MANONMANIAM SUNDARANAR UNIVERISTY,
TIRUNELVELI-12

SYLLABUS

UG - COURSES – AFFILIATED COLLEGES

Course Structure for B. C. A.
(Choice Based Credit System)
(with effect from the academic year 2023-2024 onwards)

Semester-I				
Part	**Subject Status**	**Subject Title**	**Subject Code**	**Credit**
I	LANGUAGE I	TAMIL/MALAYALAM/HINDI		**3**
II	LANGUAGE II	ENGLISH		**3**
III	Core	PYTHON PROGRAMMING		**5**
III	Core	PYTHON LAB		**5**
III	Elective	DISCRETE MATHEMATICS I		**3**
IV	SEC – 1 (NME)	FUNDAMENTALS OF INFORMATION TECHNOLOGY		**2**
IV	FC	STRUCTURED PROGRAMMING LANGUAGE IN C		**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 **I 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)**

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

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

- **Classification**
  a) First Class with Distinction : CGPA $\geq$ 7.5*****
  b) First Class : CGPA $\geq$ 6.0
  c) Second Class : CGPA $\geq$ 5.0 and $<$ 6.0
  d) Third Class : CGPA$<$ 5.0

பொதுத்தமிழ் – 1

Unit 1 - மரபுக் கவிதை

1. பெ. சுந்தரனார் - தமிழ்த் தெய்வ வணக்கம்
2. பாரதிதாசன் - சிறுத்தையே வெளியில் வா
3. கவிமணி - புத்தரும் சிறுவனும்
4. முடியரசன்-மொழி உணர்ச்சி
5. கண்ணதாசன் - ஆட்டனத்தி ஆதிமந்தி - ஆதிமந்தி புலம்பல்
6. சுரதா - துறைமுகம் தொகுப்புலிருந்து ஏதேனும் ஒரு கவிதை
7. தமிழ் ஒளி – கடல்

Unit II – புதுக்கவிதை

1. அப்துல் ரகுமான் - வீட்டுக்கொரு மரம் வளர்ப்போம்
2. ஈரோடு தமிழன்பன் - சென்றியூ கவிதைகள் (ஏதேனும் ஐந்து கவிதைகள்)
3. வைரமுத்து – பிற்சேர்க்கை
4. மு.மேத்தா – வாழைமரம்
5. அறிவுமதி - வள்ளுவம் பத்து
6. நா. முத்துக்குமார் - ஆனந்த யாழை மீட்டுகிறாய்
7. சுகிர்தராணி - சபிக்கப்பட்ட முத்தம்
8. இளம்பிறை - நீ எழுத மறுக்கும் எனது அழகு

Unit III – சிறுகதைகள்

1. வாய் சொற்கள் - ஜெயகாந்தன் (மாலை மயக்கம் தொகுப்பு)
2. கடிதம் - புதுமைப்பித்தன்
3. கரு - உமாமகேஸ்வரி
4. முன்முடி - தி ஜானகிராமன்
5. சிதறல்கள் - விழி.பா.இதயவேந்தன்
6. காகித உறவு - சு. சமுத்திரம்
7. வீட்டின் மூலையில் சமையல் அறை - அம்பை
8. (மொழிபெயர்ப்புக் கதை) ஆண்டவன் செக்காவ் - நாய்க்காரய்ச் சீமாட்டி, சந்தியா பதிப்பகம்

Unit IV - பாடம் சார்ந்த இலக்கிய வரலாறு

Unit V - மொழித்திறன் போட்டி தேர்வு

1. பொருள் பொதிந்த சொற்றோடர் அமைத்தல்
2. ஓர் எழுத்து ஒரு மொழி
3. வேற்றுமை உருபுகள்
4. திணை, பால், எண், இடம்
5. கலைச்சொல்லாக்கம், மொழிபெயர்ப்பு

(குறிப்பு: அலகு 4,5 ஆகியன போட்டித் தேர்வு நோக்கில் நடத்தப்பட வேண்டும்)

MALAYALAM – I
PROSE, COMPOSITION AND TRANSLATION

Unit I
This unit focuses on Translation: Word level and syntactic level and also discuss the writing style of Essay. It introduces the proverbs, paraphrasing in Malayalam

Unit II
This units briefs the importance of Nalukettu in the history of Malayalam literature. The following unit examines thecharacteristics of the novel chapter ways. Chapter First to 10

Unit III
Remaining Chapters are introduced and discussed.

