
1.	English	100	25	75	4	3
2.	Foundation Course -3 Environmental Science	50	0	50	2	2
3.	Foundation Course -4 ICT (Information and Communication Technology)-1	50	0	50	2	2
4.	Statistical Methods and their Applications	100	25	75	4	3
5.	Microsoft Office	100	25	75	4	3
6.	Microsoft Office Lab	50	0	50	2	2
7.	Object Oriented Programming using C++	100	25	75	4	3
8.	Object Oriented Programming using C++ Lab	50	0	50	2	2
9.	Unix Programming	100	25	75	4	3
10.	Unix Programming Lab	50	0	50	2	2
	Total	**750**			**30**	**25**

STATISTICAL METHODS AND THEIR APPLICATIONS

UNIT I

Classification of data – Tabulation of data – Preparation of frequency distribution – Presentation of data through histogram, frequency polygon, frequency curve

UNIT II

Measures of Central Tendency: Computation of Arithmetic mean, median and mode for ungrouped data and grouped data. , Verification of median through ogives

UNIT III

Measures of dispersion: Computation of Range, Quartile deviation, mean deviation and Standard deviation - co-efficient of variation. (Numerical Applications Only)

UNIT IV

Concept of Skewness, Karl Pearson's and Bowley's Coefficients of Skewness   (Numerical Applications Only)

UNIT V

Meaning of Correlation, types of correlation, correlation coefficient- Karl Pearson- spearman's rank   correlation coefficient. (Numerical Applications Only)

TEXT BOOKS
1. Statistical Methods - Dr. S.P. Gupta- Sultan Chand & Sons.
2. Quantitative Techniques by C. Sathyadevi- S. Chand.

REFERENCE BOOKS
1. Fundamental of Mathematical Statistics- S.C. Gupta & V.K. Kapoor- Sultan   Chand
2. Statistical Methods - Snedecor G.W. & Cochran W.G. oxford & +DII
3. Elements of Statistics - Mode. E.B.- Prentice Hall

UNIT-I

Microsoft Office 365: Office on demand, Office Web Apps, SkyDrive and SkyDrive Pro, Most Used Office Applications, Creating a Microsoft Account, Managing Account Settings.

UNIT -II

Microsoft Skydrive and SkyDrive Pro: Getting Started with SkyDrive, Creating a Document, Sharing a Document, Using SkyDrive App, Uploading Files from Your Computer, Uploading Files on the Web, Getting Started with SkyDrive Pro, Creating a Document, Sharing a Document, Uploading Files on the Web, Checking Your E-mail.

UNIT –III

Microsoft Word 2013: Starting Word, the Ribbon, Basic Text Formatting Tools, Adding Images, Adding Tables, Saving Your Wok, Printing Your Work.

UNIT –IV

PowerPoint 2013: Starting PowerPoint, The Ribbon, Designing a Slide, saving Your Work, Printing Your Work, Giving Presentations.

UNIT –V

Microsoft Excel 2013: Starting Excel, What is Spreadsheet? , The Ribbon, Entering Data, using Formulas, Formatting Data, Adding Chart, Saving Your Work, Printing Your Work.

TEXT BOOK

1. Using Office 365: With windows 8 by Kevin Wilson

REFERENCE BOOKS

1. Joe Habraken, Microsoft Office 2000, 8 in 1 by, Prentice Hall of India
2. I.T. Tools and Applications by A. Mansoor, Pragya Publications, Matura

MICROSOFT OFFICE - LAB

1. Prepare your class time table using different Text formatting in table.
2. Send a Call Letter for All Applicants to Inform Interview Details using Mail Merge
3. Mathematical Equations
4. Water Marking
5. Create Backup file
6. Create a text and images with effects
7. Create a animation and sound effects
8. Create a pay details of employee
9. Calculate student mark details
10. Create four types of chart
11. Import external data, sort & filter

OBJECT ORIENTED PROGRAMMING USING C++

UNIT I

Principles of OOP: Software Crisis, Software Evolution - Programming Paradigms. Object Oriented Technology - Basic Concepts and benefits of OOP - Application of OOP, OOP languages.

UNIT II

Introduction to C++: History of C++, Structure of C++, Application of C++, tokens, keywords, identifiers, basic data types, derived data types, symbolic constant, dynamic initialization, reference variables, scope resolution operator, type modifiers, type casting operators and control statements, input and output statements in C++

UNIT III

Function Prototyping, Function Components, Passing Parameters Call By Reference, Return By Reference, Inline Function, Default Arguments, Over Loaded Function Introduction Friend Function

UNIT IV

Classes and Objects: Class Specification, Member Function Definition-Nested Member Function, Access Qualifiers, Static Data Members and, Member Functions. Instance Creation-Array of Objects-Dynamic Objects-Static Objects-Objects as Arguments-Returning Objects

UNIT V

Constructers And Destructors: Constructors-Parameterized Constructors Overloaded Constructors, Constructors With Default Arguments, Copy Constructors, Dynamic Constructors, Dynamic Initialization Using Constructors, Destructors.

