

SYLLABUS

MANONMANIAM SUNDARANAR UNIVERSITY, TIRUNELVELI-12

UG COURSES – AFFILIATED COLLEGES

B.Sc COMPUTER SCIENCE

(Choice Based Credit System)

(with effect from the academic year 2021-2022 onwards)

Semester- II				
Part	Subject Status	Subject Title	Subject Code	Credit
I	Language	Tamil/Other Language	C1TL21/ C1MY21	4
II	Language	English	C2EN21	4
III	Core	Programming in C++	CMCS21	4
III	Major Practical - II	Programming in C++	CMCSP2	2
III	Core	Professional English for physical Sciences - II	CPPS21	4
III	Allied Practical – I	Linux	CACSP1	2
IV	Common	Value Based Education	CVBE21	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 : $CGPA \geq 6.0$
- Second Class : $CGPA \geq 5.0$ and < 6.0
- Third Class : $CGPA < 5.0$



Part I Tamil

இரண்டாம் பருவம்

21T	செய்யுள், இலக்கணம், உரைநடை, வாழ்க்கை வரலாறு, இலக்கிய வரலாறு	3	6	-	25	75	100
------------	-------------------------------------------------------------------------------	---	---	---	----	----	-----

Course Code	21T	பகுதி – ஒன்று – பொதுத்தமிழ் - இரண்டாம்தாள் (TITLE OF THE COURSE)
பாடத்திட்டத்தின் நோக்கங்கள் (Course Objectives) ஆன்மிகச் சிந்தனையை இந்நீதி நெறிகளைப் புகட்டுதல்		
எதிர்பார்க்கும் படிப்பின் முடிவுகள் (Expected Course Outcomes)		
1. சமய இலக்கியங்கள் வழி, பக்தி நெறிகளை அறிவித்தல்		
2. நீதி நூல்கள் வாயிலாக ஒழுக்கச் சிந்தனைகளை எடுத்துரைத்தல்		
3. மொழி அமைப்பினை உணர்த்தி கடிதங்கள் எழுதப் பழக்குவித்தல்		
4. சான்றோர் வாழ்க்கை வரலாற்றினைப் போதித்து நல்வழிப்படுத்துதல்		
5. சமயங்களால் படைக்கப்பட்ட இலக்கியங்களை அறிமுகம் செய்தல்		
K1 - நினைவில் கொள்ளுதல் (Remember) K2- புரிந்து கொள்ளுதல் (understand) K3 - விண்ணப்பித்தல் (Apply) K4 - பகுத்தாய்தல் (Analyze) K5 - மதிப்பிடு செய்தல் (Evaluate) K6 - உருவாக்குதல் (Create)		
Unit:1	செய்யுள்	30 Hours
தேவாரம் முதல் நன்னெறி வரை - பல்கலைக்கழக வெளியிடு, அனுசித்ரா பப்ளிகேஷன்ஸ், சென்னை-33. தொலைபேசி எண் : 044-24743719, Email : anuchitrapublications@gmail.com.		
Unit:2	இலக்கணம் : சொல் இலக்கணம்	15 Hours



