

**MRSPTU B.SC. (GRAPHICS AND WEB DESIGNING) SYLLABUS  
2021 BATCH ONWARDS**

Semester 3rd		Contact Hours			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BGWDS1-301	Data Structures	3	1	0	40	60	100	4
BGWDS1-302	Elements of Design	3	1	0	40	60	100	4
BGWDS1-303	Database Management Systems	3	1	0	40	60	100	4
BGWDS1-304	Image Editing & Photography	3	0	0	40	60	100	3
BGWDS1-305	Software Lab VII (Based on Data Structures)	0	0	4	60	40	100	2
BGWDS1-306	Software Lab VIII ( Based on Elements of Design)	0	0	4	60	40	100	2
BGWDS1-307	Software Lab IX (Based on Database Management Systems)	0	0	4	60	40	100	2
BGWDS1-308	Software Lab X(Image Editing & Photography)	0	0	2	20	30	50	1
BGWDS1-309	Mentoring and Professional Development	0	0	1	25	--**	25	1
<b>Total</b>		<b>12</b>	<b>3</b>	<b>15</b>	<b>385</b>	<b>390</b>	<b>775</b>	<b>23</b>

\*\* The Mentoring and Professional Development course will have internal evaluation only. (See guidelines at the last page of this file)

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Semester 4th		Contact Hours			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BGWDS1-401	Programming in Python	3	1	0	40	60	100	4
BGWDS1-402	Digital Marketing	3	1	0	40	60	100	4
BGWDS1-403	Computer Graphics	3	1	0	40	60	100	4
BGWDS1-404	Video Editing	3	0	0	40	60	100	3
BGWDS1-405	Software Lab XI(Based on Programming in Python)	0	0	4	60	40	100	2
BGWDS1-406	Software Lab XII(Based on Digital Marketing )	0	0	4	60	40	100	2
BGWDS1-407	Software Lab XIII(Based on Computer Graphics)	0	0	4	60	40	100	2
BGWDS1-408	Software Lab XIV(Based on Video Editing)	0	0	2	20	30	50	1
BGWDS1-409	Mentoring and Professional Development	0	0	1	25	--**	25	1
<b>Total</b>		<b>12</b>	<b>3</b>	<b>15</b>	<b>385</b>	<b>390</b>	<b>775</b>	<b>23</b>

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**3<sup>RD</sup>**  
**SEMESTER**

**MRSPTU B.SC. (GRAPHICS AND WEB DESIGNING) SYLLABUS  
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**Data Structures**

**Subject Code- BGWDS1-301**

**L T P C**

**Total Hours: 60 hrs.**

**3 1 0 4**

**Course Outcomes**

1. Use appropriate data structures for problem solving and programming.
2. Understand basic data structures such as arrays, linked lists, stacks and queues and solve problems involving graphs, trees and heaps.
3. Apply appropriate searching and/or sorting techniques for application development.

**UNIT-I (14 Hrs.)**

Introduction to Data Structures: Algorithms and flowcharts, basics analysis on algorithm, complexity of algorithm, introduction and definition of data structure, classification of data, arrays, various types of data structure, static and dynamic memory allocation, function and recursion.

Arrays, Pointers and Strings: Introduction to arrays- definition, one dimensional array and multidimensional arrays, pointer, pointer to structure, array and pointer, strings- introduction to strings, definition, library functions of strings.

**UNIT-II (15 Hrs.)**

Stack: Introduction to stack, definition, stack implementation, operations of stack, applications of stack, multiple stacks- implementation of multiple stacks.

Queue: Introduction to queue, definition, queue implementation operations of queue, circular queue, de-queue and priority queue.

**UNIT-III (17 Hrs.)**

Linked List: Introduction, representation and operations of linked lists, singly linked list, doubly linked list, circular linked list, and circular doubly linked list.