Unit IV This unit focuses on Marappavakalum Mattu Kadhakalum by Karur. It also introduces the story

Story 1 Marappavakal- Discussion
Story II Uthuppante Kirnar
Story III Kalchakaram
Story IV Poovamabhazham
Story V Vallakkaran
Story VI Chekuthan
Story VII Mothiram
Unit V Story VIII Safety Pin
Story IX Aranhaanam
Story X Kuta nannakkaanuntoo
Story XI Chudala thengu
Story XII Ampala parmbil
Story XIII Ezhunnallathu Duty
Story XIV Pisachinte Kuppayam

Reading List (Print and Online)

1. Malayala Sahithya Charithram – Dr. K.M.George (Ed.)
2. Cherukadha Innale Innu - M.Achuthan
3. Kadha Thedunna Kadha - N.Prabhakaran
4. M.T. Vakkinte Vismayam – V.R.Sudheesh
5. Kadhayum Kalavum –K.S.Ravikumar
6. Malayala Novalilee Desakaalangal- E. Ramkrishnan
7. Maranunna Malayala Noval- K.P. Appan
8. Andhanaya Daivam- P.K.Rajasekharan
9. Shyalee shilppam- Dr.K.M. Prabhakra Varir
10. Bhasha gadhyam- C.V. Vasudeva Bhattathiri
11. Karur Kadha patanam- M.M.Basheer

Recommended Texts

1. NALUKKETTU (NOVEL) : M.T. VASUDEVAN NAIR
2. MARAPPAVAKALUM MATTU KADHAKALUM (SHORT STORIES): KAROOR

HINDI I

Unit I

Buniyadi Hindi

- Swar
- Vyanjan
- Barah Khadi
- Shabd aur
- Vakya Rachna

Unit II

Hindi Shabdavali

- Rishto ke Naam
- Gharelu padartho ke Naam

Unit III

Vyakaran

- Sadharan Vakya aur Sangya
- Sarvanam
- Visheshan
- Kriya aadi shabdo ka prayog

Unit IV

Chote Gadyansh ka Pathan

- Bacho ki Kahaniya
- Patra-Patrikao mein prakashit Gadyansho ka Pathan

Unit V

Nibandh

- Sant Tiruvalluvar
- E.V.R Thandai Periyar
- Naari Sashaktikaran
- Paryavaran Sanrakshan
- Vibhinna pratiyogi parikshao ke bare mein jaankari dena

Pratiyogi priksha par adharit nibandho dwara bhasha ki kshamta badhane vale prashikshan kary.

Reference Books

1. Hindi ke Avyay Vakyansh – Chaturbhuj Sahay
2. Subodh Hindi Vyakaran – Phoolchand Jain
3. Sankshipt Hindi Vyakaran – Kamta Prasad
4. Vyavaharik Hindi – Nagappa
5. Abhinav Hindi Vyakran – Nagappa
6. Saral Hindi Vyakaran – Shyamchandra Kapur
7. Vyakaran Pradeep – Ramdev
8. Laghu Bal Kathaye – Ramashankar
9. Manoranjak Kahaniya – Premchand
10. CONCISE GRAMMAR OF THE HINDI LANGUAGE - H.C Scholberg
11. Hindi Grammar – Edwin Greaves

