CBCS CURRICULAR FRAMEWORK (2020 - 21)

TABLE 1: B.Sc.(Computer Science) with Cognitive Systems 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	Business English -I	ENGT15	I	First Language	100	25	75	4	3
2	Telugu-I	TELT11A	I	Second Language	100	25	75	4	3
3	Hindi-I	HINT11							
4	Environmental Studies	CLSCT01	III	Life Skill	50	10	40	2	2
5	Analytical Skill	LSCT03	III	Life Skill	50	10	40	2	2
6	Elementary Mathematics	MATT14A	II	Core	100	25	75	6	5
8	Problem Solving in C	CGST11	II	Core	100	25	75	4	4
9	Problem Solving in C Lab	CGSP11	II	Core Lab	50	10	40	2	1
10	Operating System	CGST12	II	Core	100	25	75	4	4
11	Operating System Lab	CGSP12	II	Core Lab	50	10	40	2	1
		TOTAL(Maximum)			700	165	535	30	25

TABLE 2 : B.Sc.(Computer Science) with Cognitive Systems 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	Business English -II	ENGT25	I	First Language	100	25	75	4	3
2	Telugu-II	TELT21A	I	Second Language	100	25	75	4	3
3	Hindi-II	HINT21							
4	National Cadet Crops-I	LSCT09	III	Life Skill	50	10	40	2	2
5	Introduction to Work Sheet Lab (Excel and VBA)	SDCCSCP04	III	Skill Development	50	10	40	2	2
6	Data Structures	CGST21	II	Core	100	25	75	4	4
7	Data Structures Lab	CGSP21	II	Core Lab	50	10	40	2	1
8	Computer Networks	CGST22	II	Core	100	25	75	4	4
9	Computer Networks Lab	CGSP22	II	Core Lab	50	10	40	2	1
10	Statistical Methods for Cognitive Systems	STAT26	II	Core	100	25	75	4	4

11	Statistical Methods for Cognitive Systems Lab	STAP22	II	Core Lab	50	10	40	2	1
	Community Service Project	CAIP2	II	CSP	100	100	0		4
	Yoga	CEXP01	IV	Extension Activity	50	10	40	2	2
				TOTAL(Maximum)	**900**	**285**	**615**	**32**	**31**

TABLE 3: B.Sc.(Computer Science) with Cognitive Systems 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	Business English -III	ENGT02	I	First Language	100	25	75	4	3
2	Personality Development & Leadership	LSCT11	III	Life Skill	50	10	40	2	2
3	Web Designing Lab	SDCCSCP06	III	Skill Development	50	10	40	2	2
4	Statistical Data Analysis using SPSS Lab	SDCSTAP01	III	Skill Development	50	10	40	2	2
5	Probability Distributions and Testing of Hypothesis	STAT36	II	Core	100	25	75	4	4
6	IT Infrastructure Management	CGST31	II	Core	100	25	75	4	4
7	IT Infrastructure Management Lab	CGSP31	II	Core Lab	50	10	40	2	1
8	Data Base Mangement System	CGST32	II	Core	100	25	75	4	4
9	Data Base Mangement System Lab	CGSP32	II	Core Lab	50	10	40	2	1
10	Object Oriented Programming Using Java	CGST33	II	Core	100	25	75	4	4
11	Object Oriented Programming Using Java Lab	CGSP33	II	Core Lab	50	10	40	2	1
				TOTAL(Maximum)	800	185	615	32	28

CBCS CURRICULAR FRAMEWORK (2020 - 21)

TABLE 4: B.Sc.(Computer Science) with Cognitive Systems 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	Telugu -III	TELT01A	I	Second Language	100	25	75	4	3
2	Hindi-III	HINT01	I						
3	Robotic Process Automation Lab	SDCCSCP09	III	Skill Development	50	10	40	2	2
4	Virtualization and Cloud Computing	CGST41	II	Core	100	25	75	4	4
5	Virtualization and Cloud Computing Lab	CGSP41	II	Core Lab	50	10	40	2	1
6	Process Management	CGST42	II	Core	100	25	75	4	4
7	Dev Ops Tools Lab	CGSP42	II	Core Lab	50	10	40	2	1
8	Python Programming	CGST43	II	Core	100	25	75	4	4
9	Python Programming Lab	CGSP43	II	Core Lab	50	10	40	2	1
10	Advanced Java	CGST44	II	Core	100	25	75	4	4
11	Advanced Java Lab	CGSP44	II	Core Lab	50	10	40	2	1
12	Data Mining and Warehousing	CGST45	II	Core	100	25	75	4	4
13	Data Mining Lab	CGSP45	II	Core Lab	50	10	40	2	1
14	NCC/NSS/Sports/Extra Curricular	CEXP02	IV	Extension Activity	50	10	40	2	2
15	Internship	CAIP4	II	IHP	100	100	0		4
	TOTAL(Maximum)				1050	320	730	38	36

TABLE 8: B.Sc.(Computer Science) with Cognitive Systems SEMESTER - VI

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	IT Infrastructure Library	CGSSET01	II	CORE	100	25	75	5	5
2	Client Relationship Management	CGSSET02	II	CORE	100	25	75	3	3
3	Client Relationship Management Lab	CGSSEP02	II	CORE LAB	50	10	40	3	2
4	Mobile application development	CGSSET03	II	CORE	100	25	75	3	3
5	Mobile application development Lab	CGSSEP03	II	CORE LAB	50	10	40	3	2
6	Cyber security and malware analysis	CGSSET04	II	CORE	100	25	75	3	3
7	Cyber security and malware analysis Lab	CGSSEP04	II	CORE LAB	50	10	40	3	2
8	Data science	CGSSET05	II	CORE	100	25	75	3	3
9	Data science Lab	CGSSEP05	II	CORE LAB	50	10	40	3	2
10	Python for Datascience	CGSSET06	II	CORE	100	25	75	3	3
11	Python for Datascience Lab	CGSSEP06	II	CORE LAB	50	10	40	3	2
12	Web Interface Designing Technologies	CGSSET07	II	CORE	100	25	75	3	3
13	Web Interface Designing Technologies Lab	CGSSEP07	II	CORE LAB	50	10	40	3	2

CBCS CURRICULAR FRAMEWORK (2020 - 21)

14	Web Applications Development using PHP&MYSQL	CGSSET08	II	CORE	100	25	75	3	3
15	Web Applications Development using PHP&MYSQL Lab	CGSSEP08	II	CORE LAB	50	10	40	3	2
16	Introduction to Digital Technology	CGSSET09	II	CORE	100	25	75	3	3
17	Introduction to Digital Technology Lab	CGSSEP09	II	CORE LAB	50	10	40	3	2
18	Software Engineering and Testing	CGSSET10	II	CORE	100	25	75	3	3
19	Software Engineering and Testing Lab	CGSSEP10	II	CORE LAB	50	10	40	3	2
20	Multimedia Tools and Applications	CGSSET11	II	CORE	100	25	75	3	3
21	Multimedia Tools and Applications Lab	CGSSEP11	II	CORE LAB	50	10	40	3	2
22	Digital Imaging	CGSSET12	II	CORE	100	25	75	3	3
23	Digital Imaging Lab	CGSSEP12	II	CORE LAB	50	10	40	3	2
24	Bigdata Analytics using R	CGSSET13	II	CORE	100	25	75	3	3
25	Bigdata Analytics using R Lab	CGSSEP13	II	CORE LAB	50	10	40	3	2
26	Data Science using Python	CGSSET14	II	CORE	100	25	75	3	3
27	Data Science using Python Lab	CGSSEP14	II	CORE LAB	50	10	40	3	2
28	Internet of Things	CGSSET15	II	CORE	100	25	75	3	3
29	Internet of Things Lab	CGSSEP15	II	CORE LAB	50	10	40	3	2
30	Application Development using Python	CGSSET16	II	CORE	100	25	75	3	3
31	Application Development using Python Lab	CGSSEP16	II	CORE LAB	50	10	40	3	2
32	IT Cognition and problem Solving	CGSSET17	II	CORE	100	25	75	5	5
33	Camps to Corporate	ENGSET01	II	CORE	100	25	75	5	5
		TOTAL(Maximum)			750	180	570	33	30

TABLE 5: B.Sc.(Computer Science) with Cognitive Systems Programme SEMESTER-VI

S.NO	Name of the Course	Course Code	Part No	Type of the Paper	Total Marks	Internal Assessment	External Assessment Component	Monitoring Hours	Credits
1	Internship in Computer Science	CGSIAP6	II	Core Project	200	50	150	6	12

PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE
VIJAYAWADA - 520 010
An Autonomous College in the jurisdiction of Krishna University,
Machilipatnam, Krishna District, Andhra Pradesh, India

STATISTICS   STAP61   2018-19   B.Sc. Hons
SEMESTER – VI   Practical -IV   No. of credits: 2

