CBCS CURRICULAR FRAMEWORK (2022-23 ONWARDS)

TABLE 1: B.A.(E.M.S) Programme SEMESTER - I

S.NO	Name of the Course	Course Code	Part No	Type of the Paper	Total Marks	IA TEST	Sem End Exam	Teaching Hours	Credits
1	English Praxis-I	**22ENGT11**	I	First Language	**100**	**30**	**70**	**4**	**3**
2	Telugu-I	**22TELT11**	I	Second Language	**100**	**30**	**70**	**4**	**3**
3	Hindi-I	**22HINT11**							
4	Micro economic analysis	**22ECOT11**	III	Life Skill	**100**	**30**	**70**	**5**	**4**
5	Differential equations	**22MATT11**	III	Life Skill	**100**	**30**	**70**	**6**	**5**
6	Descriptive statistics and theory of probability	**22STAT11**	II	Core	**100**	**30**	**70**	**4**	**4**
7	Descriptive statistics lab	**22STAL11**	II	Core	**50**	**15**	**35**	**2**	**1**
8	Environmental studies	**22LSCT01**	II	Core Lab	**50**	**15**	**35**	**2**	**2**
9	Computer fundamentals and office tools	**22LSCL02**	II	Core	**50**	**15**	**35**	**2**	**2**
		TOTAL(Maximum)			**650**	**195**	**455**	**29**	**24**

TABLE 2: B.A.(E.M.S) Programme SEMESTER - II

S.NO	Name of the Course	Course Code	Part No	Type of the Paper	Total Marks	IA TEST	Sem End Exam	Teaching Hours	Credits
1	English Praxis-II	**22ENGT21**	I	First Language	**100**	**30**	**70**	**4**	**3**
2	Telugu-II	**22TELT21**	I	Second Language	**100**	**30**	**70**	**4**	**3**
3	Hindi-II	**22HINT21**							
4	Macro Economic Analysis	**22ECOT21**	III	Core	**100**	**30**	**70**	**5**	**4**
5	Real Analysis	**22MATT21**	III	Core	**100**	**30**	**70**	**6**	**5**
6	Probability distributions and statistical methods	**22STAT21**	II	Core	**100**	**30**	**70**	**4**	**4**
7	Probability distributions and statistical methods lab	**22STAL21**	II	Core Lab	**50**	**15**	**35**	**2**	**1**
8	Plant nursery management	**22BOTSDL01**	II	Skill Development	**50**	**15**	**35**	**2**	**2**

CBCS CURRICULAR FRAMEWORK (2022-23 ONWARDS)									
9	Community service project	**22CAIP2**	II	CSP	**100**	**100**	**0**		**4**
		TOTAL(Maximum)			**700**	**280**	**420**	**27**	**26**
TABLE 3: B.A.(E.M.S) Programme SEMESTER -III									
S.NO	**Name of the Course**	**Course Code**	**Part No**	**Type of the Paper**	**Total Marks**	**IA TEST**	**Sem End Exam**	**Teaching Hours**	**Credits**
1	Hindi-III	22HINT01	I	Second Language	**100**	**30**	**70**	**4**	**3**
2	Telugu-III	22TELT01			**100**	**30**	**70**		**3**
3	Development Economics	22ECOT31	II	Core	**100**	**30**	**70**	**5**	**4**
4	Abstract algebra	22MATT31	II	Core	**100**	**30**	**70**	**6**	**5**
5	Solid geometry	22MATT01	II	Core	**100**	**30**	**70**	**6**	**5**
6	Statistical inference	22STAT31	II	Core	**100**	**30**	**70**	**4**	**4**
7	Applied statistics	22STAT01	II	Core	**100**	**30**	**70**	**4**	**4**
8	Statistical inference lab	22STAL31	II	Core Lab	**50**	**15**	**35**	**2**	**1**
9	Applied statistics lab	22STAL01	II	Core Lab	**50**	**15**	**35**	**2**	**1**
10	Communication skills for employability-I	22ENGSDT04	III	Skill Development	**50**	**15**	**35**	**2**	**2**
11	Communication skills for employability-II	22ENGSDT05	III	Skill Development	**50**	**15**	**35**	**2**	**2**
12	Yoga	22CEXP01	IV	Extension Activity	**50**	**50**	**0**	**2**	**2**
		TOTAL(Maximum)			**950**	**320**	**630**	**39**	**36**
TABLE 5: B.A.(E.M.S) Programme SEMESTER -IV									
S.NO	**Name of the Course**	**Course Code**	**Part No**	**Type of the Paper**	**Total Marks**	**IA TEST**	**Sem End Exam**	**Teaching Hours**	**Credits**
1	English Praxis-III	22ENGT01	I	First Language	100	30	70	4	3
2	Linear Algebra	22MATT41	II	Core	100	30	70	6	5

CBCS CURRICULAR FRAMEWORK (2022-23 ONWARDS)									
3	Sampling Techniques and Design of Experiments	22STAT41	II	Core	100	30	70	4	4
4	Sampling Techniques and Design of Experiments Lab	22STAL41	II	Core Lab	50	15	35	2	1
5	Economic devlopment in India and Andhra Pradesh	22ECOT41	II	Core	100	30	70	5	4
6	Public finance and international trade	22ECOT02	II	Core	100	30	70	5	4
7	Internship	22CAIP4	II	IHP	100	100	0		4
8	Quantitative Aptitude	22LSCT14	III	Life Skill	50	15	35	2	2
9	Reasoning	22LSCT15	III	Life Skill	50	15	35	2	2
10	Financial Markets	22ECOSDCT01	III	Skill Development	50	15	35	0	2
11	NCC/NSS/Sports/Cultural/Clubs	22CEXP02	IV	Extension Activity	50	15	35	2	2
		TOTAL(Maximum)			**850**	**325**	**525**	**32**	**33**

Table-5: B.A. (EMS) SEMESTER -VI

S.NO	Course	Course Code	Part No	Type of the Paper	Total Marks	IA TEST	Sem End Exam	Teaching Hours	Credits
1	RURAL ENTREPRENEURSHIP	22ECOSET01	II	CORE	100	30	70	5	5
2	FARMER PRODUCER ORGANIZATIONS (FPOS)	22ECOSET02	II	CORE	100	30	70	5	5
3	URBAN ENTREPRENEURSHIP AND MSMES	22ECOSET03	II	CORE	100	30	70	5	5
4	RETAIL AND DIGITAL MARKETING	22ECOSET04	II	CORE	100	30	70	5	5
5	INSURANCE SERVICES	22ECOSET05	II	CORE	100	30	70	5	5
6	BANKING AND FINANCIAL SERVICES	22ECOSET06	II	CORE	100	30	70	5	5
7	INFERENTIAL STATISTICS AND SOFTWARE PACKAGES	22ECOSET07	II	CORE	100	30	70	5	5
8	PROJECT DESIGNING AND REPORT WRITING	22ECOSET08	II	CORE	100	30	70	5	5
9	NUMERICAL METHODS	22MATSET01	II	CORE	100	30	70	5	5
10	MATHEMATICAL SPECIAL FUNCTIONS	22MATSET02	II	CORE	100	30	70	5	5

CBCS CURRICULAR FRAMEWORK (2022-23 ONWARDS)									
11	MULTIPLE INTEGRALS AND APPLICATIONS OF VECTOR CALCULUS	22MATSET03	II	CORE	100	30	70	5	5
12	INTEGRAL TRANSFORMS WITH APPLICATIONS	22MATSET04	II	CORE	100	30	70	5	5
13	PARTIAL DIFFERENTIAL EQUATIONS AND FOURIER SERIES	22MATSET05	II	CORE	100	30	70	5	5
14	NUMBER THEORY	22MATSET06	II	CORE	100	30	70	5	5
15	OPERATIONS RESEARCH-I	22STASET01	II	CORE	100	30	70	3	3
16	STATISTICAL DATA ANALYSIS USING SPSS AND OR-I	22STASEL01	II	CORE LAB	50	15	35	3	2
17	OPERATIONS RESEARCH-II	22STASET02	II	CORE	100	30	70	3	3
18	STATISTICAL DATA ANALYSIS USING SPSS AND OR-II	22STASEL02	II	CORE LAB	50	15	35	3	2
19	REGRESSION ANALYSIS	22STASET03	II	CORE	100	30	70	3	3
20	DATA ANALYSIS USING SPSS	22STASEL03	II	CORE LAB	50	15	35	3	2
21	MULTIVARIATE TECHNIQUES	22STASET04	II	CORE	100	30	70	3	3
22	MULTIVARIATE DATA ANALYSIS USING 'R'	22STASEL04	II	CORE LAB	50	15	35	3	2
23	SQC & RELIABILITY	22STASET05	II	CORE	100	30	70	3	3
24	SQC & RELIABILITY LAB	22STASEL05	II	CORE LAB	50	15	35	3	2
25	COMPUTATIONAL TECHNIQUES AND R PROGRAMMING	22STASET06	II	CORE	100	30	70	3	3
26	COMPUTATIONAL TECHNIQUES USING EXCEL & R	22STASEL06	II	CORE LAB	50	15	35	3	2
		TOTAL(Maximum)			**700**	**210**	**490**		

Table-6: B.A. (EMS) SEMESTER -VI									
S.NO	Course	Course Code	Part No	Type of the Paper	Total Marks	IA TEST	Sem End Exam	Teaching Hours	Credits
1	INTERNSHIP IN ECONOMICS	22ECOIAP6	II	PROJECT	200	60	140		12
2	INTERNSHIP IN STATISTICS	22STAIAP6							

Syllabus

P.B . SIDDHARTHA COLLEGE OF ARTS & SCIENCE B.A. Economics

1st Semester–2020-21

Titleofthecourse :**MicroEconomicAnalysis** No.ofCredits:4

Course Code : ECOT11B Hoursperweek:5

Unit-IEconomicAnalysisandMethodology

DefinitionsofEconomics
- WealthDefinition
- WelfareDefinition
- ScarcityDefinition
- GrowthOrientedDynamicDefinition

MethodologyinEconomics
- MicroandMacroEconomics
- DeductiveandInductiveMethods
- ProductionPossibilityCurve(PPC)

Unit-IITHEORYOFCONSUMPTION

DemandAnalysis
- Concept&FactorsDeterminingDemand
- LawofDemandandExceptions

ElasticityofDemand
- TypesofPriceElasticityofDemand — Mathematical
- MethodstoMeasurePriceElasticityof Demand — approach

IndifferenceCurveAnalysis
- IndifferenceSchedule&Indifferencemap
- Marginal RateofSubstitution
- PropertiesofIndifferencecurves
- Budgetline &ConsumersEquilibriumthroughIndifferenceCurve
- Consumer'sSurplusthroughIndifferenceCurveAnalysis

Unit-IIITHEORYOFPRODUCTION

ConceptofProductionFunction
- Cobb-DouglasProductionFunction
- Thelawofvisiblepropositions
- ThelawofReturntoScale
- EconomiesoflargeScaleProduction

Conceptsofcost
- ShortrunCost Curves

Lawofsupply

RevenueConcepts(T.R.,A.R. &M.R)
- RelationshipbetweenAR,MR&E.D
- Costminimization — Mathematicalapproach
- ProfitMaximization

Unit-IV THEORYOFEXCHANGE

ClassificationofMarkets
FeaturesofPerfect Market Conditions
PriceDeterminationunderPerfectCompetitionMarket
FeaturesofMonopolyMarket
FeaturesofMonopolisticCompetitionMarket
FeaturesofOligopolyMarket
KinkyDemandCurveAnalysis

Unit-VTHEORYOFDISTRIBUTION

conceptsofFunctionalandPersonalDistribution
MarginalProductivityTheoryofDistribution
TheoriesofRent
- Ricardian TheoryofRent
- Marshall'sEconomicrent

TheoriesofWages
- StandardofLiving Theoryof wages
- ModernTheoryofwages

TheoriesofInterest
- Classical TheoryofInterest
- LoanableFundsTheoryofInterest
- KeynesLiquidity PreferenceTheoryofInterest

TheoriesofProfit
- RisksTheoryofProfit
- UncertaintyTheoryof Profit
- DynamicTheoryofProfit
- InnovationTheoryofProfit

TextBook :TeluguAkademiPublications

ReferenceBooks:

H.L.Ahuja–AdvancedEconomicTheory-S.Chand&Company Publishers
H.S.Agarwal–PrinciplesofEconomics
M.L.Seth–MicroEconomics,LakshmiNarayanaAgarwalPublishers
A.W. Stonier & D.C Hague – A Text Book of Economic Theory,
E.L.B.SKoutsoyiannis:ModernMicroEconomics,Mc. Millan

MICRO ECONOMIC ANALYSIS

B.A. 1ST SEMESTER

w.e.f. 2020-2021
Course code: ECOT11B

MODEL QUESTION PAPER

TIME : 3 Hrs **M.MARK S : 75**

SECTION - A

Answer Five of the Following **5x5 -25 Marks**

1. Adam Smith's Wealth Definition
2. What is production posibility curve
3. Exceptions to the Law of Demand
4. Explain the Mathematical relationship between AR, MR & Elasticity of Demand
5. Explain the Classificatioin of Markets
6. Features of Monopoly Market
7. Standard of Living Theory of Wages
8. J.B. Clarks Dynemic Theory of Profits

SECTION - B

Answer the Following **5x10-50 Marks**

9(a). Critically Examine the Robbin's Scarecity Definition

(OR)

(b). Explain the Differences between Micro and Macro Economics

10(a). Explain the various Methods to measure Price Elasticity of Demand

(OR)

(b) Explain the Consumer's Equilibrium with help of indifference curves

11(a). Explain the Law of Variable Proportions

(OR)

(b). Explain the relationship between the different short run cost curves

12(a). Explain the Price determination under Perfect Competition Market

(OR)

(b). Explain the Kinky Demand curve

13(a). Explain the Ricardian Theory of Rent

(OR)

(b). Explain the Keynes Liquidity Preference Theory of Interest

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College with Potential for Excellence
(Awarded by UGC)

GENERAL ENGLISH SYLLABUS FOR B.A/ B.COM/B.SC COURSES UNDER CBCS

SEMESTER-I

Course Structure and Syllabi under CBCS

Sl No.	Semester	Course Code	Name Of The Subject	Teaching Hours	Credits
1	**I Semester**	**ENGT11B**	**English Praxis-I**	4	3

OBJECTIVE: The main objective of this course is to equip the learners with listening, speaking, reading, writing skills and also build up their ability to use Soft Skills in their professional and daily life effectively.

COURSE OUTCOMES:

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

CO 1. Gain more confidence in learning various kinds of listening techniques as well as create more effective strategies to improve one's ability to listen and to understand people. **PO2**

CO 2. Improve their speaking ability in English both in terms of fluency and comprehensibility and practice in using English to perform preliminary communicative functions required for their everyday social and professional interactions with others. **PO2**

CO 3. Explore basic elements of grammar and test their abilities in concord, modals, tenses, articles, prepositions, question tags and transformation of sentences. **PO7**

CO 4. Develop their written expression of thought and discover opportunities to build connections within the areas of punctuations, spelling and paragraph writing. **PO2**

CO 5. Formulate problem solving skills, making appropriate and responsible decisions, improve their attitude, emotional intelligence, telephone etiquette and interpersonal skills. **PO6**

CO-PO MATRIX- ENG T11B							
CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	H						
CO2	H						
CO3							M
CO4		H					
CO5						H	

GENERAL ENGLISH SYLLABUS FOR B.A/ B.COM/B.SC COURSES UNDER CBCS
SEMESTER-I

Course Code: ENGT11B **Time: 3 Hours**
Title: English Praxis– I **Max. Marks: 75**
Credits: 3 **Pass Marks: 30**

SYLLABUS
ENGLISH PRAXIS-I
A COURSE IN COMMUNICATION AND SOFT SKILLS

I. UNIT: Listening Skills 10 hours

1. Importance of Listening
2. Types of Listening
3. Barriers to Listening
4. Effective Listening

II. UNIT: Speaking Skills 10 hours

1. Sounds of English: Vowels and Consonants
2. Word Accent
3. Intonation

III. UNIT: Grammar 15 hours

1. Concord
2. Modals
3. Tenses (Present/Past/Future)
4. Articles
5. Prepositions
6. Question Tags
7. Sentence Transformation (Voice, Reported Speech & Degrees of Comparison)
8. Error Correction

IV. UNIT: Writing 10 hours

1. Punctuation
2. Spelling
3. Paragraph Writing

V. UNIT: Soft Skills 15 hours

1. SWOC
2. Attitude
3. Emotional Intelligence
4. Telephone Etiquette
5. Interpersonal Skills

REFERENCES:

1. A Course in Communication Skills and Soft Skills – I & II, Published by Orient Black Swan Private Limited, 2016.
2. A Course in Communication Skills and Soft Skills – III, Published by Orient Black Swan Private Limited, 2016.

3. “Communication Skills” by Leena Sen , published by Asoke K Ghosh, Prentice Hall of India Private Ltd – Delhi-110006.
4. “Effective English Communication for you” by Syamala, Emerald publishers New Edition-2007.
5. “A Practical Course in Spoken English” by J.K. Gangal, PHI Learning Private Ltd – 2010.
6. Murphy’s English Grammar, Published by Cambridge University Press, 2004.
7. Communication Skills in English, Published by Oxford University Press, 1990.
8. Modern English by N. Krishnaswamy , Published by Macmillan India Limited, 1998.

PARVATHANENI BRAHMAIAH SIDDHARTHA COLLEGE OF ARTS AND SCIENCE; VIJAYAWADA-10

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SEMESTER- I **PAPER - I**

TITLE OF THE PAPER: HINDI-I

NO OF HOURS: 60 **CREDITS: 03**

WEF: 2021-22

COURSE CODE: HINT11A

COURSE OUTCOMES:

1. मानव मूल्यों को पहचानकर छात्र समाज कल्याण हेतु अपने योगदान दे सकेंगे ।
2. आधुनिक युग की भावनाओं को पहचानकर सामाजिक समस्यओं के प्रति जागरुक हो सकेंगे।
3. हिन्दी और अंग्रेजी के माध्यम से विध्यार्थी अनुवाद कौशल विकसित कर सकेंगे।
4. छात्रों में व्याकरण के व्दारा भाषा में निपुणता बढ़ेगी।
5. छात्रों में पत्रलेखन व्दारा लेखन कौशल बढ़ेगा तथा संप्रेषण बढ़ेगा।

SYLLABUS

I.गद्य संदेश :

1.साहित्य की महत्ता

2.सच्ची वीरता

3.मित्रता

II.कथा – लोक :

1.मुक्तिधन

2.गूदड़ साई

3.उसने कहा था

III.व्याकरण : कार्यालयीन हिन्दी शब्दावली

(हिन्दी से अंग्रेजी में बदलना तथा अंग्रेजी से हिन्दी में बदलना)

IV. व्याकरण :

1.लिंग

2.वचन

3.विलोम शब्द

4.काल

5.वाच्य

6.वाक्य शुद्ध कीजिए

V.पत्र लेखन: पत्र लेखन (मित्र को पत्र, पिताजी को पत्र)

Recommended Books:

1.गद्य संदेश – Dr.V.L.Narasimham Siva Koti

2.कथा – लोक - Dr.Ghana Shyam

3.मिलिन्द प्रकाशन

Hyderabad-95.

