



**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](mailto:acaswandoor@gmail.com), Website: [www.ambedkarcollegewdr.in](http://www.ambedkarcollegewdr.in)

| COURSE PLAN                                              |                                                                                                                                                                           |     |     |     |     |               |                                |     |     |      |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|---------------|--------------------------------|-----|-----|------|
| Course code and title                                    | STA1MN101(P)-Descriptive Statistics for Data Science                                                                                                                      |     |     |     |     |               |                                |     |     |      |
| Class                                                    | BSc Mathematics                                                                                                                                                           |     |     |     |     | Semester      | II                             |     |     |      |
| Regulation                                               | FYUGP                                                                                                                                                                     |     |     |     |     | Academic year | 2024-2025                      |     |     |      |
| Course prerequisites                                     | Students should have a strong foundation in algebra and calculus, including functions, differentiation, and integration. Basic knowledge about descriptive Statistics     |     |     |     |     |               |                                |     |     |      |
| Course objectives                                        | Students will acquire a comprehensive understanding of key statistical concepts; random variable, standard theoretical distributions and sampling distributions.          |     |     |     |     |               |                                |     |     |      |
| COURSE OUTCOMES                                          |                                                                                                                                                                           |     |     |     |     |               |                                |     |     |      |
| At the end of the course the student would be able to... |                                                                                                                                                                           |     |     |     |     |               |                                |     |     |      |
| CO1                                                      | Define random variables and distinguish different types of random variables                                                                                               |     |     |     |     |               |                                |     |     |      |
| CO2                                                      | Identify discrete and continuous probability function and analyze data to help entrepreneurial decisions using critical thinking skills.                                  |     |     |     |     |               |                                |     |     |      |
| CO3                                                      | Describe standard theoretical distributions                                                                                                                               |     |     |     |     |               |                                |     |     |      |
| CO4                                                      | Discuss various tools for association between the bivariate variables.                                                                                                    |     |     |     |     |               |                                |     |     |      |
| CO5                                                      | Distinguish between a population distribution and a sampling distribution and critically evaluate ethical implications of statistical methods aligning with human values. |     |     |     |     |               |                                |     |     |      |
| MAPPING OF PROGRAM OUTCOMES                              |                                                                                                                                                                           |     |     |     |     |               |                                |     |     |      |
| COs                                                      | PO1                                                                                                                                                                       | PO2 | PO3 | PO4 | PO5 | PO6           | PO7                            | PO8 | PO9 | PO10 |
| CO1                                                      | ✓                                                                                                                                                                         |     | ✓   | ✓   | ✓   |               |                                | ✓   |     |      |
| CO2                                                      | ✓                                                                                                                                                                         |     | ✓   | ✓   | ✓   |               | ✓                              | ✓   |     |      |
| CO3                                                      | ✓                                                                                                                                                                         |     | ✓   | ✓   | ✓   |               |                                | ✓   |     |      |
| CO4                                                      | ✓                                                                                                                                                                         | ✓   | ✓   | ✓   | ✓   |               |                                | ✓   |     | ✓    |
| CO5                                                      | ✓                                                                                                                                                                         |     | ✓   | ✓   | ✓   | ✓             |                                | ✓   |     |      |
| PO1                                                      | Knowledge Acquisition                                                                                                                                                     |     |     |     |     | PO6           | Ethics & Social Responsibility |     |     |      |