Statistical-Data Analysis using SPSS and Operations Research

Course Outcomes		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	**Programme Outcomes Mapping**
CO 1	SPPS syntax with some basic notions for developing their own simple programs and visualizing graphics in SPSS	PO6
CO 2	SPSS Syntax to test the normality and correlation and regression techniques	PO5
CO3	Simplex method of solving linear programming problem (LPP) for finding unbounded, alternate and in feasible solutions	PO4
CO 4	Determine the optimal solution for trasportation and assignment problems.	PO6
CO 5	Construction of the PERT Network and Calculation of expected completion time for the project using critical path method	PO5

COURSE CODE	CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
	CO-PO MATRIX							
STAP61	**CO1**						H	
	CO2					H		
	CO3					L		
	CO4						H	
	CO5					H		

Data Analysis using SPSS

1.   Descriptive Statistics- frequency Tables, Central Tendency,
        Dispersion, Skewness and Kurtosis
2.   Visual Statistics :   Bar diagrams, Histogram and Pie- diagram
3.   Correlations & Regressions
4.   Testing of Hypothesis: Normal test, t-test, Chi-square test and F- test

Operations Research

5.   Optimum Solution of LPP by using Simplex Method
6.   Optimum solution of Transportation problems (Minimization & Maximization)
7.   Optimum solution of Assignment Models (Minimization & Maximization)
8.   Project Management : To Construction the PERT network, calculation of
        expected completion time for the project using Critical path method and
        To determine the probability that project is completed within specified time.

1. Refference books for SPSS:
    (i)   SPSS Base 11.0 User's Guide, Bangalore, India
    (ii)   STATISTICS: CONCEPTS AND APPLICATIONS, PAL, NABENDU, SARKAR,
            SAHADEB   Edition: Second Edition, Publication: PHI Learning, New Delhi
            - 110 001, India.
2. Refference books for Operations Research:
    (i)   Operations Research: Kanti Swaroop, P.K.Gupta and ManMohan, Sultan
            Chand & Sons
    (ii)   Operations Research: S.D.Sharma , Kedar nath Romnath & Co.Meerut.

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STATISTICS   STAT 61   2018-19   B.Sc.Hons

Name of the Program: B.Sc. Hons (w.e.f: 2016-17 Batch students)

SEMESTER VI   PAPER – IV   No. of credits: 3

Operations Research

Course Outcomes		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	**Programme OutcomesM apping**
CO 1	Understand the concept of operations reasearch and able to solve mathematical formulation of LPP	PO5
CO 2	Apply the concepts of Big – M and two phase methods to solve the given LPP	PO5
CO3	Analyse the given transportation problem to obtain I.B.F.S by using various methods	PO6
CO 4	Determine the optimal solution for assignment problems.	PO6
CO 5	Construct the diagrams to analyse the given Network problems	PO5

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
STAT 61	**CO1**					**H**		
	CO2					**M**		
	CO3						**M**	
	CO4						**M**	
	CO5					**H**		

Unit I: Operations Research- An overview and L.P.P   (12L)

1.1   Origin and development of O.R.,

1.2   Nature and features of O.R.,

1.3	Scientific method and Modelling in O.R.,
1.4	Advantages and limitations of models,
1.5	Applications and Opportunities of O.R.

1.6 **Linear Programming Problem (L.P.P)**

    1.6.1 Definition, components, basic assumptions

    1.6.2 Mathematical formulation of the problem,

    1.6.3 Illustrations on mathematical formulation of L.P.P. (two and three variables)

1.7 L.P.P - graphical solution method (search approach method)

1.8 General LPP-Objective function, constraints, non-negative restrictions,

    Solution of LPP, feasible solution and optimum solution, Canonical and Standard forms of LPP.

Unit II: Linear Programming Problem-Simplex Method   **(12L)**

2.1 The computational procedure- Simplex Algorithm

2.2 Simple linear programming problems on 2 and 3 variables using Simplex Method.

2.3 Artificial Variable Technique (2 and 3 variables only)

2.4 The Big M Method or Method of Penalties.

2.5 The Two-phase Simplex Method.

2.6 Simple linear programming problems on 2 and 3 variables using Big M and Two-phase Simplex Method.

Unit III Transportation Problem   **(12L)**

3.1 L.P.formulation of the Transportation Problem, Tabular Representation,

3.2 Initial Basic Feasible Solution(I.B.F.S.) to Transportation Problem-

    3.2.1 North West Corner ,

    3.2.2 Least Cost and

    3.2.3 Vogles approximation Methods,

3.3 The Optimality Test - Transportation Algorithm - MODI(Modified Distribution Method),

3.4 Special cases in Assignment problems-

    3.4.1 Unbalanced,

    3.4.2 Prohibited,

    3.4.3 Maximization

3.5 Simple problems.

Unit IV Assignment Problem: **(12L)**

4.1 Mathematical formulation of the problem

4.2 Hungarian method for Assignment problem.

4.3 Special cases in Assignment problems-

    4.3.1 Unbalanced,

    4.3.2 Prohibited,

    4.3.3 Maximization,

4.4 Travelling salesman problem,

4.5   A typical Assignment Problem.

4.6   Simple problems.

Unit V: Network Scheduling by PERT/CPM   **(12L)**

5.1   Basic steps in PERT/CPM techniques, Basic components

5.2   Logical sequencing (errors in drawing networks)

5.3   Rules for network construction,

5.4   Critical path analysis,

      5.4.1   Forward pass Method

      5.4.2   Backward pass Method

      5.4.3   Determination of floats and slack times.

5.5   Probability considerations in PERT (Project Evaluation and Review Technique).

5.6   Distinction between PERT and CPM,

5.7   Applications of network techniques, Limitations and difficulties in using Network

5.8   Simple problems.

Text Book: KantiSwarup, P.K.Gupta , Man Mohan,Operations Research, 15th Edition, 2010, Sultan Chand & Sons, New Delhi.

List of Reference Books:

1. Quality,Reliability& Operations Research, First Edition (2010), Published by Telugu Akademi,Hyderabad.

2. Operations Research Theory, Methods and Applications, S.D. Sharma, Himan Sharma, improved and enlarged edition, KedarNathRamNath& Co., Meerut.

3. Kirshna's Operations Research, Dr. R. K. Gupta, 27 thEdition , 2010, Krishna Prakashan Media (P) Ltd., Meerut.

4. Operations Research: Theory and Applications, J.K.Sharma, 5th Edition, 2013, Macmillan.

5. Operations Research: An Introduction, Hamdy. A. Taha, 9th edition ,2010, Prentice Hall.

Structure of Model Paper

Section A: Eight questions are to be set (atleast one from each unit),of these five questions are to be answered.   (5 X 5M = 25 M)

Section B: Two questions from each unit with internal choice.   (5 X 10M = 50M)

Max Marks: 75M   **STAT61 : Model Paper**   Pass Minimum: 30M
Name of the Program   B.Sc. Hons   Max.Time 3 h

SECTION A

Answer any FIVE questions. Each question carries 5 marks.   5 x 5M= 25M

1.   State futures of O.R.

2.   Write a short note on transportation problem.

3.   Write a short note on travelling salesman problem

4.   Explain the graphical method of solving a LPP involving two variables.

5.   Write the rules for constructing the network diagram.

6.   Explain Vogel's approximation method for solving Transportation Problem

.   7.   What are the difference between CPM and PERT?

8.   Write at least 3 applications of L.P.P.

SECTION B

Answer the following Questions. Each question carries 10 marks. 5 x10 M = 50

9.   (a) Explain briefly the applications of O.R.

                      OR

9.   (b) Use the graphical method to solve the following L.P.P
        $Min\ Z = 1.5x_1 + 2.5x_2$
            Subject to conditions
            $x_1 + 3x_2 \geq 3$
            $x_1 + x_2 \geq 2$
            and $x_1, x_2 \geq 0$.

10.   (a) Using simple method to

            Minimum z = x_2 - $3x_3$ + $2x_5$

            subject to the constraints:
            $3x_2 - x_3 + 2x_5 \leq 7,$
            $-2x_2 + 4x_3 \leq 12,$
            $-4x_2 + 3x_3 + 8x_5 \leq 10,$
            $x_2, x_3, x_5 \geq 0$
                      OR

10.   (b) Use Two - phase simplex method to Maximize $Z = 5x_1 + 2x_2 - 3x_3$

            Subject to the constraints:

$$2x_1 + 2x_2 - x_3 \geq 2,$$
$$3x_1 - 4x_2 \leq 3,$$
$$x_2 + 3x_3 \leq 5,$$
$$x_1, x_2, x_3 \geq 0$$

11. (a) Solve the following transportation problem to find the minimum transportation cost:

Source	D_1	D_2	D_3	D_4	D_5	Available
Destination						
S_1	4	7	3	8	2	4
S_2	1	4	7	3	8	7
S_3	7	2	4	7	7	9
S_4	4	7	2	4	7	2
Required	8	3	7	2	2	

OR

11. **(b)** Find an optimum solution to the following transportation problem:

Factory	D	E	F	G	Capacity
Warehouse					
A	42	48	38	37	160
B	40	49	52	51	150
C	39	38	40	43	190
Demand	80	90	110	160	

12. (a) A manufacturing company has four zones A, B, C, D and four sales engineers P, Q, R, S respectively for assignment. Since the zones are not equally rich in sales potential, it is estimated that a particular engineer operating in a particular zone will bring the following sales:

Zone A: 4,20,000, Zone B: 3,36,000, Zone C: 2,94,000, Zone D: 4,62,000

The engineers are having different sales ability. Working under the same conditions their yearly sales are proportional to 14, 9, 11 and 8 respectively. The criteria of maximum expected total sales is to be met by assigning the best engineer to the richest zone, the next bets to the second richest zone and so on. Find the optimum assignment and the maximum sales.