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

1. fr#oYyqoj%
https://bharatdiscovery.org/india/%E0%A4%A4%E0%A4%BF%E0%A4%B0%E0%A5%81%E0%A4%B5%E0%A4%B2%E0%A5%8D%E0%A4%B2%E0%A5%81%E0%A4%B5%E0%A4%B0#:~:text=%E0%A4%A4%E0%A4%BF%E0%A4%B0%E0%A5%81%E0%A4%B5%E0%A4%B2%E0%A5%8D%E0%A4%B2%E0%A5%81%E0%A4%B5%E0%A4%B0%20(%E0%A4%85%E0%A4%82%E0%A4%97%E0%A5%8D%E0%A4%B0%E0%A5%87%E0%A4%9C%E0%A4%BC%E0%A5%80%3A%20Thiruvalluvar)%20%E0%A4%A6%E0%A4%95%E0%A5%8D%E0%A4%B7%E0%A4%BF%E0%A4%A3,%E0%A4%AA%E0%A4%BF%E0%A4%A4%E0%A4%BE%20%E0%A4%AE%E0%A5%87%E0%A4%82%20%E0%A4%B5%E0%A4%BF%E0%A4%B6%E0%A5%8D%E0%A4%B5%E0%A4%BE%E0%A4%B8%20%E0%A4%B0%E0%A4%96%E0%A4%A4%E0%A5%87%20%E0%A4%A5%E0%A5%87%E0%A5%A4

2. bZ-os-jkelkeh
https://hi.wikipedia.org/wiki/%E0%A4%AA%E0%A5%87%E0%A4%B0%E0%A4%BF%E0%A4%AF%E0%A4%BE%E0%A4%B0#:~:text=%E0%A4%87%E0%A4%B0%E0%A5%8B%E0%A4%A1%20%E0%A4%B5%E0%A5%87%E0%A4%82%E0%A4%95%E0%A4%9F%20%E0%A4%A8%E0%A4%BE%E0%A4%AF%E0%A4%95%E0%A4%B0%20%E0%A4%B0%E0%A4%BE%E0%A4%AE%E0%A4%BE%E0%A4%B8%E0%A4%BE%E0%A4%AE%E0%A5%80%20(17,%E0%A4%B5%E0%A4%BE%E0%A4%B2%E0%A5%87%20%E0%A4%B9%E0%A4%BF%E0%A4%A8%E0%A5%8D%E0%A4%A6%E0%A5%81%E0%A4%A4%E0%A5%8D%E0%A4%B5%20%E0%A4%95%E0%A4%BE%20%E0%A4%B5%E0%A4%BF%E0%A4%B0%E0%A5%8B%E0%A4%A7%20%E0%A4%A5%E0%A4%BE%E0%A5%A4

3. ukjh l”kfDrdj.k%
https://www.hindikiduniya.com/essay/women-empowermentessayinhindi/#:~:text=%E0%A4%AE%E0%A4%B9%E0%A4%BF%E0%A4%B2%E0%A4%BE%20%E0%A4%B8%E0%A4%B6%E0%A4%95%E0%A5%8D%E0%A4%A4%E0%A4%BF%E0%A4%95%E0%A4%B0%E0%A4%A3%20%E0%A4%95%E0%A5%8D%E0%A4%AF%E0%A4%BE%20%E0%A4%B9%E0%A5%88%20%3F&text=%E0%A4%AE%E0%A4%B9%E0%A4%BF%E0%A4%B2%E0%A4%BE%20%E0%A4%B8%E0%A4%B6%E0%A4%95%E0%A5%8D%E0%A4%A4%E0%A4%BF%E0%A4%95%E0%A4%B0%E0%A4%A3%20%E0%A4%95%E0%A5%8B%20%E0%A4%AC%E0%A5%87%E0%A4%B9%E0%A4%A6%20%E0%A4%86%E0%A4%B8%E0%A4%BE%E0%A4%A8,%E0%A4%B8%E0%A4%95%E0%A5%8D%E0%A4%B7%E0%A4%AE%20%E0%A4%AC%E0%A4%A8%E0%A4%BE%E0%A4%A8%E0%A4%BE%20%E0%A4%AE%E0%A4%B9%E0%A4%BF%E0%A4%B2%E0%A4%BE%20%E0%A4%B8%E0%A4%B6%E0%A4%95%E0%A5%8D%E0%A4%A4%E0%A4%BF%E0%A4%95%E0%A4%B0%E0%A4%A3%20%E0%A4%B9%E0%A5%88%E0%A5%A4