Degree First Year Text Book,

Vikram Publishers Pvt. Ltd., Durga Agraharam, Vijayawada-2

PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE :: VIJAYAWADA-520 010.
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I SEMESTER Model Question Paper

Course Code: HINT11A **Max. Marks: 70M**
Time: 3 Hrs. **Pass Min. : 30M**

SECTION-I

I निम्न लिखित प्रश्नों का उत्तर लिखिए। **4×5=20**

1.(a) जीवन में साहित्य की क्या आवश्यकता है? साहित्य व्दारा सभ्यता की परीक्षा किस प्रकार हो सकती है? L1

(अथवा)

(b) वीरता किसे कहते हैं? लेखक का 'सच्ची वीरता' से क्या अभिप्राय है? L1

2.(c) रहमान का चरित्र-चित्रण कीजिए। L2

(अथवा)

(d) गूदड़ साई का शीर्षक पर अपना उद्देश्य प्रकट कीजिए। L2

3.(e) काल किसे कहते हैं तथा उसके कितने प्रकार हैं? L3

(अथवा)

(f) वाच्य किसे कहते हैं तथा उसके कितने प्रकार हैं? L3

4.(g) **नीचे दिए गए शब्दों का लिंग बदलकर लिखिए। L1**

1.विद्वान 2.अध्यापक 3.मोर 4.ठाकुर 5.धोबी

(अथवा)

(h) **नीचे दिए गए शब्दों का वचन बदलकर लिखिए। L1**

1.लड़की 2.वीर 3.सेना 4. रुपया 5.कविता

SECTION-II **1×10=10**

5.(a) 'मित्रता' पाठ का सारांश लिखिए। L2

(अथवा)

(b) 'साहित्य की महत्ता' पाठ का सारांश लिखिए। L2

SECTION-III 1×10=10

6.(a) 'मुक्तिधन' कहानी का सारांश लिखिए। L2

(अथवा)

(b) 'उसने कहा था' कहानी का सारांश लिखिये। L2

SECTION-IV

7.(a) **किन्हीं पाँच शब्दों को अंग्रेजी से हिंदी में अनुवाद कीजिए। L2** **5×2=10**

1.Acceptance 2.Ballot Officer 3.Chairman 4.Duty 5.Supervisor
6.High Court 7.Fair copy 8.Eligibility 9. Passport 10.Accountant

(अथवा)

(b) **किन्हीं पाँच शब्दों को हिंदी से अंग्रेजी में अनुवाद कीजिए। L2**

1.प्रशासन 2.परिपत्र 3.गोपनीय 4.स्पष्टीकरण 5.राजदूत
6.निर्देशक 7.शिक्षा-अधिकारी 8.कुलपति 9.महा प्रबंधक 10.अनुवादक

8.(a) **किन्हीं पाँच शब्दों का विलोम शब्द लिखिए। L1** **5×2=10**

1.वीरता 2. अच्छा 3.नया 4.आना 5.भिन्न 6.सस्ता 7.मित्र 8. लेना

(अथवा)

(b) **वाक्य शुद्ध कीजिए। L1**

1.मोहन पुस्तक पढ़ा।

2.सीता ने चार आम खाया।

3.राम ने गया।

4.दशरथ की तीन रानियाँ थीं।

5.चोरी कौन किया?

SECTION-V 1×10=10

9.(a) पुस्तकें खरीदने के लिए पैसे माँगते हुए अपने पिताजी के नाम पर पत्र लिखिए। L3

(अथवा)

(b) हिंदी सीखने की आवश्यकता के बारे में बताते हुए अपने मित्र को पत्र लिखिए। L3

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MATHEMATICS	22MATT11	2019-'20(BT)	B.Sc. & B.A. (EMS)

SEMESTER-I **PAPER-I** **No of Credits: 5**

DIFFERENTIAL EQUATIONS

Course Outcomes

S. No	C.O
	Upon successful completion of this course, students should have the knowledge and skills to:
1	Determine the solution of differential equations of the first order and of the first degree by Exact, Linear and Bernoulli's method.
2	Understand the basic concepts of first order differential equations to find Orthogonal trajectories.
3	Determine the solution of differential equations of the first order and of a degree higher than first by using methods of solvable for P, X, and Y.
4	Compute all solutions of second and higher order linear differential equations with constant coefficients, linear equations with variable coefficients.
5	Calculate the solutions of higher order differential equations by Cauchy Euler and Variation of parameters.

CO-PO MATRIX

CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1					H		
CO2					H		
CO3						M	
CO4							M
CO5							M

OBJECTIVES:

1. Understand all of the concepts relating to the order and linearity of ODEs, analytic and computational solution methods for ODEs, and the real-world applications of ODEs.
2. Apply your understanding of the concepts, formulas, and problem solving procedures to thoroughly investigate relevant physical models.

3. Explain the concepts of linear systems, ODE solution methods, and related ideas at a fundamental level, as well as how and why we use the solution techniques that we use.

UNIT-I: DIFFERENTIAL EQUATIONS OF FIRST ORDER& FIRST DEGREE (18Hrs)

1.1 Linear Differential Equations
1.2 Differential Equations Reducible to Linear Form, Bernoulli's differential equations.
1.3 Exact Differential Equations
1.4 Integrating Factors, 1/Mx+Ny, 1/Mx-Ny, $e^{\int f(x)dx}$, $e^{\int g(y)dy}$, *and Inspection method*
1.5 Change of Variables

UNIT-II: ORTHOGONAL TRAJECTORIES &DIFFERENTIAL EQUATIONS OF FIRST ORDER BUT NOT FIRST DEGREE (18Hrs)

2.1 Orthogonal Trajectories
2.2 Self Orthogonal Trajectories
2.3 Equations solvable for p
2.4 Equations solvable for y
2.5 Equations solvable for x
2.6 Equations Homogeneous in X & Y
2.7 Equations that do not contain x (or y)
2.8 Clairaut's Equation and Equations reducible to clairaut's form.

UNIT – III: Higher order linear differential equations-I (18Hrs)

3.1 Solution of homogeneous linear differential equations of order n with constant coefficients
3.2 Solution of the non-homogeneous linear differential equations with constant coefficients by means of polynomial operators.
3.3 General Solution of f(D)y=0
3.4 General Solution of f(D)y=Q when Q is a function of x.
3.5 $\frac{1}{f(D)}$ is Expressed as partial fractions.
3.6 P.I. of f (D) y = Q when Q= be^{ax}
3.7 P.I. of f (D) y = Q when Q is b sinax or b cosax.

UNIT – IV: Higher order linear differential equations-II (18Hrs)

4.1 Solution of the non-homogeneous linear differential equations with constant coefficients.
4.2 P.I. of f (D) y = Q when Q= bx^k
4.3 P.I. of f (D) y = Q when Q= $e^{ax}V$
4.4 P.I. of f (D) y = Q when Q= xV
4.5 P.I. of f (D) y = Q when Q= x^mV where v = sin bx and cosbx

UNIT-V: Higher order Differential Equations –III (18Hrs)

5.1 The Cauchy-Euler Equation.
5.2 Linear differential Equations with non-constant coefficients
5.3 Method of Variation of parameters.

Prescribed Text book:				
S.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHER	YEAR OF PUBLICATION

1	V.Krishna Murthy	A text book of mathematics for B.A/B.ScVol – I	S-Chand&co	2015

Reference books:				
S.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHER	YEAR OF PUBLICATION
1	Dr. A. Anjaneyulu	A text book of mathematics for B.A/B.ScVol – I	Deepthi Publications	2015
2	RaiSinghania	Ordinary& Partial Differential Equations	S-Chand	2009
3	ZafarAhsan	Differential Equations and their applications	Prentice-Hall of India Pvt Ltd, McGraw Hill	2000

PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS &SCIENCE:: VIJAYAWADA-10.

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

STATISTICS	STAP11B	2020 – 21 Onwards	B.A(EMS)/ B.Sc.(MSCs,MSDs&CAMS)

SEMESTER-I **Practical - I** **No of Credits: 2**

DESCRIPTIVE STATISTICS AND PROBABILITY

1. (a) Computation of Measures of Central Tendency (Mean, Median and Mode)

   (b) Computation of Measures of Dispersion (Q.D, M.D and S.D)

2. (a) Computation of non-central and central moments for grouped data.

   (b) Computation of coefficients of Skewness (Karl Pearson's and Bowley's methods)

3. Fitting of (a) straight line (b) parabola by the method of least squares.

4.Fitting of (a) Exponential curves of the type $y = ab^x$ and $y = ae^{bx}$ (b) Power curve by the method of least squares.

5. Computation of correlation coefficient and regression lines for ungrouped data

6. Computation of correlation coefficient and regression lines for grouped data

7. Computation of rank correlation coefficient (a) untied ranks (b) tied ranks

   (c) comparison of more than two groups

8. Computation of Bayesian probabilities

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
STAP11B	**CO1**							
	CO2							
	CO3							
	CO4							
	CO5							

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STATISTICS	STAT11B	2020 – 21 Onwards	B.A(EMS)/B.Sc.(MSCs, MSDs&CAMS)

SEMESTER- I **PAPER - I** **No of Credits: 3**

DESCRIPTIVE STATISTICS AND PROBABILITY

S. No	PROGRAMME OUTCOMES
PO1	Remember the basic concepts of statistics at different levels and to understand them for gaining of knowledge.
PO2	Apply the statistical techniques in the analysis of data and also acquire knowledge in optimization techniques.
PO3	Facilitate students to acquire flair knowledge to estimate the values in real life problems.

COURSE OUTCOMES

CO.NO	Upon successful completion of this course, students should have the knowledge and skills to:	Mapping
CO1	Understand the basic concept of Statistics and apply statistical Measures to analyze the data.	**BTL2, PO2**
CO2	Analyze the bi-variate data using statistical techniques.	**BTL4, PO2**
CO3		**BTL4,PO2**
CO4	Apply the probability theory in day to day life in decision making against uncertainty.	**BTL3, PO2**

CO-PO MATRIX								
COURSE CODE	CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
	CO1					H		
	CO2					M		
	CO3					M		
	CO4					L		
STAT11B	CO5					H		

Unit – I

Moments - Central and Non-central moments, inter-relationships, Sheppard's corrections for moments for grouped data.Simple problems

Skewness : Def. and measures of skewness by Karl Pearson's, Bowley's formulae and based on moments. Simple problems

Kurtosis : Def. measurement of kurtosis based on moments, Simple problems.

Unit – II

Correlation - Karl Pearson's correlation coefficient, and Spearman's rank correlation coefficient and their properties.Simple problems

Unit – III

Curve fitting: Principle of least squares, Fitting of straight line, Quadratic, Exponential and Power curves**.** Simple problems

Regression +Analysis: Simple linear regression, Properties of regression coefficients, simple problems

Unit – IV

Probability - Basic Terminology in probability. Mathematical, Statistical and Axiomatic definitions of probability with Merits and demerits. . Addition and Multiplication theorems for 2 and n events, Boole's inequalities.Simple problems

Unit – V

Conditional probability, Bayes' theorem . Simple problems

Text Book: Fundamentals of Mathematical Statistics, 11th Edition, 2010, S. C. Gupta and V. K. Kapoor, Sultan Chand & Sons, New Delhi

List of Reference Books:

1. B.A/B.Sc. First Year Statistics(2010) , Telugu Akademi, Hyderabad.
2. Mathematical Statistics with Applications, 2009, K.M.Ramachandran and Chris P.Tsokos Academic Press(Elsevier), Haryana .
3. Probability and Statistics,Volume I, D.Biswas, New central book Agency (P) Ltd, New Delhi.
4. An outline of Statistical theory, Volume two,3rd Edition,2010(with corrections) A.M.Goon,M.K. Gupta, B.Dasgupta ,The World Press Pvt.Ltd., Kolakota.
5. Sanjay Arora and Bansi Lal:. New Mathematical Statistics, Satya Prakashan , New Delhi.
6. Mathematical Statistics, 3rd edition, 2009, Parimal Mukhopadhyay, Books &

Allied(p) Ltd, Kolkata.

Model Paper Structure

Section A: Answer FIVE questions out of EIGHT questions (5 x 5M= 25 M)
Section B: Answer FIVE questions out of FIVE questions with internal choice. (5 x 10M = 50M)

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(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

STATISTICS	**STAT11B**	**2019 – 20 Onwards**	**B.A(EMS) / B.Sc.(MSCs,MSDs& CAMS)**

DESCRIPTIVE STATISTICS AND PROBABILITY

Model Paper

Section – A

Answer any <u>FIVE</u> of the following 5 x 5M = 25Marks

1. ExplainSheppard's correction (L-2, CO-1)
2. Explain Bowley's coefficient of skewness (L-2,CO-1)
3. Explain correlation. What are the types of correlation? (L-2,L-1, CO-1)
4. Write the properties of regression coefficients. (L-1, CO-1)
5. Write a short note on least squares
6. Define the terms (i) Mutually Exclusive (ii) Equally likely events
7. State and prove addition theorem of probability for two events (L-1,L-3, CO-4)
8. If A and B are independent events, then prove that (L-3, CO-4)

$i)\ \bar{A}\ and\ B$ $ii)\ \bar{A}\ and\ \bar{B}$ are also independent

Section – B

Answer ALL questions **5 x 10M = 50Marks**

9. A) Explain the relationship between central and non-central moments(L-2, CO-1)

(OR)

B) Show that the limits for Karl Pearson's coefficient of skewness lies between -3 and +3(L-3, CO-4)

10. A) Fit a straight line of the form $y = a + bx$ to the following data. Estimate the value of y when x = 7(L-3, CO-4)

X	1	2	3	4	5	6
y	18	51	90	120	140	150

(OR)

B) Explain correlation coefficient and their limits are independent of change of origin and scale(L-2,CO-1)

11. A) Define multiple correlation coefficient and state its properties(L-1, CO-1)

(OR)

B) Find the regression equation of X_1 on X_2 and X_3 given the following results: (L-3,CO-4)

Trait	Mean	S.D.	r_{12}	r_{23}	r_{31}
X_1	28.02	4.42	0.8		
X_2	4.91	1.1		-0.56	
X_3	594	85			-0.4

Where X_1 = Seed per acre ; X_2 = Rainfall in inches; X_3 = Accumulated temperature

12. A) Calculate Yule's coefficient of association and Yule's coefficient of colligation from the following data (AB) = 60; $(A\beta)$ = 10; $(\alpha B) = 10$; $(\alpha\beta) = 50$(L-3, CO-4)

(OR)

B) Define consistency of data. Give the conditions for consistency of data for 2 & 3 attributes(L-1, CO-1)

13. A)State and prove multiplication theorem of probability for n events(L-1,L-3, CO-4)

(OR)

B) State and prove Baye's theorem(L-1,L-3, CO-4)

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పి.బి. సిద్ధార్థ ఆర్ట్స్ & సైన్స్ కళాశాల (స్వయంప్రతిపత్తి) :: విజయవాడ -10

బి.ఏ., బి.బి.ఏ., బి.కాం., బి.ఎస్సి., బి.సి.ఏ., తదితర ప్రోగ్రాములు

సి.బి.సి.ఎస్. పద్ధతిలో సవరించబడిన పాఠ్యప్రణాళిక

2020-2021 విద్యా సంవత్సరం నుండి

తెలుగు - పాఠ్య ప్రణాళిక

సెమి.	కోర్సు	శీర్షిక	పీరియడ్లు/వారానికి	క్రెడిట్లు	మొత్తం మార్కులు		
					IA	SE	Total
I	I	తెలుగు - I	04	03	25	75	100

(B.A,B.Com-GEN,C.A,A&F,TPP,BPM,BBA,BBA-B.A,BCA,B.Sc&CSCS) EXTRA

కోర్స్ కోడ్:TELT11A **అంశం: తెలుగు** **సెమిస్టర్- I**

కోర్సు-1 : తెలుగు-I

యూనిట్ల సంఖ్య: 5 పీరియడ్ల సంఖ్య: 60

కోర్స్ అవుట్ కంమ్స్ :

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

1. ప్రాచీన తెలుగు సాహిత్యం యొక్క ప్రాచీనతను, విశిష్టతను గుర్తిస్తారు. తెలుగు సాహిత్యంలో ఆదికవి నన్నయ కాలంనాటి భాషాసంస్కృతులను, ఇతిహాసకాలం నాటి రాజనీతి విషయాలపట్ల పరిజ్ఞానాన్ని సంపాదించగలరు.
2. శివకవుల కాలంనాటి మతపరిస్థితులను, భాషా విశేషాలను గ్రహిస్తారు. తెలుగు నుడికారం, సామెతలు, లోకోక్తులు మొదలైన భాషాంశాల పట్ల పరిజ్ఞానాన్ని పొందగలరు.
3. తిక్కన భారతంనాటి మత, ధార్మిక పరిస్థితులను, తిక్కన కవితా శిల్పాన్ని, నాటకీయతను అవగాహన చేసుకోగలరు.
4. పోతన అద్భుత కథాకథన శిల్పం, సజీవపాత్ర చిత్రణ, శబ్దాలంకారాల ప్రయోగం మొదలగు విభిన్న రీతులపట్ల అభిరుచిని పొందగలరు. మొల్ల కవిత్వంలోని వీనుల విందైన పదాలు, పాత్రలు మనోభావాల చిత్రణ గుర్తించగలరు.
5. తెలుగు పద్యం స్వరూప-స్వభావాలను, సాహిత్యాభిరుచిని పెంపొందించుకుంటారు. ప్రాచీన కావ్యభాషలోని వ్యాకరణాంశాలను అధ్యయనం చేయడం ద్వారా భాషా సామర్థ్యాన్ని, రచనలో మెలకువలను గ్రహించగలరు.

లెర్నింగ్ అబ్జెక్టీవ్స్ :

1. తెలుగు భాషాసాహిత్యాల పట్ల ప్రీతి, మమకారం, ప్రాచీన కాలంలోని రాజనీతి పట్ల అవగాహన కల్గుతుంది.
2. ప్రాచీన కాలం నాటి చరిత్ర, సంస్కృతి ఆచార సాంప్రదాయాల పట్ల ఆసక్తి కల్గుతుంది.
3. అలనాటి ధర్మ, మత పరిస్థితులు, నైతిక విలువల పట్ల అవగాహన ఏర్పడుతుంది.
4. పూర్వ కవుల సజీవ పాత్రల సృష్టి, వివిధ శబ్ద ప్రయోగాల పట్ల అభిరుచి కల్గుతుంది.
5. కావ్య భాషలోని భాషా పరిజ్ఞానం, వ్యాకరణాంశాలు, వివిధ రచనలలోని మెలకువలు తెలుసుకుంటారు.

పాఠ్య ప్రణాళిక

యూనిట్–I

రాజనీతి – నన్నయ

మహాభారతము – సభాపర్వం – ప్రథమాశ్వాసంలో 26వ పద్యము "మీవంశమున..... నీవు వారిదైన నేర్పెఱింగి" నుండి 57వ పద్యము "నాయథాశక్తి .... వాని ననుష్ఠితు బ్రియముతోడ" వరకు.

యూనిట్–II

దక్షయజ్ఞం – నన్నెచోడుడ

కుమార సంభవం – ద్వితీయాశ్వాసంలో 49వ వచనం "అంతకమున్ను.... భయంకరా కారంబుదాల్చిన" నుండి 86వ పద్యం " ప్రమథగణము.... కనిరిశంభు" వరకు.

యూనిట్–III

ధౌమ్యధర్మోపదేశము – తిక్కన

మహాభారతము – విరాటపర్వము – ప్రథమాశ్వాసంలో 116వ పద్యం "ఎఱిగెడు వారికినైనను.... వలయు దగియెడు బుద్ధుల్" నుండి 146వ పద్యం "అతడు నియతితోడ .... సంచయములు దగ జపించుచుండె" వరకు.

యూనిట్–IV

మధుర స్నేహం – పోతన

ఆంధ్రమహాభాగవతము – దశమస్కంధము – కుచేలోపాఖ్యానంలో 962వ పద్యం "లలిత పతివ్రతాతిలకంబు... కుపాయమూ హింప వైతి" నుండి 983వ పద్యం "తన మృదుతల్పమందు... ధరణీసురు డెంతటి భాగ్యవంతుడో" వరుకు.

