



MANONMANIAM SUNDARANAR UNIVERISTY,
TIRUNELVELI-12

SYLLABUS

UG - COURSES – AFFILIATED COLLEGES

Course Structure for BCA
(Choice Based Credit System)

(with effect from the academic year 2023-2024 onwards)



Semester-IV				
Part	Subject Status	Subject Title	Subject Code	Credit
I	LANGUAGE	TAMIL/MALAYALAM/HINDI		3
II	ENGLISH	ENGLISH		3
III	CORE	JAVA PROGRAMMING		5
III	CORE	JAVA PROGRAMMING LAB		4
III	ELECTIVE	FINANCIAL ACCOUNTING/ CLOUD COMPUTING		3
IV	SEC 5	MULTIMEDIA SYSTEMS LAB		2
IV		VALUE BASED EDUCATION		2
IV	NAAN MUDHALVAN	ADVANCED EXCEL		2



Total Marks: 100 Internal Exam: 25 marks + External Exam: 75 marks

A. Scheme for internal Assessment:

Maximum marks for written test: **20 marks**

3 internal tests, each of **1 hour** duration shall be conducted every semester.

To the average of the **best two** written examinations must be added the marks scored in. The **assignment** for 5 marks.

The break up for internal assessment shall be:

Written test- 20 marks; Assignment -5 marks Total - 25 marks

B. Scheme of External Examination

3 hrs. examination at the end of the semester

A – Part : 1 mark question two - from each unit

B – Part : 5 marks question one - from each unit

C – Part : 8 marks question one - from each unit

➤ **Conversion of Marks into Grade Points and Letter Grades**

S.No	Marks	Letter Grade	Grade point (GP)	Performance
1	90-100	O	10	Outstanding
2	80-89	A+	9	Excellent
3	70-79	A	8	Very Good
4	60-69	B+	7	Good
5	50-59	B	6	Above Average
6	40-49	C	5	Pass
7	0-39	RA	-	Reappear
8	0	AA	-	Absent

➤ **Cumulative Grade Point Average (CGPA)**

$$CGPA = \frac{\Sigma (GP \times C)}{\Sigma C}$$

- **GP** = Grade point, **C** = Credit
- CGPA is calculated only for Part-III courses
- CGPA for a semester is awarded on cumulative basis

➤ **Classification**

- First Class with Distinction : CGPA $\geq 7.5^*$
- First Class : CGPA ≥ 6.0
- Second Class : CGPA ≥ 5.0 and < 6.0
- Third Class : CGPA < 5.0



Part 1 TAMIL

பொதுத்தமிழ் 4 - தமிழும் அறிவியலும்

அலகு 1: தமிழரின் அறிவியல் சிந்தனைகள்

1. அறிவியலும் மனித வாழ்வும்
2. ஐந்திணைப் பகுப்பும் சூழலியலும்
3. தொழில்நுட்ப மேலாண்மை
4. நேர் நிலம் மேலாண்மை

அலகு 2: பழந்தமிழ் இலக்கியங்களில் அறிவியல் சிந்தனைகள்

1. நிலவியல்
2. உலோகவியல்
3. வானவியல்
4. உயிரியல்
5. உளவியல்

அலகு 3: இடைக்கால இலக்கியங்களில் அறிவியல் சிந்தனைகள்

1. காப்பியங்களில் அறிவியல்
2. சிற்றிலக்கியங்களில் அறிவியல்
3. உரைநூல்களில் அறிவியல்

அலகு 4: இணையத் தமிழ்

1. இணையத் தமிழ் பயன்பாடு - அறிமுகம்
2. இணையத் தமிழ் கல்விக்கழகம்
3. இணைய நூலகம்
4. செயற்கை நுண்ணறிவியல்
5. தமிழ்நாட்டு அறிவியல் ஆளுமைகள்