2. பெயர்ச்சொல் - இலக்கணம், வகைகள் 3. வினைச்சொல் - இலக்கணம், வகைகள் 4. இடைச்சொல் - இலக்கணம், ஏகார, ஓகார, உம்மை இடைச்சொற்கள். 5. உரிச்சொல் - இலக்கணம், வகைகள் 6. கடிதங்கள் <ul style="list-style-type: none"> • முறையிட்டுக் கடிதம் • வேண்டுகைக் கடிதம் • விண்ணப்பக் கடிதம் • பத்திரிகையில் செய்திகள் வெளியிடுவதற்குப் பயிற்சி அளித்தல் 		
Unit:3	உரைநடை	15 Hours
உரை அமுதம் - தொகுப்பாசிரியர் - முனைவர் கெ.செல்லத்தாய், உங்கள் நூலகம், சென்னை -14 தொலைபேசி எண் : 044-28482441		
Unit:4	வாழ்க்கை வரலாறு	15 Hours
மனோன்மணியம் சுந்தரனாரின் வாழ்வும் பணியும் ஆசிரியர் முனைவர் அ.கா.பெருமாள், நெஸ்லிங் புகஸ் பப்ளிசிங், சென்னை -50 தொலைபேசி எண் : 044-26251968, 26258410, 48601884		
Unit:5	இலக்கிய வரலாறு	15 Hours
1. பன்னிரு திருமுறைகள் 2. நாலாயிரத் திவ்விய பிரபந்தம் 3. சமண இலக்கியங்கள் 4. பௌத்த இலக்கியங்கள் 5. கிறித்துவ இலக்கியங்கள் 6. இஸ்லாமிய இலக்கியங்கள் 7. அறநூல் பெயர்கள் மட்டும் (பதினெண் கீழ்க்கணக்கில்)		

PART I MALAYALAM

FOURTH SEMESTER PAPER - IV

A1MY41- മാധ്യമസാഹിത്യം (Madhyamasahithyam) - Media Literature

OBJECTIVE OF THE STUDY

The aim and objective of Media Study is to enable the students to know more about the roles of media including print and online, film and television in the society. And to analyze the content, history and impact of various media especially mass-media on our society. Media studies encourage the students to understand the critical evaluation of new and old media technologies, the centrality of media in politics, economics, social life, global and local culture, and the contemporary and historical impact of media on individuals and societies.

UNIT - 1

മാധ്യമഭാഷ

മാധ്യമം - നിർവ്വചനം - ചരിത്രം - സാങ്കേതികവിദ്യ - വിവിധതരം മാധ്യമങ്ങൾ - സമൂഹം - സംസ്കാരം - സ്വാധീനം

FOR DETAILED STUDY

1. ഡോ. ടി. അനിതകുമാരി - മാധ്യമഭാഷ ഇന്ന്

UNIT - 2

അച്ചടിമാധ്യമം

അച്ചടിയുടെ ചരിത്രം - കേരളത്തിലെ ആദ്യകാല പ്രവർത്തനങ്ങൾ - പത്രമാസികകളുടെ ആദ്യകാലം - പുതിയ കാലത്തെ അച്ചടി രീതികൾ - ലിപി പരിഷ്കരണം - ഡിടിപി - തനതു ലിപികൾ

FOR DETAILED STUDY

2. ഡോ. എസ്.എസ്. ശ്രീകുമാർ - മലയാള ലിപി പരിഷ്കരണം വരുത്തിയ വിനകൾ

UNIT - 3

ദൃശ്യശ്രവ്യമാധ്യമം

റേഡിയോ - ടെലിവിഷൻ - മൾട്ടിമീഡിയ - സിനിമ - പൊതു സ്വഭാവം - ഗുണദോഷവശങ്ങൾ

FOR DETAILED STUDY

3. ടെലിവിഷൻ പഠനങ്ങൾ - സി. എസ്. വെങ്കടേശ്വരൻ
ലേഖനം - ജനകീയതയും റിയാലിറ്റിഷോകളും



UNIT - 4

സൈബർമാധ്യമം

ഇന്റർനെറ്റ് - ചരിത്രം - മലയാളത്തിലെ ബ്ലോഗുകൾ - സൈബർ സാന്നിധ്യം - സോഷ്യൽ മീഡിയ - സ്റ്റാർട്ട് ഫോൺ ഉപയോഗം - ഗുണഭോക്താക്കൾ

FOR DETAILED STUDY

4. ഡോ. അച്യുത് ശങ്കർ എസ്. നായർ - സൈബർ മലയാളം

UNIT - 5

പരസ്യകല

പരസ്യം - നിർവ്വചനം - സംസ്കാരം - സ്വാധീനം- വിവിധതരം പരസ്യങ്ങൾ - ആശയമേധാനം

FOR DETAILED STUDY

5. പ്രായോഗികപരിചയം നേടുന്നതിനാവശ്യമായ പ്രവർത്തനങ്ങൾ നടത്തുക. പരസ്യം നിർമ്മിക്കുന്നതിനുള്ള വിഷയം നൽകുക.

