



MANONMANIAM SUNDARANAR UNIVERISTY,
TIRUNELVELI-12

SYLLABUS

UG - COURSES – AFFILIATED COLLEGES

Course Structure for B. Sc. Mathematics

(Choice Based Credit System)

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



Semester-IV				
Part	Subject Status	Subject Title	Subject Code	Credit
I	Language	TAMIL/ MALAYALAM/HINDI	C1TL41/ C1MY41/ C1HD41	4
II	Language	ENGLISH	C2EN41	4
III	Core	ABSTRACT ALGEBRA	CMMA41	4
III	Allied – II Paper II	STATISTICS-II	CAST21	3
III	Skill Based	TRIGONOMETRY, LAPLACE TRANSFORMS AND FOURIER SERIES	CSMA41	4
IV	Non-Major Elective	HTML/ ARIMUGA TAMIL PAPER - II	CNCS41/ CNTL41	2
IV	Common	COMPUTERS FOR DIGITAL ERA	CCDE41	2
V	Extension Activities	NCC/NSS/YRC/YWF	C5EA41	1



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



பொதுத்தமிழ்

பாடத்திட்டத்தின் நோக்கங்கள் (Course Objectives) சங்க இலக்கியத்தின் சிறப்புகளை உணர வைத்தல்		
எதிர்பார்க்கும் படிப்பின் முடிவுகள் (Expected Course Outcomes)		
CO1	மாணவர் பண்டைத் தமிழரின் பண்பாட்டினை அறிந்து கொள்வர்	K ₁ ,K ₄ ,K ₆
CO2	வாழ்வியலுக்கான பொருள் இலக்கணத்தைக் கற்றுக் கொள்வர்	K ₂ ,K ₅
CO3	இலக்கியங்கள் வாயிலாக வாழ்வியல் அறங்களைப் புரிந்து கொள்வர்.	K ₁ ,K ₃ ,K ₅
CO4.	வரலாற்றுப் பின்புலங்களை மையமாகக் கொண்டு நாடகங்கள் படைக்கும் உந்துதலைப் பெறுவர்.	K ₂ ,K ₆
CO5	சங்க இலக்கியங்களின் வரலாற்றையும், தனிச்சிறப்புகளையும் அறிந்து கொள்வர்.	K ₂ ,K ₅
K1 – நினைவில் கொள்ளுதல் (Remember) K2 – புரிந்து கொள்ளுதல் (understand) K3 – விண்ணப்பித்தல்(Apply) K4 – பகுத்தாய்தல் (Analyze) K5 – மதிப்பீடு		

அலகு:1 - செய்யுள்

நற்றிணை முதல் பட்டினப்பாலை வரை
நியூ செஞ்சுரி புக ஹவுஸ் (பி) லிட்., திருநெல்வேலி-1
தொலைபேசி எண்: 0462 2323990

அலகு:2 - இலக்கணம்

1. பொருள் இலக்கணம்
2. ஒரெழுத்து ஒருமொழிகள்
3. மரபுச் சொற்கள்
4. பிறமொழிச் சொற்களை நீக்கி எழுதுதல்

அலகு:3 - உரைநடை

வாழ்வியல் அறம் - தொகுப்பாசிரியர் - முனைவர் ச.பொ.சீனிவாசன்
நெஸ்லிங் புகஸ் பப்ளிஷிங் அன்ட் டிஸ்ட்ரிபியூட்டர்ஸ் (பி) லிட்., சென்னை -50
தொலைபேசி எண் : 044-26251968, 26258410, 48601884

அலகு:4 - நாடகம்

ஆதி அத்தி - ஆசிரியர் - பெ.தூரன் - பதிப்பாசிரியர் - முனைவர் சொ.சேதுபதி
நியூ செஞ்சுரி புக ஹவுஸ் (பி) லிட்., சென்னை -50
தொலைபேசி எண் : 044-26251968, 26258410, 48601884



அலகு:5 - இலக்கிய வரலாறு

1. எட்டுத்தொகை நூல்கள்
2. பத்துப்பாட்டு நூல்கள்
3. சங்க இலக்கியங்களின் சிறப்பியல்புகள்

மேற் பார்வை நூல்கள்

இலக்கணம் : புறப்பொருள் வெண்பாமாலை

இலக்கிய வரலாறு : ஆசிரியர் முனைவர் சி. பாலசுப்பிரமணியன்.