Text Book:
1. Robert Lafore, "Object Oriented Programming in C++", Galgotia Publication Pvt. Ltd, 4th edition, New Delhi, 2002

Reference Books:

1. Object Oriented Programming with C++ By Sourav Sahay Form Oxford University Press
2. Herbert Schildt , " C++ : The Complete Reference", TMH ,New Delhi, 2003.

OBJECT ORIENTED PROGRAMMING USING C++ LAB

1. Write a C++ program to find the sum of individual digits of a positive integer.
2. A Fibonacci sequence is defined as follows: the first and second terms in the sequence are 0 and 1. Subsequent terms are found by adding the preceding two terms in the sequence. Write a C++ program to generate the first n terms of the sequence.
3. Write a C++program to generate all the prime numbers between 1 and n , where n is a value supplied by the user.
4. Write a C++program to find the factorial of a given integer
5. Write a C++program to find the GCD of two given integers
6. Write a C++ program that uses a recursive function for solving Towers of Hanoi problem.
7. Write a C++program to implement call by value and call by reference parameters passing
8. Write a program to implement Overloading and Overriding
9. Write a C++ program to implement the matrix ADT using a class. The operations supported by this ADT are:
    a. Reading a matrix.
    b. Printing a matrix
    c. Addition of matrices
    d. Subtraction of matrices
    e. Multiplication of matrices
10. Write C++programs that illustrate how the Single inheritance, Multiple inheritance Multi level inheritance and Hierarchical inheritance forms of inheritance are supported.
11. Write a C++program that illustrates the order of execution of constructors and destructors when new class is derived from more than one base class

UNIX PROGRAMMING

UNIT I

Chapter 1: Overview of Operating Systems

Introduction To Operating System Concepts, Operating System Terminology, System Calls, Types Of Operating Systems.

Chapter 2: Process Management

Operating System Components, Process Management, Scheduling, Scheduling Algorithms, Inter Process Communication, Threads

UNIT II

Chapter 3: Memory Management

Introduction to Memory Management, Contiguous Memory Allocation, Swapping, File Concept, File Structure, Directories, Disk Allocation And Access Methods, File Protection, Device Independence

UNIT III

Chapter 4: UNIX Basics

History of UNIX, Design Principles of UNIX, UNIX- a Multi User Operating System, UNIX Architecture, Basics of UNIX Commands, Shell Commands syntax, Internal and External Commands, Correcting Typing Mistakes On Command Line, General UNIX Commands.

UNIT IV

Chapter 5: UNIX File System

UNIX File System- An Introduction, File Security Mechanism, Standard UNIX directories, UNIX Commands For File System

UNIT V

Chapter 6: Vi Editor

Vi- an Introduction, Basic Vi components, The File.exrc, Vi Options

Text Book:

1. Basics of OS UNIX and Shell Programming By ISRD Tata McGraw-Hill Education

Reference Book

1. UNIX and SHELL Programming By B.M. Harwani, from Oxford University Press (India)

UNIX PROGRAMMING LAB

Session-1

a) Log into the system

Sol: Login

b) Use Vi editor to create a file called Myfile.txt which contains some text.

Sol: Vi mytable

c) Correct typing errors during creation.

Sol: Practice vi editor commands

d) Save the file

Sol: :wq+Enter

e) Logout of the system

Sol: logout

Note: Make use of the following commands:

To Start vi

 To use on a file, type in vi filename. If the file named filename exists, then the first page(or screen) of the file will be displayed: if the file does not exist, then an empty file and screen are created into which you may enter text.

vi file name	Edit filename starting at line 1
vi -r filename	Recover filename that was being edited when system crashed

To Exit vi

        Usually the new or modified file is saved when you leave vi. However, it is also possible to quit vi without saving the file.

Note: The cursor moves to bottom of screen whenever a colon (:) is typed. This type of command is completed by hitting the <return> (or <Enter>) key.