OR

12. (b) Consider the problem of assigning five operators to five machines. The assignment costs are given below:

Operators	A	B	C	D	E
Machines					
I	10	3	10	7	7
II	5	9	7	11	9
III	13	18	2	9	10
IV	15	3	2	7	4
V	16	6	2	12	12

Assign the operators to different machines so that total cost is minimised.

13. (a) Tasks A, B, C,..., H, I constitute a project. The notations X<y means that the tasks X must be finished before Y can begin. With this notation.

A < D	A < E	B < F	D < F	C < G	C < H	F < I	G < I

Draw a graph to represent the sequence of tasks and find the minimum time of completion of the project, when the time (in days) of completion of each tasks is as follows.

TASK	A	B	C	D	E	F	G	H	I
TIME	8	10	8	10	16	17	18	14	9

OR

13(b)   A small project consists of seven activities, the details of which are given below:

Activity	A	B	C	D	E	F	G
Most likely	3	6	3	10	7	5	4
Optimistic	1	2	3	4	3	2	4
Pesimistic	7	14	3	22	15	14	4
Preceding Activities	-	-	B	C	A, D	D	A, D
Duration	6	5	2	2	2	1	6

(i)   Draw the network, number the nodes, find the critical path, the expected project completion time and the next most critical path.

(ii)   What project duration will have 95% confidence of completion?

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STATISTICS	STAP53	2016-17	B.Sc. (Honours)

Title of the course: Statistical Inference

Course Outcome	Course: STAP53	P.O Mapping
	Upon successful completion of this course, students should have the knowledge and skills to:	
CO 1	Estimating the parameters of large samples tests.	PO5
CO 2	Estimating the parameters of small sample tests.	PO5
CO3	Calculating the small sample tests for Means, paired t – test and correlation coefficient using MS – Excel.	PO6
CO 4	Calculating the small sample tests for single and difference of variances.	PO5
CO 5	Attributing chi-square test for goodness of fit and independence of Attributes using Excel.	PO6

CO-PO MATRIX									
COURSE CODE	CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	
STAP53	CO1					H			
	CO2					H			
	CO3						M		
	CO4					M			
	CO5						M		

SEMESTER - V No. of credits : 1 **PRACTICAL - III**

1. Large sample tests for mean(s), proportion(s), Standard deviation(s) and correlation coefficient.

2. Small sample tests for single mean and difference of means and correlation coefficient, Paired t-test.

3. Small sample tests for mean(s), paired t-test and correlation coefficient using MS Excel.

4. Small sample test for single and difference of variances.

5. Small sample test for single and difference of variances using MS Excel.

6. χ^2 – test for goodness of fit and independence of attributes.

7. χ^2 – test for goodness of fit and independence of attributes using MS Excel.

8. Nonparametric tests sign test and run test of one sample

List of 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. Fundamental of Statistics, 2014, S.C.Gupta, Himalaya Publishing House

4. 100 statistical tests

Semesters IV   External examination for 50 Marks
(i)   For Continuous evaluation – 10 Marks
(ii) For examination – 40 Marks

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STATISTICS	STAT53	2016-17	B.Sc. (Honours)

SEMESTER – V **PAPER – III** **No. of credits : 3**

Statistical Inference

Title of the course: **Statistical Inference** STAT53		
Course Outcome	**Course:**	**P.O Mapping**
	Upon successful completion of this course, students should have the knowledge and skills to:	
CO 1	Obtain the knowledge of estimating the parameters	PO5
CO 2	Understand the concepts of testing of hypothesis.	PO5
CO3	Apply the concepts of hypothesis and analyse the large samples	PO5
CO 4	Apply the concepts of hypothesis and analyse the small samples	PO5
CO 5	Differentiate parametric and non parametric methods and analyse the data by using non parametric methods.	PO7

CO-PO MATRIX									
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	
STAT53	**CO1**					H			
	CO2					M			
	CO3					M			
	CO4					M			
	CO5							L	

Unit I: Theory of Estimation

1.1 Point estimation of a parameter,

1.2 Criteria of good estimator-

    1.2.1   Consistency,

    1.2.2   Un biasedness,

    1.2.3   Efficiency and

    1.2.4   Sufficiency with examples.

1.3 Statement of Neyman's Factorization theorem–Simple Applications.

1.4 Methods of Estimation-

    1.4.1   Estimation by method of moments,

    1.4.2   Maximum likelihood (ML),

    1.4.3   Problems on MLE

1.5 Distinction between point estimation and interval estimation -

1.6 Confidence interval and confidence limits –

    1.6.1   Construction of confidence intervals for parameters of Poisson and Normal .

Unit II: Testing of hypothesis

2.1 Concepts of statistical hypotheses,

    2.1.1   Simple,

    2.1.2   Composite,

    2.1.3   Null and

    2.1.4   Alternative hypothesis,

2.2 Critical region,

2.3 Two types of errors,

2.4 Level of significance ,

2.5 power of a test and

2.6 p-value.

2.7 One and two tailed tests,

2.8 NP lemma Statement and proof

Unit III: Large Sample Tests(12L)

3.1 Sampling of Attributes-

    3.1.1   Test of significance for Single Proportion,

    3.1.2   Difference of proportions,

    3.1.3   confidence intervals for proportion(s) and

    3.1.4   Problems.

3.2 Sampling of Variables-

    3.2.1   Test of significance for Single Mean,

    3.2.2   Difference of Means,

    3.2.3   Confidence intervals for mean(s) and

    3.2.4   Problems.

3.3. Test of significance for Single Standard deviation,

    3.3.1   Difference of Standard deviations

3.3.2   Problems.
Unit IV: Small Sample Tests(12L)
4.1 t- test-
    4.1.1   t -Test for single mean,
    4.1.2   Difference of means ,
    4.1.3   Paired t- test for difference of means and
    4.1.4   Test for single correlation coefficient.
4.2 F-test-
    4.2.1   F-test for Equality of two population variances.
4.3 Fisher's Z- transformation-
    4.3.1   Test of significance for Difference of correlation coefficient(s),

Unit V: Chi-Square test & Non-Parametric Methods (12L)
5.1 Chi Square test
    5.1.1   test for single population variance,
    5.1.2   Goodness of fit
    5.1.3   Independence of Attributes
5.2 Non-parametric tests-
    5.2.1   Advantages and disadvantages,
5.2.2   Comparison with parametric tests.
5.3 Measurement scale-
    5.3.1   nominal,
    5.3.2   ordinal,
    5.3.3   interval and
    5.3.4   ratio.
5.4 One sample tests-
    5.4.1   Sign test
    5.4.2   Run test

STATISTICS	STAT	2016-17	B.Sc. (Honours)

Text Book:
1. B.A/B.Sc.:(Second Year) Statistics-II(2010) ,Statistical Methods and Inference
    Telugu Akademi, Hyderabad.

Unit I:	Chapter 7:	Section 7.1,7.2,7.3,7.3.1-7.3.4,7.4..
	Chapter 8:	Section 8.1,8.2,8.3,8.4,
Unit II:	Chapter 9:	Section 9.1 - 9.9.
	Chapter10:	Section 10.5
Unit III:	Chapter 11:	Section 11.4 - 11.5
Unit IV:	Chapter 12:	Section 12.1-12.7;
	Chapter 11:	Section 11.6
Unit V:	Chapter 13:	Section 13.1-13.4.
	Chapter14:	Section 14.1-14.3
	Chapter15:	Section 15.1 & 15.3

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

List of Reference Books:

1. Goon A.M., Gupta M.K. and Dasgupta B. (2005): Fundamentals of Statistics, Vol. II, 8th Edn.World Press, Kolkata.
2. Kandethody M. Ramachandran and Chris P.Tsokos(2009): Mathematical Statistics with Applications, First Edn, Elsevier, Haryana, India.
3. Parimal Mukhopadhyay(2009), Mathematical Statistics, 3rd Edition, Books & Allied (p) Ltd, Kolkata
4. Hogg, R.V., Craig, A.T. and Mckean, J.W. (2009): Introduction to Mathematical Statistics, 6th Edn., (6th Impression). Pearson Education.
5. GibbonsJ.D and Subhabrata Chakraborti: Nonparametric Statistical Inference. Marcel Dekker.

