PART A: Introduction			
Program: **Diploma**	Class: **B.C.A.**	Year: **II Year**	Session: **……**
Subject: Computer Applications			

1.	Course Code	**UDATACA301**	
2.	Course Title	**Data Communication and Computer Networks**	
3.	Course Type (Core Course/Elective/Generic Elective/ Vocational	**Core**	
4.	Pre-Requisite (if any)	To study this course, a student must have the basic knowledge of Computers.	
5.	Course Learning Outcomes(CLO)	• Demonstrate the Basic Concepts of Networking, Networking Principles, Routing Algorithms, IP Addressing and Working of Networking Devices. • Demonstrate the Significance, Purpose and application of Networking Protocols and Standards. • Describe, compare and contrast LAN, WAN, MAN, Intranet, Internet, AM, FM, PM and Various Switching Techniques. • Explain the working of Layers and apply the various protocols of OSI & TCP/IP model. • Analyze the Requirements for a Given Organizational Structure and Select the Most Appropriate Networking Architecture and Technologies. • Design the Network Diagram and Solve the Networking Problems of the Organizations with Consideration of Human and Environment. Install and Configure the Networking Devices.	
6.	Credit Value	6 Credits	
7.	Total Marks	Max.Marks : **40+60**	Min. Passing Marks: **16+24**

PART B: Content of the Course		
Total No. of Lectures (in hours per week): **3 Hours per week**		
Total Lectures: **90 Hours**		
Unit	Topics	No. of Lectures
I	Network goals and application, Network structure, Network services, Example of networks and Network Standardization, Networking models: centralized, distributed and collaborative. Network Topologies: Bus, Star, Ring, Tree, Hybrid: Selection and Evaluation factors.	15
II	Theoretical Basis for Data communication, Transmission media, Twisted pair (UTP, STP), Coaxial Cable, Fiberoptics: Selection and Evaluation factors. Line of Sight Transmission, Communication Satellites. Analog and Digital transmission. Transmission and switching, frequency division and time division multiplexing, STDM, Circuit switching, packet switching and message switching,	20
III	Brief Overview of LAN (Local Area Network) : Classification. Brief overview of Wide Area Network (WAN). Salient features and differences of LAN with emphasis on: Media, Topology, Speed of Transmission, Distance, Cost. Terminal Handling, Polling, Token passing, Contention. IEEE Standards: their need and developments.	20
IV	Open System: What is an Open System? Network Architectures, ISO-OSI Reference Model, Layers: Application, Presentation, Session, Transport, Network, Data Link & Physical. Physical Layer - Transmission, Bandwidth, signaling devices used, media type. Data Link Layer -: Addressing, Media Access Methods, Logical link Control, Basic algorithms/protocols.	20
V	Network Layer: Routing: Fewest-Hops routing, Type of Service routing, Updating Gateway routing information. Brief overview of Gateways, Bridges and Routers, Gateway protocols, routing daemons. OSI and TCP/IP model. TCP/IP and Ethernet. The Internet: The structure of the Internet, the internet layers, Internetwork problems. Internet Standards.	15

PART C: Learning Resources

Textbooks, Reference Books, Other Resources

Suggested Readings:

1. Tannanbaum, A.S.: Computer Networks, Prentice Hall, 1985.processing, Prentice Hal1,1983.
2. Black : Computer Networks : Protocols, standards and Interfaces, Prentice Hall International 1. Tannanbaum, A.S.: Computer Networks, Prentice Hall, 1985.processing, Prentice Hal1,1983.
3. Fourauzan B., "Data Communications and Networking", 3rd edition, Tata McGraw Hill Publications,

Reference Books:

1. Corner D., "Computer Networks and Internet", 2ND Edition, Pearson Education
2. S.K.Basandra & S. Jaiswal, "Local Area Networks", Galgotia Publications
3. William Stallings, "Data and Computer Communication"

