



AMBEDKAR COLLEGE OF ARTS & SCIENCE, WANDOOR
 (Aided by Govt. of Kerala & Affiliated to University of Calicut)
 Wandoor (PO), Pin 679328, Ph: 04931-249666
acaswandoor@gmail.com, Website: www.ambedkarcollegewdr.in

COURSE PLAN										
Course code and title	STA2C02-Probability Theory									
Class	BSc Mathematics	Semester		II						
Regulation	2019	Academic year		2023-2024						
Course prerequisites	Basic knowledge of algebra and calculus, including functions, limits, differentiation, and integration. Familiarity with set theory and logical reasoning is also expected.									
Course objectives	<ul style="list-style-type: none"> • Understand basic probability concepts and random experiments. 									
	<ul style="list-style-type: none"> • Understand basic probability concepts and random experiments. 									
	<ul style="list-style-type: none"> • Apply statistical methods to interpret data and relationships. 									
COURSE OUTCOMES										
<i>At the end of the course the student would be able to...</i>										
CO1	Define basic probability terms such as random experiments, sample space, events, and different types of probability									
CO2	Explain the properties and applications of probability mass functions (PMF) and probability density functions (PDF) for both discrete and continuous distributions									
CO3	Calculate mathematical expectations (mean, variance) for univariate distributions and apply moment generation functions to derive properties of distributions									
CO4	Analyze the relationships between bivariate random variables by calculating joint, marginal, and conditional probabilities and interpreting the results									
CO5	Evaluate the independence of random variables using joint probability distributions and covariance, applying statistical techniques such as Karl Pearson's correlation coefficient									
MAPPING OF PROGRAM OUTCOMES										
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	✓		✓		✓					
CO2	✓		✓	✓	✓					
CO3	✓		✓	✓	✓			✓		
CO4	✓		✓	✓	✓		✓	✓	✓	



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CO5	✓		✓	✓	✓	✓	✓	✓	✓
PO1	Knowledge Acquisition				PO6	Ethics & Social Responsibility			
PO2	Communication & Leadership				PO7	Research, Innovation & Entrepreneurship			
PO3	Professional Skills				PO8	Lifelong Learning			
PO4	Digital Intelligence				PO9	Global Perspective			
PO5	Scientific awareness & Critical Thinking				PO10	Democratic Co-existence			

PROGRAM SPECIFIC OUTCOMES

PSO1	Apply probability and statistics to model and solve real-world problems. ✓
PSO2	Use mathematical and computational tools for statistical analysis.
PSO3	Interpret data and support decision-making using statistical methods.

MAPPING OF COURSE OUTCOMES TO PROGRAM EDUCATIONAL OUTCOMES

PROGRAM EDUCATIONAL OUTCOMES	COURSE OUTCOMES				
	CO1	CO2	CO3	CO4	CO5
PEO1 Development of Leadership Qualities	✓	✓		✓	✓
PEO2 Lifelong learning and Social contributions	✓	✓	✓	✓	✓
PEO3 Entrepreneurial and Global Competence		✓	✓	✓	

References

TEXT BOOKS:

- Rohatgi V. K. and Saleh, A.K. Md. E. (2009): An Introduction to Probability and Statistics. 2nd Edn. (Reprint) John Wiley and Sons.
- S.C.Gupta and V. K. Kapoor, Fundamentals of Mathematical Statistics, Sultan Chand and Sons

REFERENCES:

- Mood, A.M. Graybill, F.A. and Boes, D.C. (2007): Introduction to the Theory of Statistics, 3rd Edn.,



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(Reprint), Tata McGraw-Hill Pub. Co. Ltd	
2. John E Freund, Mathematical Statistics, Pearson Edn, New Delhi	
3. Cochran W.G. (1984): Sampling Techniques 3r Ed.), Wiley Eastern	
e-learning resources	Khan Academy – Probability and Statistics
Mode of Evaluation	Internal (15 Marks) End Semester Examination (60)
Faculty	Hima P, Assistant Professor/ Department of Statistics
e-mail id	himakc2000@gmail.com



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COURSE PLAN -PROBABILITY THEORY(STA2C02)