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|                                                                                                                                                   |                                                                                                                  |                 |                                         |     |     |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------|-----|-----|-----|
| 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                                                                                                                                              | Acquire comprehensive understanding of concepts, principles, and theories of Statistics.                         |                 |                                         |     |     |     |
| PSO2                                                                                                                                              | Apply fundamental concepts of descriptive and inferential Statistics- exploratory data analysis                  |                 |                                         |     |     |     |
| PSO3                                                                                                                                              | Master skills in using Statistical Software's to meet the challenges of Employability, Research and Development. |                 |                                         |     |     |     |
| MAPPING OF COURSE OUTCOMES TO PROGRAM EDUCATIONAL OUTCOMES                                                                                        |                                                                                                                  |                 |                                         |     |     |     |
| PROGRAM EDUCATIONAL OUTCOMES                                                                                                                      |                                                                                                                  | COURSE OUTCOMES |                                         |     |     |     |
|                                                                                                                                                   |                                                                                                                  | CO1             | CO2                                     | CO3 | CO4 | CO5 |
| PEO1                                                                                                                                              | Core Knowledge and Application                                                                                   | ✓               | ✓                                       | ✓   | ✓   | ✓   |
| PEO2                                                                                                                                              | Communication and Leadership                                                                                     |                 |                                         |     | ✓   |     |
| PEO3                                                                                                                                              | Professionalism and Lifelong Learning                                                                            | ✓               | ✓                                       | ✓   | ✓   | ✓   |
| References                                                                                                                                        |                                                                                                                  |                 |                                         |     |     |     |
| TEXT BOOKS:                                                                                                                                       |                                                                                                                  |                 |                                         |     |     |     |
| 1. Gupta, S. C. and Kapoor, V. K. (2002). Fundamentals of Mathematical Statistics, 11th edition, Sulthan Chand, New Delhi                         |                                                                                                                  |                 |                                         |     |     |     |
| 2. Prem S. Mann (2016), Introductory Statistics 9 th Edition, Wiley                                                                               |                                                                                                                  |                 |                                         |     |     |     |
| 3. Mood, A.M. Graybill, F.A. and Boes, D.C. (2007): Introduction to the Theory of Statistics, 3rd Edn., (Reprint), Tata McGraw-Hill Pub. Co. Ltd. |                                                                                                                  |                 |                                         |     |     |     |
| REFERENCES:                                                                                                                                       |                                                                                                                  |                 |                                         |     |     |     |
| 1. 4. Neil A. Weiss, Introductory Statistics, 9th Edition ,Addison Wesley Pearson Learning (2011)                                                 |                                                                                                                  |                 |                                         |     |     |     |
| 2. Mario F Triola, Elementary Statistics using Excel, (2018), 6th edition.                                                                        |                                                                                                                  |                 |                                         |     |     |     |
| Mode of Evaluation                                                                                                                                | Internal Examination (30%) End Semester Examination (70%)                                                        |                 |                                         |     |     |     |





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|           |                                                        |
|-----------|--------------------------------------------------------|
| Faculty   | Hima KC, Assistant Professor/ Department of Statistics |
| e-mail id | himakc2000@gmail.com                                   |





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### COURSE PLAN -Probability theory I

| No of lecture hours | Planned Date | Topics to be covered                                                                    |                 |               | Reference/ Teaching aids and methods | Actual date | Week ly review |
|---------------------|--------------|-----------------------------------------------------------------------------------------|-----------------|---------------|--------------------------------------|-------------|----------------|
|                     |              | MODULE I - DISCRETE RANDOM VARIABLES AND THEIR PROBABILITY DISTRIBUTIONS                |                 |               |                                      |             |                |
| 1                   | 04/12/2024   | Random Variables- Discrete                                                              |                 |               | T/WB                                 | 4-12-24     | gile           |
| 2                   | 05/12/2024   | Probability mass function, properties and problems                                      |                 |               | T/WB                                 | 5-12-24     | gile           |
| 3                   | 09/12/2024   | Pmf-problems                                                                            |                 |               | T/WB                                 | 9-12-24     | gile           |
| 4                   | 10/12/2024   | Cumulative distribution function and its properties                                     |                 |               | T/WB                                 | 10-12-24    | gile           |
| 5                   | 11/12/2024   | Mathematical expectation of a random variable,                                          |                 |               | T/WB                                 | 11-12-24    | gile           |
| 6                   | 12/12/2024   | properties of expectation                                                               |                 |               | T/WB                                 | 12-12-24    | gile           |
| 7                   | 16/12/2024   | Covariance                                                                              |                 |               | T/WB                                 | 16-12-24    | gile           |
| 8                   | 17/12/2024   | Moments (definition only),                                                              |                 |               | T/WB                                 | 17-12-24    | gile           |
| 9                   | 18/12/2024   | Moment Generating Function (Definition, Simple problems and Properties (without proof)) |                 |               | T/WB/PPT                             | 18-12-24    | gile           |
| 10                  | 19/12/2024   | Binomial Distribution (Mean, variance, m.g.f., Simple Problems)                         |                 |               | T/WB/PPT                             | 19-12-24    | gile           |
| 11                  | 03/01/2025   | Poisson Distribution (Mean, variance, m.g.f., Simple Problems)                          |                 |               | T/WB/PPT                             | 3-1-25      | gile           |
| Planned hours       | Actual hours | Date                                                                                    | Sign of Faculty | Review by HoD | Review by Principal                  |             |                |
| 11                  | 11           | 3-1-25                                                                                  | gile            | Jenny         |                                      |             |                |
|                     |              | MODULE II - CONTINUOUS RANDOM VARIABLES AND THEIR PROBABILITY DISTRIBUTIONS             |                 |               |                                      |             |                |
| 1                   | 07/01/2025   | Probability density function,                                                           |                 |               | T/WB/PPT                             | 7-1-25      | gile           |
| 2                   | 08/01/2025   | Pdf-properties                                                                          |                 |               | T/WB/PPT                             | 7-1-25      | gile           |
| 3                   | 09/01/2025   | Pdf-problems                                                                            |                 |               | T/WB                                 | 8-01-25     | gile           |
| 4                   | 10/01/2025   | Rectangular distribution-mean                                                           |                 |               | T/WB/PPT                             | 08-1-25     | gile           |
| 5                   | 14/01/2025   | Rectangular distribution-variance                                                       |                 |               | T/WB/PPT                             | 9-1-25      | gile           |
| 6                   | 15/01/2025   | Exponential distribution- mean                                                          |                 |               | T/WB                                 | 09-1-25     | gile           |
| 7                   | 16/01/2025   | Exponential distribution--variance                                                      |                 |               | T/WB/PPT                             | 16-1-25     | gile           |