அலகு 5: கடிதம் எழுதுதலும் கட்டுரை எழுதுதலும்

1. உறவு முறைக் கடிதப் பயிற்சி
2. அலுவலகக் கடிதப் பயிற்சி
3. விண்ணப்பப் படிவம் எழுதும் பயிற்சி
4. தன் விவரப் படிவம் எழுதும் பயிற்சி
5. கருத்து விளக்கக் கட்டுரைகள் எழுதும் பயிற்சி
6. பத்திரிகைகளுக்குக் கட்டுரை எழுதும் பயிற்சி

Text Books;

1. அறிவியல் தமிழ் இன்றைய நிலை - இராதா செல்லப்பன், உலகத் தமிழாராய்ச்சி நிறுவனம், சென்னை
2. மாணவ முஸ்தபா. தமிழில் அறிவியல் படைப்பிலக்கியம், மணவை பூப்பிளிகேஷன், சென்னை.
3. கலைச்சொல்லாக்கம் - மங்கை, ரங்கராசபுரம், சென்னை

Reference Books:

1. தமிழர் மேலாண்மை மரபுகள் - இல). செ. கந்தசாமி
2. சங்க இலக்கியத்தில் வேளாண் சமுதாயம், பொ. மாதையன், நியூ செஞ்சுரி புக் ஹவுஸ்

Websites:

1. <https://www.chennaiLibrary.com/>
2. [முகப்பு - சிறுகதைகள்](#)
3. www.tamilvirtualuniversity.org
4. [Buy tamil books online 10% to 50% discount, Tamil Novels, Tamil Audio Books online – Buy tamil books online – Established 2010](#)
5. www.katuraitamil.blogspot.com



Part I MALAYALAM

DESKTOP PUBLISHING AND PRINTING IN MALAYALAM

UNIT I

This unit introduces basics of the printing technology, History of Malayalam printing-publishing-Newspapers-Journals-Social commitment -Propagation of ideas- Social struggle against invasion product of industrialization-printing in new era- - Data entry, DTP, editing, layout and Book publishing, e-publishing -: Significance of ISBN and ISSN..

UNIT II e -Malayalam – Malayalam in cyber space Detailed Study :

1. Malayalam computing-charithravalokanam.Dr.Mahesh Mangalatt ,Cyber Malayalam Sunitha T.V.(Ed)
2. Vayana, Ezhuthu, prasadhanam digital yugathil Dr.B.Iqbal(Grandhalokam- June 2013)

UNIT III e-Vayana- Reading in digital era Detailed Study :

1. E.vayana innathe Vayana– E-malayalam.Sunitha T.V State Institute of Languages.Thiruvananthapuram
2. Malayalam wiki media samrambhanga.Shiju Alex Cyber Malayalam .Sunitha T.V (Ed).Current Books.
3. Web magazinukal-Ini Vayana E Vayana.V.K Adarsh D C Books

UNIT IV Modern Media

Tools in Cyber space-editing tools

Unicode- Fonts- Drawing Tools, Painting tools. M S Paint- File Types (jpg ,IMG, XMP, Gif, PNG)

Resolution-Layers-Palattes, Greyscale, image, image recognition, Colour space, image transformation- image preview.

Detailed Study:

Unicode – Ini vayana e vayana – V.K Adarsh - D C Books

UNIT V

Proof reading techniques and cataloguing, cover designing, blurb writing

Detailed study:

Proof thiruthal.Vanijyaparamaya kathidapadukal.G.R.Pilla,
State Institute of Languages.Thiruvananthapuram

Reading List (Print and Online)