యూనిట్–V

సీతారావణ సంవాదం – మొల్ల

రామాయణము – సుందరకాండములో 40వ వచనం "ఆరామంజూచి.... వృక్షం బారోహించి యందు" నుండి 87వ పద్యం " కావున నిక్కోమలియెడ.... మనకు దిక్కగు మీదన్" వరకు.

వ్యాకరణము:

1. **సంధులు:–** సవర్ణ, గుణ, యణాదేశ, వృద్ధి, అకార, ఇకార, ఉకార, త్రిక సంధులు.
2. **సమాసములు:–** తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి సమాసములు.
3. **ఛందస్సు:–** వృత్త పద్యాల్లో ఉత్పలమాల, చంపకమాల, శార్దూలము, మత్తేభము.
   జాతులు, ఉపజాతుల్లో కందము, తేటగీతి, ఆటవెలది మరియు ముత్యాలసరాలు.
4. **అలంకారములు:–** శబ్దాలంకారాల్లో అనుప్రాసాలైన వృత్త్యనుప్రాస, ఛేకానుప్రాస, లాటానుప్రాస, అంత్యాను ప్రాసములు.
   అర్థాలంకారాల్లో ఉపమ, ఉత్ప్రేక్ష, రూపక, శ్లేషలు.

ఆధార గ్రంథాలు:

1. శ్రీమదాంధ్ర మహాభారతము : సభాపర్వము-తిరుమల తిరుపతి దేవస్థానం ప్రచురణ
2. శ్రీమదాంధ్ర మహాభారతము : విరాటపర్వము-తిరుమల తిరుపతి దేవస్థానం ప్రచురణ
3. కుమార సంభవం - నన్నెచోడుడు
4. శ్రీ మహాభాగవతము - పోతన
5. రామాయణము - మొల్ల

SEMESTER– PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE :: VIJAYAWADA-520 010.
(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

TELUGU	**TELT11A**	**2020-2021**	**B.A., B.Com., B.B.A., B.B.A.-Ana, B.Com.-CA, B.C.A., & B.Sc.,**

I **Credits – 3**

ప్రశ్నపత్ర నిర్మాణ సూచిక : TELUGU-I

1. ప్రతిపదార్థ పద్యాలు :	**2–1**	**1×7=7మా,**	**2. సందర్భ సహిత వ్యాఖ్యలు:**	**5–3**	**3×4=12మా**
3. సంగ్రహరూప ప్రశ్నలు :	**5–3**	**3×4=12మా,**	**4. వ్యాసరూప ప్రశ్నలు :**	**5–3**	**3×8=24మా**
5. సంధులు :	**5–3**	**3×2=6మా,**	**6. సమాసములు :**	**5–3**	**3×2=6మా**
7. ఛందస్సు :	**2–1**	**1×4=4మా,**	**8. అలంకారములు :**	**2–1**	**1×4=4మా**
				మొత్తం =	**75మా**

గమనికలు / సూచనలు:

1. **ప్రతిపదార్థ పద్యాలు:–** "రాజనీతి, ధౌమ్యధర్మోపదేశం, మధురస్నేహం" అనే మూడు పాఠాల నుండి రెండు పద్యాలు ఇవ్వాలి. అవి కూడ ఈ క్రింది పద్యాల్లో నుండి రెండు ఇవ్వాలి–

రాజనీతి:

1. ఉత్తమ మధ్యమాధమ .... కాలము దప్పకుండగన్
2. బహుధనధాన్య సంగ్రహము ..... భవత్పరి రక్ష్యములైన దుర్గముల్

ధౌమ్యధర్మోపదేశము:

3. రాజ గృహంబు కంటె ..... దగదట్లు సేయగన్
4. ధరణిపు చక్క ..... నుండుటనీతి కొల్పునన్

మధురస్నేహం:

5. కలలో నందను ..... సంపద్విశేషోన్నతుల్.
6. కనిడాయం జనునంత ..... విలోలుండై దిగెన్ దల్పమున్.

2. **సందర్భసహిత వ్యాఖ్యలు:–** "రాజనీతి, దక్షయజ్ఞం, ధౌమ్యధర్మోపదేశము, మధురస్నేహం, సీతారావణ సంవాదం" అనే ఐదు పాఠాలనుండి ఒకొక్కటి చొప్పున సందర్భసహిత వ్యాఖ్య ఇవ్వాలి.

3. **సంగ్రహరూప ప్రశ్నలు:–** "రాజనీతి, దక్షయజ్ఞం, ధౌమ్యధర్మోపదేశము, మధురస్నేహం, సీతారావణసంవాదం" అనే ఐదు పాఠాల నుండి ఒకొక్కటి చొప్పునొ సంగ్రహరూప ప్రశ్న ఇవ్వాలి.

4. **వ్యాసరూప ప్రశ్నలు:–** "రాజనీతి, దక్షయజ్ఞం, ధౌమ్యధర్మోపదేశము, మధురస్నేహం, సీతారావణసంవాదం" అనే ఐదు పాఠాల నుండి ఒ కొక్కటి చొప్పున వ్యాసరూప ప్రశ్న ఇవ్వాలి.

5. **సంధులు:–** "సవర్ణ, గుణ, యణాదేశ, వృద్ధి, అకార, ఇకార, ఉకార, త్రిక" సంధులు నుండి ఐదు సంధులు ఇవ్వాలి.

6. **సమాసములు:–** "తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి సమాసములు" నుండి ఐదు సమాసములు ఇవ్వాలి.

7. **ఛందస్సు:–** వృత్తపద్యాలైన "ఉత్పలమాల, చంపకమాల, శార్దూలము, మత్తేభము"ల నుండి ఒక పద్యపాదమును ఇవ్వాలి.
జాతులు, ఉపజాతుల పద్యాలైన "కందము, తేటగీతి, ఆటవెలది" మరియు 'ముత్యాలసరాలు' నుండి ఏవైన మూడిచ్చి ఒకదానిని లక్ష్యలక్ష ణ సమన్వయం చేయమనాలి.

8. **అలంకారములు:–** అర్థాలంకారలైన "ఉపమ, ఉత్ప్రేక్ష, రూపకము, శ్లేష"ల నుండి ఒక అలంకారము ఇవ్వాలి. అది కూడ ఐదు పాఠాల (రాజనీతి, దక్షయజ్ఞం, ధౌమ్యధర్మోపదేశము, మధురస్నేహం, సీతారావణసంవాదం) నుండి ఒక పద్యాన్ని ఇవ్వాలి–
శబ్దాలంకారాల నుండి "వృత్తనుప్రాస, ఛేకానుప్రాస, లాటానుప్రాస, అంత్యానుప్రాసా"ల నుండి రెండు అలంకారములు ఇచ్చి, ఒక అలంకా రము వ్రాయమనాలి.

ఇక నమూనా ప్రశ్నపత్రాన్ని పరిశీలించి ప్రశ్నపత్రాన్ని తయారు చేసుకోవాలి.

PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE::VIJAYAWADA-520010
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I Semester Model Question Paper, 2020-21 Batch

No. of Pages: 2	**Roll No.:**	**Max. Marks: 75M**
Time: 3 Hrs.	**No. of Questions: 08**	**Pass Min. : 30M**

I. క్రింది వానిలో <u>ఒకదానికి</u> ప్రతి పదార్థ తాత్పర్యమును వ్రాయండి: 7మా **L1**

1. బహుధనధాన్య సంగ్రహము బాణశరాసన యోధవీర సం
గ్రహము నిరంతరాంతరుదకంబులు ఘాసరసేందనౌఘ సం
గ్రహము ననేక యంత్రములు గల్గియ సాధ్యములై ద్విషద్భయా
వహ లగుచుండ నొప్పునె భవత్పరి రక్ష్యములైన దుర్గముల్.

లేదా

2. కలలోనందను మున్నెఱుంగని మహా కష్టాత్ముడై నట్టి దు
ర్బలు డౌపత్సమయంబునన్ నిజ పదాబ్జాతంబులు ల్లంబులోన్
దలపన్నంతనె మెచ్చి యార్తి హరుడై తన్నైన నిచ్చున్ సు ని
శ్చల భక్తిన్ భజియించువారి కిడడే సంపద్విశేషోన్నతుల్.

II. క్రింది వానిలో <u>మూడింటికి</u> సందర్భసహిత వ్యాఖ్యలు వ్రాయండి: 3 × 4 = 12మా **L2**

1. వార్త నిర్వహింపవలయు బతికి.
2. నన్ను బనుపు దక్షు బట్టి తెచ్చెదన్.
3. పురుషార్థంబునకు హాని పుట్టక యున్నే?
4. గోవింద దర్శనోత్సాహి యగుచు.
5. ఉండు టిది న్యాయమె లతాంగీ !

III. క్రింది వానిలో <u>మూడింటికి</u> సంగ్రహరూప సమాధానాలు వ్రాయండి: 3 × 4 = 12మా **L1**

1. రాజు చేయకూడని పనుల్ని తెల్పండి?
2. ప్రమథులు దక్షుని బంధించిన తీరును తెల్పండి?
3. ధౌమ్యుని ఉపదేశానంతరం ఏమి జరిగింది?
4. అంతఃపురకాంతలు కుచేలుని గూర్చి భావించిన విషయాల్ని తెల్పండి?
5. త్రిజట తన స్వప్నాన్ని ఏమని వివరించెను?

IV. క్రింది వానిలో <u>మూడింటికి</u> వ్యాసరూప సమాధానాలు వ్రాయండి: 3 × 8 = 24మా **L1**

1. ప్రజాపాలనలో రాజులు పాటించాల్సిన ధర్మాలేవి?
2. 'దక్షయజ్ఞం' సారాంశాన్ని వ్రాయండి.
3. ధౌమ్యుడు పాండవులకు చేసిన ధర్మోపదేశాన్ని వివరించండి
4. 'మధురస్నేహం' పాఠ్య సారాంశాన్ని తెల్పండి?
5. సీతారావణ సంవాదాన్ని వివరించండి.

V. క్రింది వానిలో <u>మూడింటిని</u> విడదీసి, సంధి కార్యము వ్రాయండి: 3 × 2 = 6మా **L3**

1. శతైకవృద్ధి 2. జగమెల్ల 3. మనుజేంద్రుడు
4. కష్టాత్ముడు 5. ఇక్కోమలి

VI. క్రింది వానిలో <u>మూడింటికి</u> విగ్రహ వాక్యాలు వ్రాసి, సమాస నామములు తెల్పండి: 3×2=6మా **L3**

1. అష్టాంగాలు 2. అశ్రమము 3. భీమార్జునులు2
4. మధురస్నేహం 5. తోయజాక్షి

VII. క్రింది పద్య పాదాన్ని గణ విభజన చేసి, యతిని గుర్తించి, ఏ పద్యపాదమో తెల్పండి: 1×4=4మా **L3**

తన మృదుతల్పమందు వనితామణియైన రమాలలామ పొం

లేదా

క్రింది వానిలో <u>ఒకదానికి</u> లక్ష్య, లక్షణ సమన్వయం చేయండి. **L1**

1. తేటగీతి 2. ముత్యాలసరాలు 3. ఆటవెలది

VIII. క్రింది పద్యంలోని అలంకారమును గుర్తించి, లక్ష్య లక్షణ సమన్వయం చేయండి: 1×4=4మా **L3**

బాల సఖుడైన యప్పద్మ పత్రనేత్రు
గాన నేగి దరిద్రాంధకార మగ్ను
లయిన మము నుద్ధరింపుము హరి కృపాక
టాక్ష రవిదీప్తి వడసి మహాత్మ! నీవు.

లేదా

క్రింది వానిలో <u>ఒకదానికి</u> లక్ష్య, లక్షణ సమన్వయం చేయండి. **L1**

1. వృత్త్యాను ప్రాసము 2. లాటానుప్రాసము

P.B. SIDDHARTHA COLLEGE OF ARTS AND SCIENCE, VIJAYAWADA – 10

(AnAutonomousCollegeinthe Jurisdiction ofKrishna University)

MACROECONOMICANALYSIS - Course code : ECOT21B

B.A.SEMESTER –II

w.e.f.2020-21

Co1 Toacquireknowledgeaboutthescope,importanceofmacroeconomicsandnationalIncome

Co2 Toacquireknowledgeabout theoriesofemployment,consumptionandinvestmentfunctions.

Co3 Toacquireknowledgeaboutfunctionsofmoney,theoriesofmoneyandfunctionscommercial and CentralBank.

Co4 ToacquireknowledgeabouttheInflationandtradecycles.

Co5 Toacquireknowledgeabout thefinancialsystemandinsurance inIndia.

UNIT-IINTRODUCTION &NATIONALINCOME

ANINTRODUCTIONISMACROECOMONICS

Definitions,ScopeandImportanceofMacroEconomics
EvolutionofMacroEconomics.
MacroEconomicsParadoxes
CircularFlowofIncomeandExpenditurein**Two,ThreeandFoursectorEconomy**

NATIONALINCOME

MeaninganddefinitionsofNationalIncome-**Marshall,Pigou,Fisher**
NationalIncomeAggregates-GDP, GNP,NDP,NNP,NNP FC,P.I, DI,P.CI,RNI,RPCI.
MeasurementofNationalIncome-**Product,IncomeandExpendituremethods.**
ConceptofGreenAccounting

UNIT- II THEORIESOFEMPLOYMENT

THEORIESOFEMPLOYMENT

ClassicalTheoryofEmployment
Say'sLawofMarkets
KeynesianTheoryofEmployment.

THEORIESOFCONSUMPTION

Averageandmarginalpropensitytoconsume
KeynespsychologicalLawofConsumption
BriefreviewofAbsolute,Relative,LifecycleandPermanentIncomehypothesis

THEORIESOFINVESTMENT

MarginalEfficiencyofCapital(MEC)
MultiplierPrincipleConceptanditsWorking
TheAccelerationPrinciple
Aggregate DemandFunction-AlgebraicExplanation
IS-LMCurves-Equations
TheGoods MarketandMoneyMarketEquilibrium-AlgebraicExplanation.

UNIT-III MONEYANDBANKING

THEORYOFMONEY

MeaningDefinitionsandFunctionsofMoney

Gresham'sLaw

R.B.IClassificationofMoney(NM_1,NM_2,NM_3)

Fisher'sQuantityTheoryofMoney

CambridgeApproach**(Marshall,Pigou,RobertsonandKeynes Equations).**

THEORYOFBANKING

DefinitionsandTypesofBanking

FunctionsofCommercialBanks

FunctionsofCentralBanks

CreditControlbyCentralBank

FactorsContributingtotheGrowthofNBFC's

UNIT-IVINFLATIONANDTRADE CYCLES

THEORYOFINFLATION

MeaningDefinitionsandConceptsofInflation

4.1.2. Demandpulland Cost-push inflation

Philip'sCurveHypothesis

MeasurementofInflation-C.P.IandW.P.I

CausesandEffectsofInflation

THEORYOFTRADECYCLES

TradeCyclesMeaningandDefinitions

PhasesofTradeCycles

CausesforTradeCycles

MeasurestoControlTradeCycles.

UNIT-VFINANCEAND INSURANCE

THEORYOFFINANCE

FinancialAssetsandFinancialIntermediaries

5.1.2.StructureofFinancialsystem.

FunctionsofMoneyMarket

FunctionsofCapitalMarket

FunctionsofStockExchanges

BombayStockExchange(BSE)andNationalStockExchange.(NSE)

THEORYOFINSURANCE

ConceptandOriginofInsurance,

5.2.2.TypesofInsurance

5.2.3 ImportanceofInsurance

TextBook:
Macro Economics - Telugu Akademi
PublicationReferenceBooks:

1. Dillard. D.,TheEconomics ofJohn MaynardKeynes, Crossby Lockwoodand sons,London
2. M.C.Vaish-MacroeconomicTheory,VikasPublishingHouse,NewDelhi.
3. S. BGuptha -Monetary Economics, S. Chand &Co, Delhi
4. P.N.Chopra,Macroeconomics,KalyaniPublishers,Ludhiana,2014
5. D.M. Mithani,MacroEconomicAnalysisand Policy,Oxfordand IBH,New Delhi
6. MNMishra&SBMishra,InsurancePrinciples&Practice,SChand.
7. Lewis,M.KandP.DMizan-MonetaryEconomics,OxfordUniversityPress,New Delhi
8. CentralStatisticalOrganization,NationalAccountsStatistics.
9. M.L.Seth,Macroeconomics,Lakshmi NarayanAgarwal, 2006.
10. K.P.M.Sundaram,Money,Banking&InternationalTrade,SultanChand,2006.
11. R. R.Paul,Monetary Economics,Kalyani Publishers,Ludhiana, 2018
12. Macroeconomics,SpectrumPublishingHouse, Hyderabad, 2016

RecommendedCo-curricularActivities:

1. Assignmentson trends innational income,moneysupplyandinflation
2. Student Seminars/webinarson macroeconomic themes of contemporary importancefor Indianeconomy(Eg.,Covid-19impactonaggregatedemand,supplychaindisruption,policyresponseetc.,)
3. Quiztotestcriticalunderstandingoftheconceptsandtheoriesofmacroeconomicsandtheirapplication inpractice
4. Groupdiscussions on monetarypolicy and itseffectiveness withreferenceto recent developments.
5. Groupprojectwork tostudythe trendsinnational income,inflation, moneysupplyetc.,
6. Chart/poster presentation on National IncomeTrends,inflation, aggregate demandetc.,
7. Web-basedassignmentonBanking/money

P.B.SIDDHARTHACOLLEGEOFARTSANDSCIENCE,VIJAYAWADA-10(AnAutonomousCollegeinthe Jurisdiction ofKrishna University)

MACROECONOMICANALYSIS

B.A.-SEMESTER-II Course code: ECOT21B

w.e.f 2020-21

MODELQUESTION PAPER

Time:3Hrs MaxMarks : 75

Answerthe5ofthefollowing **5x5=25M**

1. MacroEconomicParadoxes

2. Circularflowofincomeandexpenditure
3. StatetherealationshipbetweenAPC,APS,NPCandMPS

4. PermanentIncomehypothesis

5. ExplaintheGresham'sLaw

6. R.B.Iclassificationofmoney

7. Phillip'scurvehypothesis

8. BombaystockExchange

Answerthe following 5x10=50M

9 a) DefinetheMacroEconomicsandexplainthescopeandimportance

(or)

b) DefineNatinalIncomeandexplainthevariousconceptofNatinalIncome.

10 a) Criticallyexaminetheclassicaltheoryofemployment.

(or)

b) Explaintheworkingprocessofmultiplier

11 a) ExplaintheFisher'sQuantitytheoryofMoney

(or)

b) ExplainthefunctionsofCentralBank

12 a) Explainthe demand pull andcost push inflation.

(or)

b) Definethetradecyclesandexplainthevariousphasesoftradecycles

13 a) ExplaintheStructureoffinancialsystemIndia.

(or)

b) Explainthefunctionsofstockexchange.

P.B. SIDDHARTHA COLLEGE OF ARTS AND SCIENCE, VIJAYAWADA – 10

(AnAutonomousCollegeinthe Jurisdiction ofKrishna University)

MACROECONOMICANALYSIS - Course code : ECOT21B

B.A.SEMESTER –II

w.e.f.2020-21

Co1 Toacquireknowledgeaboutthescope,importanceofmacroeconomicsandnationalIncome

Co2 Toacquireknowledgeabout theoriesofemployment,consumptionandinvestmentfunctions.

Co3 Toacquireknowledgeaboutfunctionsofmoney,theoriesofmoneyandfunctionscommercial and CentralBank.