Model Paper Structure

Section A: Eight questions are to be set, of these five questions are to be answered.

(5 x 5 = 25 M)

Section B: Two questions from each unit with internal choice. (5 X 10M = 50M)

Parvathaneni Brahmayya 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)

Sl No.	Semester	Course Code	Name Of The Subject	Teaching Hours	Credits
1	**III Semester**	**ENGT01**	**English-III**	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 OUTCOMES:

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

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

CO 2. Write effectively for a variety of professional and social settings adapting other writers' ideas as they explore and develop their own. *PO3*

CO 3. Speak clearly, effectively and appropriately in a public forum with correct pronunciation, pause and articulation of voice for a variety of audiences and purposes. *PO2*

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

CO-PO MATRIX- ENG T01						
CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1		M					
CO2	M						
CO3					H		
CO4	M						
CO5	M						

DEPARTMENT OF ENGLISH

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

SEMESTER-III

UNIT-I PROSE

1. M.K.Gandhi; Shyness My Shield [from The Story of My Experiments with Truth]
2. Alexis C. Madrigal: Why people Really Love Technology: An INTERVIEW WITH GENEVIEVE BELL

UNIT-II POETRY

1. Gabriel Okara: Once upon a Time
2. Seamus Heaney: Digging

UNIT –III SHORT STORY

1. Jumpa Lahiri: The Interpreter of Maladies
2. Shashi Deshpande: The Beloved C HARIOTEER

UNIT-IV

ONE ACT PLAY-WURZEL FLUMMERY-A.A.MILNE

UNIT -V LANGUAGE ACTIVITY

1. Classroom and LABORATORY Activities
     i. JAM Sessions
    ii. Note Taking
   iii. Reporting for the Media
    iv. Expansion of an idea
2. Classroom Activity
     i. Transformation of Sentences(Simple-Complex-Compound sentences)
    ii. Note Making
   iii. Report Writing
    iv. Writing for the media

STAP42	**2016-17**	**B.Sc.Computer Science(Honours)**

SEMESTER – IV	**PRACTICAL**	**No. of credits: 1**

Title of the course : **Statistical Data Analysis- II Using MS Excel**

Course Outcome	Course: STAP42	P.O Mapping
	Upon successful completion of this course, students should have the knowledge and skills to:	
CO 1	Obtain various curves like second degree, Exponential and Power curves	PO5
CO 2	Able to understand various discrete distributions like Binomial and Poisson	PO5
CO3	Compute various Negative Binomial and Geometric distributions.	PO5
CO 4	Compute Exponential and Cauchy distributions.	PO5
CO 5	Fitting of Normal distributions by different methods.	PO6

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
STAP42	**CO1**					**H**		
	CO2					**H**		
	CO3					**M**		
	CO4					**H**		
	CO5						**M**	

Chapter No	Theme	Key Topics	Number of Experiments
1	**Curvce fitting**	Fitting of second degree curve, exponential curve of type y= ab$X$	2
2	**Discrete Probability Distributions-I**	Fitting of Binomial and Poisson distributions	2
3	**Discrete Probability Distributions-I**	Fitting of Negative Binomial and Geometric distributions	2
4	**Continuous Probability Distributions -I**	Fitting of Exponential and Cauchy distributions	2
5	**Continuous Probability Distributions -II**	Fitting of Normal distribution- Areas method and ordinates method	2

***

PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE

VIJAYAWADA - 520 010

An Autonomous College in the jurisdiction of Krishna University,

Machilipatnam, Krishna District, Andhra Pradesh, India

STATISTICS   STAT44   2016-17   B.Sc. COMPUTER SCIENCE(HONOURS

SEMESTER – IV   PAPER – II   No. of credits: 3

Title of the course : **Probability Distributions**		
Course Outcome	**Course: STAT44** Upon successful completion of this course, students should have the knowledge and skills to:	**P.O Mapping**
CO 1	Obtain knowledge about discrete distributions.	PO5
CO 2	Obtain knowledge about continuous distributions.	PO5
CO3	Apply standard continuous probability distribution like Laplace, Cauchy, Beta and Logistic distributions	PO5
CO 4	Know limiting form of Binomial and Poisson distributions.	PO6
CO 5	Obtain the knowledge of Exact Sampling distributions.	PO5

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
STAT44	**CO1**					**H**		
	CO2					**M**		
	CO3					**H**		
	CO4						**M**	
	CO5					**M**		

Unit I   Univariate Discrete Distributions   **(15 L)**

1.1   Uniform and Bernoulli Distribution- Mean and Variance, Moment generating function.

1.2   Binomial and Poisson distribution - Probability mass function, Mean, Variance only Moment generating function, Cumulant generating function, Probability generating function, Characteristic function, Recurrence relation for the central

moments, Mode, Additive property and limiting Case- Binomial to Poisson distribution.

1.3 Negative Binomial and Geometric distribution- Probability mass function, mean, variance only, Moment generating function, Cumulant generating function and Probability generating function.

1.4 Memory-less property of geometric distribution.

1.5. Illustration with specific examples.

Unit II: Univariate Continuous Distributions- 1   **(15H)**

2.1 Rectangular or Uniform Distribution-Moments-Mean and Variance, Moment generating function,Characteristic function,Mean Deviation about mean.

2.2 Exponential distribution - Probability density function, moments- non-central and central, Moment generating function, Lacks memory property, Additive property.

2.3 Gamma Distribution-Probability density function,mean, variance,Moment generating function and Cumulant generating function,

2.4 Limiting form of gamma distribution, Additive property,

2.5 illustrations with specific examples.

Unit III: Univariate Continuous Distributions-2   **(15 L)**

3.1 Normal and Standard normal distribution- Probability density function, mean, median, mode, moment generating function, Q.D, and M.D

3.2 Chief characteristics of the Normal distribution,

3.3 Properties of normal distributions-Area and additive

3.4 Normal distribution as a limitingform of Binomial and Poisson distribution,

3.5 illustrations with specific examples.

Unit IV:Special continuous distributions   **(15L)**

4.1 Standard Laplace(Double Exponential)- Mean , Variance and characteristic functions

4.2 Cauchy distribution-mean and variance only and Characteristic function

4.3 Beta distribution (Ist& IInd kind)- Probability density function,Mean and variance,Harmonic mean.

4.4 Logistic distribution- pdf, mean and variance and MGF

4.5 illustration with specific examples .

Unit V: Exact Sampling Distributions and Order Statistics (15 L)

5.1 Central Limit theorem: Statement and Applications of CLT only (no derivations)

5.2 Conceptsof population, parameter, random sample,statistic, sampling distribution and Standard error.

5.3 Exact sampling distributions: Statement and properties of Chi-Square distribution.

5.4 Statement and properties of t - distribution and

5.5 Statement and properties of F distributions and their inter-relationships.

Text Book: 1.   Fundamentals of Mathematical Statistics, 11 th Edition, 2007,
                  S. C. Gupta and V. K. Kapoor, Sultan Chand & Sons, New Delhi.

2. B.A/B.Sc. First & Second Year Statistics(2010),Telugu Akademi, Hyderabad.

List of Reference Books:

1. Mathematical Statistics with Applications, 2009, K.M.Ramachandran and Chris P.Tsokos Academic Press(Elsevier), Haryana .

2. Probability and Statistics,Volume I, D.Biswas, New central book Agency (P) Ltd, New Delhi.

3. 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.

4. Sanjay Arora and BansiLal:. New Mathematical Statistics, Satya Prakashan , New Delhi.

5. Mathematical Statistics, 3rd Edition, 2009, ParimalMukhopadhyay, Books & Allied (p) Ltd, Kolkata.

Structure of Model Paper

Section A : Questions related to definitions, concepts, properties, derivations.

* Each question carries 5 marks.
* Set 8 questions from all four units, two from each unit.
* Student has to answer 5 questions out 8 questions.

Section B: Questions related to Problems(illustrations and numerical examples)

* Each problem carries 10 marks.
* Set 8 problems from all five units, atleast one from each unit
* Student has to answer 5 questions out 8 questions.

***

Max Marks: 75M   **STA044 : Model Paper**   Pass Minimum: 30M
Max.Time :3h

SECTION - A

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

1. What are the applications of Poisson distribution?
2. Define binomial distribution and find its mean and variance.
3. Explain the Lack memory property of Exponential distribution.
4. State additive property of gamma distribution.
5. Obtain Mode of Normal distribution.
6. Write the properties and uses of Chi-square distribution.
7. Show that normal distribution as a limiting form of Poisson distribution.
8. Obtain mean and variance of Logistic distribution.

SECTION – B

Solve any Five Problems.   **5 x 10M = 50M**

9. The probability of a man hitting a target is 1/4.
    i) If he fires 7 times what is the probability of his hitting the target at least twice?
    ii) How many times must he fired so that the probability of his hitting the target at least once is greater than 2/3 ?
10. If X has a uniform distribution in [0,1], find the distribution (p.d.f) of -2 log X, Identitythe distribution also.
11. X has a negative exponential distribution with parameter. If $P(x \le 1) = P(x > 1)$, find mean and variance of x.