1. <https://www.amazon.com/Desktop-publishing-Bittukumar/dp/9350570130>
2. Computer parichayavum prayogavum.Dr.Achythasankar S Nair State Institute of languages.Thiruvananthapuram
3. Malayalam computing parimithikalum sadhyathakalum (Combiiled.) Dr.Smitha K Nair
4. Sankethika patham-kerala University Publications
5. Computer Gurukulam-DTP ,Kairali Publications Thiruvananthapuram
6. Pusthaka nirmaanam - The state Institute of languages, Thiruvananthapuram
7. Proof reading - The state Institute of languages
8. Printing A to Z - K.J. Sam kutti
9. Ini vayana e vayana- V.K. Adarsh, D.C. books.
10. 1Printing Technology and Compositing- The State institute of Language s . T Thiruvananthapuram
11. Navamadhyamangal Bhaasha sahityam samskaram- Jose K Manuel, N B S
12. Cyber aadhunikata @ Malayalam – Jose K Manuel ,Athma Books
13. Bookstalgia- P.K. Rajasekharan- Mathrubhumi books
14. Pusthakam Untakunnathu- V.K. Haridas, Poorna publications, Kozhikode
15. An Introduction to Book Publishing D,Raghavan
16. Copy Editing- Judith Butcher
17. E Malayalam –Sunitha T.V- The State Institute of Language s



PART I HINDI

Hindi Bhasha aur Computer

Course Objectives

The Main Objectives of this course are to:

- Knowing about computer in Hindi
- Understanding Technical Hindi
- E-Learning and its aspects
- Hindi application with the Technical tools

Unit I

Computer aur Hindi

- Computer ka Parchay aur Vikas
- Computer mein Hindi ke Vividh Prayog

Unit II

Proudyogiki aur Hindi

- Unicode
- Dewanagari Lipi
- Hindi ki Vibhinna Website – Ek Parichay

Unit III

Computer ke madhyam se Hindi shikshan

- Vibhinna Shikshan Takkini ki
- Sarkari aur gair sarkari sansthaon mein prayukt Hindi Bhasha

Unit IV

Vividh Paksh

- Internet par Hindi Bhasha
- Hindi SMS
- Hindi Tanka
- Hindi ke Vibhinna Prayukthi

Unit V

Pratiyogi priksa par aadharit Computer sambandhit prashikshan Karya

- Hindi mein Powerpoint banana
- Hindi mein Google Document taiyar karna
- Hindi mein Google form taiyar karna
- Vibhinna pratiyogi parikshaon ke bare mein suchna pradan karna

Reference Books

1. Social Networking: Naye Samay ka Samvad – Ed. Sanjay Dwivedi
2. Jansanchar aur Maas Culture – Jagdeeshwar
3. Media: Bhumandalikaran aur Samaj – Ed. Sanjay Dwivedi
4. Naye Jamane ki Patrakarita – Sourabh Shukla
5. Patrakarita se Media tak – Manoj Kumar

Related Online Contents (MOOCs, SWAYAM, NPTEL, YouTube, Websites, etc.)

1. <https://techshindi.com/%E0%A4%AB%E0%A4%BC%E0%A5%89%E0%A4%A8%E0%A5%8D%E0%A4%9F%E0%A4%95%E0%A5%8D%E0%A4%AF%E0%A4%BE-%E0%A4%B9%E0%A5%88%E0%A4%82-%E0%A4%94%E0%A4%B0-%E0%A4%AF%E0%A5%87-%E0%A4%95%E0%A4%BF%E0%A4%A4%E0%A4%A8/>
2. <https://www.techyukti.com/2020/12/computer-font-kya-hai.html>
3. <https://chti.rajbhasha.gov.in/pdf/Chap4HindiShabadSansadhan2ndEditionPart2.pdf>



Part II ENGLISH

UNIT I GOAL SETTING (UNICEF)

Life Story

- 1.1 From Chinese Cinderella – Adeline Yen Mah
- 1.2 Why I Write - George Orwell

Short Essay

- 1.3 On Personal Mastery – Robin Sharma
- 1.4 On the Love of Life – William Hazlitt

UNIT II INTEGRITY

Short Story

- 2.1 The Taxi Driver – K.S. Duggal
- 2.2 Kabuliwala - Rabindranath Tagore
- 2.3 A Retrieved Reformation – O Henry

Extract from a play

- 2.4 The Quality of Mercy (Trial Scene from the Merchant of Venice - Shakespeare)