Suggested Web Links:

https://nptel.ac.in/

http://cse.iitkgp.ac.in

https://onlinecourses. nptel. ac.in/

https://nptel.ac. in/course. html

https://pll.harvard.edu/subject/computer-networking

http://www.mphindigranthacademy.org/

PART D: Assessment and Evaluation

Internal Assessment : Continuous Comprehensive Evaluation (CCE) : 40 Marks Shall be based on allotted assignments and Class Tests. The marks shall be as follows:		External Assessment: University Exam (UE) : 60 Marks Time : 03.00 Hours	
Assessment and presentation of assignment	10 Marks	Section (A) : Five Very Short Questions (50 Words Each) OR MCQ Questions	05 x 02 = 10 Marks OR 10 x 01 = 10 Marks
Class Test I (Objective Questions)	10 Marks		
Class Test II (Descriptive Questions)	10 Marks	Section (B) : Five Short Questions (200 Words Each)	05 x 06 = 30 Marks
Class Test III (Based on OS commands)	10 Marks	Section (C): Two Long Questions (500 Words Each)	02 x 10 = 20 Marks
Total	40 Marks	Total	60 Marks
Any remarks/suggestions:			

PART A: Introduction		
Program: Diploma	**Class: BCA**	**Year: II Year** **Session: ……**
Subject: Computer Applications		
1.	**Course Code**	**UNITECA302**
2.	**Course Title**	**Internet Applications using Java Programming**
3.	**Course Type (Core Course/Elective/Generic Elective/ Vocational**	**Core Course**
4.	**Pre-Requisite (if any)**	**To study this course, a student must have basic knowledge of Object-Oriented Programming.**
5.	**Course Learning Outcomes (CLO)**	**After the completion of this course, a successful student will be able to do the following:** • **Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.** • **Read and make elementary modifications to Java programs that solve real-world problems.** • **Validate input in a Java program.** • **Design and use basic applet for web page**
6.	**Credit Value**	**Theory — 4 Credits**
7.	**Total Marks**	**Max. Marks : 40+60** **Min. Passing Marks: 16+24**

PART B: Content of the Course		
No. of Lectures (in hours per week): 2 Hrs. per week		
Total No. of Lectures: 60 Hrs.		
Module	**Topics**	**No. of Lectures**
I	**The Java Environment:** **History and features of java, C++ Vs java,00Ps concept, how java works, the concept of PATH and CLASS PATH, A simple program, its compilation and execution, JAVA Program Structure, Java Virtual Machine concepts, java platform overview, Primitive data types, variables and constants, operators, expression,statement-branching,looping and jumping, labeled statements.** **Object Oriented Programming in Java:** **Classes, objects and methods: defining a class, adding variables and methods, creating objects, constructor, Instances, field and methods initialization by constructors,Copy constructor, memory allocation and garbage collection in java keywords, access methods Arrays, String and String buffer classes, Wrapper classes, using the JDK tools.**	**10**

II	**Inheritance:** Inheritance basics, Super class, Sub-class, Method overloading, abstract classes **Interfaces:** defining an interface, implementing & applying interfaces, variables in interfaces, extending interfaces. **Multithreading and Exception Handling:** Basic idea of multithreaded programming; The lifecycle of a thread, Creating thread with the thread class and runnable interface, Thread synchronization, Thread scheduling, Basic idea of exception handling: The try, catch and throw, throws	14
III	Applet programming-Local and Remote Applets, Applet Vs Application, creating and executing java applets, inserting applets in a web page, java security, passing parameter to applets, Aligning the Display, HTML Tags & Applet Tag, Getting Input from User. The AWT: The class hierarchy of window fundamentals; The basic user interface components Label, Button, Check Box, Radio Button, Choice menu, Text area, Scroll list, Scroll bar; Frame; Layout managers-flow layout, Grid layout, Border layout, Card layout.	12
IV	**The Java Event Handling Model:** Java's event delegation model ignoring the event, Self contained events, Delegating events, The event class hierarchy, The relationship between interface, methods called, parameters and event source; Adapter classes, Event classes action Event, Adjustment Event, Container Event, Focus Event, Item Event, Event, Mouse Event, Text Event, Window Event. Networking-basics, networking classes and interfaces, using java.net package, TCP/IP and datagram programming.	12
V	Input/ Output: Exploring Java i.o, Directories, stream classes The Byte Stream : Input stream, output stream, file input stream, file output stream, print stream, Random access file, the character streams, Buffered reader, buffered writer, print writer, serialization. **JDBC:** JDBC-ODBC bridge, The connectivity model; The driver manager, Navigating the result set object contents, java.sql Package, The JDBC exception classes, Connecting to Remote database.	12