Co4 ToacquireknowledgeabouttheInflationandtradecycles.

Co5 Toacquireknowledgeabout thefinancialsystemandinsurance inIndia.

UNIT-IINTRODUCTION &NATIONALINCOME

ANINTRODUCTIONISMACROECOMONICS

Definitions,ScopeandImportanceofMacroEconomics
EvolutionofMacroEconomics.
MacroEconomicsParadoxes
CircularFlowofIncomeandExpenditurein**Two,ThreeandFoursectorEconomy**

NATIONALINCOME

MeaninganddefinitionsofNationalIncome-**Marshall,Pigou,Fisher**
NationalIncomeAggregates-GDP, GNP,NDP,NNP,NNP FC,P.I, DI,P.CI,RNI,RPCI.
MeasurementofNationalIncome-**Product,IncomeandExpendituremethods.**
ConceptofGreenAccounting

UNIT- II THEORIESOFEMPLOYMENT

THEORIESOFEMPLOYMENT

ClassicalTheoryofEmployment
Say'sLawofMarkets
KeynesianTheoryofEmployment.

THEORIESOFCONSUMPTION

Averageandmarginalpropensitytoconsume
KeynespsychologicalLawofConsumption
BriefreviewofAbsolute,Relative,LifecycleandPermanentIncomehypothesis

THEORIESOFINVESTMENT

MarginalEfficiencyofCapital(MEC)
MultiplierPrincipleConceptanditsWorking
TheAccelerationPrinciple
Aggregate DemandFunction-AlgebraicExplanation
IS-LMCurves-Equations
TheGoods MarketandMoneyMarketEquilibrium-AlgebraicExplanation.

UNIT-III MONEYANDBANKING

THEORYOFMONEY

MeaningDefinitionsandFunctionsofMoney

Gresham'sLaw

R.B.IClassificationofMoney(NM_1,NM_2,NM_3)

Fisher'sQuantityTheoryofMoney

CambridgeApproach**(Marshall,Pigou,RobertsonandKeynes Equations).**

THEORYOFBANKING

DefinitionsandTypesofBanking

FunctionsofCommercialBanks

FunctionsofCentralBanks

CreditControlbyCentralBank

FactorsContributingtotheGrowthofNBFC's

UNIT-IVINFLATIONANDTRADE CYCLES

THEORYOFINFLATION

Meaning,DefinitionsandConceptsofInflation

4.1.2. Demandpulland Cost-push inflation

Philip'sCurveHypothesis

MeasurementofInflation-C.P.IandW.P.I

CausesandEffectsofInflation

THEORYOFTRADECYCLES

TradeCyclesMeaningandDefinitions

PhasesofTradeCycles

CausesforTradeCycles

MeasurestoControlTradeCycles.

UNIT-VFINANCEAND INSURANCE

THEORYOFFINANCE

FinancialAssetsandFinancialIntermediaries

5.1.2.StructureofFinancialsystem.

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RecommendedCo-curricularActivities:

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P.B.SIDDHARTHACOLLEGEOFARTSANDSCIENCE,VIJAYAWADA-10(AnAutonomousCollegeinthe Jurisdiction ofKrishna University)

MACROECONOMICANALYSIS

B.A.-SEMESTER-II Course code: ECOT21B

w.e.f 2020-21

MODELQUESTION PAPER

Time:3Hrs MaxMarks : 75

Answerthe5ofthefollowing **5x5=25M**

1. MacroEconomicParadoxes

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b) DefineNatinalIncomeandexplainthevariousconceptofNatinalIncome.

10 a) Criticallyexaminetheclassicaltheoryofemployment.

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b) Explaintheworkingprocessofmultiplier

11 a) ExplaintheFisher'sQuantitytheoryofMoney

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b) ExplainthefunctionsofCentralBank

12 a) Explainthe demand pull andcost push inflation.

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13 a) ExplaintheStructureoffinancialsystemIndia.

(or)

b) Explainthefunctionsofstockexchange.

ParvathaneniBrahmayya Siddhartha College of Arts & Science, Vijayawada-10
(An Autonomous College under the jurisdiction of Krishna University)
Reaccredited at the level 'A+' by the NAAC
College with Potential for Excellence
(Awarded by UGC)
DEPARTMENT OF ENGLISH

GENERAL ENGLISH SYLLABUS FOR B.A/ B.COM/B.SC COURSES UNDER CBCS
Course Structure and Syllabi under CBCS

Sl No.	Semester	Course Code	Name Of The Subject	Teaching Hours	Credits
1	**II Semester**	**ENGT21B**	**English praxis -II**	4	3

OBJECTIVE: The main objective of this course is to facilitate the learners to acquire the linguistic competence essentially required in a variety of life situations and develop their intellectual, personal and professional abilities.

COURSE OUT COMES:

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

CO 1. Acquaint the learner with some widely used words which appeal to be similar but are semantically different and also help them to realize the importance of meanings, and understand the grammatical structures in writing. **PO7**

CO 2. Speak clearly, effectively and appropriately with correct pronunciation, pause and articulation of voice for a variety of audiences and purposes. **PO2**

CO 3. Analyze, interpret, appreciate and comprehend the specified text and the contexts in terms of their content, purpose, and form. **PO1**

CO 4. Think critically; convey their own interpretations, perspectives, producing new creative and artistic works following grammatical structures in oral and written assignment. **PO7**

CO 5. Write effectively for a variety of professional and social settings adapting other writer's ideas as they explore and develop their own. **PO3**

CO-PO MATRIX- ENG T21B							
CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	M						
CO2			M				
CO3		H					
CO4							H
CO5							H

DEPARTMENT OF ENGLISH
GENERAL ENGLISH SYLLABUS FOR B.A/ B.COM/B.SC COURSES UNDER CBCS
SEMESTER-II

COURSE CODE: ENGT21B **Max. Marks: 100**
No. of Hours per Week: 4 **External: 75M**
No. of Credits: 3 **Internal: 25M**

English Praxis Course-II

A Course in Reading & Writing Skills

I. UNIT

Prose: 1. How to Avoid Foolish Opinions	Bertrand Russell	12
Skills: 2. Vocabulary: Conversion of Words		
: 3. One Word Substitutes		
: 4. Collocations		

II. UNIT

Prose : 1. The Doll's House	Katherine Mansfield	
Poetry : 2. Ode to the West Wind	P B Shelley	
Non-Detailed Tex: 3. Florence Nightingale	Abrar Mohsin	12
Skill : 4. Skimming and Scanning		

III. UNIT

Prose : 1. The Night Train at Deoli	Ruskin Bond	
Poetry: 2. Upagupta	Rabindranath Tagore	12
Skill: 3. Reading Comprehension		
: 4. Note Making/Taking		

IV. UNIT

Poetry: 1. Coromandel Fishers	Sarojini Naidu	12
Skill: 2. Expansion of Ideas		
: 3. Notices, Agendas and Minutes		

V.UNIT

Non-Detailed Text : 1. An Astrologer's Day	R K Narayan	12

Skills : 2. Curriculum Vitae and Resume
Total: 60 hrs
: 3. Letters
: 4. E-Correspondence

PARVATHANENIBRAHMAIAH SIDDHARTHA COLLEGE OF ARTS AND SCIENCE; VIJAYAWADA-10

(An autonomous college in the jurisdiction of Krishna University)

SEMESTER- II **PAPER - II**

TITLE OF THE PAPER: HINDI-II

NO OF HOURS: 60 **CREDITS: 03**

WEF: 2021-22 **COURSE CODE: HINT21A**

COURSE OUTCOMES:

1.मानव मूल्यों से विद्यार्थी अवगत होंगे तथा इस दिशा में आगे बढ़ेंगे।

2.आधुनिक युग की भावनाओं को पहचानकर,निरंतर सामाजिक समस्याओं का सामना करते हुए,आगे बढ़ेंगे।

3.विषय के विश्लेषण से सामाजिक दायित्व को निभाने में अग्रसर होंगे।

4.ग्रहण किये गये पाठ्यांशों के द्वारा विद्यार्थियों का ज्ञान मापन बढ़ेगा तथा अपने क्षेत्र में भी आगे होंगे

5.भाषा की प्रवीणता और प्रयोग से विद्यार्थी उज्वल भविष्य की ओर बढ़ेंगे।

PARVATHANENIBRAHMAIAH SIDDHARTHA COLLEGE OF ARTS AND SCIENCE; VIJAYAWADA-10

(An autonomous college in the jurisdiction of Krishna University)

SEMESTER- II **PAPER - II**

TITLE OF THE PAPER: HINDI-II

NO OF HOURS: 60 **CREDITS: 03**

WEF: 2021-22 **COURSE CODE: HINT21A**

SYLLABUS:

I.गध्य संदेश:

1. संस्कृति औरसाहित्य का परस्पर संबंध
2. भारत एक है
3. एच.आई.वी. / एड्स

II. कथा लोक

1. ज़रिया
2. भूख हड़ताल
3. परमात्मा का कुत्ता

III.कार्यालयीन हिन्दी शब्दावली

(हिन्दी से अंग्रेजी में बदलना तथा अंग्रेजी से हिन्दी में बदलना)

IV. **व्याकरण:** संधि विच्छेद ,वाक्य प्रयोग

V.**पत्र लेखन:** आवेदन पत्र,पुस्तक विक्रेता के नाम पत्र

Recommended Books:

1. गध्य संदेश- Dr. V. L.Narasimham Siva Koti

2. कथा लोक- Dr. Ghana Shyam

PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS &SCIENCE :: VIJAYAWADA-520 010.

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

II SEMESTER Model Question Paper

Course Code: HINT21A **Max. Marks: 70M**

Time: 3 Hrs. **Pass Min. : 30M**

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SECTION-I

निम्नलिखित प्रश्नों का उत्तर लिखिए।

4×5=20

1. (a) भारत की मध्यकालीन संस्कृति कैसी रही है? L1

(अथवा)

(b) विविधता के भीतर भारत की एकता कैसे समायी हुई है? स्पष्ट कीजिए। L1

2. (c) एच.आई.वी./ एड्स के लक्षणों पर प्रकाश डालिए। L2

(अथवा)

(d) "अधेड आदमी" चरित्र चित्रण कीजिए। L2

3. (e) "ज़रिया" कहानी का उद्धेश्य क्या है? L2

(अथवा)

(f) "भूख हड़ताल" की विशेषताएँ क्या-क्या हैं? L2

4. (g) अनुवाद किसे कहते हैं ?L1

(अथवा)

(h) संधि किसे कहते हैं तथा उसके कितने प्रकार के हैं ?L1

SECTION-II

1×10=10

1. (a) एच.आई.वी./ एड्स के इतिहास पर प्रकाश डालिए।L2

(अथवा)

(b) 'भारत एक है' पाठ का सारांश लिखिए। L2

SECTION-III **1×10=10**

6. (a) "ज़रिया" कहानी का सारांश लिखिए। L2

(अथवा)

(b) "भूख हड़ताल" कहानी का सारांश लिखिए। L2

SECTION-IV

7.(a) **किन्हीं दस शब्दों को अंग्रेजी से हिंदी मेंअनुवाद कीजिए। L1**

10×1=10

1.Camp Office 2.Embassy 3.Muncipal Corporation 4.Governor 5.Applicant
6.Charge 7.Absence 8.Supervisor 9.Court 10. Building division 11.District board 12.Cash section 13. Branch office 14.Complaint office
15.Enquiry office

(अथवा)

(b) **किन्हीं दस शब्दों को हिंदी से अंग्रेजी में अनुवाद कीजिए।L1**

1.प्रशासनअधिकारी 2.विज्ञापन 3.लेखा परीक्षक 4.प्राचार्य 5.स्वीकार करना
6.अतिथि गृह 7.प्रयोगशाला 8.हृदय-रोग विभाग 9.जिला बोर्ड 10.कलक्टरी
11.सिविल न्यायालय 12.वन विभाग 13.प्रसारण केन्द्र 14.बजट अनुभाग
15.अस्पताल

8.(a) **किन्हीं पाँच शब्दों का संधि विच्छेद कीजिए।L3**

5×2=10

1.रामावतार 2.परमौषध 3.यद्यपि 4.गायक
5.उन्नति 6.प्रत्येक 7.यशोधरा 8.निराशा

(अथवा)

(b) **किन्हीं पाँच शब्दों को वाक्यों में प्रयोग कीजिए। L3**

1.विरासत 2.अज्ञानांधकार 3.इकट्ठा करना 4.बसर करना
5.दुर्भिक्ष 6.पथ प्रदर्शक 7.हवन 8.चिरस्थाई

SECTION-V

1×10=10

9. (a) अनुवादक की नौकरी के लिए प्रबन्धक के नाम पत्र लिखिए। L3

(अथवा)

(b) किसी पुस्तक विक्रेता के नाम पत्र लिखिए। L3

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P.B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE

Siddhartha Nagar, Vijayawada – 520 010

Autonomous -ISO 9001 – 2015 Certified

Title of the Course: Probability Distributions and Statistical Methods Lab

Offered to: BA (E.M. S) & B.SC (M.S. Cs, M.S. Ca&M.S.Ds.) **Course Code: STAP21C**

Course Type: Core (P) **Year of Introduction: 2019-2020**

Year of Revision: 2021-22 **Percentage of Revision: 60%**

Semester: II **Credits: 1**

Hours Taught: 30periods **Max.Time: 2** Hours

Course Prerequisites (if any): Nil

S. No	Programme Outcomes
PO1.	**Effective Communication**: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology
PO2.	**Effective Citizenship**: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO3.	**Ethics:** Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO4.	**Environment and Sustainability**: Understand the issues of environmental contexts and sustainable development
PO5.	**Critical Thinking**: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO6:	**Specialized Skills / Transferable Skills:** Acquisition of communication and soft, analytical and technological skills that aid in enhancing
PO7.	**Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Course Outcomes:		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	**Programme Outcomes Mapping**
CO 1	To fit a data into various theoretical probability distributions.	PO – 5

CO 2	Apply and Analyze the qualitative data	PO – 6
CO3	Identify the relations between the variables and estimate.	PO - 7

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
	CO1						**H**	
	CO2					**M**		
	CO3						**M**	
	CO4					**H**		
STAP21C	**CO5**					**H**		

List of Practicals

1. (a) Fitting of Binomial distribution (Direct Method). (CO – 1)
   (b) Fitting of Binomial distribution (Recurrence Method).(CO – 1)
2. (a) Fitting of Poisson distribution (Direct Method).(CO – 1)
   (b) Fitting of Poisson distribution (Recurrence Method). (CO – 1)
3. (a) Fitting of Normal distribution (Areas Method). (CO – 1)
   (b) Fitting of Normal distribution (Ordinates Method). (CO – 1)
4. Computation of Yule's coefficient of association. (CO – 2)
5. Computation of Pearson's and Tcherprows coefficient of contingency(CO – 2)
6. (a) Computation of correlation coefficient for ungrouped data. (CO – 3)
   (b) Computation of correlation coefficient for grouped data. (CO – 3)
7. (a) Fitting of a straight line by the method of least squares. (CO – 3)
   (b) Fitting of a parabola by the method of least squares. (CO – 3)
   (c) Fitting of power curve $y = ax^b$ by the method of least squares. (CO – 3)
   (d) Fitting of exponential curves $y = ae^{bx}$ & $y = ab^x$ by the method of least squares.(CO-3)
8. (a) Construction of regression lines for the ungrouped data. (CO – 3)
   (b) Construction of regression lines for the grouped data.(CO – 3)

****

Structure of Practical Paper

Total Marks: 50 Marks

(i) For Continuous Evaluation	**:**	**15 marks (Internal Evaluation)**
(ii) For semester end Practical Examination	**:**	**35 marks (External Evaluation)**

P.B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE

Siddhartha Nagar, Vijayawada – 520 010

Autonomous -ISO 9001 – 2015 Certified

Title of the Course :Probability Distributions and Statistical Methods

Offered to: BA (EMS) & B.SC (MSCs, M.S.Ca &M.S.Ds)**Course Code : STAT21C**

Course Type: Core (Theory) **Year of Introduction: 2019-20**

Year of Revision : 2021-22 **Percentage of Revision: 60%**

Semester: II **Credits: 4**

Hours Taught: 60 periods **Max.Time:** 3 Hours

Course Prerequisites: Students required basic knowledge in Calculus, Algebra and Probability.

Course Description: This course helps the students to familiarize students with the ways in which we talk about uncertainty and look at everyday situations in which probability arises. Also this course aims at providing basic knowledge about theoretical distribution models that can suit different phenomena of interest measured as variables in a continuum.

Course Objectives:

1) To enable the students to develop basic knowledge in theoreticalProbability distributions
2) To provide understanding and applying standard continuous probability distribution to different situations.
3) To get the knowledge regarding qualitative factors
4) To understand the relation between quantitative factors
5) To make the estimated values using regression

Learning Outcomes: At the end of the course, the student will

1) Acumen to apply standard discrete probability distribution to different situations.
2) ability to handle transformed random variables and derive associated distributions.
3) The parameters describe an underlying physical setting in such a way that their value affects the distribution of the measured data.

Course Outcomes:		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	**Programme Outcomes Mapping**
CO 1	Develop the basic knowledge in Probability distribution and uncertainty conditions we apply standard discrete probability distributions to identify the probability values.	PO - 5

CO 2	Obtained the knowledge of applications on standard continuous distributions. Also get the knowledge in respect of usage in day-to-day life.	PO - 5
CO3	Analyse the qualitative data	PO - 6
CO 4	Statistically analyze the strengths of relationship between variables.	PO - 7
CO 5	To outline the vital area of regression models applicable in a wide variety of real time situations	PO - 7

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
	CO1					**H**		
	CO2					**M**		
	CO3						**L**	
	CO4							**M**
STAT21C	**CO5**							**M**

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Theoretical Probability Discrete Distributions** Rectangular, Binomial, Poisson, Negative Binomial, Geometric, Hyper Geometric distributions: Definitions, Means, Variances, M.G.F, C.G.F, P.G.F, additive property,limiting cases, memory less property if exists . Simple problems.	**12**
II	**Theoretical Probability Continuous Distributions** Rectangular, Normal, Exponential, Gamma, Beta Distributions: Definitions, Means, Variances, M.G.F, C.G.F, P.G.F, additive property,limiting cases, memory less property if exists . Simple problems.	**12**
III	**Theory of Attributes**: Notations, Dichotomy classification, class and class frequencies, order of classes and class frequencies. Ultimate class frequencies, relation between class frequencies. Consistency of data - Conditions for consistency of data for 2 and 3 attributes only. Independence of attributes- criterion of independence of two attributes. Association of attributes-Yule's coefficient of association and coefficient of colligation. Relationship between coefficient of association and colligation and simple problems.	**12**
IV	**Correlation**: Meaning, Types of Correlation, Measures of Correlation- Scatter diagram, Karl Pearson's Coefficient of Correlation, Rank Correlation	**12**

	coefficient (with and without ties), Bi-variate frequency distribution, correlation coefficient for bi-variate data and simple problems. **Multiple and Partial Correlation**- Coefficients of multiple and partial correlations, properties of multiple and multiple correlation coefficients, coefficient of multiple determination. simple problems	
V	**Curve fitting** Principle of least squares, fitting of straight line, fitting of second degree polynomial or parabola. Fitting of power curve and exponential curves. **Regression Analysis**: Introduction, Linear Regression- Regression coefficients, properties of regression coefficients, angle between two lines of regression. Standard error of estimate (residual variance), Explained and unexplained variation, coefficient of determination and simple problems	**12**

Text Book:

Fundamentals of Mathematical Statistics, 12th Edition, Sep 2020, S. C. Gupta and V. K. Kapoor, Sultan Chand & Sons, New Delhi

Reference Books:

1. B.A/B.Sc. Second Year Statistics(2010) , Telugu Akademi, Hyderabad.
2. Mathematical Statistics with Applications, 2009, K.M.Ramachandran and Chris P.Tsokos Academic Press(Elsevier), Haryana .
3. Probability and Statistics, Volume I & II, D. Biswas, New central book Agency (P) Ltd, NewDelhi.
4. An outline of Statistical theory, Volume II,3rd Edition,2010(with corrections) A.M.Goon,M.K. Gupta, B.Dasgupta ,The World Press Pvt.Ltd., Kolakota.
5. Sanjay Arora and BansiLal:. New Mathematical Statistics, SatyaPrakashan , New Delhi.

