

DEPARTMENT OF MATHEMATICS

U.G. PROGRAMME

SYLLABUS

2017 – 2020 BATCH

III SEMESTER



**A. D. M. COLLEGE FOR WOMEN
NAGAPATTINAM**

மூன்றாம் பருவம்
தாள் III – காப்பியமும் நாடகமும்

LTC

அகமதிப்பீடு: 25

மணிகள் : 6

புறமதிப்பீடு: 75

3

மொத்த மதிப்பெண் : 100

3

பயிற்று

தரப்புள்ளிகள் :

தேர்வுமணிகள் :

நோக்கம்:

1. காப்பியங்கள் கூறும் வாழ்வியல் அறங்களை உணர்த்துதல்.
2. காப்பிய இலக்கியங்களின் இலக்கியச் சுவையைப் பயிற்றுவித்தல்.
3. நாடக இலக்கியத்தின் தனித்துவத்தைக் கற்பித்தல்.

மாணவர் பெறும் திறன்:

1. காப்பிய கதைகள்வழி அறச்சிந்தனை பெறுவர்.
2. நாடகப் படைப்பாக்கத்திற்கான தூண்டுதலைப் பெறுவர்.

அலகு – I

1. சிலப்பதிகாரம் - அடைக்கலக் காதை
2. மணிமேகலை – சிறைக்கோட்டம் அறக்கோட்டமாக்கிய காதை
3. சீவக சிந்தாமணி – விமலையார் இலம்பகம்

அலகு – II

4. கம்பராமாயணம் - குகப் படலம்
5. வில்லிபாரதம் - உலூகன் தூதுச் சருக்கம்

அலகு – III

6. பெரிய புராணம் - திருநாளைப்போவார் நாயனார் புராணம்
7. சீறாப்புராணம் - ஈத்தங்குலை வரவழைத்த படலம்
8. தேம்பாவணி – நீர் வரம் அடைந்த படலம்.

அலகு – IV நாடகம்

1. மூன்று நாடகங்கள்
அ.மங்கை, அகரம் பதிப்பகம், தஞ்சாவூர்.
2. மாற்றம்
கே.ஏ.குணசேகரன், நியூ செஞ்சுரி புக் ஹவுஸ்(பி) லிட்., அம்பத்தூர், சென்னை.

அலகு – V

இலக்கிய வரலாறு
ஐம்பெருங்காப்பியங்கள்
ஐஞ்சிறுங்காப்பியங்கள்
கம்பராமாயணம்
வில்லிபாரதம்
பெரிய புராணம்
சீறாப்புராணம்

தேம்பாவணி.

LEC

A.D.M. COLLEGE FOR WOMEN (AUTONOMOUS) NAGAPATTINAM

DEPARTMENT OF ENGLISH

Credit Point: 3

**SEMESTER-III CATEGORY - PART II ENGLISH
PAPER-III DRAMA FOR EFFECTIVE COMMUNICATION
(For candidates admitted from the academic year 2017 – 18 onwards)**

SEMESTER III

ELC III – DRAMA FOR EFFECTIVE COMMUNICATION

Objectives:

To introduce the genre and use of language in various life situations.

Text prescribed:

English for Excellence (One act-plays)

–Edited by Prof.Lalitha Natarajan & Dr.Sasikala Natesan

Unitized Syllabus

Unit I

1. **The Sheriff's Kitchen – Ronald Gow**

Unit II

2. **Mother's Day – J.B.Priestley**

Unit III

3. **The End of the Beginning – Sean O'Casey**

Unit IV

4. **Old Man River – Dorothy Deming**

Unit V

5. **The Bridge – K.Xavier Amalraj**
6. **Spoken English Component – Stress Shift to differentiate between**

(i) Noun and Verb.