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| 8                                                            | 17/01/2025   | Normal Distribution                             |                 | T/WB/PPT      | 17-1-25             | gkll |
|--------------------------------------------------------------|--------------|-------------------------------------------------|-----------------|---------------|---------------------|------|
| 9                                                            | 21/01/2025   | Normal Distribution-Mean                        |                 | T/WB          | 21-1-25             | gkll |
| 10                                                           | 22/01/2025   | Normal Distribution-Variance                    |                 | T             | 22-1-25             | gkll |
| 11                                                           | 23/01/2025   | Normal Distribution-Moments                     |                 | T/WB/PPT      | 23-1-25             | gkll |
| 12                                                           | 24/01/2025   | Normal Distribution-mgf                         |                 | T/WB          | 24-01-25            | gkll |
| 13                                                           | 28/01/2025   | Normal Distribution-Additive property           |                 | T/WB/PPT      | 28-1-25             | gkll |
| 14                                                           | 29/01/2025   | Normal Distribution-Area property               |                 | T/WB/PPT      | 29-1-25             | gkll |
| 15                                                           | 30/01/2025   | Normal Distribution-Problems                    |                 | T/WB          | 30-1-25             | gkll |
| Planned hours                                                | Actual hours | Date                                            | Sign of Faculty | Review by HoD | Review by Principal |      |
| 15                                                           | 15           | 30-1-25                                         | gkll            | [Signature]   |                     |      |
| UNIT III - DESCRIPTIVE METHODS IN CORRELATION AND REGRESSION |              |                                                 |                 |               |                     |      |
| 1                                                            | 04/02/2025   | Simple correlation                              |                 | T/WB          | 4-2-25              | gkll |
| 2                                                            | 05/02/2025   | Simple correlation-problems                     |                 | T/WB          | 5-2-25              | gkll |
| 3                                                            | 06/02/2025   | Simple regression                               |                 | T/WB          | 6-2-25              | gkll |
| 4                                                            | 07/02/2025   | Simple regression-problems                      |                 | T/WB          | 7-2-25              | gkll |
| 5                                                            | 11/02/2025   | Coefficient of determination                    |                 | T/WB          | 11-2-25             | gkll |
| 6                                                            | 12/02/2025   | Coefficient of determination-Problems           |                 | T/WB          | 12-2-25             | gkll |
| 7                                                            | 13/02/2025   | Curve linear regression                         |                 | T/WB          | 13-2-25             | gkll |
| 8                                                            | 14/02/2025   | Curve linear regression-problems                |                 | T/WB          | 14-2-25             | gkll |
| Planned hours                                                | Actual hours | Date                                            | Sign of Faculty | Review by HoD | Review by Principal |      |
| 8                                                            | 8            | 14-2-25                                         | gkll            | [Signature]   |                     |      |
| MODULE IV -SAMPLING DISTRIBUTIONS                            |              |                                                 |                 |               |                     |      |
| 1                                                            | 18/02/2025   | Parameter and Statistic,                        |                 | T/WB          | 18-2-25             | gkll |
| 2                                                            | 19/02/2025   | sampling distribution,                          |                 | T/WB          | 19-2-25             | gkll |
| 3                                                            | 20/02/2025   | Standard error.                                 |                 | T/WB          | 20-2-25             | gkll |
| 4                                                            | 21/02/2025   | Standard error-Problems                         |                 | T/WB          | 21-2-25             | gkll |
| 5                                                            | 25/02/2025   | Distribution of sample mean                     |                 | T/WB/PPT      | 25-2-25             | gkll |
| 6                                                            | 27/02/2025   | Chi- square distribution                        |                 | T/WB          | 27-2-25             | gkll |
| 7                                                            | 05/03/2025   | Chi- square distribution-mean                   |                 | T/WB          | 05-3-25             | gkll |
| 8                                                            | 06/03/2025   | Chi- square distribution-variance               |                 | T/WB/PPT      | 6-3-25              | gkll |
| 9                                                            | 07/03/2025   | Chi- square distribution-mgf, Additive property |                 | T/WB          | 7-3-25              | gkll |
| 10                                                           | 12/03/2025   | F,t Distribution                                |                 | T/WB          | 12-3-25             | gkll |
| Planned hours                                                | Actual hours | Date                                            | Sign of Faculty | Review by HoD | Review by Principal |      |
| 10                                                           | 10           |                                                 | gkll            | [Signature]   |                     |      |





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FACULTY

*[Signature]*

**SHARSHAD AMEERA.U**  
 Asst. Professor & Head  
 Department of Mathematics  
 Ambedkar College of Arts & Science  
 Wandoor, Malappuram Dt.