REFERENCE BOOKS

പത്രലോകം - ഒരു സംഘം ലേഖകർ - കേരള ഭാഷാ ഇൻസ്റ്റിറ്റ്യൂട്ട്
ആ ലോകം മുതൽ ഇ-ലോകം വരെ - ഡോ. ജെ. വി. വിളനിലം
മാധ്യമങ്ങളും മലയാളസാഹിത്യവും - കേരള ഭാഷാ ഇൻസ്റ്റിറ്റ്യൂട്ട്
പത്രഭാഷ - കേരള പ്രസ് അക്കാദമി
മലയാളഭാഷയും ആഗോളവൽക്കരണവും - ഡോ. കെ. എസ്. പ്രകാശ്, ഡോ. എസ്. എ.
ഷാനവാസ് (പ്രകാശനവിഭാഗം, കേരള സർവ്വകലാശാല)
ഭാഷയും മാധ്യമവും - വി. കെ. നാരായണൻ
മാധ്യമഭാഷാ മാറ്റങ്ങൾ - കെ. കെ. ശ്രീരാജ്
ടെലിവിഷൻ പഠനങ്ങൾ - സി. എസ്. വെങ്കിടേശ്വരൻ
മാധ്യമങ്ങളും മലയാളസാഹിത്യവും - എം. വി. തോമസ്
ഇന്റർനെറ്റും ഇൻഫർമേഷൻ വിപ്ലവവും - കെ. രവീന്ദ്രൻ, ഡോ. കെ. ഇഖ്ബാൽ
ഇൻഫർമേഷൻ സയൻസ് - ഒരാമുഖം - ഡോ. ജി. ദേവരാജൻ
മലയാള സൈബർ സാഹിത്യം - ഡോ. മനോജ് ജെ. പാലക്കുടി
സൈബർ മലയാളം - സുനീത ടി. വി. (എഡി.)
മാറ്റുന്ന ലോകം മാറ്റുന്ന മാധ്യമലോകം - എൻ. പി. രാജേന്ദ്രൻ
Progress in Information Technology - Dr. G. Devarajan
The Mass Media and You - Desmond D' Abreo
Advertising - Dr. C. N. Santakki



PART II ENGLISH

Unit I

1. Listening and Speaking
 - a. Listening and responding to complaints (formal situation)
 - b. Listening to problems and offering solutions (informal)
2. Reading and writing
 - a. Reading aloud (brief motivational anecdotes)
 - b. Writing a paragraph on a proverbial expression/motivational idea.
3. Word Power/Vocabulary
 - a. Synonyms & Antonyms
4. Grammar in Context
 - a. Adverbs
 - b. Prepositions

Unit II

1. Listening and Speaking
 - a. Listening to famous speeches and poems
 - b. Making short speeches- Formal: welcome speech and vote of thanks.
Informal occasions- Farewell party, graduation speech
2. Reading and Writing
 - a. Writing opinion pieces (could be on travel, food, film / book reviews or on any contemporary topic)
 - b. Reading poetry
 - b.i. Reading aloud: (Intonation and Voice Modulation)
 - b.ii. Identifying and using figures of speech - simile, metaphor, personification etc.
3. Word Power
 - a. Idioms & Phrases
4. Grammar in Context
Conjunctions and Interjections

Unit III

1. Listening and Speaking
 - a. Listening to Ted talks
 - b. Making short presentations – Formal presentation with PPT, analytical presentation of graphs and



- reports of multiple kinds
- c. Interactions during and after the presentations

2. Reading and writing
 - a. Writing emails of complaint
 - b. Reading aloud famous speeches
3. Word Power
 - a. One Word Substitution
4. Grammar in Context: Sentence Patterns