12. In a distribution exactly normal, 10.03% of the items are under 25 Kilogram weight and 89.97% of the items are under 70 kilogram weight. What are the mean and standard deviation of the distribution?

13. The mean yield for one-acre plot is 662 kilos with as.d. 32 kilos. Assuming normal distribution, how many one-acre plots in a batch of 1,000 plots would you expect to have yield (i) over 700 kilos, (ii below 650 kilos, and (iii) what is the lowest yield of the best100 plots?

14. Find $\underset{n \to \infty}{Lim} P\left[\sigma^2 - \frac{1}{\sqrt{n}} \le \frac{1}{n}\sum_{i=1}^{n}(x_i - \mu)^2 \le \sigma^2 + \frac{1}{\sqrt{n}} \right]$

15. Let X and Y have the joint pdf $f(x,y) = \frac{e^{-(x+y)}x^3 y^4}{\Gamma 4 \Gamma 5}, x > 0, y > 0$, = 0, else where

Find Mean of $\frac{X}{X+Y}$.

16. Suppose X has Poisson distribution If $P(X=2) = \dfrac{2}{3}P(X=1)$ the find (i) P(X=0) (ii) P(X < 3).

***

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

(An Autonomous College in the jurisdiction of Krishna University)

STAP32	**2016-17**	**B.Sc.Computer Science(Honours)**
SEMESTER – III	**PRACTICAL**	**No. of credits: 1**

Title : Statistical Data Analysis- I Using MS Excel

Title of the course :		
Course Outcome	**Course: STAP32** Upon successful completion of this course, students should have the knowledge and skills to:	**P.O Mapping**
CO 1	Analyze the data by using Diagrammatic and Graphical Representation of Data	PO5
CO 2	Compute the Measures of Central Tendency	PO5
CO3	Compute the Measures of Dispersion (Ungrouped and Grouped data)	PO5
CO 4	Know About the Nature of Data	PO5
CO 5	Compute Correlation and Regression (Ungrouped and Grouped data)	PO5

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
STAP32	**CO1**					**M**		
	CO2					**H**		
	CO3					**H**		
	CO4					**H**		
	CO5					**H**		

Chapter No	Theme	Key Topics	Number of Experiments
1	**Graphs and Diagrams**	Graphical and diagrametic representation of statistical data problems based on simple and subdivided bar diagrams, pie diagram, Histograms	2
2	**Measures of Central Tendency**	Computation of measures of central tendency (ungroupedand grouped data). Use of an appropriate measure and interpretation of results and computation of partition values	2
3	**Measures of and Dispersion**	Computation measures of dispersion (ungrouped & grouped data)	2
4	**Moments, Skewness and Kurtosis**	Computation of central , non-central moments, measuring skewness and Kurtosis , based on quartiles	2
5	**Measures of Correlation and Regression Coefficients**	Scatter diagram, correlation coefficient (ungrouped & Grouped data),Fitting of lines of regression.	2

STAT33

STATISTICS	2016-17	B.Sc. COMPUTER SCIENCE(HONOURS)

SEMESTER – III	PAPER – I	No. of credits: 3

Title : Statistical Methods & Theory of Probability

Title of the course : Statistical Methods & Theory of Probability

Course Outcome	Course: STAT33	P.O Mapping
	Upon successful completion of this course, students should have the knowledge and skills to:	
CO 1	Knowledge of various types of Data, their organization and evaluation of Summary measures such as Measures of Central Tendency and Dispersion, Including Concepts of Independence and Association between two Attributes.	PO6
CO 2	Knowledge to Conceptualise the probabilities of Events including Frequentist and Axiomatic approach.Simutaneously, they will learn the notion of conditional probability including the concepts of Baye's theorem.	PO5
CO3	Knowledge related to concept of Discrete and Continuous Random variables and their probability Distributions.	PO6
CO 4	Knowledge related to concepts of Mathematical Expectations of conditional mean and variance.	PO5
CO 5	Understanding the concepts of Generating Function in Univariate and Bivariate Random Variables.	PO6

CO-PO MATRIX									
COURSE CODE	CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	
	CO1						H		
	CO2					H			
STAT33	CO3						H		
	CO4					H			
	CO5						L		

Unit I: Statistical Methods (15 L)

1.1 Collection and summarization of univariate and bivariate data.

1.2 Univariate data – different measures of location, dispersion, relative dispersion, skewness and kurtosis, Moments- comparison with moment measures coefficients

1.3 Bivariate data – scatter diagram,Principles of least squares, Fitting of polynomial and exponential curves. correlation coefficient and its properties, Rank correlation – Spearman's measure. Concept of Regression, Regression coefficients and its properties.

1.4 Analysis of Categorical Data: Consistency of data, independence and association of attributes, Karl Pearson's and Yule's measures of association.

1.5 illustration with specific examples and numerical exercises

Unit II:Probability (15L)

2.1 Random Experiment: Trial, Sample point, Sample space, Different types of events

2.2 Definition of probability: Classical, limitations and relative-frequency approach to probability,Kolmogorov's- Axiomaticdefinition

2.3 Unconditional probability : Law of addition of probabilities for two events and n events and Booles inequality, simple problems

2.4 Conditional probability : Independent events: Pairwise and Mutual independence of n events, Multiplication law of probability for two events and n events,simple problems

2.5 Bayes' theorem and its applications.

Unit III: Random Variables (15 L)

3.1 Random Variables: Definition of discrete and continuous random variable, cumulative distribution function (c.d.f.) and its properties (with out proof).

3.2 Probability mass function(p.m.f) and Probability density function(p.d.f) with illustrations.

3.3 Bi-variate random variables,-Joint,Marginal and Conditional distributions- Discrete and Continuous random variables,

3.4. Properties of joint, marginal and conditional distributions and Simple problems.

3.5 Functions of one random variables and transformation of random variables

Unit IVMathematical Expectations (15L)

4.1 Definition: Mathematical expectation of function of a random variable,

4.2 Properties of Expectation - Addition and Multiplication theorems of expectation.

4.3 Properties of Variance and Covariance.

4.4   Illustration with specific examples.

4.5   Conditional mean and variance

Unit V:Generating Functions:

5.1   Moment generating function (m.g.f)-Discrete and Continues

         Properties and applications

5.2   Cumulant generating function (c.g.f)-Discrete and Continues

         Properties and applications

5.3   Probability generating function (p.g.f)-Discrete case and Properties

5.4   Characteristic function (c.f)-Discrete and Continues

         Properties of Characteristic function

5.5   Probability Inequalities: Cauchy-Schwartz and Chebyshev's inequalities

Text Book: 1.   Fundamentals of Mathematical Statistics, 11th Edition, 2010,

                 S. C.Gupta and V. K. Kapoor, Sultan Chand & Sons, New Delhi

         2.   B.A/B.Sc. First Year Statistics(2010) , Telugu Akademi, Hyderabad.

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                              ***

Structure of Model Paper

   Section A : Questions related to definitions, concepts, properties, derivations.

   *   Each question carries 5 marks.

   *   Set 8 questions from all four units, two from each unit.

   *   Student has to answer 5 questions out 8 questions.

   Section B: Questions related to Problems(illustrations and numerical examples)

   *   Each problem carries 10 marks.

   *   Set at least one from each unit.

   *   Student has to answer 5 questions out 8 questions.

Max Marks: 75M**STA033 : Model Paper**   Pass Minimum: 30M
SECTION - A   Max.Time :3h
Answer any FIVE of the following the following: **5 x 5M = 25M**

1. Explain the methods of measuring skewness and kurtosis of a frequency distribution.
2. State and Prove Bayes' theorem.
3. Define random variable and state its properties.
4. State and prove addition theorem on mathematical expectation.
5. Define characteristic function and state its properties.
6. State and Prove multiplication theorem on probability.
7. State and prove Cauchy-Schwartz inequality.
8. Define Yule's coefficient of association. Establish the following relation between coefficient of association Q and coefficient of Colligation Y: $Q = \dfrac{2Y}{1+Y^2}$.

SECTION – B
Solve any FIVE problems.   **5 x 10 = 50 M**
9. In a partially destroyed laboratory record of an analysis of correlation data, the following results only are legible:

   Regressions equations :   8x-10y + 66=0,40x-18y =214 and the Variance of X = 9

   Find i.   the mean values of x & y,

          ii.   the correlation between x & y and

         iii.   the standard deviation of y.

10. An urn contains 5 white and 5 black balls, 4 balls are drawn from this urn and put into another urn. From this second urn a ball is drawn and is found to be white. What is the probability of drawing a white ball again at the next draw. (The first white ball drawn is not replaced)

11. X,Y have joint pdf $f(x, y) = xe^{-x(y+1)}; x \ge 0, y \ge 0$.

    Find   (i) marginal pdf of x , marginal pdf of y and

              (ii) conditionalp.d.f of X given y, conditional pdf of y given X'

12. If x is r.v. such that E(x) = 3 and E(x^2)=13 use Chebyshev's inequality to determine a lower bound for $P(-2 < x < 8)$.