No of lecture hours	Planned Date	Topics to be covered	Reference/ Teaching aids and methods	Actual date	Week ly review
MODULE I - Introduction to Probability					
1	03/01/2024	Introduction to Probability and Applications	T/WB	04-01-24	1/imp
2	05/01/2024	Random Experiments – Definition and Examples	T/WB	" "	1/imp
3	06/01/2024	Sample Space and Event Classification (Simple, Compound, Complementary)	T/WB	" "	1/imp
4	09/01/2024	Classical (A Priori) Definition of Probability	T/WB	" "	1/imp
5	10/01/2024	Statistical Regularity – Concept and Importance	T/WB	05-01-24	1/imp
6	12/01/2024	Real-Life Examples of Classical Probability and Statistical Regularity	T/WB/PPT	" "	1/imp
7	13/01/2024	Set Theory Refresher – Union, Intersection, Complement, Venn Diagrams	T/WB	" "	1/imp
8	16/01/2024	Definition of Field and Sigma Field (σ -field)	T/WB	08-01-24	1/imp
9	17/01/2024	Events in a Sigma Field – Closure Properties	T/WB	" "	1/imp
10	19/01/2024	Axiomatic Definition of Probability – Kolmogorov's Axioms	T/WB/PPT	09-01-24	1/imp
11	20/01/2024	Simple Properties from Axioms (e.g., $P(\emptyset) = 0$, $P(A^c) = 1 - P(A)$)	T/WB/PPT	09-01-24	1/imp
12	23/01/2024	Addition Theorem – Two Events	T/WB	11-01-24	1/imp
13	24/01/2024	Addition Theorem – Three Events	T/WB	" "	1/imp
14	27/01/2024	Solved Problems on Addition Theorems	T/WB	" "	1/imp
15	30/01/2024	Conditional Probability – Concept and Formula	T/WB	" "	1/imp
16	31/01/2024	Solved Examples Using Conditional Probability	T/WB/PPT	12-01-24	1/imp
17	01/02/2024	Common Misconceptions in Conditional Probability	T/WB/PPT	12-01-24	1/imp
18	02/02/2024	Multiplication Theorem – Derivation and Meaning	T/WB/PPT	05-01-24	1/imp
19	05/02/2024	Independent Events – Pairwise Independence	T/WB	" "	1/imp
20	06/02/2024	Mutual Independence – Definition and Contrast with Pairwise	T/WB	16-01-24	1/imp
21	08/02/2024	Applications of Independence in Problems	T/WB	18-01-24	1/imp
22	09/02/2024	Bayes' Theorem – Statement and Derivation	T/WB	" "	1/imp



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23	12/02/2024	Applications of Bayes' Theorem – Real-World Scenarios			T/WB	19-1-24	g
Planned hours	Actual hours	Date	Sign of Faculty	Review by HoD	Review by Principal		
23	23	12/02/24	<i>[Signature]</i>	<i>[Signature]</i>			
MODULE II – Random Variables							
1	13/02/2024	Introduction to Random Variables – Definitions and Examples			T/WB	22-1-24	<i>[Signature]</i>
2	15/02/2024	Discrete Random Variables – Definition and Characteristics			T/WB	23-1-24	<i>[Signature]</i>
3	16/02/2024	Continuous Random Variables – Definition and Characteristics			T/WB	25-1-24	<i>[Signature]</i>
4	19/02/2024	Probability Mass Function (PMF) – Definition and Properties			T/WB	1-2-24	<i>[Signature]</i>
5	20/02/2024	Probability Density Function (PDF) – Definition and Properties			T/WB	2-2-24	<i>[Signature]</i>
6	22/02/2024	Worked Examples on PMF and PDF			T/WB	5-2-24	<i>[Signature]</i>
7	23/02/2024	Introduction to Cumulative Distribution Function (CDF) – Definition and Graphical View			T/WB/PPT	8-2-24	<i>[Signature]</i>
8	26/02/2024	Properties of the CDF – Monotonicity, Limits, and Continuity			T/WB/PPT	9-2-24	<i>[Signature]</i>
9	27/02/2024	Relationship Between PMF/PDF and CDF			T/WB/PPT	15-2-24	<i>[Signature]</i>
10	29/02/2024	Practice Problems on CDF for Discrete and Continuous Cases			T/WB/PPT	16-2-24	<i>[Signature]</i>
Planned hours	Actual hours	Date	Sign of Faculty	Review by HoD	Review by Principal		
10	10	29/2/24	<i>[Signature]</i>	<i>[Signature]</i>			
UNIT III - Mathematical expectations							
1	01/03/2024	Definition of Expectation			T/WB	19-2-24	<i>[Signature]</i>
2	04/03/2024	Properties of Expectation			T/WB	20-2-24	<i>[Signature]</i>
3	05/03/2024	Raw Moments: Definition			T/WB	22-2-24	<i>[Signature]</i>
4	07/03/2024	Computation of Raw Moments			T/WB	23-2-24	<i>[Signature]</i>
5	11/03/2024	Central Moments: Definition			T/WB	26-2-24	<i>[Signature]</i>
6	14/03/2024	Raw vs Central Moments			T/WB	27-2-24	<i>[Signature]</i>
7	15/03/2024	Interpretation of First Four Moments			T/WB	" "	<i>[Signature]</i>
8	18/03/2024	Moment Generating Function (MGF): Definition			T/WB	" "	<i>[Signature]</i>