(ii) Statement and Question

Pattern of Evaluation

CIA – 25 Marks (Passing minimum of 40%)

Test (Written) – 10 Marks

Assignment & Group Discussion - 5 Marks

Written Quiz & Seminar - 5 Marks

Attendance - 5 Marks

SEMESTER – 75 Marks

Total Marks – 100 Marks (Passing minimum of 40%)

Question Pattern:

Section A - 20 Marks

Short answer questions (10x2=20 Marks)

Section B – 25 Marks

Paragraph Questions (5x4=20 Marks)

- (i) Answer all the Paragraph questions either or pattern (One question should be asked from each unit)
- (ii) Answer the following as directed (Spoken English Component)
 - (a) Convert the following nouns into verbs changing the stress pattern
(6 x ½ = 3 Marks)
 - (b) Mark sentence stress for the following sentences (2 x 1 = 2 Marks)

Section C – 30 Marks

Essay Questions (3x10=30 Marks)

Answer any 3 Questions. (One Essay should be asked from each Unit)

SEMESTER III CORE COURSE V – DIFFERENTIAL EQUATIONS AND LAPLACE TRANSFORMS

Internal : 25
External : 75
SUBJECT CODE:

Instruction Hours : 4
Credit : 4
Exam Hours : 3

Objectives:

1. To know the order and degree of the ODE's
2. To identify some specific methods and solve them
3. To make difference between ODE and PDE
4. To solve some standard methods
5. To know the concept of Laplace transforms and its inverse with applications

UNIT I:

Linear Differential equations with constant coefficients – Evaluation of particular integral of e^{ax} , $\cos ax$, $\sin ax$, x^k , where k is a positive integer and $e^{ax} f(x)$, where $f(x)$ is any function of x .
(Chapter 2: sections 1 to 4)

UNIT II:

Linear Equations with variable Coefficients: to find the particular integral –Equations reducible to linear homogeneous equation- method of variation of parameters.
(Chapter 2: sections 8 to 10)

UNIT III:

Partial Differential Equations: Formation of equations by elimination of constants and arbitrary functions -General, particular, complete and singular integral (Geometrical meaning not expected) - Solutions of first order equations of the standard forms.
(Chapter 4: Sections 1 to 3 and 5.1- 5.4)

UNIT IV:

Equations reducible to the standard forms- Lagrange's equation – Charpit's method
(Chapter 4: Sections 5.5,6,7)

UNIT V:

Laplace Transforms - Standard formulae – Some general Theorems (statement only)and Simple Applications - Inverse Laplace transforms (problems only) - Application to the solution of Second order ordinary differential equations with constant coefficients.
(Chapter 5 : Sections: 1,2,4,6,7,8)

Text Book:

Calculus Vol III by T.K. Manickavasagam Pillai and S. Narayanan, Viswanathan Printers and Publishers Pvt. Ltd., Chennai.

Reference Books:

1. Differential equations - M.L.Khanna
2. Engineering Mathematics (Vol II) – M.K.Venkatraman

UMF

**SEMESTER III
CORE COURSE VI –
VECTOR CALCULUS AND FOURIER SERIES**

Internal : 25
External : 75
SUBJECT CODE:
Objectives:

Instruction Hours : 5
Credit : 5
Exam Hours : 3

1. To provide the basic knowledge of vector differentiation & vector integration.
2. To solve vector differentiation & integration problems.

UNIT I

Vector differentiation –velocity & acceleration-Vector & scalar fields –Gradient of a vector - Unit vector normal to the surface - Directional derivative – divergence & curl of a vector - Solenoidal & irrotational vectors .- Formula involving operator ∇ - Operators involving ∇ twice and problems.

UNIT II

Vector integration : Line integral- conservative field – volume integral -surface integral-(problems and theorem statement only)

UNIT III

Gauss Divergence Theorem –Green’s theorem- Stoke’s Theorem (Statements Only) – Simple Problems(verification of theorem.)

UNIT IV

Fourier series – Definition – Fourier series expansion of periodic functions with period 2π .