HOD

*[Signature]*

**PRINCIPAL**  
 Ambedkar College of Arts & Science  
 Wandoor

**Course outcome – Program outcome Mapping Table**

| BCM4C04 QUANTITATIVE<br>TECHNIQUES FOR BUSINESS |                                                                                                                                                                           | Cognitive<br>level     | Program outcomes                            |     |     |     |     |     |     |     |     |      |      |      |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
|                                                 |                                                                                                                                                                           |                        | 1- Moderate Correlation 2- High correlation |     |     |     |     |     |     |     |     |      |      |      |
|                                                 |                                                                                                                                                                           |                        | PO1                                         | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
| DIRECT METHOD                                   |                                                                                                                                                                           |                        |                                             |     |     |     |     |     |     |     |     |      |      |      |
| CO1                                             | Define random variables and distinguish different types of random variables                                                                                               | Rememb<br>er           | 2                                           |     | 1   | 1   | 1   |     |     | 1   |     |      |      |      |
| CO2                                             | Identify discrete and continuous probability function and analyze data to help entrepreneurial decisions using critical thinking skills.                                  | Apply                  | 2                                           |     | 2   | 2   | 2   |     | 2   | 1   |     |      |      |      |
| CO3                                             | Describe standard theoretical distributions                                                                                                                               | Apply &<br>Analyze     | 2                                           | 1   | 2   | 2   | 2   |     | 1   | 1   | 1   |      |      |      |
| CO4                                             | Discuss various tools for association between the bivariate variables.                                                                                                    | Create                 | 1                                           | 2   | 1   | 1   | 1   | 1   |     | 1   |     | 1    |      |      |
| CO5                                             | Distinguish between a population distribution and a sampling distribution and critically evaluate ethical implications of statistical methods aligning with human values. | Innovate               | 2                                           |     | 1   | 1   | 2   | 2   | 1   | 1   |     |      |      |      |
| INDIRECT METHOD                                 |                                                                                                                                                                           |                        |                                             |     |     |     |     |     |     |     |     |      |      |      |
| Class Room contests                             |                                                                                                                                                                           | Analyze<br>&<br>Create | 1                                           |     |     |     |     |     | 1   | 2   |     |      |      | 2    |

Course Faculty

*[Signature]*

IQAC Member

*[Signature]*

HoD

**SHARSHAD AMEERA.U**  
 Asst. Professor & Head  
 Department of Mathematics  
 Ambedkar College of Arts & Science  
 Wandoor, Malappuram Dt.





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### 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<br>(4)                           | Good<br>(3) | Moderate<br>(2) | Fair<br>(1) |
| CO1             | Define random variables and distinguish different types of random variables                                                                                               | 4                                          |             |                 |             |
| CO2             | Identify discrete and continuous probability function and analyze data to help entrepreneurial decisions using critical thinking skills.                                  |                                            |             |                 | 1           |
| CO3             | Describe standard theoretical distributions                                                                                                                               |                                            |             |                 | 1           |
| CO4             | Discuss various tools for association between the bivariate variables.                                                                                                    |                                            |             |                 | 1           |
| CO5             | Distinguish between a population distribution and a sampling distribution and critically evaluate ethical implications of statistical methods aligning with human values. |                                            |             |                 | 1           |

Name of the student:

Thanha Fatima

Signature of the student

Thanha





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**Course outcome –Program Specific outcome Mapping Table**

| Course outcomes | Program Specific outcomes |      |      |
|-----------------|---------------------------|------|------|
|                 | PSO1                      | PSO2 | PSO3 |
| CO1             | ✓                         | ✓    |      |
| CO2             | ✓                         | ✓    | ✓    |
| CO3             | ✓                         | ✓    |      |
| CO4             | ✓                         | ✓    | ✓    |
| CO5             | ✓                         | ✓    |      |