Websites of Interest: **http://onlinestatbook.com/rvls/index.html**

Co-Curricular Activities in the class:

1. Pictionary
2. Case Studies on topics in field of statistics
3. Snap test and Open Book test
4. Architectural – To be build the procedures
5. Extempore – Random concept to students
6. Interactive Sessions
7. Teaching through real world examples

***

Model Question Paper

Max.: 75 Marks **STAT21C** **Min.Pass : 30 Marks**

Model Paper

Section A

Answer any FIVE of the following **5 x 5M = 25M**

1. In Binomial distribution mean and variance are 4 and 3 respectively. Find mode of the distribution. (Co – 1, L - 1)
2. Show that in Poisson distribution mean and variance are equal. (Co – 1, L - 6)
3. Write the properties of normal distribution. (Co – 2, L - 4)
4. Obtain the mean and variance of Beta distribution of 2^{nd} kind. (Co – 2, L - 5)
5. Explain the types of correlation. (Co – 4, L - 2)
6. Define class and class frequency of an attribute with examples. (Co – 3, L - 1)
7. Write the properties of regression coefficients. (Co – 5, L - 4)
8. Explain the concept of rank correlation. (Co – 4, L - 2)

Section – B

Answer the following **5 x 10M =50M**

9. a) Define Binomial distribution and derive the recurrence relation forcentral moments. (Co – 1, L - 1)

(OR)

b) (i) A book contain 43 mistakes in 585 pages. Find the probabilitythat there will be no mistake in randomly selected 10pages of thebook.

(ii) If a Poisson distribution such that $3P(x=1) = 2P(x=3)$. Find $P(2 \leq X \leq 5)$ (Co – 1, L - 1)

10. a) Show that mean, median and mode are equal in Normal distribution. (Co – 2, L - 6)

(OR)

b) In a distribution exactly normal, 7% of the items are under 35and 89% are under 63. What
are the mean and standard deviationof the distribution. (Co – 2, L - 6)

11. a) Write the criteria for independence of three attributes. Find all the remaining class frequencies
for the following set of frequencies. N= 23713, (A) = 1618, (B) = 2015, (C) = 770, (AB) = 587,
(AC) = 335, (BC) = 428, (ABC) = 158 (Co – 3, L - 1)

(OR)

b) The male population of a particular state is 250lakhs. The number of literate males is 20 lakhs
and total number of male criminals is 26000. The number of literate male criminals is 2000. Do
you find any association between literacy ad criminality. (Co – 3, L - 1)

12. a) State the Karl Pearson's correlation coefficient and prove that it has between -1 and +1.
(Co – 4, L - 5)

(OR)

b) Obtain the rank correlation coefficient of marks of 12 students in statistics and computer science
given below (Co – 4, L - 5)

X	58	64	65	55	44	80	65	75	40	55	64	55
Y	52	48	45	62	45	68	62	82	44	45	74	62

13. a) Derive the regression equation of y on x (Co – 5, L - 3)

(OR)

b) Fit the power curve of the type $y = ax^b$ to the following data (Co – 5, L - 3)

X	3	5	8	10	12	13
Y	17	41	94	139	191	220

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SEMESTER–II **Credits – 3**

TELUGU-II

ఆధునిక తెలుగు సాహిత్యం

యూనిట్ల సంఖ్య: 5

కోర్స్ అవుట్ కమ్స్:

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

1. ఆంగ్ల భాష ప్రభావం కారణంగా తెలుగులో వచ్చిన ఆధునిక సాహిత్యాన్ని, దాని విశిష్టతలను గుర్తిస్తారు.
2. సమకాలీన ఆధునిక సాహిత్య ప్రక్రియలైన "వచన కవిత్వం, కథ, నవల, నాటకం" విమర్శలపై అవగాహన పొందుతారు.
3. భావకవిత, అభ్యుదయ కవిత్వాల లక్ష్యాలను గూర్చిన జ్ఞానాన్ని పొందుతారు. ఇంకా అస్తిత్వవాదం, ఉద్యమాల పుట్టుకను, ఆవశ్యకతను గుర్తిస్తారు.
4. కథా సాహిత్యం ద్వారా సామాజిక చైతన్యాన్ని పొందుతారు. సిద్ధాంతాల ద్వారా కాకుండా, వాస్తవ పరిస్థితులను తెలుసుకోవడం ద్వారా సిద్ధాంతాన్ని సమీక్షించుకోగలరు.
5. ఆధునిక తెలుగు కల్పనా సాహిత్యం ద్వారా సామాజిక, సాంస్కృతిక, రాజకీయ చైతన్యాన్ని పొందుతారు.

లెర్నింగ్ ఆబ్జెక్టివ్స్:

1. ఆధునిక భాషా సాహిత్యము నందలి ప్రక్రియల పట్ల ప్రీతి, మమకారం, ఆసక్తి కల్గుతుంది.
2. ఆధునిక కవిత్వము పట్ల అవగాహన పద్ధతులు, ప్రసిద్ధులైన కవుల, రచయితల రచనా శైలి తెలుస్తాయి.
3. ఆధునిక సాహిత్య ప్రక్రియలైన కథ, నవల, నాటకం, విమర్శ మొదలగు సాహిత్య ప్రక్రియలలో రచనా మెలకువలు తెలుసుకోవటం జరుగుతుంది.
4. ఆధునిక సాహిత్యంలోని వివిధ కొత్త పదబంధాలు, శబ్ద ప్రయోగవైచిత్రి, భాషా పరిజ్ఞానాన్ని తెలుసుకుంటారు.
5. కాలానుగుణంగా సాహిత్యం తన స్వరూపాన్ని ఏవిధముగా మార్చుకుంటుందో విద్యార్థులు క్షుణ్ణంగా పరిశీలించే అవకాశం కల్గుతుంది.

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TELUGU-II

పాఠ్యప్రణాళిక

యూనిట్-I

1. ఆధునిక కవిత్వం - పరిచయం
2. కన్యక - గురజాడ వేంకట అప్పారావు
3. కొండవీడు - దువ్వూరి రామిరెడ్డి (కవి కోకిల గ్రంథావళి - ఖండ కావ్యాలు - నక్షత్రాల సంపుటి నుండి)
4. మాతృ సంగీతం - అనిసెట్టి సుబ్బారావు (అగ్ని వీణ కవితాసంపుటి నుండి)

యూనిట్-II

5. తెలుగు కథానిక - పరిచయం
6. భయం / కథ / - కాళీ పట్నం రామారావు
7. స్వేదం ఖరీదు ?/ కథ / - రెంటాల నాగేశ్వరరావు

యూనిట్-III

8. తెలుగు 'నవల' - పరిచయం
9. రథచక్రాలు / నవల / - మహీధర రామ్మోహనరావు (సంక్షిప్త ఇతివృత్తం మాత్రమే)
10. రథ చక్రాలు / సమీక్షా వ్యాసం / - డా. యల్లాప్రగడ మల్లికార్జునరావు

యూనిట్-IV

11. తెలుగు నాటకం - పరిచయం
12. యక్షగానము / నాటకము / నాటిక / - ఎం.వి.ఎస్. హరనాథరావు
13. అపురూప కళారూపల విధ్వంస దృశ్యం 'యక్షగానము'/ సమీక్షావ్యాసం - డా.కందిమళ్ళ సాంబశివరావు

యూనిట్-V

14. తెలుగు సాహిత్య విమర్శ - పరిచయం
15. విమర్శ - స్వరూప స్వభావాలు, ఉత్తమ విమర్శకుడు - లక్షణాలు.

ఆకార గ్రంథాలు / వ్యాసాలు:

1. ఆధునిక కవిత్వం - పరిచయం - ప్రొ.ఎస్వీ. సత్యనారాయణ
2. తెలుగు కథానిక - పరిచయం - ప్రొ. రాచపాళెం చంద్రశేఖర రెడ్డి
3. తెలుగు నవల - పరిచయం - వల్లంపాటి వెంకట సుబ్బయ్య
4. సాంఘిక నవల - కథన శిల్పం - ప్రొ. సి. మృణాళిని
5. తెలుగు నాటకం - పరిచయం - ప్రొ.ఎస్.గంగప్ప
6. తెలుగు సాహిత్య విమర్శ - పరిచయం - ప్రొ. జి.వి. సుబ్రహ్మణ్యం
7. నూరేళ్ల తెలుగు నాటక రంగం - ప్రొ. మొదలి నాగభూషణ శర్మ
8. నాటక శిల్పం - ప్రొ. మొదలి నాగభూషణ శర్మ

Contd...

TELUGU	TELT21A	2020-'21	B.A., B.Com., B.B.A., B.B.A.-Ana, B.Com.-CA, B.C.A., & B.Sc.,

ప్రశ్నపత్ర నిర్మాణ సూచిక: **TELUGU-II**

1. సంక్షిప్తరూప ప్రశ్నలు : 5 × 5 = 25మా

ప్రతి యూనిట్ నుండి తప్పనిసరిగా ఒక ప్రశ్న ఇచ్చి, మొత్తం మీద ఎనిమిది ప్రశ్నలు ఇవ్వాలి. అందులో ఐదింటికి సమాధానాలు వ్రాయమనాలి.

2. వ్యాసరూప ప్రశ్నలు : 5 × 10 = 50మా

ప్రతి యూనిట్ నుండి తప్పనిసరిగా ఒక ప్రశ్న ఇచ్చి, మొత్తం మీద ఎనిమిది ప్రశ్నలు ఇవ్వాలి. అందులో ఐదింటికి సమాధానాలు వ్రాయమనాలి.

మొత్తం = 75మా

PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE :: VIJAYAWADA-520 010.

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SEMESTER-END EXAMINATIONS, APRIL-2021

నమూనా ప్రశ్నపత్రం

Course Code: TEL T21A (Telugu-II) **Max. Marks: 75M**

Time: 3 Hrs. **Pass Min. : 30M**

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SECTION - A

I. క్రింది వానిలో ఐదింటికి సంగ్రహ రూప సమాధానాలు వ్రాయండి: 5 × 5 = 25మా

1. 'కొండవీడు' - శ్రీ దువ్వూరి.
2. తెలుగు కథానికను పరిచయం చేయండి.
3. 'కన్యక' ఖండికను వివరించండి.
4. తెలుగు నాటక సాహిత్యాన్ని తెల్పండి.
5. ఉత్తమ విమర్శకుని లక్షణాలు.
6. ఆధునిక కవిత్వం - పరిచయం.
7. కాళీ పట్నం రామారావు.
8. అనిసెట్టి సుబ్బారావు.

SECTION - B

II. క్రింది వానిలో ఐదింటికి వ్యాసరూప సమాధానాలు వ్రాయండి: 5 × 10 = 50మా

9. శ్రీ దువ్వూరి 'కొండవీడు' ఖండికలో ఇచ్చిన సందేశాన్ని తెల్పండి.
10. 'భయం' కథలోని రచయిత అభిప్రాయాన్ని వివరించండి.
11. 'రథ చక్రాలు' నవల్లోని ఇతివృత్తాన్ని విశ్లేషించండి.
12. యక్షగానాన్ని సమీక్షించండి.
13. విమర్శ స్వరూప స్వభావాల్ని వివరించండి.
14. ఆధునిక కవిత్వ ఆవిర్భావ వికాసాన్ని తెల్పండి.
15. తెలుగు సాహిత్య విమర్శను వివరింపుము.
16. సాహిత్య ప్రక్రియగా 'నవల' స్థానాన్ని విమర్శించండి.

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PARVATHANENIBRAHMAIAH SIDDHARTHA COLLEGE OF ARTS AND SCIENCE; VIJAYAWADA-10

(An autonomous college in the jurisdiction of Krishna University)

SEMESTER- III/IV **PAPER – III/IV**

TITLE OF THE PAPER: HINDI-III/IV

NO OF HOURS: 60 **CREDITS: 03**

WEF: 2021-22 **COURSE CODE: HINT01A**

Cos:

1.दोहों के व्दारा विद्यार्थियोंमें समाज सुधार की भावना, मानव मूल्यों का विकास हो सकेगा।

2. हिंदी साहित्य के इतिहास के व्दारा हिन्दी भाषा और साहित्य की प्रमुखता से परिचित हो सकेंगे।

3. समाज कल्याण के विषयों को समझकर विद्यार्थिअपने ज्ञान का विकास कर सकेंगे।

4. समाज में हिन्दी भाषा के परिचित हो सकेंगे और हिन्दी भाषा का ज्ञानप्राप्तकर दूसरों से आसानी से संप्रेषित करने में सक्षम हो सकेंगे।

5.प्रयोजनमूलक हिन्दी प्राप्तकर सकेंगे और हिन्दी में पत्राचार का कौशल विकसित कर सकेंगे।

PARVATHANENIBRAHMAIAH SIDDHARTHA COLLEGE OF ARTS AND SCIENCE; VIJAYAWADA-10

(An autonomous college in the jurisdiction of Krishna University)

SEMESTER- III/IV **PAPER – III/IV**

TITLE OF THE PAPER: HINDI-III/IV

NO OF HOURS: 60 **CREDITS: 03**

WEF: 2021-22 **COURSE CODE: HINT01A**

SYLLABUS

I.**काव्य दीप**:

साखी- 1-10 - कबीरदास

बालवर्णन - सूरदास

मातृभूमि - मैथिलीशरण गुप्त

तोडती पत्थर - सूर्यकांत त्रिपाठी निराला

गीत फरोश - भवानी प्रसाद मिश्र

II.**हिन्दी साहित्य का इतिहास**:

काल विभाजन - आचार्य रामचन्द्र शुक्ल के अनुसार

भक्ति काल : ज्ञानाश्रयी शाखा - कबीर

प्रेमाश्रयी शाखा - जायसी

III.**साधारण निबन्ध**:समाचार पत्र, पर्यावरण और प्रदूषण,

बेकारी की समस्या, कंप्यूटर

IV. **अनुवाद** :(हिन्दी से अंग्रेजी में बदलना तथा अंग्रेजी से हिन्दी में बदलना)

V.**प्रयोजनमूलकहिन्दी**: परिपत्र,कार्यालय ज्ञापन,राष्ट्र-भाषा हिन्दी

Recommended Books:

1.काव्य दीप- **SRI B.RADHA KRISHNA MURTHY**

PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE :: VIJAYAWADA-520 010.
(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)
III SEMESTER Model Question Paper, November-2022 (Hindi-III)

Course Code: HINT01A **Max. Marks: 75M**
Time: 3 Hrs. **Pass Min. : 30M**

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PART-A

I. निम्नलिखित प्रश्नों में से किन्हीं पाँच प्रश्नों का उत्तर दीजिए: 5×5=25M

1. व्याख्या कीजिए। L2

पाहन पूजे हरि मिलै, तो मैं पूजूँ पहाड़।

ताते ये चाकी भली , पीस खाय संसार ।।

2.किसी एक कवि का साहित्यक परिचय दीजिए। L1

(i)कबीर (ii) सूर्यकांतत्रिपाठी‘निराला’

3.मातृभूमिकविता की विशेषताएँ लिखिए। L1

4.व्याख्या कीजिए । L2

जी गीत जनम का लिखूँ, मरन का लिखूँ,

जी गीत जीत का लिखूँ, शरण कर लिखूँ।

5.ज्ञानमार्ग शाखा की विशेषताएँ बताइए। L2

6.प्रदूषण के निवारणोपाय लिखिए। L1

7.परिपत्र की परिभाषा दीजिए। L1

8.अनुवाद किसे कहते हैं? L2

PART-B

II. निम्नलिखित प्रश्नोंका उत्तर दीजिए: 5×10=50M

9. किसी एक कविता का सारांश विशेषताओं के सहित लिखिए। L2
(i)गीत फरोश (ii) तोड़ती पत्थर

10. (अ) हिन्दी साहित्य का इतिहास - काल विभाजन के बारे में लिखिए। L2

अथवा

(आ) प्रेमाश्रय शाखा की विशेषताओं का परिचय दीजिए।

11.किसी एक निबंध पर प्रकाश डालिए। L2

(i) बेकारी की समस्या (ii) पर्यावरण और प्रदूषण (iii) कंप्यूटर

12. (अ) हिन्दी में अनुवाद कीजिए। L2

(i) India is our country

(ii) We should respect our parents

(iii)How many students are there in the class room?

(iv)Where are you going now?

(v)This is our college.

अथवा

(आ)अंग्रेजी में अनुवाद कीजिए।

(i)हम कॉलेज जाते हैं।

(ii)हिन्दी हमारी राष्ट्रभाषा है।

(iii)रमा नाचती है।

(iv)मानव सेवा ही माधव सेवा है।

(v)कल रविवार था।

13.किसी एक पर टिप्पणी लिखिए। L1

(i)परिपत्र (ii)कार्यालय ज्ञापन (iii)राष्ट्र-भाषा हिन्दी

PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE, VIJAYAWADA

Course Code: **MAT T01A**

Offered to: B.A(EMS), B.Sc. B.Sc(MPC, MPCS, MECS, CAME, MSCA, MSCS)

Domain Subject: **MATHEMATICS** Semester –III/IV

Max. Marks: **100** (IA: 25+ SEE: 75) Theory Hrs./Week: **6**

Course Title: SOLID GEOMETRY
Type of the Course: **Skill Enhancement Course** (Elective) Credits: **5**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Understand the basic concepts of plane to find the length of perpendicular from a given point to given plane, bisectors of angles between two planes, angle between the pair of planes.

CO2: Determine the equation of a line in various forms & image of a given point w.r.t. a line and plane.

CO3: Compute the equations of the hallow spheres through the given points, plane section of a sphere.

CO4: Determine orthogonal spheres, coaxial system of spheres. The equation of cone, vertex of a cone, General equation of second degree should represent acone.

CO5: Calculate the equation of enveloping cone, reciprocal cone, right circular cone, intersection of two cones with a common vertex.

II. Syllabus: **(Total Theory Hours: 90)**

UNIT-I: The Plane **(18Hrs)**

1.1 Equation of plane in terms of its interception the axis, Equations of the plane through the given points
1.2 Length of the perpendicular from a given point to a given plane, Bisectors of angles between two planes
1.3 Plane passing through the intersection of two given planes, Orthogonal projection on a plane
1.4 Joint equation of a pair of planes, Angle between the pair of planes, Angle between the pair of parallel planes.

UNIT-II: The Line **(18Hrs)**

2.1 Equation of a line in symmetric form and parametric form; Angle between a line and a plane
2.2 The condition that a given line may lie in a given plane, The condition that two given lines are coplanar
2.3 Number of arbitrary constants or parameters in the equations of straight line
2.4 Length of the perpendicular from a given point to a given line.
2.5 The shortest distance between two lines, The length and equations of the line of shortest distance between two straight lines.