Tree: Introduction to tree, tree terminology binary tree, binary search tree, strictly binary tree, complete binary tree, tree traversal, threaded binary tree, avl tree b tree, b+ tree.

**UNIT-IV (14 Hrs.)**

Graphs: Introduction, representation to graphs, graph traversals, shortest path algorithms.

Searching and Sorting: Searching, types of searching, sorting, types of sorting like quick sort, bubble sort, merge sort, selection sort.

Hashing: Hash function, types of hash functions, collision, collision resolution technique (CRT) and perfect hashing.

**Reference Books:**

1. Horowitz & Sawhney: Fundamentals of Data Structures, Galgotia Publishers.
2. Tenenbaum, Y. Lanhghsam and A. J. Augenstein, "Data Structures Using C and C++", Prentice Hall of India.
3. Seymour Lipschutz "Theory & Practice of Data Structures", McGraw Hill..

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**Elements of Design**

**Subject Code: BGWDS1-302**

**L T PC**

**Total Hours: 60 hrs.**

**3 1 0 4**

**Course outcomes:**

1. Learn about the components of Design..
2. Learn methods & means to create images using the elements of design – space, depth, overlaps, transparency, plane, volume etc.
3. Gain the knowledge of formal systems of visual representation.

**UNIT-I (15 Hrs.)**

Introduction: Visual perception and design: introduction of art and ideas - visual & critical thinking and analysis of 2 dimensional (2d) art through history, theoretical introduction to the perception, phenomenology, definition of design –different applications of design.

Design Elements: Elements of design: The concepts of design space and concepts of design, visual elements - line and shape, form, value, texture, color - measure, type, direction, character visual elements.

**UNIT-II (17 Hrs.)**

Principles of Design: Composition in contrast: Black and white, positive and negatives, tessellation, units and their shapes, transformations, alteration, unity and variety / element of interest, contrast, elaboration, dominance, expressive content, color and composition – balance, harmony and rhythm.

**UNIT-III (14 Hrs.)**

Composition: Three principles- unity, balance, center of interest, achieving emphasis- light shade, details, contrasts, balance- asymmetrical balance, informal balance, radial balance.

Text: Type; text and meaning, typography as text and as image, typography as text and as image combined with pictorial representation.

**UNIT-IV (14 Hrs.)**

Color Wheel: Mixing of primary, secondary and tertiary colors, tint, shades, hues, tones, warm colors and cool colors, different color schemes (complimentary, split complementary, analogous, triadic etc.).

**Reference books:**

1. The Elements of Graphic Design, Alex W. White, Second Edition, Allworth Publications, 2011.

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**Database Management Systems**

**Subject Code: BGWDS1-303**

**L T P C**

**Total Hours: 60 hrs.**

**3 1 0 4**

**Course outcomes:**

1. Understand the basic concepts of DBMS.
2. Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database.
3. Understand the concept of Transaction and Query processing in DBMS.

**UNIT-I (14 Hrs.)**

**Introduction:** Introduction of DBMS, data modeling for a database, three level architecture of DBMS, components of a DBMS.

**Data Models:** Hierarchical, network and relational model, comparison of network, hierarchical and relational model, entity relationship model.

**UNIT-II (15 Hrs.)**

**Relational Database:** Relational algebra and calculus, SQL fundamentals, DDL, DML, DCL, PL/SQL concepts, cursors, stored procedures, stored functions, database triggers.

**UNIT-III (17 Hrs.)**

**Introduction to Normalization:** First, second, third normal forms, dependency preservation, Boyce-Codd normal form, multi-valued dependencies and fourth normal form, join dependencies and fifth normal form, domain-key normal form (DKNF).

**UNIT-IV (14 Hrs.)**

**Database Recovery:** Concurrency management, database security, integrity and control, structure of a distributed database, design of distributed databases.