பாவை பப்ளிகேஷன்ஸ் 142இ ஜானி ஜான் கான் சாலை இராயப்பேட்டை

சென்னை - 14 தொலைபேசி எண் : 28482441

முனைவர் பெ. சுயம்பு

பாரதி பதிப்பகம் 113இ இராஜீவ் தெரு திசையன்விளை -57

தொலைபேசி எண் :04637 - 272096

மாணவர்களைக் களஆய்விற்கு அழைத்துச் செல்லலாம்

Mapping with Programme Outcomes

CO ₅	PO1	PO2	PO3	PO4	PO5
CO1	S	M	S	M	S
CO2	M	S	M	M	M
CO3	S	M	S	S	M
CO4	S	M	M	S	S
CO5	M	S	S	M	M

S- மிகையான (Strong) M- நடுநிலையான (Medium) L- குறைவான (Low)



MALAYALAM

UNIT – 1

മാധ്യമമോഷ

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

FOR DETAILED STUDY

1. ഡോ. ടി. അനിതകുമാരി - മാധ്യമമോഷ ഇന്റ

UNIT – 2

അച്ഛിദ്രമാധ്യമം

അച്ഛിദ്രിയുടെ ചരിത്രം - കരളേതീലയെ ആദ്യകാല പ്ലവർത്തനങ്ങളെ - പർമാസികകളുടെ ആദ്യകാലം - പുതിയ കാലത്തെ അച്ഛിദ്ര രീതികളെ - ലിപി പരിഷ്കരണം - ഡിടിപി - തനതു ലിപികളെ

FOR DETAILED STUDY

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

UNIT – 3

ഭൃശ്ശരവ്യാധിമാധ്യമം

റഡിയോ - ടെലിവിഷൻ - മട്ടുടിമീഡിയ - സിനിമ - പൊതു സ്വഭാവം - ഗുണഭോഷവശങ്ങളെ

FOR DETAILED STUDY

3. ടെലിവിഷൻ പഠനങ്ങളെ - സി. എസ്. വെങ്കടേശ്വരൻ ലഖേനം - ജനകീയതയും റിയാലിറ്റിഷോകളും

UNIT – 4

സംബന്ധമാധ്യമം

ഇന്റർനെറ്റ് - ചരിത്രം - മലയാളത്തിലയെ ബ്ലോഗുകളെ - സംബന്ധ സാന്നിദ്ധ്യം - സോഷ്യൽ മീഡിയ - സ്മാർട്ട് ഫോൺ ഉപയോഗം - ഗുണഭോഷവശങ്ങളെ

FOR DETAILED STUDY

4. ഡോ. അച്ഛിദ്ര ശങ്കർ എസ്. നായർ - സംബന്ധ മലയാളം



UNIT – 5

പരസ്യകല

പരസ്യം - നിർവ്വചനം - സംസ്കാരം - സ്വാധീനം- വിവിധതരം പരസ്യങ്ങളുടെ - ആശയബോധനം

FOR DETAILED STUDY

5. പ്ലായോഗികപരിചയം നേടുന്നതിനാവശ്യമായ പരവർത്തനങ്ങളെ നടത്തുക. പരസ്യം നിർമ്മിക്കുന്നതിനുള്ള വിഷയം നൽകുക.