4. i;kZoj.k laj{k.k%
a. https://hi.wikipedia.org/wiki/%E0%A4%AA%E0%A4%B0%E0%A5%8D%E0%A4%AF%E0%A4%BE%E0%A4%B5%E0%A4%B0%E0%A4%A3_%E0%A4%B8%E0%A4%88%E0%A4%B0%E0%A4%95%E0%A5%8D%E0%A4%B7%E0%A4%A3#:~:text=%E0%A4%AA%E0%A4%B0%E0%A5%8D%E0%A4%AF%E0%A4%BE%E0%A4%B5%E0%A4%B0%E0%A4%A3%20%E0%A4%B8%E0%A4%82%E0%A4%B0%E0%A4%95%E0%A5%8D%E0%A4%B7%E0%A4%A3%20%E0%A4%95%E0%A4%BE%20%E0%A4%B8%E0%A4%AE%E0%A4%B8%E0%A5%8D%E0%A4%A4%20%E0%A4%AA%E0%A5%8D%E0%A4%B0%E0%A4%BE%E0%A4%A3%E0%A4%BF%E0%A4%AF%E0%A5%8B%E0%A4%82,%E0%A4%AA%E0%A5%83%E0%A4%A5%E0%A5%8D%E0%A4%B5%E0%A5%80%20%E0%A4%B8%E0%A4%AE%E0%A5%8D%E0%A4%AE%E0%A5%87%E0%A4%B2%E0%A4%A8'%20%E0%A4%86%E0%A4%AF%E0%A5%8B%E0%A4%9C%E0%A4%BF%E0%A4%A4%20%E0%A4%95%E0%A4%BF%E0%A4%AF%E0%A4%BE%20%E0%A4%97%E0%A4%AF%E0%A4%BE%E0%A5%A4

b.http://gadyakosh.org/gk/%E0%A4%86%E0%A4%88%E0%A4%AF%E0%A5%87!_%E0%A4%AA%E0%A4%B0%E0%A5%8D%E0%A4%AF%E0%4%BE%E0%A4%B5%E0%A4%B0%E0%A4%A3_%E0%A4%AC%E0%A4%9A%E0%A4%BE%E0%A4%8F%E0%A4%81_/_%E0%A4%85%E0%A4%A8%E0%A5%8D%E0%A4%A4%E0%A4%B0%E0%A4%BE_%E0%

PART II ENGLISH

Unit 1- Poetry

1. A Patch of Land - Subramania Bharati
2. The Sparrow - Paul Laurence Dunbar
3. A Nation's Strength – Ralph Waldo Emerson
4. Love Cycle - Chinua Achebe

Unit II - Prose

1. JRD - Harish Bhat
2. Us and Them - David Sedaris From Dress Your Family in Corduroy and Denim
3. Uncle Podger Hangs a Picture - Jerome K Jerome

Unit III- Short Stories

1. The Faltering Pendulum- Bhabani Bhattacharya
2. How I Taught my Grandmother to Read- Sudha Murthy
3. The Gold Frame- R.K. Laxman

Unit IV - Language Competency

1. Vocabulary : Synonyms, Antonyms, Word Formation
2. Appropriate use of Articles and Parts of Speech
3. Error correction

Unit V English for Workplace

1. Self - introduction, Greetings
2. Introducing others
3. Listening for General and Specific Information
4. Listening to and Giving Instructions /Directions

Text books (Latest Editions)

1. Steel Hawk and other stories by Bhattacharya, Bhabani, New Delhi: Sahitya Akademi, 1967
2. How I taught my Grandmother to Read and other Stories, Murthy, Sudha,Penguin Books, India, 2004