PART C: Learning Resources

Textbooks, Reference Books, Other Resources

Suggested Readings

Textbooks:

- Schildt java Complete Reference TMH
- Das Rashmikanta Core Java, IE, Vikas
- Bansal Nitin, Ajit Kurnar, A Simplified approach to Java Programming , KALYANI
- Naughton & Schildt "The Complete Reference Java 2", Tata McGraw Hill
- Deitel "Java- How to Program:" Pearson Education, Asia
- Horstmann& Cornell "Core Java 2" (Vol I & **II) ,** Sun Microsystems

- IvanBayross "Java 2.0" : BPB publications
- Ivor Horton's "Beginning Java 2, JDK 5 Ed., Wiley India.
- Book published by M.P. Granth Academy, Bhopal

Suggestive digital platform web links

https://www.youtube.com/watch?v=CFD9EFcNZTO

https://www.youtube.com/watch?v=7WhnYwoBY24

http://www.m ph in digra nthacademy.org/

Suggested equivalent online courses

S.No.	Online Course	Duration	Platform
1	Programming in Java	12 weeks	NPTEL
2	The Complete Java Certification Course https://www.udemy.com/course/master-practical-java-development/	Self Paced	Udemy

PART D: Assessment and Evaluation

Internal Assessment : Continuous Comprehensive Evaluation (CCE) : 40 Marks Shall be based on allotted assignments and Class Tests. The marks shall be as follows:		External Assessment: University Exam (UE) : 60 Marks Time : 03.00 Hours	
Assessment and presentation of assignment	10 Marks	Section (A) : Five Very Short Questions (50 Words Each) OR MCQ Questions	05 x 02 = 10 Marks OR 10 x 01 = 10 Marks
Class Test I (Objective Questions)	10 Marks		
Class Test II (Descriptive Questions)	10 Marks	Section (B) : Five Short Questions (200 Words Each)	05 x 06 = 30 Marks
Class Test III (Based on OS commands)	10 Marks	Section (C): Two Long Questions (500 Words Each)	02 x 10 = 20 Marks
Total	40 Marks	Total	60 Marks
Any remarks/suggestions:			

PART A - INTRODUCTION			
Program:: Diploma		Class : BCA III SEM	Session

1	Course code	**UFUNDCM303**	
2	Course Title	FUNDAMENTAL'S OF MANAGEMENT	
3	Course Type:	Elective for Other Faculty	
4	Prerequisite	This course can be selected as Elective subject by other faculty students. (except commerce student)	
5	Course Learning Outcomes (CLO)	At the end of the course, students should be able to: i. Understand the nature of management and describe the functions of management. ii. Develop understanding of different approaches to designing organizational structures. iii. Understand the role of personality, learning and emotions at work. iv. Discover and understand the concept of motivation, leadership, power and conflict. v. Understand the foundations of group behavior and the framework for organizational change and development	
6	credit value	06	
7	total marks	Maximum Marks : 40+60	Minimum Passing Marks: 16+24