REFERENCE BOOKS

പത്മലോകം - ഒരു സംഘം ലേഖകർ - കരള ഭാഷാ ഇൻസ്റ്റിറ്റ്യൂട്ട്
 ആ ലോകം മുതൽ ഇ-ലോകം വരെ - ഡോ. ജെ. വി. വിളനിലം
 മാധ്യമങ്ങളും മലയാളസാഹിത്യവും - കരള ഭാഷാ ഇൻസ്റ്റിറ്റ്യൂട്ട്
 പത്മലോകം - കരള പരസ്യ അക്കാദമി
 മലയാളഭാഷയും ആഗോളവത്കരണവും - ഡോ. കെ. എസ്. പ്ലക്കാശ്, ഡോ. എസ്. എ. ഷാനവാസ് (പ്രകാശനവിഭാഗം, കരള സർവ്വകലാശാല)
 ഭാഷയും മാധ്യമവും - വി. കെ. നാരായണൻ
 മാധ്യമഭാഷാ മാറ്റങ്ങളുടെ - കെ. കെ. ശ്രീരാജ്
 ടലിവിഷൻ പഠനങ്ങളുടെ - സി. എസ്. വെങ്കിടേശ്വരൻ
 മാധ്യമങ്ങളും മലയാളസാഹിത്യവും - എം. വി. തോമസ്
 ഇൻറർനെറ്റ്യും ഇൻഫർമേഷൻ വിപ്ലവവും - കെ. രവീന്ദ്രൻ, ഡോ. കെ. ഇബ്രാഹിം
 ഇൻഫർമേഷൻ സയൻസ് - ഒരാമുഖം - ഡോ. ജി. ദേവരാജൻ
 മലയാള സബ്ബർ സാഹിത്യം - ഡോ. മനോജ് ജെ. പാലക്കുടി
 സബ്ബർ മലയാളം - സുനീത ടി. വി. (എഡി.)
 മാറുന്ന ലോകം മാറുന്ന മാധ്യമലോകം - എൻ. പി. രാജനേദ്രൻ
 Progress in Information Technology - Dr. G. Devarajan
 The Mass Media and You - Desmond D' Abreo
 Advertising - Dr. C. N. Santakki



HINDI

Objectives:

1. To acquire knowledge regarding fundamental concepts in Hindi grammar.
2. To acquire the ability to master translation skills
3. To develop writing skills for official documentation – Letter, Banking terminologies

Course Outcomes:

C.O. No.	Upon the completion of this course, students will be able to	PSOs Addressed	Cognitive Level
CO 1	Understand the writing skills of novelist - Premchand	F,G	K1,K4
CO 2	Understand the basics of navras, vrith and alankars	B,D	K1,K2
CO 3	Understand the history of Hini Literature – modern and medieval	A,C	K3,K5
CO 4	Apply and analyse administrative Hindi	A,C	K5
CO 5	Writing skills - Essay	B,C,D	K4,K5

K1 – Remember, K2 – Understand, K3 – Apply, K4 – Analyse, K5 – Evaluate, K6 – Create

UNIT I

NOVEL

1. Nirmala

UNIT II

POETICS

KavyaPradeep

1. Ras - Navras
2. Chand – Rola, Doha, Soratta
3. Alankar – Anupras, Upama, Roopak

UNIT III

HISTORY OF HINDI LITERATURE

1. Reethikal – Visheshatha, Pramukh Kavi – Bihari Lal



2. Adhunik Kaal – Chaya Vaad – Pramukh Kavi
3. Gadya Sahithya – Bharadendu, Prem Chand

UNIT IV

ADMINISTRATIVE HINDI

UNIT V

ESSAY WRITING

(General Topics – Paryavaran Aur Pradooshan, Bhoomandalikaran Aur Hindi, Varthaman Yug Aur Technique, Nari Ki Desha Aur Disha, Desh Vikas Mein Yuva Peedi Ka Yogdaan)

Text book:

1. Nirmala – Premchand – Published by Gyan Bharathi Prakashan, Dariabad, Allahabad
2. Kavya Pradeep – Ram Bhaori Shukla – Published by Lok Bharathi Prakashan, Pehli Manzil, Darbari Building, Mahatma Gandhi Maarg, Allahabad
3. Hindi Sahithy ka Saral Ithihas – Viswanath Tripathi – Published by Orient Publication Private Limited, Himayath Nagar, Hyderabad

Books for Reference:

1. Hindi Vathayan – Dr. K M Chandra Mohan – Published by Viswavidyalay Prakashan, Varanasi
2. Essay Writing – General Topics

Mapping with POs

Cos	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1	S	S	S	S	S	S	S	M
CO 2	S	S	M	S	M	S	S	S
CO 3	S	S	S	S	S	S	M	S
CO 4	S	S	S	S	S	S	S	S
CO 5	S	S	M	S	S	S	L	S
CO 6	S	S	S	S	M	M	S	S

S – Strong, M – Medium, L – Low



ENGLISH

VISION AND MISSION OF DEPARTMENT:

VISION:

- To offer students adequate communication skills to prepare them for their professional needs in the globalized scenario prevalent today.