Web Resources

1. A patch of land by Subramania Bharati translated by Usha Rajagoplan : https://books.google.co.in/books?id=iSHvOmXuvLMC&printsec=frontcover&dq=subramania+bharati+poems&hl=en&newbks=1&newbks_redir=0&source=gb_mobile_search&sa=X&redir_esc=y#v=onepage&q=subramania%20bharati%20poems&f=false
2. The Sparrow by Paul Laurence Dunbar https://poets.org/poem/sparrow-0
3. A Nation's Strength by Emerson https://poets.org/poem/nations-strength
4. Love cycle by Chinua Achebe : https://www.best-poems.net/chinuaachebe/ love-cycle.html
5. JRD by Harish Bhat https://www.tata.com/newsroom/heritage/coffee-tea-jrd-tata-stories
6. Us and Them by David Sedaris From Dress Your Family in Corduroy and Denimhttps://legacy.npr.org/programs/morning/features/2004/jun/sedaris/usandthem.html
7. Uncle Podger Hangs a Picture: http://rosyhunt.blogspot.com/2013/01/unclepodger-hangs-picture.html
8. The Gold Frame: https://fybaenglish.blogspot.com/2018/12/the-gold-frame-r-klaxman.html

Reference Books

(Latest Editions, and the style given must be strictly adhered to)

1. English in use - A textbook for College Students (English ,Paper back, - T.Vijay Kumar, KDurga Bhavani, YL Srinivas
2. Practical English Usage - 4th Edition By Michael Swan
3. The Art of Civilized Conversation: A Guide to Expressing Yourself with Style and
4. Grace -Margaret Shepherd, Penny Carter, (Illustrator), Sharon Hogan, 2005.

PYTHON PROGRAMMING

Learning Objectives

- To make students understand the concepts of Python programming.
- To apply the OOPs concept in PYTHON programming.
- To impart knowledge on demand and supply concepts
- To make the students learn best practices in PYTHON programming
- To know the costs and profit maximization

UNIT I

Basics of Python Programming: History of Python-Features of Python-Literal-Constants-Variables - Identifiers–Keywords-Built-in Data Types-Output Statements – Input Statements-Comments – Indentation- Operators-Expressions-Type conversions. Python Arrays: Defining and Processing Arrays – Array methods.

UNIT II

Control Statements: Selection/Conditional Branching statements: if, if-else, nested if and if-elif-else statements. Iterative Statements: while loop, for loop, else suite in loop and nested loops. Jump Statements: break, continue and pass statements.

UNIT III

Functions: Function Definition – Function Call – Variable Scope and its Lifetime-Return Statement. Function Arguments: Required Arguments, Keyword Arguments, Default Arguments and Variable Length Arguments- Recursion. Python Strings: String operations- Immutable Strings - Built-in String Methods and Functions - String Comparison. Modules: import statement- The Python module – dir() function – Modules and Namespace – Defining our own modules.

UNIT IV

Lists: Creating a list -Access values in List-Updating values in Lists-Nested lists - Basic list operations-List Methods. Tuples: Creating, Accessing, Updating and Deleting Elements in a tuple – Nested tuples– Difference between lists and tuples. Dictionaries: Creating, Accessing, Updating and Deleting Elements in a Dictionary – Dictionary Functions and Methods - Difference between Lists and Dictionaries.

UNIT V

Python File Handling: Types of files in Python - Opening and Closing files-Reading and Writing files: write() and writelines() methods- append() method – read() and readlines() methods – with keyword – Splitting words – File methods - File Positions-Renaming and deleting files.

Text books

1. ReemaThareja, “Python Programming using problem solving approach”, First Edition, 2017, Oxford University Press.
2. Dr. R. Nageswara Rao, “Core Python Programming”, First Edition, 2017, Dream tech Publishers.

Reference Books

1. VamsiKurama, "Python Programming: A Modern Approach", Pearson Education.
2. Mark Lutz, "Learning Python", Orielly.
3. Adam Stewarts, "Python Programming", Online.
4. Fabio Nelli, "Python Data Analytics", A Press.
5. Kenneth A. Lambert, "Fundamentals of Python – First Programs", CENGAGE Publication.