UNIT-III: Sphere: **(18Hrs)**

3.1 Definition and equation of the sphere; Equation of the sphere through given points
3.2 Plane sections of a sphere, Great Circle, Small Circle
3.3 Intersection of sphere and a line.
3.4 Conditions for a plane to intersect a sphere
3.5 Equation of a Sphere through a given circle
3.6 Intersection of a sphere and a line; tangent plane touching spheres, Power of a point;
3.7 Plane of contact; Polar plane; Pole of a Plane; Conjugate points; Conjugate planes; Conjugate lines or polar lines, Angle of intersection of two spheres; Conditions for two Spheres to be orthogonal;
3.8 Radical plane; Radical line, Radical Centre, Coaxial system of spheres; Limiting points.

UNIT-IV: Cones **(18Hrs)**

4.1 Definition of a cone, Vertex, guiding curve, generators, Equation of the cone with a given Vertex and guiding curve
4.2 Condition that the general equation of the second degree should represent a cone
4.3 Enveloping cone of a surface, Equations of cones with vertex at origin

4.4 Condition that a cone may have three mutually perpendicular generators, Intersection of a line with a cone

4.5 Tangent lines and tangent plane at a point, Condition that a plane may touch a cone

4.6 Reciprocal cones, Intersection of two cones with a common vertex

4.7 Right circular cone, Equation of the right circular cone with a given vertex, Axis and semi-vertical angle.

UNIT-V: Cylinders: (18Hrs)

5.1 Definition of a cylinder, Equation to the cylinder whose generators intersect a given Conic and are parallel to a given line

5.2 Enveloping cylinder of a sphere

5.3 The right circular cylinder

5.4 Condition for tangents, Director Sphere.

III REFERENCES:

1. Analytical Solid Geometry by Shanti Narayan and P.K. Mittal, published by S. Chand & Company Ltd.7th Edition.
2. A text book of Mathematics for BA/ B.Sc. Vol-1, by V. Krishna Murthy & others published by S. Chand & Company, New Delhi.
3. A text book of Analytical Geometry of Three Dimensions by P.K. Jain and Khaleel Ahmed, published by Wiley Eastern Ltd. 1999.
4. Co-ordinate Geometry of two and three dimensions by P. Balasubrahmanyam, K.Y. Subrahmanyam, G.R. Venkataraman published by Tata-MC Gran-Hill publishers Company Ltd. New Delhi.
5. Solid Geometry by B. Rama Bhupal Reddy, published by Spectrum University Press.

IV.Student Activities:

1) **Class-room activities:** Power point presentations, Assignments
2) **Library activities:** Visit to library and preparation of notes for Assignment problems.
3) **Activities in the Seminars, workshops and conferences:** Participation/presentation in seminar/workshop/conference.

CO-CURRICULAR ACTIVITES:

- Quiz Competitions, Seminars
- Group Discussions

WEB LINKS:

https://www.whitman.edu/mathematics/calculus_online/section12.05.html
https://en.wikipedia.org/wiki/Sphere

PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE, VIJAYAWADA

Course Code: **MAT T01A**

Offered to: B.A (EMS), B.Sc. (MPCS, MECS, CAME, CAMS**)**

Title of the Course: SOLID GEOMETRY **MAX MARKS: 75** **Time: 3hrs.**

Section – A

Answer any FIVE questions **(5x5=25 Marks)**

1. Find the equation of the plane through (4, 4, 0) and perpendicular to the planes x+2y+2z and 3x+3y+2z-8=0. (CO1, L2)

2. Find the angle between the planes 2x-3y-6z =6 and 6x+3y-2z=18. (CO1, L2)

3. Find the image of the point (2,-1,3) in the plane 3x-2y+z=9 (CO2, L3)

4. Find the equation to the sphere through O=(0,0,0) and making intercepts a, b, c on theaxes. (CO3, L3)

5. Find the equations of the spheres passing through the circle$x^2 + y^2 = 4$, z=0 and is intersected by the plane x+2y+2z=0 in a circle of radius 3. (CO3, L3)

6. Find the equation of the cone whose vertex is (1, 1, 0) and whose guiding curve is y=0, $x^2 + z^2 = 4$ (CO4, L3)

7. Find the equation to the cone which passes through the three coordinate axes and the lines $\frac{x}{1} = \frac{y}{-2} = \frac{z}{3}and\frac{x}{2} = \frac{y}{1} = \frac{z}{1}$ (CO4, L3)

8. Find the equation of the cylinder whose generators are parallel to $\frac{x}{1} = \frac{y}{2} = \frac{z}{3}$ and which Passes through the curve $x^2 + y^2$=16, z=0 (CO5, L3)

Section – B

Answer ALL questions. **(5 x 10 = 50 Marks)**

9(a). Prove that the equation $2x^2 - 6y^2 - 12z^2 + 18yz + 2zx + xy = 0$ represents a pair of planes, and find the angle between them. (CO1, L2)

(OR)

9(b). Find the bisecting plane of the acute angle between the planes 3x-2y+6z+2 =0, 2x-y+2z+2=0 (CO1, L2)

10(a). Find the image of the line $\frac{x-1}{2} = \frac{y-2}{3} = \frac{z-3}{4}$ in the plane x+y+z=1 (CO2, L3)

(OR)

10(b). Find the length and equations to the line of S.D between the lines
$\frac{x-2}{3}=\frac{y-3}{4}=\frac{z-1}{2}, \frac{x-4}{4}=\frac{y-3}{5}=\frac{z-2}{3}$ (CO2, L3)

11(a). Show that the plane 2x-2y+z+12=0 touches the sphere $x^2+y^2+z^2-2x-4y+2z-3=0$ and find the point of contact. (CO3, L3)

(OR)

11(b). Find the limiting points of the co-axial system of spheres of which two members are
$x^2+y^2+z^2+3x-3y+6=0$, $x^2+y^2+z^2-6y-6z+6=0$ (CO3, L3)

12(a). Find the vertex of the cone
$7x^2+2y^2+2z^2-10zx+10xy+26x-2y+2z-17=0$ (CO4, L3)

(OR)

12(b). Find the equation to the right circular cone whose vertex is (1,-2,-1), axes the line $\frac{x-1}{3}=\frac{y+2}{4}=\frac{z+1}{5}$ and semi vertical angle 60° (CO4, L3)

13(a). Find the equation to the right circular cylinder whose guiding circle is
$x^2+y^2+z^2=9$, x-y+z=3 (CO5, L3)

(OR)

13(b). Find the equation of the enveloping cylinder of the sphere $x^2+y^2+z^2-2x+4y-1=0$, having its generators parallel to the line x=y=z. (CO5, L3)

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Department of Mathematics

COURSE STRUCTURE

Sem	Course Code	Paper	Title of the Paper	Total Marks	Internal Exam	Sem.End Exam	Teaching Hours	Credits
II	MATT31	CORE	ABSTRACT ALGEBRA	100	25	75	6	5

Programme Outcomes

S. No	P.O
	At the end of the Programme the student will be able to:
1	Demonstrate the ability to use mathematical skills such as formulating and tackling mathematics related problems and identifying and applying approximate physical principles and methodologies to solve a wide range of problems associated with mathematics.
2	Apply the underlying unifying structures of mathematics and the relationships among them.
3	Investigate and apply mathematical problems and solutions in variety of contexts related to science and technology, business and industry.

Course Outcomes of MATT

S. No	C.O Upon successful completion of this course, students should have the knowledge and skills to:	Mapping
1	Understand concepts of groups and its properties.	L2, PO –1
2	Determine subgroups and whether the given subsets of a group are subgroups.	L4, PO - 1
3	Explain the significance of cosets, normal subgroups and factor groups.	L2,PO - 2
4	Determine group homomorphisms and isomorphisms.	L4, PO – 1
5	Find cycles of a given permutations and understand the properties of cyclic groups.	L1, PO – 2

CO-PO MATRIX							
CO-PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
CO1					**H**		
CO2					**H**		
CO3						**M**	
CO4							**M**
CO5							**M**

PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS &SCIENCE

VIJAYAWADA-10.

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

MATHEMATICS	MAT T	2019 – 20 onwards	B.Sc(MSDS)

ABSTRACT ALGEBRA

SEMESTER-II **No of Credits: 5**

OBJECTIVES:
1. This course aims to provide a first approach to the subject of algebra, which is one of the basic pillars of modern mathematics.
2. The focus of the course will be the study of certain structures called groups, Sub groups, cyclic groups, permutation groups etc..
3. Abstract algebra gives to student a good mathematical maturity and enables to build Mathematical thinking and skill.

UNIT-I : GROUPS **(16 hrs)**

1.1 Binary Operation, Semi group, Algebraic Structure, Monoid, Cancellation laws, Group definition, Abelian group, Elementary Properties

1.2 Finite and Infinite groups with examples, Order of a group with examples

1.3 Addition modulo m – Definition – theorem – Problems

1.4 Multiplication Modulo P – definition- {1, 2, 3,…….p-1} where P is a prime number is a group – theorem – Problems

1.5 Order of an element of a group – Definition – Theorems.

UNIT-II: SUB GROUPS **(20 hrs)**

2.1 Complex definition, Multiplication of two complexes, Inverse of a complex, subgroup definition, Identity and Inverse of a subgroup

2.2 Criterion for a complex to be a subgroup, Criterion for the product of two subgroups to be a subgroup

2.3 Union and Intersection of subgroups.
2.4 Cosets Definition – Properties of cosets.
2.5 Index of a subgroups of a finite groups, Lagrange's Theorem.

UNIT-III: NORMAL SUBGROUPS (18 hrs)

3.1 Definition of a normal subgroup, Proper and improper normal subgroups
3.2 Intersection of two normal subgroups, Subgroup of index 2 is a normal subgroup, Simple group
3.3 Quotient group, Criteria for the existence of a Quotient group

UNIT-IV: HOMOMORPHISM (16 hrs)

4.1 Definition of a Homomorphism, Image of a Homomorphism, Properties of a Homomorphism
4.2 Isomorphism, Automorphism definitions and elementary properties
4.3 Kernel of a homomorphism, Fundamental theorem on homomorphism of groups and Applications
4.4 Inner automorphism, Outer automorphism.

(P.T.O)

UNIT-V: PERMUTATIONS AND CYCLIC GROUPS (20 hrs)

5.1 Definition of a permutation group, Equal permutations, Permutation multiplications, Order of a permutation, Inverse of a permutation, Orbits and cycles of permutation
5.2 Transposition, Even and odd permutations – Theorem – Related Problems.
5.3 Cayley's theorem – Related Problems.
5.4 Definition of a cyclic group – Properties of Cyclic group
5.5 Standard theorems on cyclic groups – related problems.

Prescribed Text book:

S.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHER	YEAR OF PUBLICATION
1	V.Venkateswara Rao, BVSS Sharma, S.AnjaneyaSastry & Others	A textbook of mathematics for B.A/B.ScVol – I	S-Chand	2015

Reference books:

S.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHER	YEAR OF PUBLICATION
1	Dr.A. Anjaneyulu	A text book of mathematics for	Deepthi Publications	2015

		B.A/B.ScVol – I		
2	M.L.Khanna	Modern Algebra	Jaya Prakashnadh & Co	2012

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SEMESTER – II
Model Paper

COURSE CODE: MATT

TITLE OF THE PAPER: ABSTRACT ALGEBRA

Time: 3hrs. **Max. Marks: 75**

Section – A

Answer any FIVE questions **5x5=25**

1. In a group G, Show that the inverse of an element is unique. (L1,CO1)
2. H is a non-empty complex of a group G. Show that the necessary and sufficient condition for H to be a sub group of G is $a,b\in H\Rightarrow ab^{-1}\in H$. (L1,CO2)
3. Show that any two left (right) cosets of a sub group are either disjoint (or) identical.(L2,CO3)
4. Show that every subgroup of an abelian group is normal. (L3,CO3)
5. Prove that Every Quotient group of an abelian group is abelian. (L2,CO3)
6. If 'f' is a homomorphism of a group G into a group G', then show that the Kernel of f is a normal subgroup of G. (L3,CO3)
7. Use Cayley's theorem to find the regular permutation group isomorphic to the multiplicative group $\{1,-1,i,-i\}$. (L3,CO5)
8. Prove that every cyclic group is abelian. (L2,CO5)

Section – B

Answer ALL questions. **(5 x 10 = 50)**

Unit - I

9. Prove that the set Z of all integers from an abelian group w.r.t to the operation defined by a * b = a+b+2 $\forall$ a,b$\in$z. (L3, CO1)

(OR)

10. Prove that G = {0,1,2,3,4,5} is an abelian group w.r.t. addition modulo 6.(L3,CO1)

Unit – II

11. Prove that the union of two sub groups of a group G is a sub group of G if and only if one is contained in the other. (L1,CO2)

(OR)

12. State and prove Lagrange's theorem on groups. (L1,CO2)

Unit – III

13. If H is a normal subgroup of a group G, then prove that the set of all cosets of H in G is a group with respect to coset multiplication. (L1,CO3)

(OR)

14. Prove that H is a normal subgroup of a group G iff product of two right cosets of H is again a right coset of H. (L1,CO3)

(P.T.O)

Unit – IV

15. State and Prove Fundamental Theorem of Homomorphism. (L1,CO4)

(OR)

16. Let 'a' be a fixed element of a group G. Prove that the mapping $f_a : G \to G$ defined by $f_a(x) = a^{-1}xa \forall x \in G$ is an automorphism of G. (L2,CO4)

Unit - V

17. Prove that every finite group G is isomorphic to a permutation group. (L1,CO5)

(OR)

18. Prove that every subgroup of a cyclic group is cyclic. (L1,CO5)

P.B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Siddhartha Nagar, Vijayawada – 520 010
Autonomous -ISO 9001 – 2015 Certified

Title of the Course : Applied Statistics Lab **Course Code : STAP01**
Offered to: B.Sc (M.S.Cs & Ca.M.S) **Semester: IV**
Course Type: Core (Practical) **Credits: 1**
Year of Introduction: 2021-22 **Lab Hours :** 30periods.
M**ax.Time: 2** Hours
Course Prerequisites: Students required knowledge in Mathematics and Statistical techniques

Course Description: This course provides the study of data related to population growth, construction index numbers. Also this course deals with industry problems and analyse and get solutions.

Course Objectives:
1) To enable the students to develop basic knowledge in Applied Statistics
2) To provide understanding in some advanced statistical techniques which are used for solving business problems.

Learning Outcomes: At the end of the course, the student will
1) have the hands on practice of working on the data and interpreting the results.
2) Acquire to apply the techniques related solve the real business problems.

Course Outcomes:		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	**Programme Outcomes Mapping**
CO 1	Measure the Mortality and Fertility rates and the construction of Life tables	PO - 5
CO 2	construct the Quality Control charts for Variables and attribute charts	PO - 6
CO 3	Construct the various types of index numbers	PO - 6

List of Practicals

Practical No	**Theme**	**Key Topics**
Applied Statistics		
1	Control Charts	Construction of Mean & Range charts
2	Control Charts	Construction of p & c charts
3	Index Numbers	Construction of Weighted index numbers
4	Index Numbers	Testing of good index number
5	Index Numbers	Construction of Whole sale price index number
6	Vital Statistics	Determining of Mortality rates
7	Vital Statistics	Determining of Fertility & reproduction rates
8	Vital Statistics	Construction of life tables
9	Psychology & Education	Scaling of ratings using Normal distribution

CO-PO MATRIX								
COURSE CODE	CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
STAP01	CO1					H		
	CO2					M		
	CO3						M	
	CO4					H		
	CO5						H	

Structure of Practical Paper
Total Marks: 50 Marks
(i) For Continuous Evaluation : 10 marks (Internal Evaluation)
(ii) For semester end Practical Examination: 40 marks (External Evaluation)

P.B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE

Siddhartha Nagar, Vijayawada – 520 010

Autonomous -ISO 9001 – 2015 Certified

Statistical Inference

Offered to: BA(EMS) & B.SC (MSCs, MSCA & MSDS) / STAP31C

Course Type: Core (Practical)

Year of Introduction: 2021 **Year of Revision: 2022** **Percentage of Revision: 50%**

Semester: III **Paper No. III** **Credits: 1**

Hours Taught: 30 periods. per Semester **Max.Time: 2** Hours

Course Prerequisites (if any): Student required basic knowledge in computers

Course Description:

This course gives a working knowledge of Excel to students with the aim of getting to use data analysis and testing.

Course Objectives

1) To train students in SPSS Software
2) To expose the students to the analysis of statistical data and comparing data sets.

Learning Outcomes: At the end of the course, the student will

1) able to do data analysis using Excel
2) known to choose the data to test various types.

S. No	Programme Outcomes
PO1.	**Effective Communication**: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology
PO2.	**Effective Citizenship**: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO3.	**Ethics:** Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO4.	**Environment and Sustainability**: Understand the issues of environmental contexts and sustainable development
PO5.	**Critical Thinking**: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO6:	**Specialized Skills / Transferable Skills:** Acquisition of communication and soft, analytical and technological skills that aid in enhancing
PO7.	**Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Course Outcomes:		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	**Programme Outcomes Mapping**
CO 1	To Apply statistical analysis that can test hypotheses under parametric approaches.	PO –6
CO 2	To Apply statistical analysis that can test hypotheses under non-parametric approaches.	PO –6

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
STAP31C	**CO1**					**H**		
	CO2					**H**		
	CO3						**H**	
	CO4						**H**	
	CO5						**M**	

List of practical's

1. Small sample test (t-test): One Sample, Independent Sample and Paired Sample.
2. Large sample tests: One Sample, Independent Sample, Paired Sample (Using Excel)
3. Small sample test (F-test): Equality of population variances (Using Excel)
4. Chi square Test: Test of Independence
5. Chi square Test: Goodness of fit
6. Chi square Test: Test of Independence, 2X2, 3X3,…, mXn Cross tabulation (Using Excel)
7. Non Parametric Tests: Mann Whitney U test and Wilcoxon Signed ranks test
8. Non Parametric Tests: Kruskal Wallis Test and Friedman test (Using Excel)

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Siddhartha Nagar, Vijayawada – 520 010
Autonomous -ISO 9001 – 2015 Certified

Title of the Course : Applied Statistics

Offered to: B.Sc. (M.S.Cs. & Ca.M.S.) **Course Code : STAT01**

Course Type: Core (Theory) **Credits: 4**

Year of Introduction: 2020-21 **Semester: IV**

Hours Taught: 60 Periods **Max.Time:** 3 Hours

Course Prerequisites: Students required knowledge in Mathematics and Statistical techniques.

Course Description: This course provides the study of data related to population growth, construction index numbers. Also these courses deals with industry problems and analyses and get solutions.

Course Objectives:

1) To enable the students to develop basic knowledge in Applied Statistics
2) To provide understanding in some advanced statistical techniques which are used for solving business problems.