UNIT V

Even and odd functions definition-properties-use of these functions in fourier series– Half range Fourier series.-Development in cosine series-Development in sine series

Text Book:

1. For units I, II and III - “Vector Algebra and Analysis” by T.K.M. Pillai and S.Narayanan , S.Viswanathan Printers and Publishers Pvt. Ltd., Chennai.
2. For units IV and V - “Differential Equations” by T.K. Manickavasagam Pillai and S. Narayanan, S.Viswanathan Printers and Publishers Pvt. Ltd., Chennai

Reference Books

1. Vector Calculus – M.L. Khanna.

**SEMESTER III
ALLIED COURSE IV –
MATHEMATICAL STATISTICS I**

II B.Sc Mathematics (2017-2020 Batch onwards)

**Internal marks: 25
External marks: 75
Total marks: 100**

**Instruction hours:4
Exam hours: 3
Credit: 3**

Objective : To impart the concept of Mathematical Statistics

UNIT I: 10 hours

Probability – Mathematical and Statistical Probability, Axiomatic approach to Probability - Addition and Multiplication theorem(two events only) - Boole's inequality – Simple problems.

UNIT II: 15 hours

Random variables – concepts – One dimensional random variable –Discrete and Continuous r.v – Probability mass function – Probability density function – Distribution function – Simple problems. Two dimensional random variables –Discrete – Continuous random variables – Marginal, Conditional probability functions – Simple problems.

UNIT III: 15 hours

Mathematical expectation – definition – Properties of expectation (with proof). Moments – Raw moments and central moments – their relations. Variance –Properties of variance, Covariance (concept only) – Simple problems – Conditional expectations and Conditional variance (concept only) – Simple problems.

UNIT IV: 10 hours

Moment generating function (m.g.f) – definition – Properties of m.g.f – Cumulant generating function - properties of Cumulants - Characteristic function- definition – Properties of characteristic function . Uniqueness theorem of m.g.f (statement only). (No problems theory only).

UNIT V : 10 hours

Binomial and Poisson distribution – definition – m.g.f – properties - Recurrence relation for the moments – Characteristic function - Simple problems only.

BOOK FOR STUDY:

S.C. Gupta & V.K.Kapoor., Fundamentals of mathematical statistics(2014) - Sultan Chand and Sons (Eleventh Edition), New Delhi

Unit I: Chapter 3 - 3.1, 3.3, 3.4, 3.5, 3.9, 3.9.1, 3.9.3, 3.11, 3.12, 3.13

Unit IV: Chapter 7 - 7.1, 7.1.2, 7.1.3, 7.2, 7.2.1, 7.3, 7.3.1

UnitV:Chapter - 8 - 8.4, 8.4.1, 8.4.2, 8.4.6, 8.4.7, 8.4.8, 8.4.9, 8.4.10, 8.5, 8.5.2, 8.5.4,

8.5.6, 8.5.7, 8.5.8

UME1

SEMESTER III
Non Major Elective I –
MATHEMATICS FOR COMPETITIVE EXAMINATIONS I

Internal : 25
External : 75
SUBJECT CODE:

Instruction Hours : 2
Credit : 2
Exam Hours : 3

Objectives :

1. To learn the problems solving techniques for aptitude problems
2. To enable to students prepare themselves for various competitive examinations

Unit 1

Series Completion: Number Series - Alphabet Series

Unit II

Coding – Decoding: Letter Coding – Number Coding – Matrix Coding

Unit III

Blood Relation: Deciphering jumbled up descriptions – Relation Puzzle – Coded

Unit IV

Puzzle Test: Seating / Placing arrangements – Comparison Test.

Unit V

Direction Sense Test – Logical Venn Diagram

Text Book:

“A modern approach to Verbal and Non-Verbal Reasoning” by R.S. Agarwal, Revised Edition – 2008 - S.Chand & Company Ltd, New Delhi- 55.