PART-B :COURSE CONTENTS

Total Number of Lectures-90

Unit	Topic	No. of lecture
UNIT 1	Management:- Concept and Need, Managerial Functions — An overview; Leading Indian Management Thinker's. Evolution and Development of Management Thought, Classical Approach — Taylor, Fayol, Neoclassical and Human Relations Approaches, Systems Approach/	15
UNIT 2	Planning : Types of Plan, Strategic planning — Concept, process, Importance and limitations; Environmental Analysis and diagnosis . Decision-making: Process and Techniques.	15
UNIT 3	Organizing: Concept and process of organizing — An overview, Span of management, Different types of Organisation (line, staff and functional), Decentralization, Delegation of authority; Formal and Informal Structure; Principles of Organizing; Network Organization Structure.	15
UNIT 4	Staffing and Leading : Concept of staffing - Recruitment and Selection; Orientation; Training and Development; Career Development; Performance Appraisal, Motivation & Leadership: Concept, Importance, Maslow's Need-Hierarchy Theory; Hertzberg's Two-factor Theory, Leadership Styles; Communication: Concept, purpose, process;	15
UNIT 5	Control : Concept, Process, Limitations, Principles of Effective Control, Major Techniques of control — Classical and Modern .	15
UNIT 6	Functional Area's of Management- Basic concept of Production Management, Financial Management, Personnel/Human Resource Management, Marketing Management .	15
Keyword Tags:	Management, Approaches, Planning, Organizing, Staffing and Leading, Control. Functional Area's of Management.	

PART : C- RECOMMENDED STUDY RESOURCES			
S.N.	**Author**	**Book title**	**Publishers**
1.	Koontz Harold & Weihrich Heinz	Essentials of management	Tata McGraw-Hill Education
2.	Ramasamy, T.	Principles of Management	Himalaya Publishing House
3.	Durai, P	Principles of Management, Text and Cases	Pearson's
4.	Prasad,L.M	Principles and Practice of Management	Sultan Chand & Sons
5.	R.L.Naulakha	Principles of Management	Ramesh Book Depot
6.	Neeru Vasishth	Principles of Management	Kitab Mahal
7.	Dr. S. C. Saxena	Principles of Management	Sahitya Bhawan

Suggestive digital platforms, web links:

1. https://ncert.nic.in/textbook/pdf/lhbs102.pdf
2. Management Principles Tutorial
3. https://www.tutorialspoint.com/management_principles/management_principles_tutorial.pdf
4. https://www.lsraheia.org/wp-content/uploads/2019/09/FYBMS-Principles-of-magt-.pdf
5. https://www.freebookcentre.net/business-books-download/Introduction-to-Principles-of-Management.html

PART D: Assessment and Evaluation			
Internal Assessment : Continuous Comprehensive Evaluation (CCE) : 40 Marks Shall be based on allotted assignments and Class Tests. The marks shall be as follows:		External Assessment: University Exam (UE) : 60 Marks Time : 03.00 Hours	
Assessment and presentation of assignment	10 Marks	Section (A) : Five Very Short Questions (50 Words Each) OR MCQ Questions	05 x 02 = 10 Marks OR 10 x 01 = 10 Marks
Class Test I (Objective Questions)	10 Marks		
Class Test II (Descriptive Questions)	10 Marks	Section (B) : Five Short Questions (200 Words Each)	05 x 06 = 30 Marks
Class Test III (Based on OS commands)	10 Marks	Section (C): Two Long Questions (500 Words Each)	02 x 10 = 20 Marks
Total	40 Marks	Total	60 Marks
Any remarks/suggestions:			

PART A - INTRODUCTION			
Program:: Diploma		Class : BCA III SEM	Session
1	Course code	**UDESKCA304**	
2	Course Title	Desk Top publishing	
3	Course Type:	Skill Enhancement course	
4	Prerequisite	Open for all	
5	Course Learning Outcomes (CLO)	At the end of the course, students should be able to: 1. Understand the fundamentals of computer. 2. Write, Edit & Print documents using MS-WORD & EXCEL 3. Understand various software used for Desktop Publishing and would be able to create and design documents with text and graphic like newspaper ad, wedding cards, visiting cards, greeting cards, etc. 4. Using PageMaker, CorelDraw & Photoshop, and Understand Color concept in Printing.	
6	credit value	03	
7	total marks	Maximum Marks : 40+60	Minimum Passing Marks: 16+24

