

**Department of Computer Science-CBCS V and VI sem Course Outcomes****CBCS V sem****Course Title: Python Programming [DSC 1]**

Course	Outcome
Introduction to Python	CO1: To get well worse with python programming and also to learn the various concepts.
Lambda -- functions as objects	CO 2: Learning Lambda functions , file handling mechanism.
Exception	CO 3: To understand how to handle the exceptions in python.
Regular Expressions	CO 4 : Handling expressions using various functions and to learnr about the GUI programming inn python.
Database connectivity in Python	CO 4 : To learn how to handle the queries in database.

**Practical (Python programming) [DSE1]**

CO1-Learn python program to calculate factorial.

CO2-To find sum of digits.

CO3-To understand python functions to perform arithmetic operations.

CO4-File handling in python.

CO5-To learn python GUI programming.

CO6-Database Connectivity.

CO7-Learn to compute the area and the perimeter of a circle.

CO8-Learn inheritance.

CO9-To learn regular expressions.

CO10-To learn exception handling.

**Course Title: Web Technology [DSC 2]**

Course	Outcome
Fundamentals Of Web	CO1: Get to learn about the foundations and fundamentals of Web.
Introduction To HTML	CO 2: To understand the concepts of HTML and CSS.
The Basics Of Javascript	CO 3: To understand javascripts, handling groups, instance creation and modification.
Javascript And Html Documents	CO 4 : Understand javascript environment and also handling of events ocuured.
Dynamic Documents With Javascript:	CO 4 : To learn dynamic contents of javascripts and introduction about the XML.

## Practical (Web Technology) [DSE2]

CO1-Learn usage of text formatting

CO2-Learn usage of links and images.

CO3-Learn usage of lists and tables.

CO4- Learn to create a home page having three links

CO5-To understand create a login form.

CO6-Understand usage of inline and external style sheet using CSS.

CO7-Concepts of javascript.

CO8-Solve html file probles using javascript.

CO9-Learn javascript And HTML and JAVASCRIPT

CO10-Using javascript to handle characters.

CO11-HTML and Javascript to handle paragraph styling.

CO12-Learn document that use of onload and onfocus events

## Course Title :-Information Technology and Security [SEC]

Course	Outcome
The Internet:	CO1: Get to learn about the internet services, Emerging Computer Technologies, Introduction to Information Security
Introduction to Application Security and Counter Measures	CO 3: Introduction to Application Security and Counter Measures, Introduction to Security Policies and Cyber Laws

**K.L.E. Society's**  
**Raja Lakhamagouda Science Institute (Autonomous), Belagavi**  
**Department of Computer Science**  
**B.Sc. V Semester (2022-2023)**

**Python Programming [DSC 1]**

**Total credits: 4**

<b>Unit</b>	<b>Contents</b>	<b>Hours</b>
<b>I</b>	<b>Introduction to Python:</b> Working with python, Variables, expressions, and statements, accepting user input, Conditional execution, Alternative execution, Chained conditionals, Nested conditionals, Iteration, Function Basics- Built-in Functions, Declaring and calling user defined functions, Parameters and default arguments, Fruitful functions and void functions, Recursion, Scope :Global, Local variables. Modules: Creating and importing modules- importing all or specific classes from module.	<b>12</b>
<b>II</b>	<b>Lambda -- functions as objects,</b> map() function, Strings, indexing, Slicing, Built-in String methods, Lists, Dictionaries and Tuples, Files: Opening the file – modes : read, write, append. Reading from and writing to a file, closing, deleting a file.	<b>12</b>
<b>III</b>	<b>Exception:</b> Exceptions in Python, Handling Exceptions: try block, except block, else block, finally block, Raising an exception, User defined exception, Assertions. Object-Oriented Programming: Classes : defining classes with init () and methods, creating objects, class variables and instance variables, Inheritance _super() function..	<b>12</b>
<b>IV</b>	<b>Regular Expressions:</b> Concept of regular expression, meta characters, using match() function, search(), findall(), sub() and split() functions. GUI Programming in Python (using Tkinter): Introduction to GUI library. Layout management with pack, grid and place, Widgets with their attributes: Frame, Label, Button, Checkbutton, Radiobutton, Entry, Listbox, Text. Events and bindings, Drawing on canvas (line, oval, rectangle, arc.).	<b>12</b>
<b>V</b>	<b>Database connectivity in Python:</b> Installing mysql connector, Accessing connector module, Using connect, cursor, execute & close functions, Reading single & multiple results of query execution, Executing different types of SQL statements, Executing transactions, Handling exceptions in database connectivity.	<b>12</b>
<b>Total</b>		<b>60</b>