UNIT III COPING WITH EMOTIONS

Poem

- 3.1 Pride – Dahlia Ravikovitch
- 3.2 Phenomenal Woman – Maya Angelou

Reader's Theatre

- 3.3 The Giant's Wife A Tall Tale of Ireland –William Carleton
- 3.4 The Princess and the God : A Tale of Ancient India

UNIT IV Language Competency Sentences

- 4.1 Simple Sentences
- 4.2 Compound Sentences
- 4.3 Complex Sentences

Direct and Indirect Speech

UNIT V Report Writing

- 5.1 Narrative Report
- 5.2 Newspaper Report

Drafting Speeches

- 5.3 Welcome Address
- 5.4 Vote of Thanks

Text Books (Latest Editions)

- 1. Oxford Practice Grammar , John Eastwood, Oxford University Press
- 2. Cambridge Grammar of English , Ronald Carter and Michael McCarthy
- 3. George Orwell Essays, Penguin Classics

Web Resources

- 1. <http://www.gradesaver.com/George-orwell-essays/study/summary>
- 2. O' Henry. A Retrieved Reformation.
https://americanenglish.state.gov/files/ae/resource_files/a-retrieved-reformation.pdf
- 3. Maya Angelou. Phenomenal Woman.
<https://www.poetryfoundation.org/poems/48985/phenomenal-woman>
- 4. The Quality of Mercy, <https://poemanalysis.com>
- 5. [https://www.oxfordsecondary.co.uk/acknowledgements/9780199235742.book.1/acknowledgements/9780199235742-div1-106-William Hazlitt](https://www.oxfordsecondary.co.uk/acknowledgements/9780199235742.book.1/acknowledgements/9780199235742-div1-106-William%20Hazlitt)



JAVA PROGRAMMING

Course Objectives

- To provide fundamental knowledge of object-oriented programming
- To equip the student with programming knowledge in Core Java from the basics up.
- To enable the students to use AWT controls, Event Handling and Swing for GUI.
- To provide fundamental knowledge of object-oriented programming.
- To equip the student with programming knowledge in Swing.

UNIT I

Introduction: Review of Object Oriented concepts – History of Java – Java buzzwords – JV Marchitecture – Data types - Variables - Scope and life time of variables - arrays - operators – control statements - type conversion and casting - simple java program - constructors - methods - Static block - Static Data –Static Method String and String Buffer Classes.

UNIT II

Inheritance: Basic concepts - Types of inheritance - Member access rules - Usage of this and Super key word - Method Overloading - Method overriding - Abstract classes - Dynamic method dispatch - Usage of final keyword. Packages: Definition-Access Protection –Importing Packages. Interfaces: Definition–Implementation–Extending Interfaces. Exception Handling: try – catch - throw - throws– finally– Built-in exceptions - Creating own Exception classes.

UNIT III

Multithreaded Programming: Thread Class - Runnable interface –Synchronization– Using synchronized methods– Using synchronized statement- Inter thread Communication –Deadlock. I/O Streams: Concepts of streams - Stream classes- Byte and Character stream - Reading console Input and Writing Console output - File Handling.

UNIT IV

AWT Controls: The AWT class hierarchy - user interface components- Labels - Button - Text Components - Check Box - Check Box Group - Choice - List Box - Panels – Scroll Pane - Menu - Scroll Bar. Working with Frame class - Colour - Fonts and layout managers. Event Handling: Events - Event sources - Event Listeners - Event Delegation Model (EDM) - Handling Mouse and Keyboard Events - Adapter classes - Inner classes



UNIT V

Swing: Introduction to Swing - Hierarchy of swing components. Containers - Top level containers – J Frame – J Window – J Dialog – J Panel – J Button–J toggle Button –J check Box –J radio Button – J Label, J Text Field – J Text Area – J List–J combo Box –J scroll Pane.