**Reference Books:**

1. "SQL, PL/SQL The Programming Language of Oracle", Ivan Bayross, BPB Publications, 4th Revised Edition (2009)
2. "An Introduction to Database Systems", C. J. Date, A. Kannan, S. Swamynathan, 8th Edition, Pearson Education, (2006).

**Image Editing & Photography**

Subject Code: BGWDS1-304

L T P C

Total Hours: 45 hrs.

3 0 0 3

**Course outcomes:**

1. Know about the basic functions and features of digital camera
2. Understanding of describing image quality and being able to enhance it.
3. Learn the various formats of camera and functioning of SLR camera and its controls.

**UNIT-I (11 Hrs.)**

Camera Controls: Introduction of camera: its parts and types. Menu items and shooting modes (Auto vs. Scene vs. Priority).

Exposure, Black and White Conversion, Intro to Lighting: Black and White photographs angle and their conceptual editing - Black & White conversion practice Exposure compensation. Concept of high- and low key Studio session.

**UNIT-II (13 Hrs.)**

The Portrait: Introduction of Portrait Image and its types. Discussion of portrait genres and lighting techniques (studio, natural) Review aperture, shutter speed, ISO. Practice, editing and cropping. Composition tips, and Shooting: Composition tips and photography shooting methods. Night/Day photography and low light shooting and their differences.

**UNIT-III (11 Hrs.)**

Conceptual Photography and Contemporary Art: Photography Methods for conceptual click. Contemporary art shoot and editing techniques.

Creating a Body of Work: Sequence editing Trouble shooting with editing.

**UNIT-IV (10 Hrs.)**

Basics of Editing: Introduction to Editing, fixing blemishes, color correcting and selective edits.

Output: Ready images for final output. Web vs. print. Color space conversion.

**Reference Books:**

1. Tate - The Photography Ideas Book, Lorna Yabsley, 2019.

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**Software Lab VII (Based on Data Structures)**

**Subject Code: BGWDS1-305**

**L T P C  
0 0 4 2**

**Total Hours: 60 hrs.**

This laboratory course will comprise of following assignments and projects:

1. Program for implementing selection sort.
2. Program for implementing insertion sort.
3. Program for implementing quick sort.
4. Program for implementing merge sort.
5. Program for implementing Stack using array.
6. Program for converting infix to postfix form.
7. Program for implementing Queue using array.
8. Program for implementing Binary Search Tree.
9. Program for implementing Singly Linked list.
10. Program for Breadth First Search (BFS) for graph traversal.
11. Program for Depth First Search (DFS) for graph traversal.



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**Software Lab VIII (Based on Elements of Design)**

**Subject Code: BGWDS1-306**

**L T P C  
0 0 4 2**

**Total Hours: 60 hrs.**

This laboratory course will comprise of following assignments and projects:

1. Assignment on pattern design by sketching
2. Assignment on creating cartoon character design.
3. Assignment on visual logo designing
4. Assignment on designing 5 different types of conceptual Branding creative.
5. Assignment on magazine covers design by using typography.
6. Assignment on line and shape design
7. Assignment on creating character visual elements design
8. Assignment on Masking and Manipulation of pictures
9. Assignment on to develop one creative by Radial Balance.
10. Assignment on creating design by mixing Primary, Secondary and Tertiary Colors.
11. Assignment on text and as image combined with pictorial representation.
12. Assignment on creating Background design by using Warm Colors and Cool Colors.
13. Assignment on design & Print any five most important activities of your college in a collage.
14. Assignment on designing & Printing any brochure.