**Text books:**

1. Gowrishankar s, veena a, **“Introduction to python programming”**, 1st edition, crc press/taylor & francis, 2018. Isbn-13: 978-0815394372
2. John V Guttag. —Introduction to Computation and Programming Using Python, Prentice Hall of India

**Reference books:**

1. Charles R. Severance, —Python for Everybody: Exploring Data Using Python 3, 1st Edition, Create Space Independent Publishing Platform, 2016.
2. Paul Gries , Jennifer Campbell, Jason Montojo, Practical Programming: An Introduction to Computer Science Using Python 3, Pragmatic Bookshelf, 2/E
3. Lukaszewski, MySQL for Python: Database Access Made Easy, Packt Publisher
4. Allen B. Downey, "Think Python: How to Think Like a Computer Scientist", 2nd Edition, Green Tea Press, 2015
5. Magnus Lie Hetland, Beginning Python: From Novice to Professional,

## Python programming [DSC 1]

### Blueprint

**Duration: 3 Hours**

**Max. Marks: 70**

Sl.No	Units	No.of questions for 2 Marks	No.of questions for 5 Marks	No.of questions for 10 Marks	Total Marks
1	<b>Unit 1:</b> <b>Introduction to python:</b> Features, variables, expression, functions, recursion	2	2	1	22
2	<b>Unit 2:</b> <b>Functions as object</b> String, dictionaries, tuples, Files	2	1	1	19
3	<b>Unit3:</b> <b>Exception</b> Handling exceptions, classes, inheritance.	2	2	1	24
4	<b>Unit4:</b> <b>Regular Expressions :</b> GUI programming, widgets with attributes.	1	2	1	22
5	<b>Unit5:</b> <b>Database connectivity</b> SQL statements	1	1	1	17
<b>Total Number of Questions</b>		7	8	5	104

## Practical (Python programming) [DSE]

### Lab Programs:

**Total credits: 2**

1. Write a Python function to calculate the factorial of a number (a non-negative integer). The function accepts the number as an argument.
2. Write a Python program to get the sum of digits of a non-negative integer.
3. Write a Python program to create a module Calculation.py that contains functions to perform basic arithmetic operations. Demonstrate importing the module.
4. Write a Python program to read a file line by line store it into an array.
5. Write a Python GUI program to design Student Registration Form using any 5 widgets.
6. Write a Python program to demonstrate modification of an existing table data from MySQL database.
7. Write a Python class named Circle constructed by a radius and two methods which will compute the area and the perimeter of a circle.
8. Write a Python class named Rectangle constructed by a length and width and a method which will compute the area and perimeter of rectangle. Inherit a class Box that contains additional method volume. Override the perimeter method to compute perimeter of a Box.
9. Write a program to show use of Regular expressions with match(), search(), findall(), sub() and split ().
10. Write a python program to demonstrate Exception handling using try, except, finally and else block.

### Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program – 1	Writing the Program	05
	Execution and Formatting	08
Program -2	Writing the Program	05
	Execution and Formatting	08
Viva Voice		04
Journal		05
Total		<b>35</b>

**B.Sc. V Semester (2022-2023)**

**Web Technology [DSC 2]**

**Total credits: 4**

<b>Unit</b>	<b>Contents</b>	<b>Hours</b>
<b>I</b>	<b>Fundamentals Of Web:</b> Internet, Www, Web Browsers, And Web Servers, Urls, Mime, Http, Security, The Web Programmers Toolbox. <b>Web Foundations:</b> Evolution Of The Web, Peak Into The History Of The Web, Internet Applications, Networks, Tcp/Ip, Higher Level Protocols, Important Components Of The Web, Web Search Engines, Applications Servers.	<b>10</b>
<b>II</b>	<b>Introduction To HTML:</b> Basic Syntax, Standard Structure, Basic Text Markup, Images, Hypertext Links, Lists, Tables, Forms, Frames. <b>Cascading Style Sheets:</b> Introduction, Levels Of Style Sheets, Style Specification Formats, Selector Forms, Property Value Forms, Font Properties, List Properties, Color, Alignment Of Text, The Box Model, Background Images, The <Span> And <Div> Tags, Conflict Resolution.	<b>14</b>
<b>III</b>	<b>The Basics Of Javascript:</b> Overview Of Javascript, Object Orientation And Javascript, Syntactic Characteristics; Primitives, Operations, And Expressions, Screen Output And Keyboard Input, Control Statements, Object Creation And Modification, Arrays, Functions, Constructor Pattern Matching Using Regular Expressions, Errors In Scripts; Examples.	<b>12</b>
<b>IV</b>	<b>Javascript And Html Documents</b> The Javascript Execution Environment, The Document Object Model, Element Access In Javascript, Events And Event Handling, Handling Events From The Body Elements, Handling Events From Text Box And Password Elements, The Dom 2 Event Model, The Navigator Object, Dom Tree Traversal And Modification.	<b>12</b>
<b>V</b>	<b>Dynamic Documents With Javascript:</b> Introduction, Positioning Elements, Moving Elements, Elements Visibility, Changing Colors And Fonts, Dynamic Content, Stacking Elements, Locating The Mouse Cursor, Reacting To A Mouse Click, Slow Movement Of Elements, Dragging And Dropping Elements. <b>Introduction To Xml:</b> Introduction, Syntax, Document Structure, Document Type Definitions, Namespaces, Xml Documents With Css, Xslt Style Sheets, Xml Processors, Web Services.	<b>12</b>
<b>Total</b>		<b>60</b>

**Text books:**

1. Robert w. Sebesta: programming the world wide web, 4<sup>th</sup> edition, pearson education, 2012 chapters 1,2,3,4,5,6,7,8,9,11,&13.
2. M.srinivasan: web technology theory and practice, pearson education, 2012 chapters 1,2,3 and 4.

**Reference books:**

1. Jeffrey c jackson: web technologies- a computer science perspective, Pearson education eleventh impression 2012.
2. Chris bates: web programming building internet applications, 3<sup>rd</sup> edition, wiley, india, 2009.
3. Internet technology and web design, instructional software research and development (isrd) group, tatamcgraw hill 2011.