Course Outcomes:		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	**Programme Outcomes Mapping**
CO 1	Measure the Mortality and Fertility rates and the construction of Life tables	PO - 4
CO 2	construct the Quality Control charts for Variables.	PO –6
CO3	construct the Quality Control charts for Attributes	PO –6
CO 4	Obtain the knowledge on asses the population growth by using vital statistics	PO - 7
CO 5	Helps asses the normalization processes of different scores and estimating the IQ levels.	PO - 6

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
	CO1					**H**		
	CO2						**M**	
	CO3						M	
	CO4						**H**	
STAT01	**CO5**						**H**	

Syllabus

Unit	Learning Units	Lecture Hours
I	**Index Numbers** Basic problems involved in the construction of index numbers. Construction of index numbers - Simple aggregate, Weighted aggregate, Simple price relative and Weighted price relative methods. The criteria of good index number. Cost of living index number. Uses and Limitations of index numbers.	**12**
II	**Statistical Quality Control – I** Introduction. Basis of SQC. Uses of SQC. Types of controls – Process & Product. Construction of 3-σ limits. Construction of Mean ($\bar{x}$) and Range (R) charts. Interpretation of $\bar{x} and R charts$	**12**
III	**Statistical Quality Control – II** Construction of p and c charts - Fixed control limits. Interpretation of p and c - charts. Natural and Specification limits. Acceptance sampling inspection plans – AQL, LTPD, AOQL and ASN. OC curves.	**12**
IV	**Vital Statistics** Introduction, definition and uses of vital statistics, sources of vital statistics. Measures of different Mortality and Fertility rates, Measurement of population growth. Life tables: construction and uses of life tables.	**12**
V	**Statistics in Psychology & Education** Introduction. Scaling procedures – Scaling of scores – Z or σ scores, Standard and normalized scores, T and Percentile scores. Reliability of test scores – Def. index and parallel tests. Methods of determining test reliability. Validity of test scores.	**12**

Text Book:

1. S.C. Gupta, (2016), Seventh Edition, Fundamentals of Statistics, Mumbai: Himalaya Publishing House.

2. Fundamentals of Applied Statistics, 2014, S.C.Gupta and V.K. Kapoor;Sutan Chand &Sons , New Delhi.

Reference Books:

1. Levine, D.M., Berenson, M. L. & Stephan, D. (2012), Statistics for managers using Microsoft Excel, New Delhi: Prentice Hall India Pvt.
2. Aczel, A. D. &Sounderpandian, J. (2011), Complete Business Statistics, New Delhi: Tata McGraw Hill.
3. Sharma, J. K. (2013), Business statistics, New Delhi: Pearson Education
4. Anderson, D., Sweeney, D., Williams, T., Camm, J., & Cochran, J. (2013), Statistics for Business and Economics, New Delhi: Cengage Learning.

5. Agarwal, B.L. Basic Statistics, New Age International Publishers, New Delhi, 6th edition 2013

Websites of Interest: http://onlinestatbook.com/rvls/index.html

Co-Curricular Activities in the class:

1. Pictionary
2. Case Studies on topics in field of statistics
3. Snap test and Open Book test
4. Architectural – To be build the procedures
5. Extempore – Random concept to students
6. Interactive Sessions
7. Teaching through real world examples

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Model Question Paper Structure for SEE

Max.: 75 Marks **STAT01** **Min.Pass: 30 Marks**

Applied Statistics

Section – A

Answer any Five of the following **5 x 5M = 25M**

1. Define SQC and write its uses (L- 1, CO – 2)
2. Explain 3 –σ limits (L – 2, CO – 2)
3. What are the applications of C- chart (L – 3, CO – 3)
4. Explain base shifting in index numbers (L – 2, CO – 1)
5. From the following data calculate Index Number by simple
   (i) aggregate and (ii) relative method (L – 3, CO – 1)

Commodity	A	B	C	D
Price in 1980	162	256	257	132
Price in 1981	171	164	189	145

6. Explain the sources of vital statistics (L – 2, CO – 4)
7. Explain reproduction rates (L – 2, CO – 4)
8. Explain scaling methods (L – 2, CO – 5)

Section – B

Answer all the questions **5 x 10M = 50M**

9. (a) Explain the basic problems involved in the construction of index numbers (L – 2, CO – 1)

OR

(b) Find the cost of living index number by family budget method from the following data (L – 5, CO – 1)

Commodities	Base Year	Current Year	% of Weights
	Price	Price	
A	20	26	17
B	28	31	29
C	34	40	20
D	92	95	34

10. (a) Explain different fertility rates(L – 2, CO – 4)

OR

(b) Fill in the blanks of the following table which are marked with ?(L – 2, CO – 4)

Age	l_x	d_x	q_x	p_x	L_x	e_x^o
20	693435	?	?	?	?	35081126
21	690673	-	-	-	-	?

11. (a) Explain the construction of mean and range charts(L – 2, CO – 2)

OR

(b) Explain the statistical basis of SQC(L – 2, CO – 2)

12. (a) Explain the construction of fraction defective chart(L – 2, CO – 3)

OR

(b) Explain the construction of number of defects per unit chart(L – 2, CO – 3)

13. (a) Letter grades A,B,C,D and E are assigned by two teachers X and Y to the students of class for Honesty. The table gives the distribution of the proportion of individuals in each rating (L – 5, CO – 5)

Teacher	A	B	C	D	E
X	0.10	0.15	0.50	0.20	0.05
y	0.20	0.40	0.20	0.10	0.10

OR

(b) Define reliability and validity tests.(L – 2, CO – 5)

P.B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE

Siddhartha Nagar, Vijayawada – 520 010

Autonomous -ISO 9001 – 2015 Certified

Statistical Inference

Offered to: BA(EMS) & B.SC (MSCs, MSCA & MSDS) / STAT31C

Course Type: Core (Theory)

Year of Introduction: 2021 **Year of Revision: 2022** **Percentage of Revision: 50%**

Semester: III **Paper No. : III** **Credits: 4**

Hours Taught: 60 periods. per Semester **Max. Time: 3** Hours

Course Prerequisites (if any): Student required basic knowledge in Probability and Distribution Theory

Course Description:

This course helps the students to familiarize with the ways in which we talk about uncertainty and estimate their situations in which probability arises. Also this course aims at providing basic knowledge about theoretical and application to test according to situations.

Course Objectives:

1) To describe many of the important estimation methods and characteristics of the estimators.
2) To understand the problem of statistical inference with specific reference to point estimation and interval estimation.
3) To differentiate between large and small samples and apply apt testing procedures.

Learning Outcomes: At the end of the course, the student will

1) Students will understood the distinguish between the parametric and Non Parametric situations.
3) The parameters describe an underlying physical setting in such a way that their value affects the distribution of the measured data..

S. No	Program Outcomes
PO1.	**Effective Communication**: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology
PO2.	**Effective Citizenship**: Demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO3.	**Ethics:** Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO4.	**Environment and Sustainability**: Understand the issues of environmental contexts and sustainable development
PO5.	**Critical Thinking**: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO6:	**Specialized Skills / Transferable Skills:** Acquisition of communication and soft, analytical and technological skills that aid in enhancing

PO7.	**Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
STAT31C	**CO1**					**H**		
	CO2						**M**	
	CO3						**M**	
	CO4						**H**	
	CO5						**H**	

Course Outcomes:		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	**Program Outcomes Mapping**
CO 1	Obtain the knowledge on Exact sampling distributions and their application towards real world examples	PO - 5
CO 2	knowledge of point and interval estimation procedures and different methods of point estimation	PO - 6
CO3	Obtain the knowledge on various testing hypothetical statements and finding Uniformly Most Powerful Test	PO - 6
CO 4	a fundamental understanding of Parametric models for developing relevant inferences on associated parameters large and small samples.	PO - 6
CO 5	To obtain the knowledge and to know the applications of various Non-Randomized tests	PO - 6

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Exact Sampling Distributions** Concepts of Population, Sample, Parameter, Statistic, Sampling distribution, Standard error. law of large numbers, central limit theorem (statements only). Student's t- distribution, F – Distribution, $\chi 2$ - Distribution: Definitions, properties and their applications.	**9**
II	**Theory of estimation** Introduction, criteria of a good estimator – unbiasedness, consistency, efficiency, & sufficiency. Statement of Neyman's factorization theorem. Estimation of parameters by the method of moments and maximum likelihood (M.L), properties of MLE's (statements only). Binomial, Poisson & Normal population parameters estimate by MLE method. Interval estimation – construction of confidence intervals for population	**15**

	mean using normal distribution.	
III	**Testing of Hypothesis** Concepts of Statistical hypotheses, Null and Alternative hypothesis, Critical region, Type I and II errors, level of significance and Power of a test. One and two tailed tests, p-value. Neyman-Pearson's lemma. Examples in case of Binomial, Poisson, Exponential and Normal distributions.	**12**
IV	**Large sample Tests** Test for single mean and difference of two means, test for single proportion and difference of proportions. Simple Problems. **Small Sample tests - I** t-test for single mean, difference of means and paired t-test. F-test for equality of population variances. Simple Problems.	**12**
V	**Small Sample tests - II** χ2-test for goodness of fit and independence of attributes **Non – Parametric Tests** Non-parametric tests- Advantages and Disadvantages, Measurement scales - Nominal, Ordinal, Interval and Ratio. One sample tests – Sign and Run test. Two sample tests - Median test, Wilcoxon–Mann-Whitney U test, Kruskal – Wallis test or H- test, Run test. Simple Problems.	**12**

Text Book:

Fundamentals of Mathematical Statistics, 11th Edition, 2010, S. C. Gupta and V. K. Kapoor, Sultan Chand & Sons, New Delhi

Reference Books:

1. B.A/B.Sc. Second Year Statistics(2010) , Telugu Akademi, Hyderabad.
2. Mathematical Statistics with Applications, 2009, K.M.Ramachandran and Chris P.Tsokos Academic Press(Elsevier), Haryana .
3. Probability and Statistics, Volume I & II, D. Biswas, New central book Agency (P) Ltd, NewDelhi.
4. An outline of Statistical theory, Volume II,3rd Edition,2010(with corrections) A.M.Goon,M.K. Gupta, B.Dasgupta ,The World Press Pvt.Ltd., Kolakota.

Sanjay Arora and Bansi Lal:. New Mathematical Statistics, Satya Prakashan , New Delhi.

***

Model Question Paper Structure for SEE

Max.: 75 Marks **Min.Pass: 30 Marks**

Statistical Inference

Section – A

Answer any FIVE of the following **5 x 5M = 25Marks**

1. Write the statements of Weak Law of large numbers and Central limit theorem.
2. Define F-distribution and write its applications.
3. Prove that sample mean is an unbiased and consistent estimator of population mean.
4. Define the following terms:

   (i) Null hypothesis (ii) Alternative hypothesis (iii) critical region.
5. Explain Type I and Type II errors.
6. Write the procedure for single mean in large sample tests.
7. Write the procedure of F-test for equality of population variances.
8. Explain the procedure of Sign test for single mean.

Section – B

Answer ALL questions **5 x 10M = 50Marks**

9. a. Define student's t-distribution. Write its applications and their properties.

   (OR)

   b. Define chi-square distribution. Write its applications and their properties.

10. a. Explain the characteristics of a good estimator

    (OR)

    b. Find Maximum likelihood estimator for μ and σ^2 in normal population.

11. a. State and prove Neyman-Pearson's lemma.

(OR)

b. If $x \geq 1$ is the critical region for testing $H_0: \theta=2$ vs $H_1: \theta=1$ on the basis of the single observation from an exponential distribution with probability density function $f(x, \theta)= \theta e^{-\theta x}$. Obtain the value of Type I and Type II errors.

12. a. In a Survey of buying habits, 400 women shoppers are chosen at random on supermarket 'A' located in a certain section of the city. Their average weekly food expenditure is Rs.250 with a S.D. of Rs. 40. For 400 women shoppers are chosen at random on Supermarket 'B' in another section of the city, the average weekly food expenditure is Rs.220 with a S.D. of Rs 55.Test at 1% level of significance whether the average weekly food expenditure of the populations of shoppers are equal.

(OR)

b. Explain the procedure of t- test for difference of means.

13. a. Out of 8,000 graduates in a town 800 are females, out of 1,600 graduate employees 120 are females. Use χ^2 to determine if any distinction is made in appointment the basis of sex.

(OR)

b. Explain the procedure of Wald-Wolfowitz run test for two samples.

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TELUGU-III	**TELT01A**	**2021-2022**	**B.A., B.Com., B.B.A., B.B.A.-Ana, B.Com.-CA, B.C.A., & B.Sc.,**

Credits – 3

SEMESTER-III

యూనిట్ సంఖ్య: 5

కోర్స్ అవుట్ కమ్స్:

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

1. తెలుగు సాహిత్య అభ్యసనం ద్వారా నేర్చుకున్న నైపుణ్యాలను, సృజనాత్మక నైపుణ్యాలుగా మార్చుకోగలరు.
2. విద్యార్థులు భాషాతత్త్వాన్ని, ఆవశ్యకతను, ప్రాధాన్యాన్ని గుర్తిస్తారు.
3. భాషా నైపుణ్యాలను అలవర్చుకోవడం, వినియోగించడం నేర్చుకుంటారు.
4. ప్రాచీన పద్య రచనతోపాటు ఆధునిక కవిత, కథ, వ్యాసం మొదలైన సాహిత్య ప్రక్రియల పట్ల అవగాహన పొందుతారు.
5. సృజన రంగం, ప్రసార మాధ్యమాలు, అనువాద రంగాల పట్ల విద్యార్థులకు అవగాహన కల్గుతుంది.

లెర్నింగ్ ఆబ్జెక్టివ్స్:

1. సృజనాత్మక నైపుణ్యాల పట్ల విద్యార్థులకు ఆసక్తి కల్గుతుంది.
2. మనిషి వ్యక్తిగత జీవనానికి, సామాజిక వ్యవస్థ పటిష్టతకు భాష ప్రధానమని, భాషలోని కీలకాంశాలు వర్ణం, పదం, వాక్యాల ప్రాధాన్యాన్ని గుర్తించడంతోపాటు వాగ్రూప, లిఖితరూప వ్యక్తీకరణలో భాషా నైపుణ్యాలను మెరుగుపర్చుకుంటారు.
3. రచనా శైలి, భాషణా నైపుణ్యాలను సృజనాత్మక రూపంలో వ్యక్తీకరించడం తెలుసుకుంటారు.
4. పద్య రచనతోపాటు, ఆధునిక కవిత, కథ, వ్యాసం మున్నగు సాహిత్య ప్రక్రియల నిర్మాణాలకు సంబంధించిన సిద్ధాంత విషయాల్ని, రచనా నైపుణ్యాల్ని తెలుసుకోవడం జరుగుతుంది.
5. సృజన, ప్రసారమాధ్యమ, అనువాద రంగాల్లో నైపుణ్యం పొందడంతోపాటు ఉపాధి అవకాశాల్ని పొందుతారు.

TELUGU-III / IV

పాఠ్య ప్రణాళిక

యూనిట్–I

వ్యక్తీకరణ నైపుణ్యాలు

1. భాష–ప్రాథమికాంశాలు:– భాష–నిర్వచనం, లక్షణాలు, ఆవశ్యకత, ప్రయోజనాలు.

2. 'వర్ణం–పదం–వాక్యం', వాక్య లక్షణాలు, సామాన్య–సంయుక్త–సంశ్లిష్ట వాక్యాలు.

3. భాషా నిర్మాణంలో 'వర్ణం–పదం–వాక్యం' ప్రాధాన్యత.

యూనిట్–II

సృజనాత్మక రచన

4. కవితా రచన:– ఉత్తమ కవిత – లక్షణాలు.

5. కథా రచన:– ఉత్తమ కథ – లక్షణాలు.

6. వ్యాస రచన:– ఉత్తమ వ్యాసం – లక్షణాలు.

యూనిట్–III

అనువాద రచన

7. అనువాదం:– నిర్వచనం, అనువాద పద్ధతులు.

8. అనువాద సమస్యలు:– భౌగోళిక, భాషా, సాంస్కృతిక సమస్యలు, పరిష్కారాలు.

9. అభ్యాసము:– ఆంగ్లం నుండి తెలుగునకు ఒక పేరాను అనువదించడం.

యూనిట్–IV

మాధ్యమాలకు రచన–I:– ముద్రణ / ప్రింట్ మీడియా

10. ముద్రణా మాధ్యమం / అచ్చు /:– పరిచయం, పరిధి, వికాసం.

11. వివిధ రకాల పత్రికలు – పరిశీలన, పత్రికా భాష, శైలి, వైవిధ్యం.

12. పత్రికా రచన:– వార్తా రచన, సంపాదకీయాలు, సమీక్షలు – అవగాహన.

యూనిట్–V

మాధ్యమాలకు రచన–II:– ప్రసార మాధ్యమం / ఎలక్ట్రానిక్ మీడియా

13. ప్రసార మాధ్యమాలు:– నిర్వచనం, రకాలు, విస్తృతి, ప్రయోజనాలు.

14. శ్రవణ మాధ్యమాలు–రచన:– రేడియో రచన, ప్రసంగాలు, నాటికలు, ప్రసార సమాచారం.

15. దృశ్య మాధ్యమాలు–రచన:– వ్యాఖ్యానం / యాంకరింగ్, టెలివిజన్ రచన.

ఆధార గ్రంథాలు / వ్యాసాలు:

1. వ్యక్తీకరణ నైపుణ్యాలు–చూ.
    1. ఆధునిక భాషా శాస్త్ర సిద్ధాంతాలు – ఆచార్య పి.ఎస్. సుబ్రహ్మణ్యం.
    2. తెలుగు భాషా చరిత్ర – సం.ఆచార్య భద్రిరాజు కృష్ణమూర్తి.
    3. తెలుగు వాక్యం – డా.చేకూరి రామారావు.
2. ఉత్తమ కవిత–లక్షణాలు – చూ.
    1. నవ్య కవిత్వ లక్షణములు – ఆచార్య సి.నారాయణరెడ్డి.
    2. ఆధునికాంధ్ర కవిత్వము – సంప్రదాయములు, ప్రయోగములు: చతుర్థ ప్రకరణము.
3. ఉత్తమ కథ – లక్షణాలు – చూ.
    1. కథా శిల్పం – వల్లంపాటి వెంకట సుబ్బయ్య, పుటలు:11–17
4. ఉత్తమ వ్యాసం – లక్షణాలు – చూ.
    1. చదువు–సంస్కృతి (వ్యాసం) – కొడవటిగంటి కుటుంబరావు.
5. అనువాద రచన – చూ.
    1. అనువాద సమస్యలు – రాచమల్లు రామచంద్రారెడ్డి, పుటలు: 61–75, 85–94
    2. అనువాద పద్ధతులు ఆచరణ సమస్యలు – చేకూరి రామారావు
    3. 'భాషాంతరంగం', పుటలు: 130–146, తెలుగు విశ్వవిద్యాలయం ప్రచురణ.
6. ముద్రణా మాధ్యమం–చూ.
    1. మాధ్యమాలకు రచన, పుటలు: 9–12, డా.బి.ఆర్. అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ.
7. పత్రికా భాష–చూ.
    1. మాధ్యమాలకు రచన, పుటలు: 67–74, డా.బి.ఆర్.అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ.
8. పత్రికా రచన– చూ.
    1. తెలుగు–మౌలికాంశాలు, పుటలు: 59–69, డా.బి.ఆర్. అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ.
9. ప్రసార మాధ్యమాలు– చూ.
    1. మాధ్యమాలకు రచన, పుటలు: 3–10, డా.బి.ఆర్. అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ.
10. రేడియో రచన– చూ.
    1. మాధ్యమాలకు రచన, పుటలు: 141–148, డా.బి.ఆర్. అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ.
11. వ్యాఖ్యానం/యాంకరింగ్ – చూ.
    1. మాధ్యమాలకు రచన, పుటలు: 178–181, డా.బి.ఆర్. అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ.
12. టెలివిజన్ రచన– చూ.
    1. మాధ్యమాలకు రచన, పుటలు:153–160, డా.బి.ఆర్.అంబేద్కర్ విశ్వవిద్యాలయం ప్రచురణ.
13. తెలుగు జర్నలిజం– డా. బూదరాజు రాధాకృష్ణ.

ప్రశ్నపత్ర నిర్మాణ సూచిక:

అ-భాగం

సంక్షిప్త రూప ప్రశ్నలు : **5 × 5 = 25మా**

ప్రతి యూనిట్ నుండి తప్పనిసరిగా ఒక ప్రశ్న ఇచ్చి, మొత్తం మీద ఎనిమిది ప్రశ్నలు ఇవ్వాలి. అందులో ఐదింటికి సమాధానాలు వ్రాయమనాలి. ఎనిమిదవ ప్రశ్నకు తప్పనిసరిగా సమాధానం రాయాలి.