Web Resources

1. https://www.programiz.com/python-programming
2. https://www.guru99.com/python-tutorials.html
3. https://www.w3schools.com/python/python_intro.asp
4. https://www.geeksforgeeks.org/python-programming-language/
5. https://en.wikipedia.org/wiki/Python_(programming_language)

PYTHON LAB

Course Objectives:

- Be able to design and program Python applications.
- Be able to create loops and decision statements in Python.
- Be able to work with functions and pass arguments in Python.
- Be able to build and package Python modules for reusability.
- Be able to read and write files in Python.

LAB EXERCISES

Required Hours

1. Program using variables, constants, I/O statements in Python.
2. Program using Operators in Python.
3. Program using Conditional Statements.
4. Program using Loops.
5. Program using Jump Statements.
6. Program using Functions.
7. Program using Recursion.
8. Program using Arrays.
9. Program using Strings.
10. Program using Modules.
11. Program using Lists.
12. Program using Tuples.
13. Program using Dictionaries.
14. Program for File Handling.

STRUCTURED PROGRAMMING LANGUAGE IN C

Course Objective

- To familiarize the students with the Programming basics and the fundamentals of C, Datatypes in C, Mathematical and logical operations.
- To understand the concept using if statements and loops
- This unit covers the concept of Arrays
- This unit covers the concept of Functions
- To understand the concept of implementing pointers.

UNIT I

Overview of C: Importance of C, sample C program, C program structure, executing C program.

Constants, Variables, and Data Types: Character set, C tokens, keywords and identifiers, constants, variables, data types, declaration of variables, Assigning values to variables---Assignment statement, declaring a variable as constant, as volatile. Operators and Expression.

UNIT II

Decision Making and Branching: Decision making with If, simple IF, IF ELSE, nested IF ELSE , ELSE IF ladder, switch, GOTO statement. **Decision Making and Looping**: While, Do-While, For, Jumps in loops.

UNIT III

Arrays: Declaration and accessing of one & two-dimensional arrays, initializing two-dimensional arrays, multidimensional arrays.

UNIT IV

Functions: The form of C functions, Return values and types, calling a function, categories of functions, Nested functions, Recursion, functions with arrays, call by value, call by reference, storage classes-character arrays and string functions

UNIT V

Pointers: definition, declaring and initializing pointers, accessing a variable through address and through pointer, pointer expressions, pointer increments and scale factor, pointers and arrays, pointers and functions, pointers and structures.

Text Book

1. E. Balagurusamy, Programming in ANSI C, Fifth Edition, Tata McGraw-Hill, 2010.

Reference Books

1. Byron Gottfried, Schaum's Outline Programming with C, Fourth Edition, Tata McGraw-Hill, 2018.
2. Kernighan and Ritchie, The C Programming Language, Second Edition, Prentice Hall, 1998
3. YashavantKanetkar, Let Us C, Eighteenth Edition, BPB Publications,2021

Web Resources

1. https://codeforwin.org/
2. https://www.geeksforgeeks.org/c-programming-language/
3. http://en.cppreference.com/w/c
4. http://learn-c.org/
5. https://www.cprogramming.com/

DISCRETE MATHEMATICS

COURSE OUTCOMES

On Successful completion of the course, the student will be able to

- To recall basic concepts for clear understanding of mathematical principles
- To explain practical problems.
- To construct matrices using discrete mathematics
- To analyze techniques to draw graph using mathematics
- To design graphs using the representations

Unit–I: RELATIONS

Introduction to Relations – Binary relation – Classification of Relations – Composition of Relations – Inverse of Relation – Closure operation on Relations – Matrix representation of Relation.

Unit–II: FUNCTIONS

Introduction to Functions – Addition and Multiplication of Functions - Classifications of Functions – Composition of Function– Inverse Function.