13. The distribution function F of ar.v. x is given by the following function.

$$F(x) = \begin{cases} 0, & if \ x < -2 \\ \dfrac{1}{2}, & if \ -2 \le x < 0 \\ \dfrac{3}{4}, & if \ 0 \le x < 2 \\ 1, & if \ x \ge 2 \end{cases}$$

(i) Sketch the graph of F(x), (ii) Obtain the p.d.f., f(x),

(iii) find:, $p(x = 1)$ and $p(0 < x < 2)$

14. Among the adult population of a certain town 50 % are males, 60 % are wage earners and 50% are 45 years of age or over, 10 % of the males are not wage earners and 40 % of the males are under 45.Make the best possible inference about the limits within which the percentage of persons(male and female)of 45 years or over are wage earners.

15. Let $f(x, y) = \begin{cases} 8xy \ ; \ 0 < x << y < 1 \\ 0 \quad ; \ otherwise \end{cases}$. Find (i) $E(Y/X = x)$ (ii) $V(Y/X = x)$

16. Find M.G.F and Characteristic function of $f(x) = \begin{cases} \dfrac{1}{b-a}, & a \le x \le b \\ 0, & otherwise \end{cases}$.

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College with Potential for Excellence
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DEPARTMENT OF ENGLISH
Course Structure and Syllabi under CBCS

Sl No.	Semester	Course Code	Name Of The Subject	Teaching Hours	Credits
1	**II Semester**	**ENGT21A**	**English-II**	**4**	**3**

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

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 OUTCOMES:
At the end of the course, the learners will be able to:
CO 1.Analyze, interpret, appreciate and comprehend the specified text and the contexts in terms of their content, purpose and form. **PO1**

CO 2. Write effectively for a variety of professional and social settings adapting other writers' ideas as they explore and develop their own. **PO3**

CO 3. Speak clearly, effectively and appropriately in a public forum with correct pronunciation, pause and articulation of voice for a variety of audiences and purposes. **PO2**
CO 4.Think critically; convey their own interpretations, perspectives, producing new creative and artistic works following grammatical structures in oral and written assignments. **PO7**
CO 5.Acquaint the learner with some widely used words which appear 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-PO MATRIX- ENG T21A						
CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	M						
CO2			M				
CO3		H					
CO4							H
CO5							H

P.B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF ENGLISH
ENGT21A   ENGLISH-II

Semester-II   **Max. Marks: 100**
No. of Hours per Week: 4   **External: 75M**
No. of Credits: 3   **Internal: 25M**

- -

SEMESTER-II

UNIT-I PROSE   12 hours

1. J.B.S. Haldane: The Scientific Point of View
2. A.G. Gardiner: On Shaking Hands

UNIT-II POETRY   10 hours

1. John Keats: Ode To Autumn
2. Kishwar Naheed: I Am Not That Woman (from An Anthology of Commonwealth Poetry edited by C.D.Narasimhaiah)

UNIT –III SHORT STORY   12 hours

1. Ruskin Bond: The Boy Who Broke The Bank
2. R.K.Narayan: Half A Rupee Worth

UNIT-IV   10 hours

ONE ACT PLAY- Anton Chekhov-A Marriage Proposal

UNIT -V LANGUAGE ACTIVITY   16 hours

i. Transformation of Sentences(Voice, Speech and Degrees)
ii. Dialogue Practice (Oral and Writing)
iii. Guided composition
iv. Dialogue Writing
v. Reading Comprehension

SEMESTER- II   PAPER - II

TITLE OF THE PAPER:FUNCTIONAL HINDI-II

FUNCTIONAL HINDI-II   **2018-2019**   **COURSE CODE – HINT22A**

COURSE NAME	COURSE OUTCOMES NO	COURSE OUTCOMES	PO'S
HINT22A	CO1	सरकारी कार्यालयों के पत्राचार की जानकारी।	PO6
	CO2	प्रयोगिक हिंदी के प्रकार एवं प्रयोग का अवगहण।	PO7
	CO3	प्रयोजनमूलक हिंदी की अवधारण जानकारी।	PO6
	CO4	राजभाषा ,राष्ट्रभाषा ,संपर्क भाषा का अंत: संबंध का ज्ञान।	PO6
	CO5	अनुवाद प्रक्रिया का बोध।	PO1

CO-PO MATRIX

CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1						M	
CO2							M
CO3						M	
C04						H	
CO5	H						

I. कार्यालय पत्राचारः

प्रामाणिक आलेखन और टिप्पण

1. अर्ध – सरकारी पत्र – **Pages 8, 9**

2. कार्यालय आदेश – **Pages 10, 11**

3. परिपत्र   – **Pages 12, 13**

4. कार्यालय ज्ञापन – **Pages 23 to 28**

5. अधिसूचना   – **Pages 40 to 50**

II. प्रायोगिक हिन्दी

1. आलेखन   – **Pages 34 to 43**

2. टिप्पण   – **Pages 62, 63**

3. विज्ञापन   – **Pages 76, 77**

III. प्रयोजन मूलक हिन्दी : अवधारणा और स्वरूप

(संप्रेषणमूलक व्यावसायिक हिन्दी – **Chapter Two: Pages 20 to 30**)

IV. राजभाषा, राष्ट्रभाषा, संपर्क भाषाः अंतः संबंध

(प्रायोगिक हिन्दी – **Pages 4, 5**)

V. अनुवाद

Reference Books:

प्रामाणिक आलेखन और टिप्पण

मिलिन्द प्रकाशन, सुल्तान बाजार

Hyderabad-95.

Course Code: HINT22A   **Roll No.:**   **Max. Marks: 75M**
Time: 3 Hrs.   **No. of Questions: VII**   **Pass Min. : 30M**

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I. (अ) आप सेवारत है और सांध्यकालीन किसी पाठ्यक्रम में प्रवेश लेना चाहते है । इस विषय की

   अनुमति लेने हेतु आवेदन का प्रारूप तैयार करें । **10M**

            अथवा

   (आ) अपने महाविद्यालय के वार्षिकोत्सव के लिए एक सभागार की बुलिंग हेतु महाविद्यालय की ओर

   से भेजे जाने वाले अर्थ शासकीय पत्र का प्रारूप तैयार करें ।

II. (अ) कार्यालय परिसर की स्वच्छता को बनाए रखने के लिए परिपत्र का प्रारूप तैयार करें । **10M**

            अथवा

   (आ) एक कर्मचारी को छुट्टी यात्रा रियायत (LTC) की अनुमति तथा दस दिन की अर्जित छुट्टी के

   नगद भुगतान की अनुमति प्रदान करने केलिए एक आदेश का प्रारूप तैयार करें ।

III.   (अ) कार्यालय का एक कर्मचारी कभी बिना कोई कारकण बताए छुट्टी पर लचा जाता है । इस

   विषय में उसे एक ज्ञापन जारी करें । **10M**

            अथवा

   (आ) शिक्षा निदेशालय द्वारा कुछ विद्यालयों में प्रधानाचार्य की बियुक्ति की अधिसूचना तैयार करें।

IV. (अ) भूतपूर्व सैनिकों के लिए चिकित्सा की सुविधाएँ हेतु अन्तर विभागीय टिप्पणी तैयार कीजिए। **10M**

            अथवा

   (आ) राज्य चुनाव आयुक्त की नियुक्ति की अधिसूचना तैयार करे ।

V. *किसी एक प्रश्न का उत्तर दीजिए ।*   **15M**

   1. प्रयोजनमूलक हिन्दी से आपका क्या तात्पर्य है और उसकी विशेषताओं को स्पष्ट कीजिए ।   2. प्रयोजनमूलक हिन्दी के विभिन्न रूपों का वर्णन कीजिए ।

VI. राजभाषा और राष्ट्रभाषा किसे कहते हैं तथा इनकी विभिन्नताओं पर प्रकाश डालिए ।   **10M**

VII. *अंग्रेजी से हिन्दी में अनुवाद कीजिए ।*   **10M**

   In order to keep our bodies strong and healthy, we should like regular exercise. Football, Cricket, running, jumping, walkings are all most useful so keeping us in good health. And when we enjoy a game, we get pleasure as well as health from it. So we should all take part in the games that are played at school for it is as such our minds with knowledge. If our bodies are weak and sickly, our minds too are likely to be sickly and unhealthy. A good brain should have healthy body to live in.