MISSION:

- To impart zestfully and resourcefully the four skills of LSRW

PREAMBLE:

Language is the primary source of communication. It is the method through which we share our ideas and thoughts with others. Moreover, English is the only language spoken all over the world. As a result every curriculum teaches English as a second language. Given the fact that language proficiency is integral to the learning process TANSCHÉ has focused on quality higher education. So COMMUNICATIVE ENGLISH I & II are so designed for the students to acquire LSRW skills and introduced in I & II Semester respectively. The course syllabi for III and IV Semesters are also designed accordingly along with the evaluation component (with effect from 2021- 2022 onwards)

PROGRAMME OUTCOMES – PO

At the end of the course students will be able to

PO1: Imbibe moral, ethical, and cultural values through various forms of literature.

PO 2: Enable the learner to communicate effectively and appropriately in real life situation.

PO3: Able to think, speak, and write independently using grammatical forms and Vocabulary.

PO4: Improve their writing and reading fluency skills through extensive reading.

PO5: Develop their pronunciation by studying the sounds of language.

PROGRAMME SPECIFIC OUTCOME: PSO

At the end of the course students will be able to:

PSO1: Provide the students with an ability to build and enrich their communication skills.

PSO2: Critically analyse and appreciate poetry, prose, fiction and play.

PSO3: Enhance sufficient practice in Vocabulary, Grammar, Comprehension.

PSO4: Study the Phonetic symbols for correct pronunciation.

PSO5: Spot language errors and correct them.



**GENERAL ENGLISH -- PROSE, POETRY, DRAMA, GRAMMAR,
LANGUAGE STUDY & ORAL COMMUNICATION SKILLS**

UNIT I - PROSE

1. Give us a Role Model – A.P.J. Abdul Kalam.
2. The Best Investment I have ever made – A.J. Cronin
3. Seven Good Habits – Robin Sharma
4. How much Land does a Man Need - Leo Tolstoy

UNIT II – POETRY

1. 1. Anxiety – A.K. Ramanujam
2. Incident on the French Camp – Robert Browning.
3. Stopping by the woods – Robert Frost
4. Still I raise – Maya Angelo

UNIT III - DRAMA - Select scenes from William Shakespeare

1. Antony and Cleopatra – Death Scene of Cleopatra – Act V, Scene II
2. Macbeth – Sleep Walking Scene – Act V, Scene I
3. King Lear – Heath, before a Hovel – Act III, Scene IV.

UNIT IV – GRAMMAR

1. Transformation of Sentences
2. Synthesis of Sentences
3. Spot the Error

UNIT V – LANGUAGE STUDY AND ORAL COMMUNICATION

1. Phonetics – Vowel sounds
2. Dialogue Writing
3. One word Substitution
4. Report writing.

COURSE OUTCOMES: At the end of the course students will be able to

Course Outcomes		Cognitive level
CO1	Use English accurately across the curriculum	K1, K2, K3
CO2	Attained enhanced vocabulary and improved language skills	K2, K3, K4



CO3	Analyse and interpret prescribed text	K2, K4
CO4	Conceptualize the Shakespearean drama in the prescribed text	K2, K4
CO5	Gain proficiency in LSRW skills	K1, K2, K3, K4, K6

K1- Remember, K2- Understand, K3- Apply ,K4- Analyse , K5- Evaluate,K6- Create

MAPPING OF COURSE OUTCOMES WITH PROGRAMME OUTCOMES

CO/ PO	PO1	PO2	PO3	PO4	PO5	POS1	POS2	POS3	POS4	POS5
CO1	S	M	S	S	S	S	M	S	M	S
CO2	M	S	M	M	M	M	M	M	S	M
CO3	M	S	M	S	M	S	M	S	M	S
CO4	S	M	S	M	M	S	S	M	S	M
CO5	M	M	M	S	M	S	S	M	S	M

S – Strongly correlated, M – Moderately Correlated, w- weakly correlated, No Correlation - 0

E- LINKS

1. [https:// www.msuniversity.ac.in](https://www.msuniversity.ac.in)
2. <https://www.bdu.ac.in>
3. <https://www.scribd.com>
4. <https://www.goodreads.com>
5. <https://casenglishdepartment.wordpress.com>
6. <https://www.poetryfoundation.org>
7. <https://www.britannica.com>
8. <https://englishgrammar.org>



ABSTRACT ALGEBRA

Objective:

- To acquire knowledge about the concept of groups, rings and fields and to study about the concept of homomorphism.