## Practical Web Technology) [DSE]

### Lab Programs:

**Total credits: 2**

1. Create an XHTML page to demonstrate the usage of text formatting
2. Create an XHTML page to demonstrate the usage of links and images.
3. Create an XHTML page to demonstrate the usage of lists and tables.
4. Write an html code to create a home page having three links: about us, our services and contact us. Create separate web pages for the three links.
5. Write an html code to create a login form .on submitting the form, the user should get navigated to a profile page.
6. Develop and demonstrate the usage of inline and external style sheet using CSS.
7. Develop and demonstrate a html file that includes JavaScript for the following problem:
  - a. Input: a number n obtained using prompt
  - b. Output: the first n Fibonacci number
8. Develop and demonstrate a html file that include JavaScript script the following problem :
  - a. Input: a number n obtained using prompt
  - b. Output: a table of number from i to n and their squares using alert.
9. Develop and demonstrate using JavaScript, a html document that display random number (integers).
10. Develop and demonstrate, using JavaScript script, a html document that collects the user (the valid format is: a digit from 1 to 4 followed by two upper-case character followed by two digit followed by two upper-case character followed by three digits; no embedded spaces allowed) of the user. Event handler must be included for the form element that collects this information to validate the input. Messages in the alert windows must be produced when errors are detected.
11. Develop and demonstrate, using JavaScript script, a html document that contain three images ,stacked on top of each other ,with only enough of each showing so that the mouse cursor can be placed over some part of them .when the cursor is placed over the exposed part of any paragraph, it should rise to the top to become completely visible.
12. Develop using JavaScript, a html document that use of onload and onfocus events.

### Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program – 1	Writing the Program	05
	Execution and Formatting	08
Program -2	Writing the Program	05
	Execution and Formatting	08
Viva Voice		04
Journal		05
Total		<b>35</b>

**K.L.E. Society's  
Raja Lakhamagouda Science Institute (Autonomous), Belagavi**

**Department of Computer Science**

**B.Sc. V Semester (2022-2023)**

**Information Technology and Security [SEC]**

**Total Credits:2**

<b>Unit</b>	<b>Contents</b>	<b>Hours</b>
<b>I</b>	<b>The Internet:</b> Internet Services, Types of Internet Connections, Internet Security. <b>Emerging Computer Technologies:</b> Distributed Networking, Peer-to-peer Computing, Grid Computing, Cloud Computing, Utility Computing, Ondemand Computing, Wireless Network, Bluetooth, Artificial Intelligence. <b>Introduction to Information Security :</b> Need for Information Security, Threats to Information Systems, Information Assurance, Cyber Security.	<b>10</b>
<b>II</b>	<b>Introduction to Application Security and Counter Measures:</b> Introduction to Application Security, Data Security Considerations, Security Technologies, Security Threats, Security Threats to E-Commerce, E-Cash and Electronic Payment System. Credit/Debit/Smart Cards, Digital Signature, Cryptography and Encryption, Information Security Governance and Risk Management. <b>Introduction to Security Policies and Cyber Laws :</b> Need for an Information Security Policy, Introduction to Indian Cyber Law, Objective and Scope of the IT Act, 2000, Intellectual Property Issues, Overview of Intellectual-Property- Related Legislation in India, Patent, Copyright.	<b>20</b>
<b>TOTAL</b>		<b>30</b>

**Text Book:**

1. Dr. Surya Prakash T, Ritendra G, Praveen Kumar S, KLSI, Introduction to information security and cyber laws (Dreamtech Publication).

**Reference Books:**

1. Anderson, Ross, Security Engineering.
2. G.R.F. Snyder, T. Pardoe, Network Security.
3. Basta, W.Halton, Computer Security: Concepts, Issues and Implementation.

Information Technology and Security [SEC]

**Blueprint**

**Duration: 2 Hours**

**Max.Marks: 35**

Sl.No	Units	No.of questions for 2 Marks	No.of questions for 5 Marks	No.of questions for 10 Marks	Total Marks
1	<b>Unit 1:</b> The Internet, Emerging Computer Technologies, Introduction to Information Security.	2	2	1	24
2	<b>Unit 2:</b> Introduction to Application Security and Counter Measures, Introduction to Security Policies and Cyber Laws	4	2	1	28
<b>Total Number of Questions</b>		6	4	2	52

**CBCS VI sem****Course Title: Computer Graphics [DSE 3]**

Course	Outcome
Introduction	CO1: Introduction to computer graphics, application areas of computer graphics.
Output primitives	CO 2: To understand the concept of filled area primitives and study about various shapes.
2-d geometrical transforms	CO 3: To understand matrix representations and homogeneous coordinates.
2-d viewing	CO 4 : Understand Cohen-Sutherland and Cyrus-Beck line clipping algorithms.
3-d object representation	CO 4 : To learn 3-d objects and also the 3-d geometric transformations.