Course Faculty

*Jh. Omal*

[QAC Member

*[Signature]*

HoD

*[Signature]*





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### DIRECT ASSESSMENT OF COURSE OUTCOMES

| INTERNAL ASSESSMENT TEST .....MARKS                      |                                                                                            |           |                                                        |                                |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------|--------------------------------|
| ( )                                                      |                                                                                            |           |                                                        |                                |
| 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                                                       |           |                                                        |                                |
| ASSIG NMENT: .... MARKS                                  |                                                                                            |           |                                                        |                                |
| 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 100 MARKS (Reduced to 80Marks ) |                                                                                            |           |                                                        |                                |
| Objective                                                | To assess the each student's knowledge of the course                                       |           |                                                        |                                |
| Product                                                  | Result analysis                                                                            |           |                                                        |                                |
| Frequency                                                | Semester                                                                                   |           |                                                        |                                |
| Format                                                   | Part –A 10 x 2 =20 marks, Part –B 5 x 16 = 80 marks, Total marks = 100, Duration : 3hours  |           |                                                        |                                |
| Evaluation                                               | Based on answer given in the scripts                                                       |           |                                                        |                                |
| Marks out of 100                                         | 30-50                                                                                      | 50- 70    | 71-100                                                 | 0-50                           |
| Levels of attainment                                     | 1                                                                                          | 2         | 3                                                      | Counseling / Coaching classes. |



## Attainment Levels of COs

| STA2MN101(P)-Probability Theory 1 |                          |                                                                          |            |
|-----------------------------------|--------------------------|--------------------------------------------------------------------------|------------|
| Assessment Methods                | Target-Attainment Levels |                                                                          | Attainment |
| Internal Assessment               | Level 1                  | 50% of students scoring more than 35% marks in internal assessment tools | LEVEL 03   |
|                                   | Level 2                  | 60% of students scoring more than 35% marks in internal assessment tools |            |
|                                   | Level 3                  | 70% of students scoring more than 35% marks in internal assessment tools |            |
|                                   |                          |                                                                          |            |
| Assessment Methods                | Target-Attainment Levels |                                                                          | Attainment |
| University Assessment             | Level 1                  | 50% of students scoring more than 35% marks in UE assessment tools       | LEVEL 03   |
|                                   | Level 2                  | 60% of students scoring more than 35% marks in UE assessment tools       |            |
|                                   | Level 3                  | 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. 2024-2025)**

SemII

STA2MN101(P)-Probability Theory 1

Name of the faculty member: HIMA KC

| 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       | ASHIQA EP             | UFAYBCM011 | 12         | 40              | Y   |
| 2       | JABINSHA M            | UFAYAEG030 | 12         | 40              | Y   |
| 3       | JASLA M               | UFAYAEG031 | 18         | 60              | Y   |
| 4       | LINU FALILA K         | UFAYAEG033 | 12         | 40              | Y   |
| 5       | ADITHYA U             | UFAYSMT001 | 18         | 60              | Y   |
| 6       | AMRITHA . P . T       | UFAYSMT002 | 24         | 80              | Y   |
| 7       | ANIYA P P             | UFAYSMT003 | 24         | 80              | Y   |
| 8       | ANUSREE C T           | UFAYSMT004 | 18         | 60              | Y   |
| 9       | AYISHA NAHRIN CP      | UFAYSMT005 | 30         | 100             | Y   |
| 10      | FADHIL A K            | UFAYSMT006 | 12         | 40              | Y   |
| 11      | FIDA MK               | UFAYSMT007 | 30         | 100             | Y   |
| 12      | HIBA K T              | UFAYSMT008 | 30         | 100             | Y   |
| 13      | MAHMOOD MUHYUDHEEN CK | UFAYSMT009 | 12         | 40              | Y   |
| 14      | MAJIDA SHERIN K K     | UFAYSMT010 | 18         | 60              | Y   |
| 15      | MUHAMMED ASMIL A P    | UFAYSMT011 | 18         | 60              | Y   |
| 16      | MUHAMMED FAHIZ T P    | UFAYSMT012 | 12         | 40              | Y   |
| 17      | MUHAMMED SALIM NK     | UFAYSMT013 | 30         | 100             | Y   |
| 18      | NAJA NASRIN . P       | UFAYSMT014 | 24         | 80              | Y   |
| 19      | NIDHA SAFRY M         | UFAYSMT015 | 24         | 80              | Y   |
| 20      | RABIYATHUL ADHBIYYA   | UFAYSMT016 | 12         | 40              | Y   |
| 21      | RIFANA K              | UFAYSMT017 | 6          | 20              | N   |
| 22      | RIHANA K              | UFAYSMT018 | 12         | 40              | Y   |
| 23      | SHAHANA T P           | UFAYSMT019 | 6          | 20              | N   |
| 24      | SHIBIYA JEBIN T H     | UFAYSMT020 | 24         | 80              | Y   |