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9	19/03/2024	Properties of MGF			T/WB	01-03-24	Imp
10	21/03/2024	Using MGF to Find Moments			T/WB	" "	Imp
11	22/03/2024	Characteristic Function: Definition			T/WB/PPT	4-03-24	Imp
12	25/03/2024	Basic Use of Characteristic Function			T/WB/PPT	05-3-24	Imp
13	26/03/2024	Skewness via Moments			T/WB/PPT	7-3-24	Imp
14	26/03/2024	Kurtosis via Moments			T/WB/PPT	" "	Imp
Planned hours	Actual hours	Date	Sign of Faculty	Review by HoD	Review by Principal		
14	14	26/3/24	Imp	Imp			
MODULE IV - Bivariate random variables							
1	06/06/2024	Introduction to Bivariate Random Variables			T/WB	11-03-24	Imp
2	07/06/2024	Joint Probability Mass Function (PMF)			T/WB	" "	Imp
3	10/06/2024	Joint Probability Density Function (PDF)			T/WB	12-03-24	Imp
4	11/06/2024	Marginal Probability Distributions			T/WB	" "	Imp
5	13/06/2024	Conditional Probability Distributions			T/WB	" "	Imp
6	14/06/2024	Conditional Probability for Discrete Variables			T/WB/PPT	14-3-24	Imp
7	18/06/2024	Conditional Probability for Continuous Variables			T/WB/PPT	15-3-24	Imp
8	20/06/2024	Independence of Random Variables			T/WB/PPT	18-3-24	Imp
9	21/06/2024	Conditions for Independence			T/WB	" "	Imp
10	24/06/2024	Function of Random Variables			T/WB	19-3-24	Imp
11	25/06/2024	Bivariate Expectation – Discrete Case			T/WB	" "	Imp
12	27/06/2024	Bivariate Expectation – Continuous Case			T/WB	21-3-24	Imp
13	28/06/2024	Conditional Expectation			T/WB	22-3-24	Imp
14	01/07/2024	Conditional Variance			T/WB	" "	Imp
15	02/07/2024	Covariance of Bivariate Random Variables			T/WB/PPT	" "	Imp
16	04/07/2024	Correlation Coefficient			T/WB/PPT	25-3-24	Imp
17	05/07/2024	Variance and Covariance in Multivariate Context			T/WB	" "	Imp
18	08/07/2024	Independence of Random Variables Based on Expectation			T/WB	26-3-24	Imp
Planned hours	Actual hours	Date	Sign of Faculty	Review by HoD	Review by Principal		
18	18	08/7/24	Imp	Imp			

FACULTY

~~Imp~~

SHAIKH AMEERA.U
 Asst. Professor & Head
 Department of Mathematics
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 Wandoor, Malappuram Dt.



PRINCIPAL
 AMBEDKAR COLLEGE OF
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 WANDOOR, MALAPPURAM DT



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Course outcome –Program outcome Mapping Table

PROBABILITY THEORY(STA2C02)		Cognitive level	Program outcomes											
			1- Low Correlation 2- Moderate correlation 3- High correlation											
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
DIRECT METHOD														
CO1	Define basic probability terms such as random experiments, sample space, events, and different types of probability	Remember	3	2										
CO2	Explain the properties and applications of probability mass functions (PMF) and probability density functions (PDF) for both discrete and continuous distributions	Apply	2	3	2				1					
CO3	Calculate mathematical expectations (mean, variance) for univariate distributions and apply moment generation functions to derive properties of distributions	Apply & Analyze	2	3	3		1							
CO4	Analyze the relationships between bivariate random variables by calculating joint, marginal, and conditional probabilities and interpreting the results	Create	2	3	3	2								
CO5	Evaluate the independence of random variables using joint probability distributions and covariance, applying statistical techniques such as Karl Pearson's correlation coefficient.	Innovate	1	3	3	2				1				
INDIRECT METHOD														