*****

Course Code : (TEL022) TEL T22

COURSE NAME	COURSE OUT COMES NO	COURSE OUT COMES	PO NO.
B.COM (HONS), B.SC (HONS)	CO 1	ప్రాజెక్ట్ నిర్మాణానికి కావలసిన సాధన సామాగ్రి వివరించటం	3
	CO 2	ఇతర భాషలలోనే మంచి విషయాలను గ్రహించి మనభాషలోనివిలువైనవిషయాలనుతెలియచెప్ప వలసినప్పుడు ఇతరభాషలవారికితెలియచేయడం	1
	CO 3	కొన్ని పదాలకి నిగూఢమైన అర్థాలు ఉంటాయి వాటిని వివరించి చెప్పడం	5
	CO 4	ఒక పదానికి బదులుగా అనేక పదాలుఒకేఅర్థాన్ని ఇచ్చేవి	3
	CO 5	వినసొంపైనతేలికపదాలతోపెద్దలగతఅనుభవాలను భాష ద్వారా సోదాహరణ పూర్వకంగా చెప్పేవి	1

CO – PO MATRIX

Course Code : (TEL022) TEL T22

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

Parvathaneni Brahmayya Siddhartha College of Arts and Science Vijayawada 520010
(An autonomous college in the Jurisdiction of Krishna University. Machilipatnam)

Telugu	TEL22	2019-20	B.Sc,Honours&B.Com,Honours

SYLLABUS

semester -II   credits: 2

Functional Telugu –II

అభ్యసన ఫలితాలు

CO 1 : ప్రాజెక్ట్ నిర్మాణానికి కావలసిన సాధన సామాగ్రి వివరించటం

CO 2 : ఇతర భాషలలోనే మంచి విషయాలను గ్రహించి మన భాషలోని విలువైన
          విషయాలను తెలియచెప్పవలసినప్పుడు ఇతర భాషల వారికి తెలియచేయడం

CO 3 : కొన్ని పదాలకి నిగూఢమైన అర్థాలు ఉంటాయి వాటిని వివరించి చెప్పడం

CO 4 : ఒక పదానికి బదులుగా అనేక పదాలు ఒకే అర్థాన్ని ఇచ్చేవి

CO 5 : వినసొం పైన తేలిక పదాలతో పెద్దల గత అనుభవాలను భాష ద్వారా సోదాహరణ
          పూర్వకంగా చెప్పేవి

1. ప్రాజెక్ట్ రిపోర్టు : ప్రాజెక్ట్ రిపోర్టు పరిచయం - లక్షణాలు లక్ష్యాలు , పరిశ్రమల ప్రాజెక్టు
   రిపోర్టు తయారు చేసే విధానం. ఉదాహరణ : ప్లాస్టిక్ వస్తువులు, ఇటుకలు, గాజు
   సామాగ్రి,, పాడి పరిశ్రమ చెప్పులు , కొవ్వొత్తులు, సబ్బులు, అగరబత్తులు మొదలైనవి.

2. అనువాదాలు: అనువాద విధానం, అనువాదములో భేదాలు - అనువాద రకాలు :
   విషయాన్ని బట్టి సమాచారాన్నివాదం, వచన సాహిత్యానువాదం, కవిత్యానువాదం ,
   వైజ్ఞానిక /సాంకేతిక పాఠానువాదం, అనువాద విధానాన్ని బట్టి రకాలు మూల
   విధేయనువాదం , స్వేచ్ఛానువాదం, ఆంగ్లం నుండి తెలుగులోనికి అనువదించటం

3. జాతీయాలు

4. పర్యాయపదాలు

5. సామెతలు

Parvathaneni Brahmayya Siddhartha College of Arts and Science Vijayawada 520010
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Telugu	TEL22	2019-20	B.Sc,Honours&B.Com,Honours

semester -II   MODEL PAPER   credits: 2
                              Functional Telugu –II

1. ఈ క్రింది వానిలో మూడింటిని గూర్చి రాయండి   3X10 = 30M

1. పరిశ్రమల ప్రాజెక్టు రిపోర్టు తయారు చేసే విధానం

2. గాజు సామాగ్రి తయారు చేసే పరిశ్రమకు కావలసిన వనరులు ఏర్పాట్లు తీసుకోవలసిన జాగ్రత్తలు

    3. పాడి పరిశ్రమ ఏర్పాటులో పాటించవలసిన పద్ధతులు

    4. ప్రాజెక్టు వస్తువుల పరిశ్రమ ఏర్పాటులో సమీకరించుకోవలసిన వనరులు

    5. సబ్బులపరిశ్రమ ఏర్పాటుకు కావలసిన వనరులు

2. అనువాద విధానములోని రకాలను వివరించండి   (లేదా)

   విషయాన్ని బట్టి అనువాదములో ఏ భేదాలు ఉంటాయో తెలపండి   10M

3. ఈ క్రింది ఆంగ్ల వాక్యాన్ని తెలుగు నుడికారం చెడకుండ అనువదించండి   2X10 = 20M

1.If you must read novels juice choice choose out the best you can find novels written by Masters of the art of storytelling great novelists are first masters of Style they know how to write secondly they know how to construct plot that will hold interest to the end Third le they have a keen inside into human nature and creative power of making living and natural characters that same like real people lastly they have a knowledge of life that enables them to make a Fictitious story True to the life we know in fact a good novel he is a picture of same part of Human life

2. unemployment is no reason for the discouragement half higher education the importance of Higher Education lies in the fact that knowledge must be pursued for its own sake education is not only in the I'm bubbling of information but the utilisation   of it it is the proper development of mind and body concentration of material interest should not be allowed to pervert the real name of education it is the purpose of education to teach people how to solve intelligently the cultural social economic and political problems after country

4. ఈ క్రింది జాతీయాల్లో ఒక్కొక్క జాతీయాన్ని ఒక వాక్యంలో మాత్రమే ఉపయోగించి ఐదింటిని
   రాయండి   5X1 = 5M

   1. అందే వేయు   2.ఆరు నూరగు   3.ఎదురీదు   4.కత్తి గట్టు   5.ఆకట్టుకను

   6. కాకలు తీరు   7.కడుపు కొట్టు   8.ఉద్వాసన చెప్పు

5. ఈ పాఠ్య ప్రణాళికలోని ఏవైనా ఐదు సామెతలు రాయండి   5x1 = 5M

6. ఈ క్రింది పదములలో ఏ ఐదింటికైనా పర్యాయపదాలు రాయండి   5X1 = 5M

   1. రాజు 2. శత్రువు 3.భూమి 4.పక్షి 5.ఏనుగు 6.కాకి 7.జలము 8.భర్త 9.కోరిక

   10.సింహము

Parvathaneni Brahmayya Siddhartha College of Arts & Science, Vijayawada-10

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College with Potential for Excellence

(Awarded by UGC)

Course Structure and Syllabi under CBCS

Sl No.	Semester	Course Code	Name Of The Subject	Teaching Hours	Credits
1	I Semester	ENGT11A	English-I	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 OUTCOMES:

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

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

CO 2. Write effectively for a variety of professional and social settings adapting other writers' ideas as they explore and develop their own. *PO3*

CO 3. Speak clearly, effectively and appropriately in a public forum with correct pronunciation, pause and articulation of voice for a variety of audiences and purposes. *PO2*

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

CO-PO MATRIX- ENG T11A						
CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	M						
CO2			M				
CO3		H					
CO4							H
CO5	---						

P.B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE

DEPARTMENT OF ENGLISH

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

UNIT-I PROSE

1. **A.P.J. Abdul Kalam: The Knowledge Society (from Ignited Minds)**
2. **Ngugi Wa Thiong'o: The Language of African Literature (from Decolonizing the Mind)**

UNIT-II POETRY

1. **Robert Frost: The Road Not Taken**
2. **Nissim Ezekiel: Night Of The Scorpion**

UNIT –III SHORT STORY

1. **Mulk Raj Anand: The Lost Child**
2. **Henry Lawson: The Loaded Dog**

UNIT-IV

ONE ACT PLAY- STEPMOTHER-ARNOLD BENNETT

UNIT -V LANGUAGE ACTIVITY

1. **Classroom and LABORATORY Activities**
   Sound (Pronunciation), Sight (Spelling), Sense (Meaning), Syntax (Usage)
2. **Classroom Activity**
   i. **Exercises in Articles and Prepositions**
   ii. **Exercises in Tenses, Interrogatives and Question Tags**

SEMESTER- I   PAPER - I

TITLE OF THE PAPER: FUNCTIONAL HINDI-I

FUNCTIONAL HINDI-I   **2018-2019**   **COURSE CODE – HINT12A**

COURSE NAME	COURSE OUTCOMES	COURSE OUTCOMES	PO'S
HINT12A	CO1	हिन्दी राजभाषा के रुप में ,संविधान में हिन्दी भाषा की प्राधान्यता विषयों के बारे कहते हैं।	PO1
	CO2	अनौपचारिक लेखों के द्वारा भाषा , लिखने से भावों की प्राधान्यता बढते हैं।	PO6
	CO3	साधारण भाषा से अलग होते हैं, इससे उत्तर स्थानों में होनीवाली भाषा सीखकर , शब्दावली में ज्ञान प्राप्त कर समाज में भाषा की प्राधान्यता बढ हो सकती हैं।	PO1
	CO4	एक भाषा से दूसरे भाषाओं में अनुवाद करने से भाषा में ज्ञान प्राप्त हो जाते हैं।	PO1
	CO5	समाज में हिन्दी भाषा की पुष्टीकरण , भाषा के द्वारा भावों को आसानी से समझ में आ सकते हैं।	PO1