**Software Lab IX (Based on Database Management Systems)**

**Subject Code: BGWDS1-307**

**L T P C**

**Total Hours: 60 hrs.**

**0 0 4 2**

This laboratory course will comprise of following assignments and projects:

1. Use of CREATE, ALTER, RENAME and DROP statement in the database tables (relations)
2. Use of INSERT INTO, DELETE and UPDATE statement in the database tables (relations)
3. Use of simple select statements.
4. Use of select query on two relations
5. Use of nesting of queries.
6. Use of aggregate functions.
7. Use of substring comparison.
8. Use of order by statement.
9. Count the customers with grades above Amritsar's average.
10. Find the name and numbers of all salesmen who had more than one customer.
11. List all salesmen and indicate those who have and don't have customers in their cities (Use UNION operation.)
12. Create a view that finds the salesman who has the customer with the highest order of a day.
13. Demonstrate the DELETE operation by removing salesmen with id 1000. All his orders must also be deleted.
14. Write a PL/SQL code to add two numbers and display the result. Read the numbers during run time.
15. Write a PL/SQL code to find sum of first 10 natural numbers using while and for loop.

**Software Lab X (Image Editing & Photography)**

**Subject Code: BGWDS1-308**

**L T P C**

**Total Hours: 30hrs.**

**0 0 2 1**

This laboratory course will comprise of following assignments and projects:

1. Assignment on lighting techniques for product photography and portrait photography.
2. Assignment on photo shoots (Exposure, Role of different focal lengths, Visual Composition).
3. Assignment on clicking the photos from different genres.
4. Assignment on digital workflow (Editing the image in the software).
5. Assignment on working with strobe lights & on-camera Flash.
6. Assignment on detailed understanding of exposure metering.
7. Assignment on digital workflow (Digital black and white photography).
8. Assignment on High Dynamic Range (HDR Photography).
9. Assignment on studio photography techniques (post shoot processing of photographs).
10. Assignment on the submission of Theme/Project based campaign.

**4<sup>TH</sup>**  
**SEMESTER**

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**Programming in Python**

**Subject Code- BGWDS1-401**

**L T P C  
3 1 0 4**

**Total Hours: 60 hrs.**

**Course Outcomes:**

1. Familiar with Python environment, data types, operators used in Python and Learn the use of control structures and numerous native data types
2. Design user defined functions, modules, and packages and exception handling methods.
3. Create and handle files in Python and learn Object Oriented Programming Concepts

**UNIT-I (17 Hrs.)**

Introduction to Python Programming Language: Programming Language, History and Origin of Python Language, Features of Python, Limitations, Major Applications of Python, Getting, Installing Python, Setting up path and environment variables, Running Python, First Python Program, Python interactive help feature, Python differences from other languages.

Python Data Types & Input/Output: Keywords, Identifiers, Python Statement, Indentation, Documentation, Variables, Understanding Data Type, Python Input and Output Functions, Import command.

Operators and Expressions: Operators in Python, Expressions, Precedence, Associativity of Operators, Non Associative Operators.

**UNIT-II (14 Hrs.)**

Control Structures: Decision making statements, Python loops, Python control statements.

Python Native Data Types: Numbers, Lists, Tuples, Sets, Dictionary, Functions & Methods of Dictionary, strings.

**UNIT-III (15 Hrs.)**

Python Functions: Functions, Advantages of Functions, Built-in Functions, User defined functions, Anonymous functions, Pass by value Vs. Pass by Reference, Recursion, Scope and Lifetime of Variables.

Python Modules: Module definition, Need of modules, Creating a module, Importing module, Path searching of a module, module reloading, Standard Modules, Python Packages.

**UNIT-IV (14 Hrs.)**

Exception Handling: Exceptions, Built-in exceptions, Exception handling, User defined exceptions in Python.

File Management in Python: Operations on files (opening, modes, attributes, encoding, closing), read () & write () methods, tell() & seek() methods, renaming & deleting files in Python.

Classes and Objects: The concept of OOPS in Python, Designing classes, Creating objects, Accessing attributes, Editing class attributes, Built-in class attributes, Garbage collection, Destroying objects.

**Reference Books:**

1. Python, The complete Reference, Martin C. Brown, Mc Graw Hill Education.

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2. Python in a Nutshell, A. Martelli, A. Ravenscroft, S. Holden, OREILLY.