**Practical Computer Graphics [DSE 3]**

CO1-Learn to draw basic graphics construction like line, circle, arc, ellipse and rectangle.

CO2-Learn to draw and fill the colours for basic graphics construction like line, circle, arc, ellipse and rectangle.

CO3-Learn to draw a line using DDA algorithm.

CO4-Learn to draw a circle using Bresenham's algorithm.

CO5-Learn to draw a line using Bresenham's algorithm.

CO6-Learn to draw a midpoint circle algorithm.

CO7-Learn to scale an image (2-D TRANSFORMATION).

CO8-Learn to rotate an image (2-D TRANSFORMATION).

CO9-Learn to translate an image (2-D TRANSFORMATION).

CO10-Introduction to displaying the image in applet.

CO11-Learn to zoom-in and zoom-out an image

**Course Title: Software Engineering [DSE 4]**

Course	Outcome
Introduction	CO1: Introduction to Software Engineering and study about Empirical estimation models.
Requirements analysis	CO 2: To learn the cycle of requirement Engineering Processes.
Software design	CO 3: Understanding the process of Software design, Data flow oriented design.
User interface design and real time systems:	CO 4 : Study about User interface design and Human computer interaction.
Software quality and testing	CO 4 : To understand the process of Software quality and testing, different types of software testing techniques.

**Practical:**

**Project and Viva-Voce**

The objective of the project is to motivate them to work in emerging/latest technologies, help the students to develop ability, to apply theoretical and practical tools/techniques to solve real life problems related to industry, academic institutions and research laboratories.

**Course Title: Operating System [SEC]**

Course	Outcome
Introduction	CO1: Introduction to Operating System concepts and basic OS functions, Operating System Organization.
Process Management	CO 2: To learn the Process Management system, Memory Management, File and I/O Management

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**Department of Computer**

**ScienceB.Sc. VI Semester**

**(2022-2023)**

**Computer Graphics [DSE 3]**

**Total credits: 4**

<b>Unit</b>	<b>Contents</b>	<b>Hours</b>
<b>I</b>	<b>Introduction</b> : application areas of computer graphics, overview of graphics systems, video-display devices, raster-scan systems, random scan systems, graphics monitors and work stations and input devices	<b>10</b>
<b>II</b>	<b>Output primitives</b> : points and lines, line drawing algorithms, mid-point circle and ellipse algorithms. Filled area primitives: scan line polygon fill algorithm, boundary-fill and flood-fill algorithms	<b>12</b>
<b>III</b>	<b>2-d geometrical transforms:</b> translation, scaling, rotation, reflection and shear transformations, matrix representations and homogeneous coordinates, composite transforms, transformations between coordinate systems.	<b>12</b>
<b>IV</b>	<b>2-d viewing</b> : the viewing pipeline, viewing coordinate reference frame, window to view-port coordinate transformation, viewing functions, cohen-sutherland and cyrus-beck line clipping algorithms, sutherland –hoddgeman polygon clipping algorithm.	<b>12</b>
<b>V</b>	<b>3-d object representation:</b> polygon surfaces, quadric surfaces, spline representation, hermite curve, bezier curve and b-spline curves, bezier and b-spline surfaces. <b>3-d geometric transformations:</b> translation, rotation, scaling, reflection and shear transformations, composite transformations. 3-d viewing: viewing pipeline, viewing coordinates, view volume and general projection transforms and clipping.	<b>14</b>
<b>Total</b>		<b>60</b>

**Text books:**

1. “Computer graphics c version”, donald hearn and m.pauline baker, pearson education.
2. “Computer graphics principles & practice”, second edition in c, foley, van dam, feiner and hughes, pearson education.