Text Books:

1. Herbert Schildt, The Complete Reference, Tata McGraw Hill, New Delhi, 7th Edition, 2010
2. Gary Cornell, Core Java 2 Volume I – Fundamentals, Addison Wesley, 1999

References :

1. Head First Java, O'Reilly Publications
2. Y.Daniel Liang, Introduction to Java Programming, 7th Edition, Pearson Education India, 2010

Web Resources

1. <https://javabeginnerstutorial.com/core-java-tutorial>
2. <http://docs.oracle.com/javase/tutorial/>
3. <https://www.coursera.org/>

JAVA PROGRAMMING LAB**Course Objectives**

- To provide fundamental knowledge of object-oriented programming.
- To equip the student with programming knowledge in Core Java from the basics up.
- To enable the students to know about Event Handling .
- To enable the students to use String concepts.
- To equip the student with programming knowledge in to create GUI using AWT controls.

UNIT

1. Write a Java program that prompts the user for an integer and then prints out all the prime numbers up to that Integer
2. Write a Java program to multiply two given matrices.
3. Write a Java program that displays the number of characters, lines and words in text
4. Generate random numbers between two given limits using Random class and print messages according to the range of the value generated.
5. Write a program to do String Manipulation using Character array and perform the following string operations:
 - a. String length
 - b. Finding a character at a particular position
 - c. Concatenating two strings



6. Write a program to perform the following string operations using String class:
 - a. String Concatenation
 - b. Search a substring
 - c. To extract substring from given string
7. Write a program to perform string operations using String Buffer class:
 - a. Length of a string
 - b. Reverse a string
 - c. Delete a substring from the given string
8. Write a java program that implements a multi-thread application that has three threads. First thread generates random integer every 1 second and if the value is even, second thread computes the square of the number and prints. If the value is odd, the third thread will print the value of cube of the number.
9. Write a threading program which uses the same method asynchronously to print the numbers 1 to 10 using Thread1 and to print 90 to 100 using Thread2.
10. Write a program to demonstrate the use of following exceptions.
 - a. Arithmetic Exception
 - b. Number Format Exception
 - c. ArrayIndexOutOfBoundsException
 - d. NegativeArraySize exception
11. Write a Java program that reads on file name from the user, then displays information about whether the file exists, whether the file is readable, whether the file is writable, the type of file and the length of the file in bytes
12. Write a program to accept a text and change its size and font. Include bold italic options. Use frames and controls.
13. Write a Java program that handles all mouse events and shows the event name at the center of the window when a mouse event is fired. (Use adapter classes).
14. Write a Java program that works as a simple calculator. Use a grid layout to arrange buttons for the digits and for the +, -, *, % operations. Add a text field to display the result. Handle any possible exceptions like divide by zero.
15. Write a Java program that simulates a traffic light. The program lets the user select one of three lights: red, yellow, or green with radio buttons. On selecting a button, an appropriate message with “stop” or “ready” or “go” should appear above the buttons in a selected color. Initially there is no message shown.

Text Book

1. Herbert Schildt, The Complete Reference, Tata McGraw Hill, New Delhi, 7th Edition, 2010.
2. Gary Cornell, Core Java 2 Volume I – Fundamentals, Addison Wesley, 1999.

Reference Books

1. Head First Java, O'Reilly Publications
2. Y. Daniel Liang, Introduction to Java Programming, 7th Edition, Pearson Education India, 2010.

Web Resources

1. <https://www.w3schools.com/java/>
2. <http://java.sun.com>
3. <http://www.afu.com/javafaq.html>



FINANCIAL ACCOUNTING

Course Objectives

- To impart basic accounting knowledge.
- To provide knowledge on the fundamentals of financial accounting.
- To expose the student to various financial transactions and its current applications.

UNIT-1 BASIC CONCEPTS OF ACCOUNTING

Introduction to Accounting: Need for Accounting –Accounting as the language of business– Attributes and steps of Accounting – Book keeping Vs Accounting– Branches of Accounting– Methods of Accounting – Types of Accounting – Accounting Rules - Bases of Accounting – Accounting terminology. Basic Accounting Concepts: Meaning and classification of Accounting-Accounting Concepts–Accounting Conversion –Accounting equations.