Course Outcomes:

On successful completion of the course, the students should be able to

CO No.	Course Outcome	Knowledge Level
CO1	Explain the definitions of groups and its examples. Also to determine the order of an element. Illustrate about Subgroups.	K2, K4
CO2	Interpret cyclic groups and to find the generators of cyclic subgroups. Illustrate and apply Lagrange's Theorem, Euler's Theorem and Fermat's Theorem.	K1, K3, K6
CO3	Elaborate about Normal Subgroups and group homomorphism. Illustrate Isomorphism, Automorphism. Also to apply Cayley's theorem wherever required.	K4, K5
CO4	Compare and classify Rings and its types. Illustrate about Integral domain and Fields. To summarize about maximal and minimal ideals.	K1, K6
CO5	Utilize the concept of homomorphism and isomorphism on rings. Also to find kernel of homomorphism and to make use of fundamental theorem.	K3, K5

K1-Remember, K2-Understand, K3-Apply, K4-Analyze, K5-Evaluate, K6-Create

CO-PSO mapping (Course Articulation Method)

PSOs	PSO1	PSO2	PSO3	PSO4	PSO5
COs					
CO1	3	3	3	3	3
CO2	2	2	3	3	3
CO3	3	3	2	2	2
CO4	2	1	3	1	2
CO5	2	2	2	1	2
Total contribution of COs to PSOs	12	11	13	10	12
Weighted Percentage of COs contribution to PSOs	80	73.33	86.67	66.67	80

Course Content

UNIT-1

Groups – definition and examples-Elementary properties of groups – subgroup – order of an element– centre of a group –Normaliser and Centralizer – Product of two Subgroups – order of HK – Intersection and union of subgroups



UNIT-2

Cyclic groups–generators of a cyclic group–Cosets and Lagrange’s theorem–Euler’s theorem– Fermat’s theorem.

UNIT-3

Normal Subgroups-Quotient groups – Group Homomorphism – Canonical homomorphism –Kernel of a homomorphism–Isomorphism–Automorphism–Inner automorphism–Permutation groups–Cayley’s theorem.

UNIT-4

Rings: Definition and examples – Types of rings – Elementary properties of a ring – Integral domain – Field – Subrings – Subfields – Ideals – Principal ideal – Quotient ring – Maximal and prime ideals.

UNIT-5

Homomorphism of rings – Isomorphism – Kernel of a homomorphism – Fundamental theorem.

TextBook:

S. Arumugam and A. Thangapandi Issac “ Modern Algebra ” - Scitech Publications, Private limited.(2008)

Books for Reference:

1. M. L. Santiago, Modern Algebra– McGraw- Hill Education India Pvt. Limited,(2002).
2. T K. Manicka Vachagampillai and others - Modern Algebra –Visvanathan Publishers (2011).
3. Visvanathan Nayak, Modern Algebra-Emerald Publishers, Reprint1992.



TRIGONOMETRY, LAPLACE TRANSFORMS AND FOURIER SERIES

Objective:

- To understand the concept of Trigonometry and to acquire knowledge about Laplace Transform and its inverse. Also to study the concept of Fourier series and to solve problems by making use of it.

Course Content:

UNIT-1:

Trigonometry: Expansion of $\sin nx$, $\cos nx$, $\tan nx$ and expansions of $\sin nx$ and $\cos nx$.

UNIT-2:

Hyperbolic functions – Relation between hyperbolic functions and circular functions – Inverse hyperbolic functions – Logarithm of a complex number–Summation of series using C+iS method

UNIT-3:

Laplace transforms.

UNIT-4:

Inverse transforms, Solving linear differential equations with constant coefficients using Laplace Transforms.

UNIT-5:

Fourier Series–Definition, Finding Fourier coefficients for a given periodic function with period 2π and $2l$, odd and even functions, Half range series.