**Reference books:**

1. “Computer graphics”, second edition, donald hearn and m.pauline baker, phi/pearson education.
2. “Computer graphics second edition”, zhig and xiang, roy plastock, schaum’s outlines, tata mc-grawhill edition.
3. Procedural elements for computer graphics, david f rogers, tata mc graw hill, 2nd edition.

## Practical (Computer Graphics) [DSE]

### Lab Programs:

**Total credits: 2**

1. Write a Program to draw basic graphics construction like line, circle, arc, ellipse and rectangle.
2. Write a Program to draw and fill the colours for basic graphics construction like line, circle, arc, ellipse and rectangle.
3. Write a program to draw a line using DDA algorithm
4. Write a program to draw a circle using Bresenham's algorithm.
5. Write a program to draw a line using Bresenham's algorithm.
6. Write a program to draw a midpoint circle algorithm.
7. Write a program to scale an image (2-D TRANSFORMATION).
8. Write a program to ROTATION an image (2-D TRANSFORMATION).
9. Write a program to translate an image (2-D TRANSFORMATION).
10. Write a program to displaying the image in applet.
11. Write Program to Zoom-In and Zoom-Out an image.

### Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program – 1	Writing the Program	05
	Execution and Formatting	08
Program -2	Writing the Program	05
	Execution and Formatting	08
Viva Voice		04
Journal		05
Total		<b>35</b>

## Computer Graphics [DSE 3]

### Blueprint

**Duration: 3 Hours**

**Max. Marks: 70**

Sl.No	Units	No.of questions for 2 Marks	No.of questions for 5 Marks	No.of questions for 10 Marks	Total Marks
1	<b>Unit 1:</b> <b>Introduction:</b> Application, video display devices, I/O devices	1	2	0	12
2	<b>Unit 2:</b> <b>Output Primitives</b> Line, circle, ellipse drawing algorithm, filled area primitives	2	1	2	27
3	<b>Unit 3:</b> <b>2-d geometrical transforms:</b> 2D transformation	2	2	1	24
4	<b>Unit 4:</b> <b>2-d viewing :</b> Viewing pipeline, clipping algorithms.	2	2	1	24
5	<b>Unit 5:</b> <b>3-d geometric transformations:</b> 3-d object representation, 3-d Viewing	1	1	1	17
<b>Total Number of Questions</b>		7	8	5	104



## B.Sc. VI Semester (2021-2022)

### Software Engineering [DSE 4]

Total credits: 4

Unit	Contents	Hours
I	<b>Introduction:</b> Software Engineering Process paradigms -Project management -Process and Project Metrics –software estimation -Empirical estimation models -Planning -Risk analysis -Software project scheduling	12
II	<b>Requirements analysis:</b> Requirement Engineering Processes –Feasibility Study –Problem of Requirements –Software Requirement Analysis –Analysis Concepts and Principles –Analysis Process –Analysis Model	12
III	<b>Software design:</b> Software design -Abstraction -Modularity -Software Architecture -Effective modular design -Cohesion and Coupling - Architectural design and Procedural design -Data flow oriented design.	12
IV	<b>User interface design and real time systems:</b> User interface design -Human factors -Human computer interaction -Human - Computer Interface design -Interface design -Interface standards.	10
V	<b>Software quality and testing:</b> Software Quality Assurance -Quality metrics -Software Reliability -Software testing -Path testing –Control Structures testing -Black Box testing - Integration, Validation and system testing -Reverse Engineering and Re-engineering. CASE tools –projects management, tools -analysis and design tools –programming tools -integration and testing tool -Case studies.	14
<b>Total</b>		<b>60</b>

## **Practical:**

### **Project and Viva-Voce**

**Total credits: 2**

The objective of the project is to motivate them to work in emerging/latest technologies, help the students to develop ability, to apply theoretical and practical tools/techniques to solve real life problems related to industry, academic institutions and research laboratories.