UNIT-2 JOURNAL AND LEDGER

Recording a Financial Data: Memorandum Book, business transaction, Journal, Rules for Debit and Credit, Compound Journal entry, Advantages of Journal, Ledger, Ledger Account, Ledger Posting, Process of Posting, Balancing of An Account, Significance of Balances, Relation between Journal and Ledger-Subsidiary Books.

UNIT-3 PREPARING TRIAL BALANCE

Trail Balance: Objects, Methods of Preparing Trail Balance, how to locate errors, hints for the preparation of trail balance & problems.

UNIT- 4 FINAL ACCOUNTS

Trading account - individual items posted to the debit of trading account - individual items credited to trading account – advantages of trading account – profit & loss account – advantages of profit & loss account – manufacturing account – balance sheet – classification of assets & liabilities

UNIT-5 ACCOUNTS FOR NON PROFIT ORGANISATION

Introduction – Final accounts of no trading concern – receipts and payments account – features – income & expenditure account - feature - distinction between the two – treatment of special items – some important adjustments – types of problems – Distinction between income and expenditure account and profit and loss account – accounts of professional men.

Text Books

1. Financial Accounting- T.S.Reddy, A.Murthy–Margham Publications, 2012.
2. Fundamentals of Advanced Accounting - R.S.N.Pillai, Bagavathi, S.Uma, 5th Edition, S.Chand Publication, 2012.

Reference Books

1. Essentials of Financial Accounting–Asish K. Bhattacharayya, PHI, 2020.
2. Advanced Accountancy -S.P.Jain and Narang– Kalyani Publications, 2017.



CLOUD COMPUTING

Course Objectives

- Learning fundamental concepts and Technologies of Cloud Computing.
- Learning various cloud service types and their uses and pitfalls.
- To learn about Cloud Architecture and Application design.
- To know the various aspects of application design, benchmarking and security on the Cloud.
- To learn the various Case Studies in Cloud Computing.

UNIT I

Introduction to Cloud Computing: Definition of Cloud Computing – Characteristics of Cloud Computing – Cloud Models – Cloud Service Examples – Cloud-based Services and Applications. Cloud Concepts and Technologies: Virtualization – Load balancing – Scalability and Elasticity – Deployment – Replication – Monitoring – Software Defined Networking – Network Function Virtualization – MapReduce – Identity and Access Management – Service Level Agreements – Billing.

UNIT II

Cloud Services Compute Services: Amazon Elastic Computer Cloud - Google Compute Engine - Windows Azure Virtual Machines Storage Services: Amazon Simple Storage Service - Google Cloud Storage - Windows Azure Storage Database Services: Amazon Relational Data Store - Amazon Dynamo DB - Google Cloud SQL - Google Cloud Data Store - Windows Azure SQL Database - Windows Azure Table Service Application Services: Application Runtimes and Frameworks - Queuing Services - Email Services - Notification Services - Media Services Content Delivery Services: Amazon Cloud Front - Windows Azure Content Delivery Network Analytics Services: Amazon Elastic Map Reduce - Google Map Reduce Service - Google Big Query - Windows Azure HD Insight Deployment and Management Services: Amazon Elastic Bean stack - Amazon Cloud Formation Identity and Access Management Services: Amazon Identity and Access Management - Windows Azure Active Directory Open Source Private Cloud Software: Cloud Stack – Eucalyptus – Open Stack

UNIT III

Cloud Application Design: Introduction – Design Consideration for Cloud Applications – Scalability – Reliability and Availability – Security – Maintenance and Upgradation – Performance – Reference Architectures for Cloud Applications – Cloud Application Design Methodologies: Service Oriented Architecture (SOA), Cloud Component Model, IaaS, PaaS and SaaS Services for Cloud Applications, Model View Controller (MVC), RESTful Web Services – Data Storage Approaches: Relational Approach (SQL), Non-Relational Approach (NoSQL).