PART-B :COURSE CONTENTS

Total Number of Lectures-45

Unit	Topic	No. of lecture
UNIT 1	**Computer Fundamentals** -Generations of Computer, Advantage and disadvantage of computer, Block Diagram of a computer, Description of Different parts of a computer, System Software and Application Software MS Office Introduction to MS Office, Word Processing Software, Electronic Spreadsheet, MS Paint.	15
UNIT 2	**Page Maker**– Introduction to various versions, concepts and application of PageMaker Guides and rulers. Drawing tools. Fills and Outlines. Photo shop- History and Introduction, the file menu, the tools, Drawing lines and shapes. Photo editing / inserting starting with Setting Up, introduction of layers, Understanding Design principles and color theory.	15
UNIT 3	**Coral Draw:**Drawing – lines, shapes, inserting-pictures, objects, tables, templates, Use of various tools such as Pick tools, Zoom tools, Free hand tool, square tool, rectangle tool, Text tool, Fill tool etc. and all fonts used in designing of monograms, logos, posters, stickers, greeting cards, wedding cards, visiting cards, etc. Design Principles and Color Harmony Introduction to colors- Primary and Secondary in both RGB & CMYK schemes / mode.	15

PART : C- RECOMMENDED STUDY RESOURCES

Suggested Readings:

1. Desk Top Publishing from A to Z by Bill Grout and Osborne; McGraw Hill
2. DTP (Desk Top Publishing) for PC user by Housghton; Galgotia Publishing House Pvt Ltd, Daryaganj, New Delhi.
3. ADOBE PAGEMAKER 6.5 – Shashank Jain & Satish Jain- First Edition 2001, BPB Publications.
4. DESKTOP PUBLISHING ON PC – M.C. Sharma, BPB Publications
5. Corel draws the Official Guide By Gray David Bouton, Corel Press.
6. The complete Reference Getting Started with Page Maker, McGraw-Hills
7. Adobe Photoshop CS2 Classroom In A Book (2020), Adobe Press.
8. Computers Today S.K.Basandra, Galgotia Publications.
9. Microsoft Office : Will Train, Gini Courter, Annette Marquis BPB Publication.

Suggestive digital platforms, web links:

http://www.nptelevideos.com/adobe/adobe_photoshop_tutorials.php
https://onlinecourses.swayam2.ac.in/cec20_cs05/preview
https://eskillindia.org/Course/course_detail/11720692020022105164 7
https://www.udemy.com/course/desktop-publishing-for-you/
https://www.youtube.com/watch?v=FJYgNUYUvZc

PART D: Assessment and Evaluation

Internal Assessment : Continuous Comprehensive Evaluation (CCE) : 40 Marks Shall be based on allotted assignments and Class Tests. The marks shall be as follows:		External Assessment: University Exam (UE) : 60 Marks Time : 03.00 Hours	
Assessment and presentation of assignment	10 Marks	Section (A) : Five Very Short Questions (50 Words Each) OR MCQ Questions	05 x 02 = 10 Marks OR 10 x 01 = 10 Marks
Class Test I (Objective Questions)	10 Marks		
Class Test II (Descriptive Questions)	10 Marks	Section (B) : Five Short Questions (200 Words Each)	05 x 06 = 30 Marks
Class Test III (Based on OS commands)	10 Marks	Section (C): Two Long Questions (500 Words Each)	02 x 10 = 20 Marks
Total	40 Marks	Total	60 Marks
Any remarks/suggestions:			

Part A Introduction			
Program: **Diploma**	Class: **B.C.A.**	Year: **II Year**	Session: **……**
Subject: **Computer Applications**			
I.	Course Code	**UINTECA305**	
2.	Course Title	**Java Programming Lab**	
3.	Course Type (Core Course/Elective/Generic Elective/ Vocational	**Core Course**	
4.	Pre-Requisite (if any)	To study this course, a student must have basic logical and analytical skills.	
5.	Course Learning Outcomes(CLO)	**After the completion of this course, a successful student will be able to do the following:** 1. Develop simple applications of java. 2. Implementation and use of conditional statement. 3. Learn to formulate iterative solutions and array processing algorithms for problems. 4. Learn to implement method Overloading and Overriding. 5. Implementation of inheritance and interface in java. 6. Develop a small applet program using awt.	
6.	Credit Value	**Practical — 2 Credits**	
7.	Total Marks	Max. Marks : 40+**60**	Min. Passing Marks: **16+24**
PART B: Content of the Course			
No. of Lab Practicals (in hours per week): **2 hours per week**			
Total No. of Lab.: 30 **(each lab of 2 hours)**			
	Suggested list of Practical		**No. of Labs.**
	Given the problem statement, students are required to write code in Java, execute and test it. Students should be given assignments on following : 1. Write a program to print numbers in words using Nested if and Switch Case. 2. Write a program called PassFail which prints "PASS" if the int variable "mark" is more than or equal to 50; or prints "FAIL" otherwise 3. Write a program called Odd Even which prints "Odd Number" if the int variable "number" is odd, or "Even Number" otherwise. 4. Write a Program to find sum & average of 10 no. using arrays. 5. Write a program to display reverse of a digit no. using array. 6. Write a program to display grade according to the marks obtained by the student. 7. Find the factorial of number if number is given by user using		30