Unit IV

1. Listening and Speaking
 - a. Participating in a meeting: face to face and online
 - b. Listening with courtesy and adding ideas and giving opinions during the meeting and making concluding remarks.
2. Reading and Writing
 - a. Reading visual texts – advertisements
 - b. Preparing first drafts of short assignments
3. Word Power
 - a. Denotation and Connotation
4. Grammar in Context: Sentence Types

Unit V

1. Listening and Speaking
 - a. Informal interview for feature writing
 - b. Listening and responding to questions at a formal interview
2. Reading and Writing
 - a. Writing letters of application
3. Word Power
 - a. Collocation
4. Grammar in Context: Working With Clauses



Core – 2

Object Oriented Programming in C++**Objective:**

To gain the basic knowledge of object oriented programming concepts and to understand the detail idea of C++ streams, Inheritance, Overloading of operators, functions, constructors, File Handling and templates concepts of C++ programming.

Unit – I:**Principles of Object Oriented Programming**

Basic Concepts of Object Oriented Programming. Classes and Objects: Introduction – Specifying a Class – Defining Member Functions – Making an Outside Function Inline – Nesting of Member Functions - Private Member Functions – Static Data Members – Static Member Functions – Arrays of Objects – Objects as function arguments – Friendly Functions – Returning Objects .

Unit – II:**Constructors and Destructors**

Introduction – Constructors – Parameterized Constructors – Multiple Constructors in a class – Constructors with Default Arguments – Dynamic Initialization of Objects – Copy Constructors – Dynamic Constructors – const objects - Destructors.

Unit – III:

Operator Overloading, Type Conversions and Inheritance
Defining Operator Overloading – Overloading Unary Operators – Overloading Binary Operators – Overloading Binary Operators using Friends – Rules for Overloading Operators – Type Conversions. Inheritance (Extending Classes): Introduction – Defining Derived Class – Single Inheritance - Making a Private Member Inheritable – Multilevel Inheritance – Multiple Inheritance – Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes - Abstract Classes.

Unit – IV:**Pointers, Virtual Functions and Polymorphism**

Pointers - Pointers to Objects – this Pointer – Pointers to Derived Classes – Virtual Functions - Pure Virtual Functions. Managing Console I/O Operations: Introduction – C++ Streams – C++ Stream Classes – Unformatted I/O operations – Managing Output with Manipulators.

Unit – V:

Files and Templates

Working with Files: Introduction – Classes for File Stream Operations – Opening and Closing a file – Detecting end-of-file – File Modes – Sequential Input and Output Operations. **Templates:** Introduction - Class Templates – Function Templates.

Text Book:

Object Oriented Programming with C++, Sixth Edition by E. Balagurusamy, Tata McGraw Hill Publishing Company Limited.

Reference Book:

1. Programming with ANSI C++, Bhushan Trivedi, 2010, Oxford University Press
2. The Complete Reference C++, Fourth/ Fifth Edition Herbert Schildt, Tata McGraw Hill Publishing Company Limited.
3. Programming With C++ Third Edition by D. Ravichandran, Tata McGraw Hill Education, 2011.
4. Programming in C++ Second Edition by Ashok N. Kamthane, Pearson Education
5. C++ Introduction - W3Schools [https://www.w3schools.com > cpp > cpp_intro](https://www.w3schools.com/cpp/cpp_intro)



PAPER IV

PROFESSIONAL ENGLISH FOR PHYSICAL SCIENCE – II

Objectives:

The Professional Communication Skills Course is intended to help Learners in Arts and Science colleges.

- Develop their competence in the use of English with particular reference to the workplace situation.
- Enhance the creativity of the students, which will enable them to think of innovative ways to solve issues in the workplace.
- Develop their competence and competitiveness and thereby improve their employability skills.
- Help students with a research bent of mind develop their skills in writing reports and research proposals.