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**DEPARTMENT OF STATISTICS**

|    |                  |            |                      |            |   |
|----|------------------|------------|----------------------|------------|---|
| 25 | SULAIKHA FAHMA P | UFAYSMT021 | 12                   | 40         | Y |
| 26 | THANHA FATHIMA K | UFAYSMT022 | 24                   | 80         | Y |
|    |                  |            |                      | 24         |   |
|    |                  |            |                      | 92.00      |   |
|    |                  |            | FOR LAL<br>(MAT5B08) | CO1 to CO5 |   |
|    |                  |            | TARGET: 50% C        | 92.0       |   |





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**DEPARTMENT OF STATISTICS**

**CO ATTAINMENT - ASSIGNEMENT(EVEN SEM. 2024-2025)**

Sem.II

Name of the faculty member: HIMA KC

| Sl. No. | Name of the student   | REG NO     | Max. Marks | ASSIGNMENT<br>CO1 to CO5 | SEMINAR<br>CO4 to CO5 | COURSE OUTCOMES |     |          |
|---------|-----------------------|------------|------------|--------------------------|-----------------------|-----------------|-----|----------|
|         |                       |            |            |                          |                       | %age            | Y/N | %age Y/N |
| 1       | ASHIQA EP             | UFAYBCM011 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 2       | JABINSHA M            | UFAYAEG030 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 3       | JASLA M               | UFAYAEG031 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 4       | LINU FALILA K         | UFAYAEG033 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 5       | ADITHYA U             | UFAYSMT001 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 6       | AMRITHA . P . T       | UFAYSMT002 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 7       | ANIYA P P             | UFAYSMT003 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 8       | ANUSREE C T           | UFAYSMT004 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 9       | AYISHA NAHRIN CP      | UFAYSMT005 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 10      | FADHIL A K            | UFAYSMT006 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 11      | FIDA MK               | UFAYSMT007 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 12      | HIBA K T              | UFAYSMT008 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 13      | MAHMOOD MUHYUDHEEN CK | UFAYSMT009 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 14      | MAJIDA SHERIN K K     | UFAYSMT010 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 15      | MUHAMMED ASMIL A P    | UFAYSMT011 |            | 2                        | 3                     | 100             | Y   | 100 Y    |
| 16      | MUHAMMED FAHIZ T P    | UFAYSMT012 |            | 2                        | 3                     | 100             | Y   | 100 Y    |



|    |                     |            |   |   |        |        |     |   |
|----|---------------------|------------|---|---|--------|--------|-----|---|
| 17 | MUHAMMED SALIM NK   | UFAYSMT013 | 2 | 3 | 100    | Y      | 100 | Y |
| 18 | NAJA NASRIN . P     | UFAYSMT014 | 2 | 3 | 100    | Y      | 100 | Y |
| 19 | NIDHA SAFRY M       | UFAYSMT015 | 2 | 3 | 100    | Y      | 100 | Y |
| 20 | RABIYATHUL ADHBIYYA | UFAYSMT016 | 2 | 3 | 100    | Y      | 100 | Y |
| 21 | RIFANA K            | UFAYSMT017 | 2 | 3 | 100    | Y      | 100 | Y |
| 22 | RIHANA K            | UFAYSMT018 | 2 | 3 | 100    | Y      | 100 | Y |
| 23 | SHAHANA T P         | UFAYSMT019 | 2 | 3 | 100    | Y      | 100 | Y |
| 24 | SHIBIYA JEBIN T H   | UFAYSMT020 | 2 | 3 | 100    | Y      | 100 | Y |
| 25 | SULAIKHA FAHMA P    | UFAYSMT021 | 2 | 3 | 100    | Y      | 100 | Y |
| 26 | THANHA FATHIMA K    | UFAYSMT022 | 2 | 3 | 100    | Y      | 100 | Y |
|    |                     |            |   |   | 26     |        |     |   |
|    |                     |            |   |   | 100.00 | 100.00 |     |   |

| FOR LAL<br>(MTS5B08) | CO1 TO 3 | CO4 TO 5 |
|----------------------|----------|----------|
|                      | 100.00   | 100.00   |

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





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DEPARTMENT OF STATISTICS

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

Semester: II

STA2MN101(P)-Probability Theory 1

Name of the faculty member: HIMA KC

**TARGET: 60% ATTAINMENT**

| COs                 | CO1 to CO5 |
|---------------------|------------|
| IA MARKS ATTAINMENT | 92         |
| ASSIGNMENT          | 100        |
| SEMINAR             | 100        |
| AVERAGE             | 97         |







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**DEPARTMENT OF STATISTICS**