,	command line argument. 8. Write a program to print Fibonacci series. 9. Write a program to display tables from 2 to 10. 10. Write a program to take an input from user and check given number is prime or not. 11. Write a program to implement method overriding. 12. Write a program to convert given string into. Uppercase and lowercase and get the length of string Using array 13. Write a program to overload volume method to find out volume of cube and cuboid. 14. Write a program to design a class using abstract Methods and Classes. 15. Write a program to implement multiple inheritance by using Interface. 16. Write a program to create a package of your name and use that package in a class 17. Write a program to implement parameterized constructor with default argument. 18. Define an exception called "Marks out of Bound" exception that is thrown if the entered marks are greater than 100. 19. Develop a simple real life application to illustrate the use of multithreading. 20. Design an app let that takes three numerical values as input from the user and then displays the largest of those three numbers on the screen	

PART C: Learning Resources

Textbooks, Reference Books, Other Resources

Suggested Readings

- Naughton & Schildt "The Complete Reference Java 2", Tata McGraw Hill
- Java EE 6 for Beginners, Sharanam Shah, Vaishali Shah, Shroff Publishers and Distributors

Reference Books:

- Java EE Project using EJB 3, JPA and struts 2 for beginners, Shah, SPD
- Java Programming A practical Approach, C Xavier, McGraw Hill
- Java Server Faces A practical Approach for beginners, B M Harwani, Eastern Economy Edition (PHI).
- Advanced Java Technology, Savaliya, Dreamtech.

Suggestive digital platform web links

https://www.youtube.com/watch?v=CFD9EFcNZTQ

https://www.youtube.com/watch?v=7WhnYwoBY24

Suggested equivalent online courses

PART D: Assessment and Evaluation			
Internal Assessment : Continuous Comprehensive Evaluation (CCE) : 40 Marks		External Assessment: University Exam (UE) : 60 Marks Time **03.00 Hours**	
Internal Assessment	**Marks**	**External Assessment**	**Marks**
Hands-on Lab Practice	10 Marks	Practical record file	10 Marks
Viva	10 Marks	Viva voce practical	10 Marks
Lab Test from practical list	10 Marks	Table works/ Exercise Assigned (02) in practical exam	30 Marks
Assignments (Charts/ Model)/ Technology Dissemination/ Excursion/ Lab visit/ Industrial Training	10 Marks	Reports of excursion/ Lab visits/ Industrial training/ Survey/ Collection/ Models	10 Marks
Total *Excursion/ Lab visits/ Industrial Training is compulsory*	40 Marks	Total	60 Marks

Part A Introduction		
Program: **Diploma**	Class: **B.C.A.**	Year: **II Year** Session: **……**
Subject: **Computer Applications**		
1.	Course Code	**UDESKCA306**
2.	Course Title	DESKTOP PUBLISHING LAB
3.	Course Type (Core Course/Elective/Generic Elective/ Vocational	Skill Enhancement course
4.	Pre-Requisite (if any)	Open for all
5.	Course Learning Outcomes(CLO)	**After the completion of this course, a successful student will be able to do the following:** 1. Understand the fundamentals of computer. 2. Write, Edit & Print documents using MS-WORD & EXCEL 3. Understand various software used for Desktop Publishing and would be able to create and design documents with text and graphic like newspaper ad, wedding cards, visiting cards, greeting cards, etc. 4. Using PageMaker, CorelDraw & Photoshop, and Understand Color concept in Printing.
6.	Credit Value	**Practical — 1 Credits**
7.	Total Marks	Max. Marks : 40+**60** Min. Passing Marks: **16+24**