*	:x<return>	Quit vi, writing out modified file to file named in original invocation
	:wq<return>	Quit vi, writing out modified file to file named in original invocation
	:q<return>	Quit (or exit) vi
*	:q!<return>	Quit vi, even though latest changes have not been saved for this vi call

Session-2

a) Log into the system

b) Open the file created in session 1

c) Add some text

d) Change some text

e) Delete some text

f) Save the changes

Sol: Practice the commands in Vi editor

g)Logout of the system

Note: Make use of the following commands:

Inserting or Adding Text

The following commands allow you to insert and add text. Each of these commands puts the vi editor into insert mode: thus, the <Esc> key must be pressed to terminate the entry of text and to put the vi editor back into command mode:

*	i	Insert text before cursor, until <Esc> hit
	I	Insert text at beginning of current line, until <Esc> hit
*	a	Append text after cursor, until <Esc> hit
	A	Append text to end of current line, until <Esc> hit
*	o	Open and put text in a new line below current line, until <Esc> hit
*	O	Open and put text in a new line above current line, until <Esc> hit

Changing Text

The following commands allow you to modify text

*	r	Replace single character under cursor(no <Esc> needed)
	R	Replace characters, starting with current cursor position, until <Esc> hit
	cw	Change the current word with new text, starting with a character under cursor, until <Esc> hit
	cNw	Change N words beginning with a character under cursor, until <Esc> hit;eg:c5w changes 5 words.
	C	Change (Replace) the characters in the current line, until <Esc> hit
	cc	Change (Replace) the entire current line, stopping when <Esc> hit
	Ncc or cNc	Change(replace) the next N lines, starting with the current line, stopping when , <Esc> hit

Deleting Text

*	X	Delete single character under cursor
	Nx	Delete N characters, starting with character under cursor
	Dw	Delete the single word beginning with character under cursor
	dNw	Delete N words beginning with character under cursor; eg.,d5w deletes 5 words
	D	Delete the remainder of the line, starting with current cursor position
*	Dd	Delete entire current line
	Ndd or dNd	Delete N lines, beginning with the current line; eg.,5dd deletes 5 lines

Session-3

a) Log into the system

b) Use the cat command to create a file containing the following data. Call it mytable use tabs to separate the fields.

1425	Ravi	1565
4320	Ramu	26.27
6830	Sita	36.15

1450	Raju	21.86

Sol: cat > mytable

1425	Ravi	1565
4320	Ramu	26.27
6830	Sita	36.15
1450	Raju	21.86

c) Use cat command to display the file, mytable

Sol: $cat mytable

1425	Ravi	1565
4320	Ramu	26.27
6830	Sita	36.15
1450	Raju	21.86

d) Use the vi command to correct any errors in the file, mytable

Sol: Verify the file with Vi editor Commands

e) Use the sort command to sort the file mytable according to the first field. Call the sorted file mytable
(Same name)

Sol: $sort+ 1 mytable > mytable

f) Print the file mytable

Sol: Cat mytable

1425	Ravi	1565
4320	Ramu	26.27
6830	Sita	36.15
1450	Raju	21.86

g) Use the cut and paste commands to swap fields 2 and 3 of mytable. Call it my table
(Same name)

Sol: $cut   -f1 >mytab1
     $cut   -f2 >mytab2
     $cut   -f3 >mytab3
    $paste mytab3 mytab2 > mytab4
     $paste mytab1 mytab4 > mytable

h) Print the new file, mytable

Sol: $ cat mytable

1425	Ravi	1565
4320	Ramu	26.27
6830	Sita	36.15
1450	Raju	21.86

Code No:

SRI VENKATESWARA UNIVERSITY: TIRUPATI
BCA (CBCS)
Semester Examinations
Statistical Methods and their Applications

Time: 3 Hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks
5 x 5 = 25 Marks

1. Define the term Distribution?
2. What is frequency curve?
3. Differentiate median and mode?
4. What are the applications of mean, median and mode?
5. Describe the concept of Skewness?
6. What is coefficient of variation?
7. What is the role of correlation in statistical analysis?
8. What are the applications of correlation?

Part – B
Answer one question from each Unit. All questions carry equal marks
5 x 10 = 50 Marks

UNIT – I
9. How to present the data through Histogram? Explain with neat diagram.
10. Compare and Contrast frequency polygon and frequency curve?

UNIT-II
11. Explain the Measures of Central Tendency?
12. Distinguish the Grouped and Ungrouped data with proper examples?

UNIT-III
13. Calculate the Standard Deviation of each dataset?
     A = {9,10,11,7,13}
     B = {10,10,10,10,10}
     C = {1,1,10,19,19}
14. Explain Quartile Deviation and mean Deviation with suitable examples?

UNIT-IV
15. List and explain the properties of skewness?
16. Explain the merits and demerits of Karl Pearson's and Bowley's Coefficients of Skewness?