UNIT IV

Cloud Application Benchmarking and Tuning: Introduction to Benchmarking – Steps in Benchmarking – Workload Characteristics – Application Performance Metrics – Design Consideration for Benchmarking Methodology – Benchmarking Tools and Types of Tests – Deployment Prototyping. Cloud Security: Introduction – CSA Cloud Security Architecture – Authentication (SSO) – Authorization – Identity and Access Management – Data Security : Securing data at rest, securing data in motion – Key Management – Auditing.

UNIT V

Case Studies: Cloud Computing for Healthcare – Cloud Computing for Energy Systems - Cloud Computing for Transportation Systems - Cloud Computing for Manufacturing Industry - Cloud Computing for Education.

Text Book

1. ArshdeepBahga, Vijay Madisetti, Cloud Computing – A Hands On Approach, Universities Press (India) Pvt. Ltd., 2018

Reference Books

1. Anthony T Velte, Toby J Velte, Robert Elsenpeter, Cloud Computing: A Practical Approach, Tata McGraw-Hill, 2013.
2. Barrie Sosinsky, Cloud Computing Bible, Wiley India Pvt.. Ltd., 2013.
3. David Crookes, Cloud Computing in Easy Steps, Tata McGraw Hill, 2015.
4. Dr.Kumar Saurabh, Cloud Computing, Wiley India, Second Edition 2012.

Web Resources

1. https://en.wikipedia.org/wiki/Cloud_computing
2. https://link.springer.com/chapter/10.1007/978-3-030-34957-8_7
3. <https://webobjects.cdw.com/webobjects/media/pdf/solutions/cloudcomputing/121838-CDW-Cloud-Computing-Reference-Guide.pdf>

MULTIMEDIA SYSTEMS LAB**Course Objective**

- Understand the definition of Multimedia
- To study about the Image File Formats, Sounds & Audio File Formats
- Understand the concepts of Animation
- To study about the cropping techniques
- Understand the concept of various colour effects

Exercises (any tool can be used)

1. Create an animation to represent the growing moon.
2. Design and make a ball bouncing on steps.
3. Simulate the movement of a cloud showing the color effects.
4. Prepare a cover page for the book of your subject area.



5. Design a visiting card containing at least one graphic and text information.
6. Make a poster for the forthcoming election and show the difference in resolution and quality.
7. Paint the scenery of a park.
8. Use effective cropping techniques to design a collage.
9. Display your name through the given background with at least five text effects and shadow emboss
10. Create a one minute theme video with suitable audio effects.

Text Book

1. Tay Vaughan, "Multimedia: Making It Work", 8th Edition, Osborne/ McGraw-Hill, 2001.

Reference Books

1. Ralf Steinmetz & Klara Nahrstedt "Multimedia Computing, Communication & Applications", Pearson Education, 2012.

Web Resources

1. <https://www.geeksforgeeks.org/multimedia-systems-with-features-or-characteristics/>

VALUE BASED EDUCATION

Unit-I Introduction to Value based Education

- a. Value: meaning and Classification
- b. Value based Education: Meaning, Characteristics, Components and Contents
- c. Value Erosion and Inculcation: Value crises in social life, economic life, and political life - Value inculcation: need and importance - Role of Parents and Teachers in inculcating values

Unit-II Harmony in Being and Living

- a. Harmony of the self (I) with the body: Nurturing of the body- Understanding myself as co-existence of the self and the body- Understanding needs of self and needs of the body- Understanding the activities in the self and activities in the body.
- b. Harmony in the Family, Society and Nature: Family as a basic unit of human interaction and values in relationships - Affection, care, guidance, reverence, Glory, gratitude, and love – Harmony in society: Justice preservation, Production Work, Exchange Storage Harmony in nature: four orders in nature- The holistic perception of harmony in existence.

Unit III: Social Issues, Social Justice and Human Rights

Social issues – causes and magnitude - alcoholism, drug addiction, poverty,



unemployment

Social Justice: Definition and need – factors responsible for social injustice: caste and gender – contributions of social reformers.