PART B: Content of the Course	
No. of Lab Practicals (in hours per week): **2 hours per week**	
Total No. of Lab.: 30 **(each lab of 2 hours)**	
Suggested list of Practical	**No. of Labs.**
1. Using windows explorer and other windows elements 2. Creating and opening a document in page maker 3. Formatting and editing a document 4. Saving and printing a given document 5. Insertion of text and graphics in a given document from external source 6. Using columns utility , to give the document column look 7. Using various fonts and styles to make document more beautiful 8. Use of page maker to make transparencies 9. Saving and printing a file that has been created 10. Formatting a given file by using undo/redo, repeat, cut, copy,paste,delete, duplicate and clone utilities 11. Inserting objects in the drawing , aligning, ordering, grouping and ungrouping of those objects 12. Use of combine, break apart, weld, intersection, trim and separate tools in a given drawing 13. Use of mode edit tools i.e., to line , to curve , to stretch, and rotate 14. Creating special effects i.e., transform roll-up, envelop roll up, add perspective, extrude roll up, contour roll up, power line, power clip, clear effects 15. To insert character and paragraph text in a drawing and frame , setting of tabs, indents, bullets and spacing in paragraph text 16. Filling of text to a given path, aligning it to base line, straighten text and edit text 17. Using tools such as spell checker, and thesaurus 18. Using find and replace text utility and type assist 19. Adding various symbols to a drawing and creating different pattern	30

PART C : Learning Resources

Textbooks, Reference Books, Other resources

Suggested Readings:

1. Desk Top Publishing from A to Z by Bill Grout and Osborne; McGraw Hill
2. DTP (Desk Top Publishing) for PC user by Housghton; Galgotia Publishing House Pvt Ltd, Daryaganj, New Delhi.
3. ADOBE PAGEMAKER 6.5 – Shashank Jain & Satish Jain- First Edition 2001, BPB Publications.
4. DESKTOP PUBLISHING ON PC – M.C. Sharma, BPB Publications
5. Corel draws the Official Guide By Gray David Bouton, Corel Press.
6. The complete Reference Getting Started with Page Maker, McGraw-Hills
7. Adobe Photoshop CS2 Classroom In A Book (2020), Adobe Press.
8. Computers Today S.K.Basandra, Galgotia Publications.
9. Microsoft Office: Will Train, Gini Courter, Annette Marquis BPB Publication.

Suggested equivalent online courses;

http://www.nptelevideos.com/adobe/adobe_photoshop_tutorials.php
https://onlinecourses.swayam2.ac.in/cec20_cs05/preview
https://eskillindia.org/Course/course_detail/11720692020022105164 7
https://www.udemy.com/course/desktop-publishing-for-you/
https://www.youtube.com/watch?v=FJYgNUYUvZc

PART D: Assessment and Evaluation			
Internal Assessment : Continuous Comprehensive Evaluation (CCE) : 40 Marks		External Assessment: University Exam (UE) : 60 Marks Time **03.00 Hours**	
Internal Assessment	**Marks**	**External Assessment**	**Marks**
Hands-on Lab Practice	10 Marks	Practical record file	10 Marks
Viva	10 Marks	Viva voce practical	10 Marks
Lab Test from practical list	10 Marks	Table works/ Exercise Assigned (02) in practical exam	30 Marks
Assignments (Charts/ Model)/ Technology Dissemination/ Excursion/ Lab visit/ Industrial Training	10 Marks	Reports of excursion/ Lab visits/ Industrial training/ Survey/ Collection/ Models	10 Marks
Total *Excursion/ Lab visits/ Industrial Training is compulsory*	40 Marks	Total	60 Marks