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Class Room contests	Analyze & Create	2	1	2									
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[Signature]
Course Faculty

TQAC Member
[Signature]

SHARSHAD AMEERA.U
 Asst. Professor & Head
 Department of Mathematics
 Ambedkar College of Arts & Science
 Wandoor, Malappuram Dt.
 HoD
[Signature]

COURSE PRE-ANALYSIS

Dear Students,

Welcome back to class, I would like to thank all of you for sparing your time in filling up this Course Pre-Analysis survey for the effective conduct of Computer Aided Design and Manufacturing Course. As you know that this survey is meant for knowing the knowledge level of the students with respect to this course, please fill it very carefully. At this juncture, I am glad to welcome the suggestions from you all (if any).

Rate your prior knowledge about the topics mentioned below

Course Outcomes	Description	Rate your prior knowledge about the topics			
		Excellent (4)	Good (3)	Moderate (2)	Fair (1)
CO1	Define basic probability terms such as random experiments, sample space, events, and different types of probability			✓	
CO2	Explain the properties and applications of probability mass functions (PMF) and probability density functions (PDF) for both discrete and continuous distributions				✓
CO3	Calculate mathematical expectations (mean, variance) for univariate distributions and apply moment generation functions to derive properties of distributions				✓
CO4	Analyze the relationships between bivariate random variables by calculating joint, marginal, and conditional probabilities and interpreting the results			✓	
CO5	Evaluate the independence of random variables using joint probability distributions and covariance, applying statistical techniques such as Karl Pearson's correlation coefficient				✓



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	MAPPING OF PROGRAM OUTCOMES				✓
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Name of the student:

Sabil

Signature of the student

Sabil

Course outcome –Program Specific outcome Mapping Table

Course outcomes	Program Specific outcomes		
	PSO1	PSO2	PSO3
CO1	✓		
CO2	✓	✓	
CO3	✓	✓	



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CO4	✓	✓	✓
CO5	✓	✓	✓

Course Faculty

[Signature]

QAC Member

HABDRSHAD AMEEDA.U
Asst. Professor & Head
Department of Mathematics
Ambedkar College of Arts & Science
Wandoor, Malappuram Dt.

[Signature]

DIRECT ASSESSMENT OF COURSE OUTCOMES

INTERNAL ASSESSMENT TESTMARKS

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Objective	To Identify What Students Have Learned and also to identify students strength and weakness		
To file	Answer scripts	Frequency	2 times in a semester on dates specified by University
Format	.		
Evaluation	Based on answer given in the scripts		
ASSIGNMENT: MARKS			



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Objective	To enhance students understanding of a complex structural problems			
Product	Hand written assignment sheets			
Frequency	Monthly or after completing improvement test			
Format	Questions from both question papers			
Evaluation	Based on rubrics			
Criteria	No. of assignments: 3 to 5, Submit on or before the date of submission			
END SEMESTER EXAMINATION 75 MARKS (Reduced to 60 Marks)				
Objective	To assess the each student's knowledge of the course			
Product	Result analysis			
Frequency	Semester			
Format	Part -A =20 marks, Part -B= 30 marks, Part C=10 Marks Total marks = 75, Duration : 2 hours			
Evaluation	Based on answer given in the scripts			
Marks out of 75	22.5-37.5	37.5- 52.5	52.5-75	0-37.5
Levels of attainment	1	2	3	Counseling / Coaching classes.

Attainment Levels of COs

STA2C02-Probability Theory		Attainment
Assessment Methods	Target-Attainment Levels	
Internal Assessment	Level 1	LEVEL 03
	Level 2	
	Level 3	
	50% of students scoring more than 35% marks in internal assessment tools	
	60% of students scoring more than 35% marks in internal assessment tools	
	70% of students scoring more than 35% marks in internal assessment tools	
Assessment Methods	Target-Attainment Levels	Attainment
University Assessment	Level 1	LEVEL 03
	Level 2	
	Level 3	
	50% of students scoring more than 35% marks in UE assessment tools	
	60% of students scoring more than 35% marks in UE assessment tools	
	70% of students scoring more than 35% marks in UE assessment tools	