LEARNING OUTCOMES:

At the end of the course, learners will be able to,

- Attend interviews with boldness and confidence.
- Adapt easily into the workplace context, having become communicatively competent.
- Apply to the Research & Development organizations/ sections in companies and offices with winning proposals.

UNIT I

COMMUNICATIVE COMPETENCE

Listening – Listening to two talks/lectures by specialists on selected subject specific topics -(TED Talks) and answering comprehension exercises(inferential questions) **Speaking**: Small group discussions (the discussions could be based on the listening and reading passages- open ended questions. **Reading**: Two subject-based reading texts followed by comprehension activities/exercises. **Writing**: Summary writing based on the reading passages. Grammar and vocabulary exercises/tasks to be designed based on the discourse patterns of the listening and reading texts in the book. This is applicable for all the units.

UNIT II

PERSUASIVE COMMUNICATION

Listening: Listening to a product launch- sensitizing learners to the nuances of persuasive communication. **Speaking**: debates – Just-A Minute



Activities. **Reading:** reading texts on advertisements (on products relevant to the subject areas) and answering inferential questions. **Writing:** Dialogue writing- writing an argumentative /persuasive essay.

UNIT III – DIGITAL COMPETENCE

Listening: Listening to interviews (subject related). **Speaking:** Interviews with subject specialists (using video conferencing skills) Creating V logs (How to become a v logger and use v logging to nurture interests – subject related). **Reading:** Selected sample of Web Page (subject area) **Writing:** Creating Web Pages. **Reading Comprehension:** Essay on Digital Competence for Academic and Professional Life. The essay will address all aspects of digital competence in relation to MS Office and how they can be utilized in relation to work in the subject area.

UNIT IV CREATIVITY AND IMAGINATION

Listening to short (2 to 5 minutes) academic videos (prepared by EMRC/ other MOOC videos on Indian academic sites –

E.g. <https://www.youtube.com/watch?v=tpvicScuDy0>)

Speaking: Making oral presentations through short films – subject based
Reading: Essay on Creativity and Imagination (subject based). **Writing – Basic Script**
Writing for short films (subject based) - Creating blogs, flyers and brochures (subject based) - Poster making – writing slogans/captions(subject based)

UNIT V WORKPLACE COMMUNICATION

Speaking: Short academic presentation using PowerPoint. **Reading & Writing:** Product Profiles, Circulars, Minutes of Meeting. Writing an introduction, paraphrasing Punctuation (period, question mark, exclamation point, comma, semicolon, colon, dash, hyphen, parentheses, brackets, braces, apostrophe, quotation marks, and ellipsis) Capitalization (use of upper case).



Value Based Education

II Semester

Course Objectives:

The course will enable the student to:

1. state the meaning of social justice, human rights, Globalization, mass media and new media
2. enumerate the rights of women, children, Dalits, minorities and physically challenged as per Indian constitution
3. comprehend the social realities and issues and challenges in globalization and inculcate an essential value system towards building a healthy society

Course Prerequisites:

- a. positive attitude towards social justice and communal harmony
- b. aspiration to create a better world
- c. respect for Indian constitution, humanity, ethics and value

Course Outcome (COs):

After completing the course the students will be able to:

CO1: Identify the contribution of social reformers and factors that influence social justice

CO2: Compare and list the legal rights provided to women, children, Dalits, minorities and physically

challenged as per human rights and Indian constitution

CO3: Stay as a responsible citizen and raise voice for any violence against women

CO4: analyze the prospects and challenges in mass media role of media in

CO5: assess the influence of new media on children and youth and use them to inculcate communal

harmony and social justice

CO6: frame their own personal values based on social ethics to moderate the social issues and lead a secular society

Course Outline: The course inculcates value and ethics in individual for being a responsible citizen and build a nation with social justice and communal harmony.

Unit I:

Social Justice

Social Justice: definition – need – parameters – influencing factors – caste and gender – contributions of social reformers.