CO-PO MATRIX

CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	L						
CO2						M	
CO3	L						
C04	M						
C05	M						

I. पारिभाषिक शब्दावली : प्रयोग   - 1-5Pages   10M

II. राजभाषा, राष्ट्रभाषा, संपर्क भाषा   - 6-11Pages   10M

III. हिन्दी ही संवैदानिकता   - 343-351Pages   10M

IV. अनुवाद :   - 12-22Pages   10+5+5M

     (1) परिभाषा अनुवाद के प्रकार

     (2) सिद्धान्त एवमं स्वरूप

     (3) महत्व

     (4) अनुवाद के गुण

V. व्याकरण :   - 23-32Pages   25M

     (1) शुद्धिकरण

     (2) पर्यायवाची शब्द

     (3) विलोम शब्द

     (4) संधि विच्छेद

     (5) कारक चिन्हों का प्रयोग

Reference Books:
Vikram Publishers Pvt. Ltd., Durga Agraharam, Vijayawada-2
प्रामाणिक आलेखन और टिप्पण

मिलिन्द प्रकाशन

Hyderabad-95. प्रयोगिक हिन्दी, ओरियंट ब्लैकस्वान प्राइवेट लिमिटेड, आसफ अली शेड, नई दिल्ली-110002

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

Course Code: HINT12A   Roll No.:   Max. Marks: 75M

Time: 3 Hrs.   No. of Questions: 08   Pass Min.   : 30M

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1. *एक वाक्य में उत्तर दीजिए :-*   **10 X 2 = 20M**

    1. राजभाषा किसे करते है?

    2. अशोक के समय में राजभाषा क्या थी ?

    3. भारतीय संविधन में राजभाषा के रूप में कब मान्यता प्रदान की गई?

    4. संविधान के अनुच्छेद 343के अनुसार संध की राजभाषा और लिपि क्या है?

    5. राजभाषा आयोग के गठन का आदेश कब हुआ?

    6. राजभाषा आयोग की प्रथम बैठक कब हुई?

    7. राजभाषा आयोग के प्रथम अध्यक्ष कौन थे?

    8. राजभाषा आयोग के लिए गठिन समिति का कर्तव्य क्या है ?

    9. अनुवाद 348 में किस विषय का उल्लेख है।

    10. संविधान की अष्टम अनुसूची में भारत की कितनी भाषाओं का उल्लेख है ।

2. विहार यात्रा जाने के लिए अनुमति माँगते हुए, पिता जी नाम पर पत्र लिखिए ।   **10M**

    अथवा

    चार दिन की छुट्टी माँगते हुए, अपने कालेज के प्राचार्य के नाम छुट्टी पत्र लिखिए ।

3. प्रयोजनमूलक भाषा की विशेषताओं पर प्रकाश डालिए ।   **10M**

    अथवा

    प्रयोजनमूलक हिन्दी विभिन्न रूपों को समझायें ।

4. *हिन्दी में अनुवाद कीजिए ।*   <u>**10 X 1 = 10M**</u>

      1. Sita sings a song.
      2. What is you name?
      3. Raghu is going to school.
      4. I will tell you a story.
      5. Surdas wrote Sursagar.
      6. Rama has eatten bread.
      7. Service to man is service to God.
      8. The cat is drinking milk.
      9. Trees keep the atmosphere cool.
      10. He can swim in the river.

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Course Code : (TEL021) TEL T12

COURSE NAME	COURSE OUT COMES NO	COURSE OUT COMES	PO NO.
B.COM (HONS), B.SC(HONS)	CO 1	ఇతరులతో సంబంధాలులావాదేవీలుపెంపొందించు కోవడానికి పరిష్కరించుకోవడానికి ఉపయోగకరం	1
	CO 2	సంపూర్ణ విషయవిశ్లేషణ ఉంటుంది కనుక అవగతము లేని వారికి కూడా తెలుసుకునే అవకాశం కలుగుతుంది	3
	CO 3	పలికే తీరు రాసే విధానం తెలుస్తుంది	1
	CO 4	పదానికి ప్రత్యామ్నాయంగా అదే అర్థం వచ్చే తద్భవ పదాలు	3
	CO 5	ఒక పదానికి వివిధదార్థాలు ఉన్నప్పుడు వాటిని చెప్పటం	4

CO – PO MATRIX

Course Code : (TEL021) TEL T12

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

Telugu	TEL12	2019-20	B.Sc,Honours&B.Com,Honours

SYLLABUS

Semester -I   Credits: 2

Functional Telugu –I

అభ్యసన ఫలితాలు

CO 1 : ఇతరులతో సంబంధాలు లావాదేవీలు పెంపొందించు కోవడానికి రిష్కరించుకోవడానికి
       ఉపయోగకరం

CO 2 : సంపూర్ణ విషయ విశ్లేషణ ఉంటుంది కనుక అవగతము లేని వారికి కూడా
       తెలుసుకునే అవకాశం కలుగుతుంది

CO 3 :పలికే తీరు రాసే విధానం తెలుస్తుంది

CO 4 ; ఒక పదానికి ప్రత్యామ్నాయంగా అదే అర్థం వచ్చే తద్భవ పదాలు

CO 5 : ఒక పదానికి వివిధదార్థాలు ఉన్నప్పుడు వాటిని చెప్పటం

1. లేఖారచన : లేఖల స్వరూపం, ఉత్తరాలు రాసే పద్ధతులు ,వివిధ రకాల లేఖలు ,
   వ్యక్తిగత లేఖలు ,వాణిజ్య లేఖలు, అధికారిక లేఖలు, సాంఘిక లేఖలు.

2. వ్యాసరచన : వ్యాస స్వరూపం ,వ్యాసరచన పద్ధతి, వ్యాస ప్రక్రియ లక్షణాలు ,
    వ్యాసరచన భేదాలు ,విషయ ప్రధాన వ్యాసాలు, వినోద ప్రధాన వ్యాసాలు.

3. సుశబ్దాలు

4. ప్రకృతి వికృతులు

5. నానార్థాలు

Telugu	TEL12	2019-20	B.Sc,Honours&B.Com,Honours

MODEL PAPER

Semester -I   Functional Telugu –I   Credits: 2

1. అ) లేఖ రచన స్వరూప స్వభావాలను వివరించండి   (లేదా)

   ఆ) ఉత్తరాలను రాసే పద్ధతులను వివరించండి   10M

2. అ) వివిధ రకాల లేఖలను వాటి ఆవశ్యకతను వివరించండి (లేదా)   10M

   ఆ) మీ గ్రామంలోని పారిశుద్ధ్యాన్ని గురించి అధికారికి లేఖ రాయండి

3. అ) పత్రికా ప్రకటన ఆధారంగా తగిన ఉద్యోగానికి అర్హత కల్పించమని సంబంధిత అధికారులకు
      లేఖను రాయండి   (లేదా)

   ఆ) మీ వీధిలో దొంగల తెడదను గురించి రక్షణ శాఖకు ఉత్తరం రాయండి   10M

4. అ) వ్యాసరచన ప్రయోజనాలను వివరించండి   (లేదా)

   ఆ) వ్యాసరచన పద్ధతిని వివరించండి   10M

5. అ) వ్యాస ప్రక్రియ ఎలా ప్రారంభమైందో తెలుపుతూ వ్యాస లక్షణాలను పేర్కొనండి ((లేదా)

   ఆ) వ్యాసరచనలో ఉన్న భేదాలను భేదాలను విపులీకరించండి   10M

6. అ) విషయ ప్రధానంగా ఉండే వ్యాసరచనను గురించి తెలపండి (లేదా)

   ఆ) వినోద ప్రధాన వ్యాసాలను గురించి వివరించండి   10M

7. క్రింది అసాధపులలో ఏదింటికి సాధురూపాలను వివరించండి   5X1=5M

   1. స్వంతము 2. వుత్సాహము 3.వాగ్దానము 4. కృషి   5. తద్యము 6. ప్రవేసించు

   7. భాధ   8.ఆధీనం   9. శాఖాహారము   10. త్రుప్తి

8. క్రింది ప్రకృతి రూపంలో ఏదింటికి వికృతి రూపాలను రాయండి   5X1=5M

   1. రత్నము 2. సంతోషము 3.కర్పూరం 4.శంక 5.కుడ్యము 6.దేవాలయము

   7.కలహము 8.వృషభము 9.ఆహారము 10.స్త్రీ

9. క్రింది వానిలో ఏదింటికి నానార్థాలను రాయండి   5X1=5M

   1.పాడి   2.వృక్షము 3.హరి 4.తమస్సు 5.పక్షము 6.కువలయము

   7.అంబరము 8.శాఖ 9.హస్తము 10. గుణము