UNIT-V
17. How many types of Correlations are available? Explain each in detail?
18. Explain Karl Pearson and spearman's rank correlation coefficient?

Code No:

SRI VENKATESWARA UNIVERSITY: TIRUPATI
BCA (CBCS)
Semester Examinations
MICROSOFT OFFICE

Time: 3 Hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks

Part A
Answer any Five of the following. All questions carry equal marks
5x 5 = 25 Marks

1. Define Office on Demand?
2. How to create a Microsoft Office account?
3. Differentiate Skydrive and Skydrive Pro?
4. Write steps to create a Document?
5. What are the Formatting options available with MS Word?
6. How to insert Graph in MS Word?
7. What are the advantages of Power Point Presentation?
8. Define Spreadsheet?

Part B
Answer one question from each Unit. All questions carry equal marks
5 x 10 = 50 Marks
UNIT – I
9. With neat Diagram explain how to create a Microsoft Account?
10. What are various applications of MS Office? Explain some Real world use cases?

UNIT-II
11. Explain how to upload files from your computer with proper screen shots?
12. Explain the Merits and Demerits of Skydrive with examples?

UNIT-III
13. Explain how to insert Water mark symbol in the background of MS Word?
14. How to prepare MS Word document with double columns format? Explain.

UNIT-IV
15. Explain the advantages of Slide Show option available with MS Power Point?
16. How to update the created Presentation in MS Power point? Explain with an example.

UNIT-V
17. Explain the usage of Formulas in MS Excel? List out some useful formulas.
18. How to Create a Graph in Excel? Draw the example graph of student marks.

Code No:

SRI VENKATESWARA UNIVERSITY: TIRUPATI
BCA (CBCS)
Semester Examinations
Object Oriented Programming using C++

Time: 3 Hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks
5 x 5 = 25 Marks

1. What are Programming Paradigms?
2. What are the Features of OOPs?
3. Describe the basic data types.
4. Define keywords and identifiers with an example?
5. Write short notes on Inline Function?
6. Write about Default Arguments?
7. Give the difference between Dynamic Objects and Static Objects with an illustration?
8. Give the difference between Constructers and Destructors with an example?

PART - B
Answer one question from each Unit. All questions carry equal marks
5 x 10 = 50 Marks

UNIT – I
9. Discuss the basic concepts and benefits and Applications of OOP?

OR

10. What is Software Crisis? Explain the Software Evolution and the different OOP languages

UNIT-II
11. Explain about the Input and Output Statements in C++?

OR

12. Write a program in C++ that explains the various control statements

UNIT-III
13. Distinguish Call by Reference and Return by Reference with an example?

OR

14. Explain the concept of function overloading with an programming example

UNIT-IV
15. Demonstrate the use of Access Qualifiers available in C++ with an programming example

OR

16. Discuss about Dynamic Objects-Static Objects with an illustration

UNIT-V
17. Write a program in C++ that explains the types of Constructers?

OR

18. Write a program in C++ that demonstrates destructors?

Code No:

SRI VENKATESWARA UNIVERSITY: TIRUPATI
BCA (CBCS)
II Semester Examinations
UNIX Programming

Time: 3 Hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit.

Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks

5 x 5 = 25 Marks

1. What are system calls? Give the list of systems calls in OS?
2. Write a short note on inter process communication?
3. What is device independence? Give an example
4. Describe swapping wit h an illustration?
5. What are Design Principles of UNIX
6. What is Multi User Operating System
7. Discuss about file system
8. Write any two UNIX commands with an example

Part – B
Answer one question from each Unit. All questions carry equal marks

5 x 10 = 50 Marks

UNIT - I

9. List and Explain the Types Of Operating Systems

OR

10. What is Process Management? How it is implemented in UNIX? Explain.

UNIT - II

11. Write about the following
    (a) File Structure
    (b) Directories
    (c) Disk Allocation And Access Methods
    (d) File Protection

OR

12. Explain the concept of Contiguous Memory Allocation with an illustration

UNIT -III

13. Explain in detail about UNIX Architecture

OR

14. Write a note on the Basics of UNIX Commands, Shell Commands syntax, Internal and External Commands with examples.

UNIT -IV

15. Give an introduction to UNIX File System and discuss about the File Security Mechanism.

OR

16. What are Standard UNIX directories? Explain.

UNIT -V

17. a) Using "vi" (i) how do you save your work without leaving the editor?

b) Using "vi" (ii) how will you write selected lines to a file? Mention all options. Give suitable examples

OR

18. a) What is "yanking"? What does the "!" operator do in "vi"?

b) What do the following commands in "vi" specify? How are they used?

      i) map

      ii) ?pat

      iii) set

      iv) ab