Unit II:

Human Rights and Marginalized People



Human Rights: concept – principles – human rights and Indian constitution – Rights of Women and children – violence against women – Rights of marginalized people, women, children, dalits, minorities and physically challenged.

Unit III:

Social Issues and Communal Harmony

Social issues: causes and magnitude – alcoholism, drug addiction, poverty, unemployment – Communal harmony: concept – religion and its place in public in public domain – separation of religion from politics – secularism role of civil society.

Unit IV:

Media Education and Globalized World Scenario

Mass media: functions, characteristics, need and purpose – effects and influence – youth and children – media power – socio cultural and political consequences – mass mediated culture – consumeristic culture – Globalization – New media: prospects and challenges

Unit V: Values and Ethics

Personal values – family values – social values – cultural values – Professional values – and overall ethics – duties and responsibilities

Reference Books:

1. Francis, K. (1993). Education reform for social justice (Vol. 2). Discovery publishing house
2. Satvinder Juss. (2020). Human rights in India. Routledge
3. Smarak Swain, S. (2011). Social issues of India. New Vishal publications
4. Chakraborty, S. K., Chakraborty, D. (2006). Human Values and Ethics. ICFAI University Press
5. David Buckingham. (2013). Media Education: Literacy, Learning & Contemporary culture. Wiley Publishers.



Major Practical – II

Programming in C++

Objective:

To gain knowledge about the object oriented programming concepts and C++ streams, Inheritance, Overloading of operators, functions, constructors, File Handling and templates concepts of C++ programming by implementing sample programs. Each exercise should be completed within three hours.

It is compulsory to complete all the exercises given in the list in the stipulated time.

- 1) Program with a Class and Member Functions.
- 2) Program to Overload Function. (minimum three geometric figures)
- 3) Program to implement Parameterized Constructor.
- 4) Program to implement Friend Function (minimum two classes)
- 5) Program to Overload Unary Minus Operator.
- 6) Program to Overload Binary Plus Operator.
- 7) Program to implement Multiple Inheritance for Family Details.
- 8) Program to implement Multilevel Inheritance for Bank Customer Details.
- 9) Program to implement Hierarchical Inheritance for Students Details.
- 10) Program to implement Virtual Function.



Allied Practical – II

LINUX

Objective:

- To understand and make effective use of Linux utilities and Shell scripting language to solve problems.

Each exercise should be completed within three hours.

It is compulsory to complete all the exercises given in the list in the stipulated time.

1. Use any text editor in linux(say vi) to enter a C program to find the largest of three numbers, compile using gcc and display the output.
2. Use any text editor in linux(say vi) to enter a C program to find the factorial of a given number, compile using gcc and display the output.
3. Linux commands
 - a. ls, mkdir, rmdir, cd, pwd, find, du(Directory oriented)
 - b. cat, cp, rm, mv, wc (File oriented)
 - c. ps, kill, batch, grep(Process oriented)
 - d. write, mail, wall (Communication oriented)
4. Linux commands
 - a. date, who, who am i, man, cal, echo, bc(General purpose)
 - b. Pipe, Filter
5. Write a shell script to display date in the mm/dd/yy format, time, username and current directory.
6. Write a shell script to find the sum of digits of a given number.
7. Write a program to generate Fibonacci series.
8. Write a program to check whether given string is palindrome or not
9. Write a shell script to find factorial of a given integer.
10. Write a shell script to generate mark sheet of a student. Take 3 subjects, calculate and display total marks, percentage and Class obtained by the student.

Reference Books:

1. Linux: A practical approach, B. Mohamed Ibrahim, Firewall Media
2. Comdex Linux and Open Office course kit revised and upgraded, Gupta, Wiley India.
- 3 A practical guide to Linux command, editors, and shell programming 2/e; Mark G Sobell, Prentice Hall.
4. Linux Lab - Open source Technology : Ambavade – Dreamtech