TextBook:

1. Arumugam. S and Thangapandi Issac. A–Trigonometry and Fourier Series.
2. T.K. Manickavachagam Pillai and S. Narayanan –Differential equations and its applications, S. Viswanathan Publishers 2011.

Books for reference:

1. T.Veerarajan–Algebra and Trigonometry– YESDEE Publishing pvt. Ltd., Chennai.(2020).
2. Ray Hanna. J–Fourier Series, Transforms and Boundary value Problems, Dover Publications New York, 2008.
3. Dr.M.K.Venkataraman and Mrs.ManoramaSridhar, Vector Calculus and Fourier Series, The National Publishers Company, Chennai (2002).



Course Outcomes:

CO No.	Course Outcome	Knowledge Level
CO1	Summarize about Trigonometry and to illustrate about the expansion of $\sin x$, $\cos x$, $\sin^n x$, $\cos^n x$	K2,K3
CO2	Obtain the relationship between hyperbolic functions and circular function. Explain about inverse hyperbolic functions. To find summation of the series using C+iS method.	K1,K4
CO3	Illustrate laplace transform	K5
CO4	Solve differential equations with constant coefficients by making use of Laplace Transforms.	K6
CO5	Solve problems based on Fourier series . Identify the odd and even functions and to deduce half range series.	K3,K6

K1-Remember, K2-Understand, K3-Apply, K4-Analyze, K5-Evaluate, K6-Create

CO-PSO mapping (Course Articulation Method)

PSOs	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3
CO2	2	2	3	3	3
CO3	3	3	2	2	2
CO4	3	2	3	1	2
CO5	3	3	1	1	1
Total contribution of COs to PSOs	14	13	12	10	11
Weighted Percentage of COs contribution to PSOs	93.33	86.67	80	66.67	73.33



STATISTICS-II

Objective:

- To know the importance of Correlation and regression and also to explain the basic concepts of various types of distribution.

Course Content

UNIT-1:

Characteristics of index numbers –Laspeyer’s and Paache’s–Fisher’s and Browley and Edgeworth’s index numbers Tests–Unit Test, Commodity Reversal Test, Time Reversal Test, Circular Test.

UNIT-2:

Testing of Hypothesis– Null hypothesis and Alternate hypothesis –Type I and Type II errors - Critical Region, Level of significance– Test of significance for large samples– Testing a single proportion–Difference of proportions Testing a single mean and Difference of means.

UNIT-3:

Tests based on t-distribution-Single mean and Difference of means–Tests based on F-Distribution–Variance Ratio Test based on Chi-Square Distribution–Independence–Goodness of fit.

UNIT-4:

Analysis of Variance – one way and two way classified data – Basic of experimental design – Randomized Block Design–Latin Square–Simple Problems.

UNIT-5:

Statistical Quality control– Definition– Advantages, Process Control–Control Chart, Mean Chart, Range Chart, P-Chart, Product Control–Sampling Inspection Plans.

Text Books:

- Statistics–Arumugan & Thangapandi Issac, New Gamma Publications,2016(Unit-I,II&III).
- Gupta. S.C & V.K. Kapoor– Fundamentals of Mathematical Statistics–(2002) Sultan Chand & Sons, NewDelhi, for (Unit-IV &V).

Books for Reference:

- Vittal. P.R–Mathematical Statistics, Maragatham Publications, 2004.
- DC Sacheti & Kapoor– Statistics, Sultan Chands New Delhi, Reprint-2017
- R.S.N Pillai & Bagavathi, Statistics Theory and Practice, S Chand and Company Ltd, Reprint 2018.



Course Outcomes:

On successful completion of the course, the students should be able to

CO No.	Course Outcomes	Knowledge Level
CO 1	To list out the characteristics of index numbers and to find Laspey's and Paache's, Fisher and Bowley's Edgeworth's index numbers. The method to classify and analyse the unit test, commodity reversal test, time reversal test and circular tests can be shown.	K1, K2
CO2	Construct testing of hypothesis and to distinguish null hypothesis and alternative hypothesis. Type I and Type II errors can be classified. The level of significance and test of significance for large samples can be explained.	K2, K4, K6,
CO3	Identify the distributions such as t-distributions and F-distribution. By making use of t-test the single mean and difference of means can be found out. Variance ratio test based on Chi-Square distribution by making use of this the goodness of fit can be decided.	K1, K3, K5
CO4	To find analysis of variance. One way and two way classified data can be explained and to randomize block design. Latin squares can be analysed and constructed.	K1, K4, K5
CO5	To explain statistical quality control and its advantages. Process control can be illustrated by making use of this control chart, range chart, P-chart can be designed	K2, K3