**Digital Marketing**

**Subject Code- BGWDS1-402**

**L T P C**

**Total Hours: 60 hrs.**

**3 1 0 4**

**Course Outcomes:**

1. Learn how to use new media such as mobile, search and social networking.
2. Understand how and why to use digital marketing for multiple goals within a larger
3. Marketing and/or media strategy.
4. Understand the major digital marketing channels - online advertising: Digital display,
5. Video, mobile, search engine, and social media.

**UNIT-I (14 Hrs.)**

Introduction to Digital Marketing: Difference between Traditional Marketing and Digital Marketing, Benefits of using Digital Media, Inbound and Outbound Marketing, Online marketing POEM: (Paid, Owned, and Earned Media), Components of Online Marketing (Email, Forum, Social network, Banner, Blog), Impact of Online Marketing, Basics of Affiliate Marketing, Viral Marketing, Influencer Marketing, Referral Marketing.

Email Marketing: Email newsletters, Digests, Dedicated Emails, Lead Nurturing, Sponsorship Emails and Transactional Emails, Drawbacks of Email Marketing.

Social Media Marketing (SMM): Different types of Social Media Marketing like Facebook, LinkedIn, Twitter, Video, Instagram etc.

**UNIT-II (17 Hrs.)**

Search Engine Optimization (SEO): About SEO, Need of an SEO friendly website, Importance of Internet and Search Engines; Role of Keywords in SEO.

On-Page Optimization (Onsite): Basics of Website Designing / Development; HTML Basics for SEO; Onsite Optimization Basics; Website Structure and Navigation Menu Optimization; SEO Content Writing. Keywords Research and Analysis (eg. SWOT analysis of website, finding appropriate keywords).

Off Page Optimization: Introduction; Local marketing of websites depending on locations; Promoting Subsequent pages of the website. Introduction to organic SEO vs non-organic SEO; Social Media Optimization Techniques and Page Rank Technology.

**UNIT-III (15 Hrs.)**

Website Planning & Creation Content Marketing Strategy: Goals and concepts, Strategic building blocks Content creation & channel distribution, Tools of the trade, Advantages and challenges.

Keywords Research and Analysis: Introduction to Keyword Research; Business Analysis; Types of Keywords; Keywords Analysis Tools.

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Web Presence: How to increase online presence and drive more traffic for a website, Search result visibility in search engines for chosen keyword and phrases, Using e-mail marketing to drive traffic for a website, Posting social media content for lead generation, Tools to create and manage content, Use of Blogging as content strategy.

Creating content: Writing and posting content on the web and in social networks, blog and video; Create, manage and implement a content marketing strategy; Monitoring and recording results to improve content marketing campaigns; Successful content marketing strategies and case studies.

**UNIT-IV (14 Hrs.)**

Online Advertising, Mobile Marketing and Web analytics: Introduction to Online Advertising and its advantages, Paid versus Organic, Pay Per Click (PPC) Model. Basic concepts Cost per Click (CPC), CPM, CTR, CR etc. About Mobile Marketing, Objectives of Mobile Advertising, Creating a Mobile Marketing Strategy, Introduction to SMS Marketing. About Web.

**Reference Books:**

1. Ian Dodson, *The Art of Digital Marketing: The Definitive Guide to Creating Strategic, Targeted and Measurable Online Campaigns*, Publication Wiley India Pvt Ltd.
2. Philip Kotler, Hermawan Kartajaya, Iwan Setiawan, *Marketing 4.0: Moving from Traditional to Digital*, Publication Wiley India Pvt Ltd.
3. Venkataramana Rolla, "Digital Marketing Practice guide for SMB: SEO, SEM and SMM", CreateSpace Independent Publishing Platform, First edition.
4. Enge, E., Spencer, S., Stricchiola, J., & Fishkin, R. (2012). *The art of SEO*. "O'Reilly Media, Inc."