అ-భాగం

వ్యాసరూప ప్రశ్నలు : **5 × 10 = 50మా**

ప్రతి యూనిట్ నుండి తప్పనిసరిగా ఒక ప్రశ్న ఇచ్చి, మొత్తం మీద ఎనిమిది ప్రశ్నలు ఇవ్వాలి. అందులో ఐదింటికి సమాధానాలు వ్రాయమనాలి.

PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE :: VIJAYAWADA-520 010.
(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

SEMESTER-END EXAMINATIONS, NOVEMBER-2021

నమూనా ప్రశ్నపత్రం

Course Code: TEL T01A (Telugu-III) **Max. Marks: 75M**
Time: 3 Hrs. **Pass Min. : 30M**

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అ-భాగం

I. క్రింది వానిలో ఐదింటికి సంగ్రహరూప సమాధానాలు వ్రాయండి. ఎనిమిదవ ప్రశ్నకు సమాధానం తప్పనిసరిగా వ్రాయాలి. **5 × 5 = 25మా**

1. భాష - ప్రయోజనాలు. **L2**
2. ఉత్తమ వ్యాసం - లక్షణాలు. **L1**
3. అనువాద సమస్యలు. **L2**
4. సంపాదకీయాలు. **L3**
5. టెలివిజన్ రచన. **L6**
6. ఉత్తమ కథ - లక్షణాలు. **L2**
7. సమీక్షలు - అవగాహన. **L2**
8. క్రింది అంశాన్ని నుడికారం చెడకుండా తెలుగులోకి అనువదించండి. **L2**

   To many, Indian thought, Indian manners, Indian customs, Indian philosophy, Indian literature are repulsive at the first-right, but let them preservere, let then read, let them become familiar with the great principles underlying these ideas, and it is ninety-nine to onethat the charm will come over them, and fascination will be the result. Slow and silent, as the gentle dew that falls in the morning, unseen and unheared yet producing, a most tremendous result, has been the work of the calm, patient, all-suffering spiritual race upon the world of thought.

అ-భాగం

II. క్రింది వానిలో ఐదింటికి వ్యాసరూప సమాధానాలు వ్రాయండి: **5 × 10 = 50మా**

9. భాషా నిర్మాణంలో 'వర్ణం-పదం-వాక్యా'ల ప్రాధాన్యతను వివరించండి. **L1**
10. ఉత్తమ కవితా లక్షణాలను విశ్లేషించండి. **L2**
11. అనువాద లక్షణాలను తెల్పి, పద్ధతులను రాయండి. **L3**
12. ముద్రణా మాధ్యమాన్ని వివరించి, దాని పరిధి వికాసాలను తెల్పుము. **L2**
13. యాంకరింగ్ నిర్వహణ, తీరు తెన్నుల్ని తెల్పండి. **L6**
14. పత్రికా భాష - శైలి - వైవిధ్యాన్ని వివరింపుము. **L2**
15. సామాన్య-సంయుక్త-సంశ్లిష్ట వాక్యాలను వివరింపుము. **L1**
16. ప్రసార మాధ్యమాల విస్తృతి, ప్రయోజనాలను సమీక్షించండి. **L2**

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P.B. SIDDHARTHA COLLEGE OF ARTS AND SCIENCE, VIJAYAWADA - 10

(An Autonomous College in the Jurisdiction of Krishna University)

22ECOT41: ECONOMIC DEVELOPMENT- INDIA AND ANDHRA PRADESH

II BA(EMS) -SEMESTER-IV

Paper-III

Course Code: 22ECOT41

CO1 Students are able to understand the basic features of Indian Economy

CO2 Students are able to acquire the knowledge of National Income and Demography

CO3 Students are able to acquire the knowledge about the development of Agriculture andIndustry

CO4 Students are able to acquire the knowledge about the Indian Public Finance

CO5 Students are able to acquire the knowledge about the Andhra Pradesh Economy

CO-PO MATRIX							
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**
	CO1					**H**	
	CO2					**H**	
	CO3					**H**	
	CO4					**M**	
	CO5					**H**	

UNIT– I Basic Features

Basic characteristics of Indian Economy as a developing economy – Economic development since independence - Objectives and achievements of planning – Planning Commission/NITI Aayog and their approaches to economic development - India's Rank in Global Human Development Index .

UNIT II National Income and Demography

Trends in National income - Demographic trends - Poverty and Inequalities –

Occupational Structure and Unemployment - Various Schemes of employment generation and eradication of poverty – Issues in Rural Development and Urban Development –Intra-state and Inter- state. Labour Migration and unorganized sector Problems of Migrant Labour

UNIT– III Agricultural, Industrial and Tertiary Sectors Developments

Indian Agriculture – Agricultural Strategy and Agricultural Policy – Agrarian Crisis and landreforms – Agricultural credit – Minimum Support Prices -Malnutrition and Food Security -Indian Industry - Recent Industrial Policy – Make-in India – Start-up and Stand-up programmes – SEZs and Industrial Corridors - Economic Reforms and their impact - Economic initiatives by government of India during COVID - Atmanirbhar Bharat package.Role of service sector –Growth of services sector.

UNIT–IV Indian Public Finance

Indian Tax System and Recent changes – GST and its impact on Commerce and Industry – Centre, States financial relations- Recommendations of Recent Finance Commission – Public Expenditure and Public Debt - Fiscal Policy and Budgetary Trends

UNIT- V Andhra Pradesh Economy

The basic characteristics of Andhra Pradesh economy after bifurcation in 2014–role of agricultural sector in Andhra Pradesh economy Impact of bifurcation on the endowment of natural resources and state revenue – new challenges toindustry and commerce - the new initiatives to develop infrastructure – Power and Transport - Information Technology and e-governance – Urbanization and smart cities – Skill development and employment –Social welfare programmes.

Text book : Indian Economy, Telugu Akadami

Reference Books:

1. Dhingra, I.C., Indian Economy, Sultan Chand, New Delhi, 2014.

2. G. M. Meier, Leading Issues in Economic Development, Oxford University Press,New York, 3/e.

3. P. K. Dhar, Indian Economy: Its Growing Dimensions, Kalyani

Publishers,Ludhiana, 2018.

Recommended Co-curricular Activities:

1. Assignments on specific issues of contemporary importance with reference toproblems and remedial policies
2. Student Seminars on leading economic challenges, the effectiveness of relevantpolicies and programmes
3. Quiz to examine the knowledge and critical understanding of major policies,programmes achievements, failures relating to all sectors
4. Group discussions to promote critical understanding and evaluation capabilities of thestudents on major areas of Indian and AP economy
5. Group project work to study the implementation and effectiveness of major government schemes of development, poverty eradication and employment promotionetc.,
6. PPT presentation and participation in webinars to help the students acquire and adaptITC skills in the process of learning
7. Field Visits to Agricultural farm/market/SSIs to understand the ground realities ofeconomic situation of the country and the state

P.B. SIDDHARTHA COLLEGE OF ARTS AND SCIENCE, VIJAYAWADA - 10

(An Autonomous College in the Jurisdiction of Krishna University)

ECONOMIC DEVELOPMENT- INDIA AND ANDHRA PRADESH

Model paper

Course Code: 22ECOT41

Time: 3 hrs Semester IV Max.Marks:70

Section A

Answer the following: 5x4=20M

1. (a) Write about NITI Ayog L1 CO1
OR
(b) what are objective of different plans

2. (a) Write about occupational structure of Labour force L1 Co1
. OR
(b) What are the problems of migrant labour L2 CO2

3. (a) Write about minimum support prices L3 CO3
OR
(b) Explain Make-in India programmes

4. (a) Write about fiscal policy L3 CO4
OR
(b) Write about Indian Tax System L1 CO4

5. (a) Write about IT Sector in Andhra Pradesh L3 CO5
OR
(b) Explain briefly about Urbanisation and Smart Cities L3 CO5

Section B

Answer the following Quotations 5x10=50M

6. a. Explain the basic features of Indian Economy L1 CO1

(or)

b. Explain the objectives and achievement of different five year plans in IndiaL1 CO1

7. a. Explain the various causes for poverty in India L1 CO2

(or)

b. Explain the various reasons for income inequalities in India L1 CO2

8. a. Explain the land reforms in India L2 CO3

(or)

b. Discuss the impact of economic reforms on Indian Economy L2 CO3

9. a. Explain the GST and its impact on commerce and industry L3 CO4

(or)

b. Explain the recommendations of recent finance commission L3 CO4

10. a. Explain the basic characteristics of Andhra Pradesh Economy L1 CO5

(or)

b. Explain the Social welfare programs of Andhra Pradesh L1 CO5

Parvathaneni Brahmayya Siddhartha College of Arts & Science, Vijayawada-10
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Reaccredited at the level 'A+' by the NAAC
College with Potential for Excellence
(Awarded by UGC)

DEPARTMENT OF ENGLISH

Course Structure and Syllabi under CBCS

Sl No.	Semester	Course Code	Name Of The Subject	Teaching Hours	Credits
1	**III Semester**	**ENG T01A**	**English praxis -III**	4	3

OBJECTIVE: The main objective of this course is to enrich students' abilities to speak fluently, participate confidently in any social interaction, face any professional discourse, demonstrate critical thinking and enhance conversational skills by deserving the professional interviews.

COURSE OUT COMES: At the end of the course the learners will be able to:

CO 1. Analyse interpret, appreciate and comprehend the specified text and the contexts in terms of their content, purpose and form.
PO1

CO 2. Comprehend effectively for a variety of professional and social settings, adapting other writer's ideas as they explore and develop their own. **PO2**

CO 3. Engage in simple, common and basic social and academic conversations, demonstrating the ability to open and close a conversation and to ask for clarification, information or assistance, as well as agreeing/disagreeing and giving examples. **PO2**

CO 4. Convey their own interpretations by building dialogues and developing the learner's performance level in spoken English through the activities. **PO7**

CO 5. Acquaint the learner with the skills to debate, describe and role play. **PO3**

CO-PO MATRIX- ENG T01A							
CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	M						
CO2		M					
CO3		H					
CO4							H
CO5						H	

GENERAL ENGLISH SYLLABUS FOR B.A/ B.COM/B.SC COURSES UNDER CBCS

SEMESTER-III

Course Code: ENG T01A **Max. Marks: 100**
No. of Hours per Week: 4 **External: 75M**
No. of Credits: 3 **Internal: 25M**

A COURSE IN CONVERSATIONAL SKILLS

Learning Outcomes

By the end of the course the learner will be able to:

- Speak fluently in English
- Participate confidently in any social interaction
- Face any professional discourse
- Demonstrate critical thinking
- Enhance conversational skills by observing the professional interviews

I. UNIT

Speech Skills: 1. Tryst with Destiny Jawaharlal Nehru
Skills: 2. Greetings
3. Introductions

II. UNIT

Speech: 1. Yes, We Can Barack Obama
Interview: 2. A Leader Should Know How to Manage Failure Dr.A.P.J.Abdul Kalam/ India Knowledge at Wharton
Skills: 3. Requests

III. UNIT

Interview: 1. Nelson Mandela's Interview with Larry King
Skills: 2. Asking and Giving Information
3. Agreeing and Disagreeing

IV. UNIT

Interview: 1. JRD Tata's Interview with T.N.Ninan
Skills: 2. Dialogue Building
3. Giving Instructions/Directions

V. UNIT

1. **Speech**: 1. You've Got to Find What You Love Steve Jobs
Skills: 2. Debates
3. Descriptions
4. Role Play

P.B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE

Siddhartha Nagar, Vijayawada – 520 010

Autonomous -ISO 9001 – 2015 Certified

Title of the Course :Sampling Techniques and Design of Experiments Lab

Offered to: BA(EMS) & B.SC (M.S.Cs, M.S.Ca &M.S.Ds) **Course Code: STAP41B**

Course Type: Core (Practical) **Credits: 1**

Year of Introduction: 2021-22 **Semester: IV**

Hours Taught: 30periods **Max.Time: 2** Hours

Course Prerequisites (if any): Nil

Course Outcomes:		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	**Programme Outcomes Mapping**
CO 1	To draw the sample from the population using sampling techniques	PO – 5
CO 2	To Construct suitable designed experiment for a given real life data.	PO - 6

CO-PO MATRIX								
COURSE CODE	CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
STAP41B	CO1					H		
	CO2					H		
	CO3					H		
	CO4					H		
	CO5					H		

List of Practicals

1. Simple random sampling with and without replacement. Comparison between SRSWR & SRSWOR
2. Stratified random sampling – proportional & optimum allocations. Comparison between proportional & optimum allocations with SRSWOR

3. Systematic sampling with N = nk. Comparison of systematic sampling with stratified and SRSWOR
4. Analysis of CRD
5. Analysis of RBD. Relative efficiency of RBD over CRD
6. Estimation of single missing observation in RBD and its analysis
7. Analysis of LSD. Relative efficiency of LSD over CRD and RBD
8. Estimation of single missing observation in LSD and its analysis
9. Analysis of 2^2 with RBD layout

Structure of Practical Paper

Total Marks: 50 Marks

(i) For Continuous Evaluation	**:**	**10 marks (Internal Evaluation)**
(ii) For semester end Practical Examination:		**40 marks (External Evaluation)**

P.B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE

Siddhartha Nagar, Vijayawada – 520 010

Autonomous -ISO 9001 – 2015 Certified

Title of the Course: Sampling Techniques and Design of Experiments

Offered to: BA(EMS) & B.SC (MSCs, M.S.Ca &M.S.Ds) **Course Code: STAT 41B**

Course Type: Core (Theory) **Credits: 4**

Year of Introduction: 2021-22 **Semester: IV**

Hours Taught: 60periods. **Max.Time:** 3 Hours

Course Prerequisites: Basic Knowledge of Mathematics, Counting principles, distributions, Estimation and Testing of Hypothesis.

Course Description: This course helps the students to understand the various sampling ideas to conduct the socio economics studies. Introduces the basic concepts and principles of experimental design

Course Objectives:

1) To impart basic concepts in Sampling Theory.
2) To explore various sampling techniques and understand their merits and drawbacks.
3) To understand the basic terminology in experimental design.
4) To develop the students ability to plan an experiment.
5) Obtaining relevant information from the experiment in relation to the statistical hypothesis under study.

Learning Outcomes: At the end of the course, the student will

1) Acumen to apply for collecting data for various studies.
2) ability to understand the design for comparing the various fields.
3) develop the skill of identifying important inputs that impact the output.

Course Outcomes:		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	**Programme Outcomes Mapping**
CO 1	To understand the principles and principal steps of sampling, and different sampling techniques. Apply different sampling techniques to take samples and computeunbiased estimates and confidence limits of population parameters.	PO - 5
CO 2	To analyse the unbiasedness and efficiencies of estimates obtained using different sampling techniques.	PO - 6
CO3	To understand the basic concepts and principles of experimental designs.	PO - 5

CO 4	To Analyze the various design of experiment concepts and missing plot techniques.	PO - 6
CO 5	To Identify the factors and variable for the experiment for building statistical model.	PO - 7

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
	CO1					**H**		
	CO2						**M**	
	CO3					**H**		
	CO4						**H**	
STAT41B	**CO5**							**L**

Syllabus

Unit	Learning Units	Lecture Hours
I	**Introductory Concepts of sampling :** Concepts of Population and Sample, Basic principles of sample survey, The principles steps in a sample survey, Complete enumeration Vs Sampling, Sampling and non-sampling errors, Limitations of sampling, Types of sampling, Non Probability sampling methods, Probability sampling methods **Simple Random sampling:** SRSWR definition and procedure of selecting a sample, SRSWOR definition and procedure of selecting a sample , expectation of sample mean and variance of sample mean in srswor and srswr, advantages and disadvantages.	**12**
II	**Stratified random sampling:** Stratified random sampling, Advantages and Disadvantages Allocation and types of allocation. Estimation of population mean, and its variance. Comparison between proportional and optimum allocations with SRSWOR. **Systematic sampling:** Procedure of construction, types, merits and demerits of systematic sampling. Comparison of systematic sampling with Stratified and SRSWOR	**12**
III	**Analysis of variance :** Analysis of variance(ANOVA) –Definition and assumptions. One-way classification, Two way classification.(one observation per cell) **Design of Experiments:**	**12**

	Terminology, Principles of design of experiments, CRD: Layout, advantages and disadvantage and Statistical analysis of Completely Randomized Design(C.R.D)	
IV	Randomized Block Design (R.B.D) and Latin Square Design (L.S.D) with their layouts, advantages and disadvantage and Statistical analysis, Missing plot technique in RBD and LSD. Efficiency RBD over CRD, Efficiency of LSD over RBDand CRD.	**12**
V	**Factorial experiments** – Main effects and interaction effects of 2^2 and 2^3 factorial experiments and their Statistical analysis. Yates procedure to find factorial effecttotals.	**12**

Text Book:
Fundamentals of Applied Statistics, 11th Edition, 2010, S. C. Gupta and V. K. Kapoor, Sultan Chand & Sons, New Delhi

Reference Books:

1. B.A/B.Sc. Second Year Statistics(2010) , Telugu Akademi, Hyderabad.
2. Mathematical Statistics with Applications, 2009, K.M.Ramachandran and Chris P.Tsokos Academic Press(Elsevier), Haryana .
3. Probability and Statistics, Volume I & II, D. Biswas, New central book Agency (P) Ltd, NewDelhi.
4. An outline of Statistical theory, Volume II,3rd Edition,2010(with corrections) A.M.Goon,M.K. Gupta, B.Dasgupta ,The World Press Pvt.Ltd., Kolakota.
5. Sanjay Arora and Bansi Lal:. New Mathematical Statistics, Satya Prakashan , New Delhi.

Websites of Interest: **http://onlinestatbook.com/rvls/index.html**

Co-Curricular Activities in the class:
1. Pictionary
2. Case Studies on topics in field of statistics
3. Snap test and Open Book test
4. Architectural – To be build the procedures
5. Extempore – Random concept to students
6. Interactive Sessions
7. Teaching through real world examples

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Model Question Paper

Max.: 75 Marks **Course Code: STAT 41B** **Min.Pass : 30 Marks**

Model Paper

Section A

Answer any FIVE of the following. **5 x 5M = 25M**

1. Write a short note on ANOVA (CO-3,L-2)
2. Define the terms (i) Treatments (ii) Blocks (iii) Experimental error (CO-3,L-1)
3. Write the applications of Completely randomized design (CO-3,L-2)
4. Explain the layout of Latin square design (CO-4,L-2)
5. Explain the layout of Randomized block design (CO-4,L-2)
6. Write the advantages of simple random sampling (CO-1,L-2)
7. Explain the construction of stratified random sampling (CO-2,L-2)
8. Explain the advantages of systematic sampling (CO-2,L-2)

Section – B

Answer the following. **5 x 10M =50M**

9 a) Explain basic principles of sampling (CO-1,L-2)

(OR)

b) In SRSWOR, the sample mean square is an unbiased estimate of the population mean square (CO-1,L-2)

10 a) Show that $V(\overline{y_{st}})_{Ney} \leq V(\overline{y_{st}})_{P} \leq V(\overline{y_{n}})_{R}$ (CO-2,L-2)

(OR)

b) If the population consists of a linear trend then Show that (CO-2,L-2)

$$V(\overline{y_{st}}) \leq V(\overline{y_{sys}}) \leq V(\overline{y_n})_R$$

11 a) Explain the principles of design of experiments (CO-3,L-2)

OR

b) Explain analysis of Completely randomized design (CO-3,L-2)

12 a) Explain analysis of Randomized block design (CO-4,L-2)

(OR)

b) Explain analysis of Latin square design (CO-4,L-2)

13 a) Explain analysis of 2^2 – factorial design (CO-5,L-2)

OR

b) Explain analysis of 2^3 – factorial design (CO-5,L-2)

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