K1-Remember, K2-Understand, K3-Apply, K4-Analyze, K5-Evaluate, K6-Create

CO-PSO mapping (Course Articulation Method)

PSOs	PSO1	PSO2	PSO3	PSO4	PSO5
COs					
CO1	3	2	3	1	1
CO2	3	3	3	3	2
CO3	3	2	2	3	2
CO4	2	3	2	3	3
CO5	3	2	3	2	1
Total contribution of COs to PSOs	14	12	13	12	9
Weighted Percentage of COs contribution to PSOs	93.33	80	86.66	80	60



HTML

COURSE OUTCOMES

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

CO1: To recall the basic concepts of Web design using HTML.

CO2: To learn the various tags used in HTML

CO3: To make use of Dynamic HTML

CO4: To compare the lists in HTML

CO5: To build Frames

Unit I:

Introduction to HTML: Designing a Home page – History of HTML – HTML generations- HTML Documents-Anchor tag –Hyper links –Sample HTML documents.

Unit II :

Head and Body section: Header Section –Title-Prologue-Links-Colorful web page – Comments lines Designing the body: Heading printing –Aligning the headings- Horizontal rule- paragraph-Tab settings-Image and pictures-Embedding PNG format Images.

Unit III:

Ordered and unordered lists: List-Unordered lists- headings in a list – ordered lists- Nested lists. Table handling: Tables- table creation in HTML- Width of the Tables and cells-Cells spanning multiple rows/Columns- Coloring cells – Column specification.

Unit IV:

Frames: Frame set - Definition – Frame definition –Nested Frames Web Page Design
Project : Frameset Definition – Animals – Birds – Fish Forms: Action attributes – Method attributes –Enctype attribute – Drop down list- sample forms.

Unit V:

DHTML and Style sheets: Defining styles –Elements of styles- Linking a style sheet to an HTML document –Inline styles –Internal & External style sheets –Multiple styles.

Text Book:

1. World Wide Web Design with HTML, C. Xavier, TMH, 2001

Reference Book:

1. Internet & World Wide Web, H.M.Deital, P.J.Deital & A.B.Goldberg, Pearson Education
2. Fundamentals of information technology, Mathew's lenon and Alxis leon, Vijay Nicole privatelimited, Chennai.



LOCF MAPPING

Course code and title : HTML												
CO/PO	PO					PSO						
	1	2	3	4	5	1	2	3	4	5	% of co's	
CO1	3	2	2	2	2	2	3	2	2	2	2.2	
CO2	2	3	2	3	3	2	3	2	2	2	2.4	
CO3	2	2	3	3	3	2	2	3	3	3	2.6	
CO4	2	3	2	3	2	2	2	3	3	3	2.5	
CO5	2	2	2	3	3	2	2	2	3	3	2.4	
Average of CO's = 2.42(high)												

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

அறிமுகத்தமிழ்

அலகு- 1 : செய்யுள் பகுதி

1. கடவுள் வாழ்த்து
2. கல்வி:
3. அறம்
4. ஆத்திசூடி
5. ஓடி விளையாடு பாப்பா
6. பசுவும் கன்றும் பாடல்

குறிப்பு:- மனப்பாடப்பகுதி

1. கடவுள் வாழ்த்து
2. கல்வி
3. அறம்
4. ஆத்திசூடி

அலகு-2: கதை வாசித்து கதை சொல்லல்

1. பணிமிருந்தும் பட்டினி
2. அறிவால் வெல்லுவேன்

அலகு-3 : பொதுக்கட்டுரை

1. ஒன்றுபட்டால் உண்டு வாழ்வு
2. வாய்மையே வெல்லும்

அலகு -4 : சொற்பொருள் அறிதல்

அலகு- 5: மொழித்திறன் பயிற்சி



COMPUTERS FOR DIGITAL ERA

Objectives:

1. To create the awareness about the digital India among the student community.
2. To make the student to understand the role of computer in the day to day living.
3. To create the awareness about the e-learning and security issues.