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DEPARTMENT OF STATISTICS

CO ATTAINMENT - IA TEST MARKS (EVEN SEM. 2023-2024)

SemII

Course: STA2C02-Probability Theory

Name of the faculty member: HIMA P

Sl. No.	Name of the student	REG NO	IA TEST	COURSE OUTCOMES	
			Q1 TO Q14	IA TEST	
			CO1 TO CO5	CO1 TO CO5	
Max. Marks			30	%age	Y/N
1	ANEENA.K.P	UFAXSMT001	18	60	Y
2	ASNA SHERIN V T	UFAXSMT002	22	73	Y
3	AYISHA HANNA C K	UFAXSMT003	18	60	Y
4	FATHIMA FIDHA K	UFAXSMT004	12	40	Y
5	FATHIMA MINNATH K	UFAXSMT005	30	100	Y
6	FATHIMA NASNA V T.	UFAXSMT006	18	60	Y
7	FATHIMA SHIFA. M.K	UFAXSMT007	29	97	Y
8	FATHIMA THAMJEEDA	UFAXSMT008	28	93	Y
9	FIDA PK	UFAXSMT009	10	33	N
10	FIDHA V	UFAXSMT010	29	97	Y
11	HAFLA. T. K	UFAXSMT011	15	50	Y
12	MUFEEDA SHIFA. M.P	UFAXSMT012	18	60	Y
13	NUBLA SHANA . P	UFAXSMT013	18	60	Y
14	RABEEBA K P	UFAXSMT014	23	77	Y
15	RASHA JALEEL P	UFAXSMT015	15	50	Y
16	RISHWANA E K	UFAXSMT016	24	80	Y
17	ABOBACKER NAFIH T T	UFAXSMT017	10	33	N
18	JAMSHEEDALI.C.P	UFAXSMT018	16	53	Y
19	MOHAMMED AMALSHAN T	UFAXSMT019	10	33	N
20	MUHAMMAD RISHWAN K	UFAXSMT020	10	33	N
21	MUHAMMED ANSHIF . T	UFAXSMT021	12	40	Y
22	MUHAMMED SHAHID.V	UFAXSMT022	19	63	Y
23	ANAYA U P	UFAXSMT023	18	60	Y
24	ANJIMA SHAJI	UFAXSMT024	29	97	Y
25	ARYA VS	UFAXSMT025	15	50	Y
26	HANEENA K	UFAXSMT026	30	100	Y
27	KRISHNENDHU K	UFAXSMT027	12	40	Y
28	RIYA . P	UFAXSMT028	12	40	Y
29	SWATHIKRISHNA A K	UFAXSMT029	12	40	Y
31	MUHAMMED AJNAS K	UFAXSMT031	12	40	Y
32	ARJUN A	UFAXSMT030	10	33	N
				27	
				87.10	

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DEPARTMENT OF STATISTICS

(MAT5B08)	CO1 to CO5
TARGET: 50% C	87.1



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DEPARTMENT OF STATISTICS

CO ATTAINMENT - ASSIGNMENT(EVEN SEM. 2023-2024)

Sem. II

Name of the faculty member: HIMA P

Sl. No.	Name of the student	REG NO	ASSIGNMENT CO1 to CO5	SEMINAR CO4 to CO5	ATTENDANCE	COURSE OUTCOMES				ATTENDANCE	
						CO1 - 5 %age	Y/N	%age	Y/N	%age	Y/N
			3	3	3	100	Y	100	Y	100	Y
1	ANEENA.K.P	UFAXSMT001	3	3	3	100	Y	100	Y	100	Y
2	ASNA SHERIN V T	UFAXSMT002	3	3	3	100	Y	100	Y	100	Y
3	AYISHA HANNA C K	UFAXSMT003	3	3	3	100	Y	100	Y	100	Y
4	FATHIMA FIDHA K	UFAXSMT004	3	3	3	100	Y	100	Y	100	Y
5	FATHIMA MINNATH K	UFAXSMT005	3	3	3	100	Y	100	Y	100	Y
6	FATHIMA NASNA V T.	UFAXSMT006	3	3	3	100	Y	100	Y	100	Y
7	FATHIMA SHIFA. M.K	UFAXSMT007	3	3	3	100	Y	100	Y	100	Y
8	FATHIMA THAMJEEDA	UFAXSMT008	3	3	3	100	Y	100	Y	100	Y
9	FIDA PK	UFAXSMT009	3	3	2	100	Y	100	Y	66.6667	Y
10	FIDHA V	UFAXSMT010	3	3	3	100	Y	100	Y	100	Y
11	HAFLA. T. K	UFAXSMT011	3	3	3	100	Y	100	Y	100	Y
12	MUFEEDA SHIFA. M.P	UFAXSMT012	3	3	3	100	Y	100	Y	100	Y
13	NUBLA SHANA . P	UFAXSMT013	3	3	3	100	Y	100	Y	100	Y
14	RABEEBA K P	UFAXSMT014	3	3	3	100	Y	100	Y	100	Y
15	RASHA JALEEL P	UFAXSMT015	3	3	3	100	Y	100	Y	100	Y
16	RISHWANA E K	UFAXSMT016	3	3	3	100	Y	100	Y	100	Y