Unit–III:MATHEMATICAL LOGIC

Introduction – Statement (Propositions) – Laws of Formal Logic –Basic Set of Logical operators/operations - Propositions and Truth Tables – Algebra Propositions – Tautologies and Contradictions.

Unit–IV: MATRIX ALGEBRA

Introduction – Definition of a Matrix - Types of Matrices – Operations on Matrices – Related Matrices–Transpose of a Matrix –Symmetric and Skew-symmetric Matrices – Determinant of a Matrix – Typical Square Matrices – Adjoint and Inverse of a Matrix – Singular and Non-singular Matrices – Adjoint of a Square Matrix–Properties of Adjoint of a Matrix–Properties of Inverse of a Matrix.

Unit–V: GRAPH

Introduction – Graph and Basic Terminologies – Types of Graphs – Sub Graph and Isomorphic Graph –Operations on Graphs –Representation of Graph.

Text Book:

1. DISCRETE MATHEMATICS, Swapan Kumar Chakraborty and Bikash Kanti Sarkar, OXFORD University Press.

Reference Books:

1. DISCRETE MATHEMATICS, Third Edition, Seymour Lipschutz and MarcLars Lipson, Tata Mc Graw Hill Education Private Limited.
2. Discrete Mathematical Structures with Applications to Computer Science by J.P.Tremblay, R.Manohar TMH edition
3. https://www.tutorialspoint.com›discrete_mathematics

FUNDAMENTALS OF INFORMATION TECHNOLOGY

Learning Objectives

- Understand basic concepts and terminology of information technology.
- Have a basic understanding of personal computers and their operation
- Be able to identify data storage and its usage
- Get great knowledge of software and its functionalities
- Understand about operating system and their uses

UNIT I

Introduction to Computers – Generations of Computer – Data and Information – Components of Computer – Software – Hardware – Input Devices-Output Devices—Types of Operating System.

UNIT II

MS Word: Introduction –Elements of Window– Files, Folders and Directories – Text Manipulating: Cut, Copy, Paste, Drag and Drop – Text Formatting: Font – Style, Size, Face and Colors (Both foreground and background)–Alignment-Bullets and Numbering - Header and footer- watermark –inserting objects (images, other application document) –Table creation– Mail merge.

UNIT III

Ms Excel: Introduction – Inserting rows and columns – Sizing rows and columns– Implementing formulas – Generating series – Functions in excel – Creation of Chart– Inserting objects–Filter–Sorting–Inserting worksheet.

UNIT IV

MS PowerPoint: Introduction – Slides Manipulation (Inserting new, Copy, paste, delete and duplicate slides) – Slide show– Types of Views –Types of Animations– Inserting Objects– Implementing multimedia
(Video and Audio) –Templates (Built-in and User - Defined).

UNIT V

Internet: Introduction to Internet and Intranet – Services of Internet -Domain Name – URL – Browser – Types of Browsers – Search Engine -E-Mail – Basic Components of E-Mail –.How to send group mail. **E-Commerce**: Digital Signature –Digital Currency – Online shopping and transaction.

Textbooks

1. Anoop Mathew, S.Kavitha Murugeshan (2009), "Fundamental of Information Technology", Majestic Books.
2. Alexis Leon, Mathews Leon," Fundamental of Information Technology", 2nd Edition.
3. S.K Bansal, "Fundamental of Information Technology".

Reference Books

1. Bhardwaj Sushil Puneet Kumar,"Fundamental of Information Technology"
2. GGWILKINSON, "Fundamentals of Information Technology", Wiley-Blackwell
3. A Ravichandran,"Fundamentals of Information Technology", Khanna Book Publishing

Web Resources

1. https://testbook.com/learn/computer-fundamentals
2. https://www.tutorialsmate.com/2020/04/computer-fundamentals-tutorial.html
3. https://www.javatpoint.com/computer-fundamentals-tutorial
4. https://www.tutorialspoint.com/computer_fundamentals/index.htm
5. https://www.nios.ac.in/media/documents/sec229new/Lesson1.pdf