Unit I

FUNDAMENTALS OF COMPUTERS

The role of computers in the modern society – Types of Computers and their specifications – Server – Desk Top Computers - Lap Top – Tablet – Smart Phones - Block diagram of Digital Computer –Working Principle of Computer, I/O Devices – Central Processing Unit – Types of Memory - Display – Port – UPS – Setting up and Maintenance of Computer.

Unit II

TYPES OF SOFTWARE AND OFFICE AUTOMATION

Types of Software with examples – System Software – Application Software – Utility Software - Operating System – Basics on Windows – Introduction to Android –Application Software - Free Open source software – Database and its applications – Office Automation Software – applications of Microsoft Word – Microsoft Power Point – Microsoft Excel.

Unit III

INTERNET AND MOBILE APPLICATIONS

Introduction to computer networks – LAN – WAN – MAN – Wired and wireless network – Wi Fi Networks - Network Devices – Modem – Switch – Router – Broad Band – Leased Lines- Internet – WWW – URL- Browser – e-mail – SMS – MMS - Client Server Computing - Cloud – Public and Private cloud – Mobile Applications.

Unit IV

E – GOVERNANCE IN INDIA

E-Governance initiative by the Government – Digital India Platform – Agencies enabling Digital India - Electronic Payment and Receipt – Digital Locker – e-district service – electronic signature service – Digital AIIMS – India BPO Scheme – Integrated Nutrient Management – GIS – Mobile Seva App Store- GARV- Grameen Vidyutikaran



Unit V**E – LEARNING AND MOOC**

E – Learning – Digital Library – E- Journals – Introduction to MOOC – Edex – Course era etc - SWAYAM – NPTEL – Cyber Security – Virus – Malware – Network Security - Hacking – Big Data – Data Analytics – Social Networks – Social Media Analytics- Introduction to IT Act.

➤ **10 Hours Practical Sessions are to be allotted for Computer & Mobile Applications**

Suggested List of Exercises:

1. Setting up of computers – Connecting I/O device, UPS, CPU, Printers, Mouse, Key Boards, Pen Drives, etc. (Mandatory)
2. Minor fault findings.
3. Preparing a word Document and saving, copying files, deleting files, renaming files, etc. (Mandatory)
4. Preparing slides – Animation – Slide Transition – Back Ground Changing – Word Art , etc. (Mandatory)
5. Preparing Mark Sheet with Excel - Calculating First Class, second class, etc. (Mandatory)
6. Browsing – Searching for documents – e-mail id creation - Useful mobile apps – downloading. (Mandatory)
7. Data/Wi-Fi Connectivity and Exchanging of Data.
8. Electronic Payment – Online Application Processing
9. Browsing for NPTEL/ SWAYAM Courses
10. Browsing the useful e-learning sites

Learning Outcomes:

At the end of the course the students will be able to:

1. apply the computing technology in their day to day life
2. create awareness regarding digital India initiatives to their surroundings
3. identify the areas where he can extend the digital computing for their benefits.

Text Book:

1. E- Materials of Manonmaniam Sundaranar University on “Computer for Digital Era”, <http://msuniv.ac.in>



References:

1. Andrew S. Tanenbaum, Computer Networks, 4th Edition, Eastern Economy Edition, PHI Private Ltd, New Delhi, 2003.
2. Gautam Shroff, Enterprise Cloud Computing, Technology, Architecture, Applications, Cambridge University Press, First Edition, 2010.
3. Reza B'Far, Mobile Computing Principles, Cambridge University Press, First Edition, 2005.
4. Charles P Pfleeger, Shari Lawrence Pfleeger, Security in Computing, I Edition, Pearson Education, 2003.
5. <https://swayam.gov.in>
6. <http://www.digitalindia.gov.in/content/social-media-analytics>

Scheme of Examination	
Internal – 25 Marks	External – 75 Marks
Internal Break Up - 15 for Continuous Assessment Test (CAT) + 5 for Assignment + 5 for Seminar. 3 CATs (Two tests on Theory and one on Practical)are to be conducted	