17	ABOBACKER NAFIH T T	UFAXSMT017	3	3	2	100	Y	100	Y	66.6667	Y
18	JAMSHEEDALI.C.P	UFAXSMT018	3	3	3	100	Y	100	Y	100	Y
19	MOHAMMED AMALSHAN T	UFAXSMT019	3	3	2	100	Y	100	Y	66.6667	Y
20	MUHAMMAD RISHWAN K	UFAXSMT020	3	3	2	100	Y	100	Y	66.6667	Y
21	MUHAMMED ANSHIF . T	UFAXSMT021	3	3	3	100	Y	100	Y	100	Y
22	MUHAMMED SHAHID.V	UFAXSMT022	3	3	3	100	Y	100	Y	100	Y
23	ANAYA U P	UFAXSMT023	3	3	3	100	Y	100	Y	100	Y
24	ANJIMA SHAJI	UFAXSMT024	3	3	3	100	Y	100	Y	100	Y
25	ARYA VS	UFAXSMT025	3	3	3	100	Y	100	Y	100	Y
26	HANEENA K	UFAXSMT026	3	3	3	100	Y	100	Y	100	Y
27	KRISHNENDHU K	UFAXSMT027	3	3	3	100	Y	100	Y	100	Y
28	RIYA . P	UFAXSMT028	3	3	3	100	Y	100	Y	100	Y
29	SWATHIKRISHNA A K	UFAXSMT029	3	3	3	100	Y	100	Y	100	Y
30	MUHAMMED AJNAS K	UFAXSMT031	3	3	3	100	Y	100	Y	100	Y
31	ARJUN A	UFAXSMT030	3	3	1	100	Y	100	Y	33.3333	Y
						31		31			
						100.00		100.00		100.00	

FOR LAL (MTS5B08)	CO1 TO 3	CO4 TO 5	ATTENDANCE
	100.00	100.00	100.00

TARGET: 1) 90% OF STUDENTS WILL SCORE 35% OF MARKS IN ASSIGNMENT



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DEPARTMENT OF STATISTICS

CO ATTAINMENT - SECOND SEMESTER EXAM MARKS (EVEN SEM . 2023-2024)