Human Rights: Concept and Principles of human rights – human rights and Indian constitution – Rights of Women and children – violence against women

Unit IV: Values and Mass Media

Mass media: Meaning, functions and characteristics – Effects and Influence on youth and children – **Media Power** – socio, cultural and political consequences of mass mediated culture - consumerist culture – Globalization – new media- prospects and challenges – Role of media in value building

Unit V: Ethics

Ethics: Meaning and importance

Social ethics: tolerance, equity, justice for all, sensitivity towards mankind, love for nature and creatures, nationalism-love for nation, pride for nation, Honour to the law, Indian culture and traditions – Civic Sense: Being a good civilian

Professional Ethics: Dedication to work and duty – Commitment to the Profession

References:

1. Allport, G.W., Vernon, P.E., and Lindzey, G. (1970) study of values, Busto: Houghton Mifflin.
2. Central Board of Secondary Education (1997), Value Education: A Handbook for Teachers, Delhi: Central Board of Secondary Education.
3. Delors, J. (1996), Learning: The Treasure within- Report of the International Commission on Education for the Twenty-First Century, Paris: UNESCO.
4. Morris, Charles W. (1956). Varieties of Human Values. Chicago: University of Chicago Press.
5. Shukla, R.P. (2005). Value Education and Human Rights. Sarup & Sons, New Delhi
6. Satchidananda. M.K. (1991), "Ethics, Education, Indian Unity and Culture" – Delhi, Ajantha Publications
7. Saraswathi. T.S. (Ed) 1999. "Culture", Socialisation and Human Development: Theory, Research and Application In India" – New Delhi Sage Publications.
8. Venkataiah. N (Ed) 1998, "Value Education" New Delhi Ph. Publishing Corporation.
9. Chakraborti, Mohit (1997) "Value Education: Changing Perspectives" New Delhi: Kanishka Publications.

Web Resources

1. <https://testbook.com/ugc-net-paper-1/value-education>



ADVANCED EXCEL

UNIT I

Basics of Excel-Customizing common options-Absolute and relative cells-Protecting and un-protecting worksheets and cells-Working with Functions-Writing conditional expressions -logical functions- lookup and reference functions –VlookUP with Exact Match, Approximate Match-Nested VlookUP with Exact Match-VlookUP with Tables, Dynamic Ranges-Nested VlookUP with ExactMatch-Using VLookUP to consolidate Data from Multiple Sheets

UNIT II

Data Validations- Specifying a valid range of values- Specifying a list of valid values Specifying custom validations based on formula Working with Templates Designing the structure of a template- templates for standardization of worksheets - Sorting and Filtering Data –Sorting tables-multiple-level sorting-custom sorting-Filtering data for selected view -advanced filter options-Working with Reports Creating subtotals- Multiple-level subtotal.

UNIT III

Creating Pivot tables Formatting and customizing Pivot tables-advanced options of Pivot tables- Pivot Charts Consolidating data from multiple sheets and files using Pivot tables – external data sources-data consolidation feature to consolidate data- Show Value As % of Row, % of Column, Running Total, Compare with Specific Field- Viewing Subtotal under Pivot- Creating Slicers.

UNIT IV

More Functions Date and time functions-Text functions-Database functions-Power Functions – Formatting Using auto formatting option for worksheets-Using conditional formatting option for rows, columns and cells-What If Analysis- Goal Seek- Data Tables- Scenario Manager.

UNIT V

Charts -Formatting Charts-3D Graphs-Bar and Line Chart together-Secondary Axis in Graphs-Sharing Charts with PowerPoint/ MS Word, Dynamically- New Features Of Excel Spark lines, Inline Charts, data Charts- Overview of all the new features.

Text Book

1. Excel 2019 All
2. Microsoft Excel 2019 Pivot Table Data Crunching

Web Resources

1. <https://www.simplilearn.com>
2. <https://www.javatpoint.com>
3. <https://www.w3schools.com>