**Computer Graphics**

Subject Code- BGWDS1-403

L T P C

Total Hours: 60 hrs.

3 1 0 4

**Course Outcomes:**

1. Let students understand the basics of Computer Graphics, Input/output primitive and basic transformations, which can be applied to objects of graphics.
2. To Develop The Logical And Reasoning Skills Of The Students.
3. Learn Graphical primitives and their algorithms.

**UNIT-I (17 Hrs.)**

Introduction to Computer Graphics: Applications of Computer Graphics. Graphs and Types of Graphs.

Input Devices: Light Pens, Graphic Tablets, Joysticks, Track Ball, Data Glove, Digitizers, Image Scanner.

Video Display Devices: Refresh Cathode Ray Tube, Raster Scan Displays, Random Scan Displays, Color CRT-monitors and Color generating techniques (Shadow Mask, Beam Penetration), Flat-Panel Displays; 3-DViewing Devices, Graphics Monitors And Workstations, Color Models(RGB and CMY), Lookup Table.

Introduction Virtual Reality & Environments: Applications in Engineering, Architecture, Education, Medicine, Entertainment, Science, Training.

**UNIT-II (14 Hrs.)**

Scan-conversions: Process and need of Scan Conversion, Scan conversion algorithms for Line, Circle and Ellipse using direct method, Bresenham's algorithms for line & circle and Midpoint Ellipse Algorithm along with their derivations, Area Filling Techniques, Flood Fill Techniques, Character Generation.

**UNIT-III (15 Hrs.)**

2-Dimensional Graphics: Cartesian and need of Homogeneous coordinate system, Geometric Transformations (Translation, Scaling, Rotation, Reflection, Shearing), Viewing transformation and clipping (line, polygon and text) using Cohen-Sutherland, Sutherland Hodgeman and Liang Barsky algorithm for clipping

**UNIT-IV (14 Hrs.)**

3-Dimensional Graphics: Introduction to 3-dimensional Graphics: Geometric Transformations (Translation, Scaling, and Rotation), Mathematics of Projections (Parallel & Perspective).Color Shading. Introduction to Morphing Techniques.

**Reference Books:**

1. D. Hearn and M.P. Baker, Computer Graphics, PHI New Delhi.
2. J.D. Foley, A.V. Dam, S.K. Feiner, J.F. Hughes, R.L Phillips, Computer Graphics Principles & Practices, Second Edition, Pearson Education,2007.
3. R.A. Plastock and G. Kalley, Computer Graphic, McGraw Hill, 1986.



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**Video Editing**

**Subject Code- BGWDS1-404**

**L T P C**

**Total Hours:-45 hrs.**

**3 0 0 3**

**Course Outcomes:**

1. Create different modes using various sounds, which will further help them integrate the same into their film projects.
2. Know about editing basics, tools and broadcast systems.
3. Knowledge of working with footages in an editing software.

**UNIT-I (11 Hrs.)**

Sound: Introduction to Audio, interrelationship between sound, culture and media theory. Ear Training, Critical listening, Role of sound in film, Storytelling through sound, Sound editing, working with Dialogue.

**UNIT-II (10 Hrs.)**

Mixing: The mixing process, Monitoring basics of mixing, Basic Mixing Rules and techniques, Equalizing, Audio equipment, Studio Production Techniques, Effects introduction, overview, compression.

**UNIT -III (11 Hrs.)**

Audio Formats - Digital and Analogue practical assignments and practice, Mastering -Introduction to mastering - Mastering setups – Monitoring (The whole practice will be done practically).

**UNIT-IV (13 Hrs.)**

Voiceover-The art of voiceover, how to lend voice to a short film, Voice modulation, voice sync. Submission-Design a soundtrack for a short film.