Sem.II

Course: STA2C02-Probability Theory

S+A 9+A 6-E+	Name of the student	REG NO	COURSE OUTCOM	CO ATTAINMENT	
			O 1 TO CO	CO 1 TO CO5	
		Max. Marks	30	%age	Y/N
1	ANEENA.K.P	UFAXSMT001	15	50	Y
2	ASNA SHERIN V T	UFAXSMT002	12	40	Y
3	AYISHA HANNA C K	UFAXSMT003	12	40	Y
4	FATHIMA FIDHA K	UFAXSMT004	12	40	Y
5	FATHIMA MINNATH K	UFAXSMT005	18	60	Y
6	FATHIMA NASNA V T.	UFAXSMT006	18	60	Y
7	FATHIMA SHIFA. M.K	UFAXSMT007	18	60	Y
8	FATHIMA THAMJEEDA	UFAXSMT008	27	90	Y
9	FIDA PK	UFAXSMT009	12	40	Y
10	FIDHA V	UFAXSMT010	18	60	Y
11	HAFLA. T. K	UFAXSMT011	18	60	Y
12	MUFEEDA SHIFA. M.P	UFAXSMT012	0	0	N
13	NUBLA SHANA . P	UFAXSMT013	18	60	Y
14	RABEEBA K P	UFAXSMT014	15	50	Y
15	RASHA JALEEL P	UFAXSMT015	12	40	Y
16	RISHWANA E K	UFAXSMT016	15	50	Y
17	ABOBACKER NAFIH T T	UFAXSMT017	0	0	N
18	JAMSHEEDALI.C.P	UFAXSMT018	12	40	Y
19	MOHAMMED AMALSHAN T	UFAXSMT019	12	40	Y
20	MUHAMMAD RISHWAN K	UFAXSMT020	12	40	Y
21	MUHAMMED ANSHIF . T	UFAXSMT021	12	40	Y
22	MUHAMMED SHAHID.V	UFAXSMT022	9	30	N
23	ANAYA U P	UFAXSMT023	12	40	Y
24	ANJIMA SHAJI	UFAXSMT024	18	60	Y
25	ARYA VS	UFAXSMT025	12	40	Y
26	HANEENA K	UFAXSMT026	15	50	Y
27	KRISHNENDHU K	UFAXSMT027	12	40	Y
28	RIYA . P	UFAXSMT028	12	40	Y
29	SWATHIKRISHNA A K	UFAXSMT029	12	40	Y
31	MUHAMMED AJNAS K	UFAXSMT031	9	30	N
32	ARJUN A	UFAXSMT030	8	26.67	N

				26
				83.87
		FOR L&L (MTS5B08)	CO1 to CO5	
			83.87	
TARGET: 75% OF STUDENTS WILL SCORE 35% OF MARKS				



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DEPARTMENT OF STATISTICS

DIRECT ASSESSMENT METHOD - CO ATTAINMENT (ODD SEM . 2023-2024)

Semester: II

Course: STA2C02-Probability Theory

Name of the faculty member: HIMA P

TARGET: 60% ATTAINMENT

COs	CO1 to CO5
IA MARKS ATTAINMENT	87
ASSIGNMENT	100
SEMINAR	100
ATTENDANCE	100
FINAL EXAM ATTAINMENT	84
AVERAGE	94





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DEPARTMENT OF STATISTICS

COURSE EXIT SURVEY RESPONSES (ODD SEM . 2023-2024)

Semester: II

Course: STA2C02-Probability Theory

Name of the faculty member: HIMA P

Sl. No.	NAME OF THE STUDENT	REG NO	COURSE OUTCOMES				
			CO1	CO2	CO3	CO4	CO5
			Are you able to Understand basic probability terms such as random experiments, sample space, events, and different types of probability	Are you able to Explain the properties and applications of probability mass functions (PMF) and probability density functions (PDF) for both discrete and continuous distributions	Are you able to Calculate mathematical expectations (mean, variance) for univariate distributions and apply moment generation functions to derive properties of distributions	Are you able to Analyze the relationships between bivariate random variables by calculating joint, marginal, and conditional probabilities and interpreting the results	Are you able to Evaluate the independence of random variables using joint probability distributions and covariance, applying statistical techniques such as Karl Pearson's correlation coefficient
1	ANEENA.K.P	UFAXSMT001	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	5 (Excellent)
2	ASNA SHERIN V T	UFAXSMT002	5 (EXCELLENT)	4 (Very Good)	4 (Very Good)	5 (Excellent)	5 (EXCELLENT)
3	AYISHA HANNA C K	UFAXSMT003	5 (EXCELLENT)	4 (Very Good)	3 (Good)	5 (EXCELLENT)	4 (Very Good)
4	FATHIMA FIDHA K	UFAXSMT004	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)
5	FATHIMA MINNATH K	UFAXSMT005	4 (Very Good)	4 (Very Good)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)
6	FATHIMA NASNA V T.	UFAXSMT006	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	4 (Very Good)	5 (EXCELLENT)
7	FATHIMA SHIFA. M.K	UFAXSMT007	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)
8	FATHIMA THAMJEEDA	UFAXSMT008	5 (EXCELLENT)	4 (Very Good)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)
9	FIDA PK	UFAXSMT009	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)
10	FIDHA V	UFAXSMT010	5 (EXCELLENT)	4 (Very Good)	4 (Very Good)	5 (EXCELLENT)	4 (Very Good)
11	HAFLA. T. K	UFAXSMT011	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	5 (Excellent)
12	MUFEEDA SHIFA. M.P	UFAXSMT012	4 (Very Good)	4 (Very Good)	4 (Very Good)	5 (EXCELLENT)	5 (EXCELLENT)
13	NUBLA SHANA . P	UFAXSMT013	5 (EXCELLENT)	5 (EXCELLENT)	5 (EXCELLENT)	3 (Good)	5 (EXCELLENT)