The project is of 4 hours/week for one (semester VI) semester duration and a student is expected to do planning, analyzing, designing, coding, and implementing the project.

The initiation of project should be with the project proposal.

The synopsis approval will be given by the project guides.

The project proposal should include the following:

- Title
- Objectives
- Input and output
- Details of modules and process logic
- Limitations of the project
- Tools/platforms, Languages to be used
- Scope of future application

For the project work, the guide(internal) evaluate the work for 15 marks based on the performance of the candidates during the development of the project and the external examiner will evaluate the project work as follows:

Project Report – 25 marks

Viva -Voce - 10 marks

The Project work should be either an individual one or a group of not more than three members.

**K.L.E. Society's  
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**Department of Computer Science**

**B.Sc. VI Semester (2022-2023)**

**Operating System [SEC]**

**Total Credits: 2**

<b>Unit</b>	<b>Contents</b>	<b>Hours</b>
<b>I</b>	<b>Introduction:</b> Basic OS functions, resource abstraction, types of operating systems- multiprogramming systems, batch systems, time sharing systems; operating systems for personal computers & workstations, process control & real time systems. <b>Operating System Organization:</b> Processor and user modes, kernels, system calls and system programs.	<b>10</b>
<b>II</b>	<b>Process Management:</b> System view of the process and resources, process abstraction, process hierarchy, threads, threading issues, thread libraries; Process Scheduling, non-pre-emptive and pre-emptive scheduling algorithms; concurrent and processes, critical section, semaphores, methods for inter-process communication; deadlocks. <b>Memory Management:</b> Physical and virtual address space; memory allocation strategies -fixed and variable partitions, paging, segmentation, virtual memory <b>File and I/O Management:</b> Directory structure, file operations, files allocation methods, device management.	<b>20</b>
<b>TOTAL</b>		<b>30</b>

**Text Book:**

1. A Silberschatz, P.B. Galvin, G. Gagne, Operating Systems Concepts, 8th Edition, John Wiley Publications 2008.

**Reference Books:**

1. A.S. Tanenbaum, Modern Operating Systems, 3rd Edition, Pearson Education 2007.
2. G. Nutt, Operating Systems: A Modern Perspective, 2nd Edition Pearson Education 1997.
3. W. Stallings, Operating Systems, Internals & Design Principles, 5th Hall of India. 2008. Edition, Prentice.
4. M. Milenkovic, Operating Systems- Concepts and design, Tata McGraw Hill 1992.

**K.L.E. Society's  
Raja Lakhamagouda Science Institute (Autonomous), Belagavi**

**Department of Computer Science**

**B.Sc. VI Semester (2022-2023)**

**Operating System [SEC]**

**Blueprint**

**Duration: 2 Hours**

**Max.Marks: 35**

<b>Sl.No</b>	<b>Units</b>	<b>No.of questions for 2 Marks</b>	<b>No.of questions for 5 Marks</b>	<b>No.of questions for 10 Marks</b>	<b>Total Marks</b>
1	<b>Unit 1:</b> Introduction, Operating system Organization.	2	2	1	24
2	<b>Unit 2:</b> Process Management, Memory Management, File and I/O Management.	4	2	1	28
<b>Total Number of Questions</b>		6	4	2	52

### **Theory Examination Question Paper Model (DSC & OEC)**

Question 1	Consists of 7 questions of 2 marks each and student must answer any 5	$5*2=10$
Question 2	Consists of 8 questions of 5 marks each and students must answer any 6	$6*5=30$
Question 3	Consists of 5 questions of 10 marks each and students must answer any 3	$3*10=30$

### **Theory Examination Question Paper Model (SEC)**

Question 1	Consists of 6 questions of 2 marks each and student must answer any 5	$5*2=10$
Question 2	Consists of 8 questions of 5 marks each and student must answer any 5	$5*5=25$