**COURSE EXIT SURVEY RESPONSES (EVEN SEM . 2024-2025)**

Semester: II

STA2MN101(P)-Probability Theory 1

Name of the faculty member: HIMA KC

| Sl. No. | NAME OF THE STUDENT   | REG NO     | COURSE OUTCOMES |               |               |               |               | Are you able to Distinguish between a population distribution and a sampling distribution and critically evaluate ethical implications of statistical methods aligning with human values. |
|---------|-----------------------|------------|-----------------|---------------|---------------|---------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                       |            | CO1             | CO2           | CO3           | CO4           | CO5           |                                                                                                                                                                                           |
| 1       | ASHIQA EP             | UFAYBCM011 | 5 (EXCELLENT)   | 5 (EXCELLENT) | 5 (EXCELLENT) | 4 (Very Good) | 5 (Excellent) |                                                                                                                                                                                           |
| 4       | JABINSHA M            | UFAYAE030  | 5 (EXCELLENT)   | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |                                                                                                                                                                                           |
| 6       | LINU FALILA K         | UFAYAE033  | 5 (EXCELLENT)   | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |                                                                                                                                                                                           |
| 7       | JASLA M               | UFAYAE031  | 4 (Very Good)   | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |                                                                                                                                                                                           |
| 8       | ADITHYA U             | UFAYSMT001 | 5 (EXCELLENT)   | 5 (EXCELLENT) | 4 (Very Good) | 5 (EXCELLENT) | 5 (EXCELLENT) |                                                                                                                                                                                           |
| 9       | AMRITHA . P . T       | UFAYSMT002 | 5 (EXCELLENT)   | 5 (EXCELLENT) | 5 (EXCELLENT) | 4 (Very Good) | 5 (EXCELLENT) |                                                                                                                                                                                           |
| 10      | ANIYA P P             | UFAYSMT003 | 5 (EXCELLENT)   | 4 (Very Good) | 5 (EXCELLENT) | 4 (Very Good) | 4 (Very Good) |                                                                                                                                                                                           |
| 11      | ANUSREE C T           | UFAYSMT004 | 4 (Very Good)   | 5 (EXCELLENT) | 5 (EXCELLENT) | 4 (Very Good) | 4 (Very Good) |                                                                                                                                                                                           |
| 12      | AYISHA NAHRIN CP      | UFAYSMT005 | 5 (EXCELLENT)   | 5 (EXCELLENT) | 4 (Very Good) | 4 (Very Good) | 4 (Very Good) |                                                                                                                                                                                           |
| 13      | FADHILA K             | UFAYSMT006 | 5 (EXCELLENT)   | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |                                                                                                                                                                                           |
| 14      | FIDA MK               | UFAYSMT007 | 5 (EXCELLENT)   | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |                                                                                                                                                                                           |
| 15      | HIBA K T              | UFAYSMT008 | 4 (Very Good)   | 4 (Very Good) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |                                                                                                                                                                                           |
| 16      | MAHMOOD MUHYUDHEEN CK | UFAYSMT009 | 5 (EXCELLENT)   | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |                                                                                                                                                                                           |



|    |                     |            |               |               |               |               |               |
|----|---------------------|------------|---------------|---------------|---------------|---------------|---------------|
| 17 | MAJIDA SHERIN K K   | UFAYSMT010 | 4 (Very Good) | 5 (EXCELLENT) | 4 (Very Good) | 5 (EXCELLENT) | 5 (EXCELLENT) |
| 18 | MUHAMMED ASMIL A P  | UFAYSMT011 | 5 (EXCELLENT) | 5 (EXCELLENT) | 4 (Very Good) | 5 (EXCELLENT) | 5 (EXCELLENT) |
| 19 | MUHAMMED FAHIZ T P  | UFAYSMT012 | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |
| 20 | MUHAMMED SALIM NIK  | UFAYSMT013 | 5 (EXCELLENT) | 4 (Very Good) | 5 (EXCELLENT) | 5 (EXCELLENT) | 4 (Very Good) |
| 21 | NAJA NASRIN . P     | UFAYSMT014 | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |
| 22 | NIDHA SAFRY M       | UFAYSMT015 | 4 (Very Good) | 5 (EXCELLENT) | 4 (Very Good) | 4 (Very Good) | 5 (EXCELLENT) |
| 23 | RABIYATHUL ADHBIYYA | UFAYSMT016 | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |
| 24 | RIFANA K            | UFAYSMT017 | 5 (EXCELLENT) | 4 (Very Good) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |
| 25 | RIHANA K            | UFAYSMT018 | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |
| 26 | SHAHANA T P         | UFAYSMT019 | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |
| 27 | SHIBIYA JEBIN T H   | UFAYSMT020 | 4 (Very Good) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |
| 28 | SULAIKHA FAHMA P    | UFAYSMT021 | 5 (EXCELLENT) | 4 (Very Good) | 5 (EXCELLENT) | 5 (EXCELLENT) | 5 (EXCELLENT) |
| 29 | THANHA FATHIMA K    | UFAYSMT022 | 5 (EXCELLENT) | 4 (Very Good) | 5 (EXCELLENT) | 5 (EXCELLENT) | 4 (Very Good) |