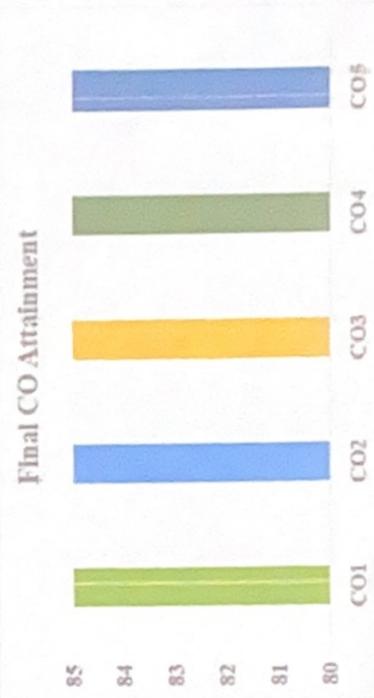


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DEPARTMENT OF STATISTICS
 COURSE EXIT SURVEY RESPONSES (EVEN SEM . 2023-2024)

Semester:II	Name of the faculty member: HIMMA P	Course: STA2C02-Probability Theory	No. of students given the ratings					Total Responses	Weighted Average	CO Max. Count	%age CO attainment
			0								
			1	2	3	4	5				
CO1	Define basic probability terms such as random experiments, sample space, events, and different types of probability	Are you able to Understand basic probability terms such as random experiments, sample space, events, and different types of probability	0	0	1	8	22	31	3.82	5	76.32
CO2	Explain the properties and applications of probability mass functions (PMF) and probability density functions (PDF) for both discrete and continuous distributions	Are you able Explain the properties and applications of probability mass functions (PMF) and probability density functions (PDF) for both discrete and continuous distributions	0	0	0	12	19	31	3.76	5	75.26
CO3	Calculate mathematical expectations (mean, variance) for univariate distributions and apply moment generation functions to derive properties of bivariate random variables by calculating joint, marginal, and conditional	Are you able to Calculate mathematical expectations (mean, variance) for univariate distributions and apply moment generation functions to derive properties of bivariate random variables by calculating joint, marginal, and conditional	0	0	1	10	20	31	3.76	5	75.26
CO4	Evaluate the independence of random variables using joint probability distributions and covariance, applying statistical techniques such as Karl Pearson's correlation coefficient	Are you able to Evaluate the independence of random variables using joint probability distributions and covariance, applying statistical techniques such as Karl Pearson's correlation coefficient	0	0	0	9	22	31	3.84	5	76.84

CO Assessment method	CO1	CO2	CO3	CO4	CO5
Direct method (IA Test, Assignment/quiz and exam)	94	94	94	94	94
Weightage (80%)	75	75	75	75	75
Indirect method (Course Exit Survey)	76.32	75.26	75.26	76.32	76.84
Weightage (20%)	15.26	15.05	15.05	15.26	15.37
Final CO Attainment	90.62	90.41	90.41	90.62	90.72





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DEPARTMENT OF STATISTICS

CO-PO-PSO MAPPING (EVEN SEM . 2023-2024)

Semester: II

Course: STA2C02-Probability Theory

Name of the faculty member: HIMA P

(I) CO Attainment

A: Direct assessment (80%)-Tests, Assignment, Examination

B: Indirect assessment (20%)-Course end survey

COs	Mapping of POs	Mapping of PSOs	Direct Assessment (a)	Indirect Assessment (b)	Overall Attainment 0.8 (a) + 0.2(b)	Target (%)	Attainment
CO1	PO1, PO3, PO4 & PO9	PSO1, PSO2 & PSO3	94	76.32	91		
CO2	PO1, PO3, PO5 & PO7	PSO1, PSO2 & PSO3	94	75.26	90		
CO3	PO1, PO2, PO3, PO5 & PO9	PSO1, PSO2 & PSO3	94	75.26	90	75	YES
CO4	PO1, PO3, PO4, PO5 & PO8	PSO1, PSO2 & PSO3	94	76.32	91		
CO5	PO1, PO4, PO5, PO7 & PO8	PSO1, PSO2 & PSO3	94	76.84	91		



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