**Reference Books:**

1. Editing Digital Video (Digital Video and Audio Series, Robert Goodman & Patrick McGrath, McGraw-Hill Education, 2002.

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**Software Lab XI (Based on Programming in Python)**

**Subject Code: BGWDS1-405**

**L T P C**

**Total Hours: 60 hrs.**

**0 0 4 2**

This laboratory course will comprise exercises to supplement that is learnt under the Subject.

1. Compute sum, subtraction, multiplication, division and exponent of given variables input by the user.
2. Compute area of following shapes: circle, rectangle, triangle, square, trapezoid and Parallelogram.
3. Compute volume of following 3D shapes: cube, cylinder, cone and sphere.
4. Compute and print roots of quadratic equation  $ax^2 + bx + c = 0$ , where the values of a, b, and c are input by the user.
5. Print numbers up to N which are not divisible by 3, 6, 9,, e.g., 1, 2, 4, 5, 7,....
6. Write a program to determine whether a triangle is isosceles or not?
7. Print multiplication table of a number input by the user.
8. Compute sum of natural numbers from one to n number.
9. Print Fibonacci series up to n numbers e.g. 0 1 1 2 3 5 8 13.....n
10. Compute the factorial of a given number.
11. Count occurrence of a digit 5 in a given integer number input by the user.
12. Print Geometric and Harmonic means of a series input by the user.

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**Software Lab XII (Based on Digital marketing)**

**Subject Code: BGWDS1-406**

**L T PC**

**Total Hours: 60 hrs.**

**0 0 4 2**

This laboratory course will comprise exercises to supplement that is learnt under the Subject.

1. Explore Facebook, LinkedIn, Twitter, Video, Instagram, blog etc.
2. Explore Online Display Advertising, Ecommerce Marketing, Mobile Web and Content marketing.
3. Explore Email Marketing; Google AdWords and Google Analytics.
4. How to increase online presence and drive more traffic for a website.
5. Search result visibility in Google for chosen keywords and phrases.
6. Using e-mail marketing to drive traffic for a website.
7. Posting social media content for lead generation.
8. Tools to create and manage content.
9. Use of Blogging as a content strategy.
10. Show results for Search Engine Algorithms & Pagerank Technology
11. How to promote home page, SWOT Analysis of Website & finding right appropriate keywords.

**Software Lab XIII (Based on Computer Graphics)**

**Subject Code: BGWDS1-407**

**L T P C**

**Total Hours: 60 hrs.**

**0 0 4 2**

This laboratory course will comprise exercises to supplement that is learnt under the Subject.

1. Use of basic functions of graphic available like circle, rectangle, arc, ellipse, flood fill, set color etc.
2. Design a logo/poster using primitive functions.
3. Draw a 3D object using palettes.
4. Line Drawing Algorithm: Direct method and DDA.
5. Bresenham's Line Drawing Algorithm
6. Bresenham's Circle Generating Algorithm.
7. Draw an ellipse using the Midpoint Algorithm.
8. Translation transformation on a polygon.
9. Scaling transformation on a polygon.
10. Rotation transformation on a polygon.
11. Shearing transformation on a polygon.
12. Minor project (eg Game/ Animation etc.)

**Software Lab XIV (Based on Video Editing)**

**Subject Code: BGWDS1-408**

**L T P C**

**Total Hours: 30 hrs.**

**0 0 2 1**

This laboratory course will comprise exercises to supplement that is learnt under the Subject.

1. Assignment on creating one short video footage by using basic functions of the software
2. Assignment on designing a background, text and colors editing in video.
3. Assignment on editing a video by using a time in frames.
4. Assignment based on the mixing of 2 or more videos.
5. Assignment based on Audio equipment, Studio Production Techniques.
6. Assignment based on effects introduction, overview, compression.
7. Assignment based on Audio Formats- Digital and Analogue practical assignments and practice.
8. Assignment based on mastering setups – Monitoring the sound, background.
9. Assignment based on video editing by adding Voiceover.
10. Assignment based on voice modulation, voice synchronization.
11. Assignment based on design a soundtrack for a short film