30

|       |    |    |    |    |    |    |
|-------|----|----|----|----|----|----|
| d "0" | 0  | 0  | 0  | 0  | 0  | 0  |
| d "1" | 0  | 0  | 0  | 0  | 0  | 0  |
| d "2" | 0  | 0  | 0  | 0  | 0  | 0  |
| d "3" | 0  | 0  | 0  | 0  | 0  | 0  |
| d "4" | 7  | 7  | 7  | 7  | 6  | 6  |
| d "5" | 23 | 23 | 23 | 23 | 24 | 24 |





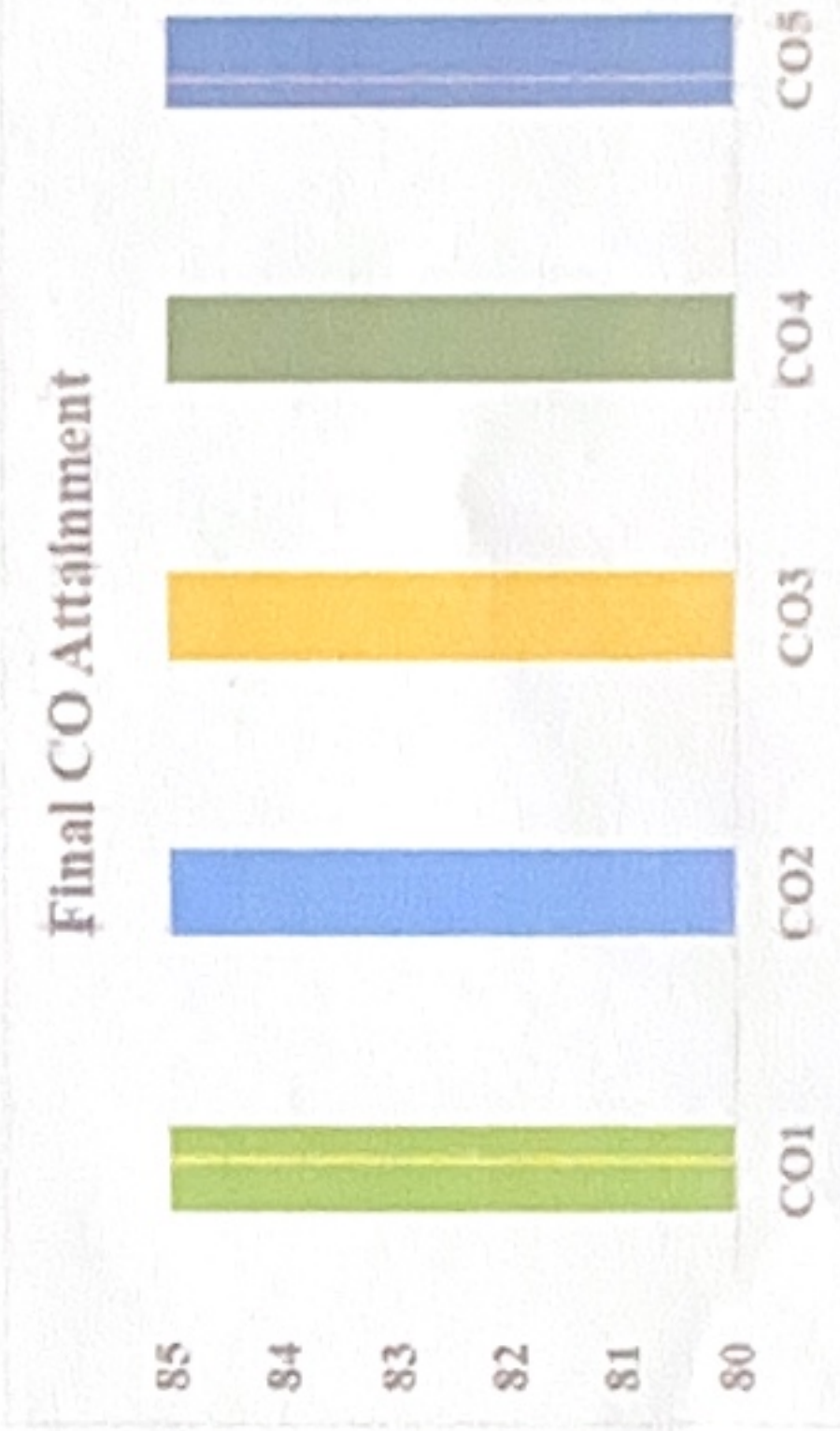
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DEPARTMENT OF STATISTICS

COURSE EXIT SURVEY RESPONSES (EVEN SEM . 2024-2025)

| Semester:II                         |                                                                                                                                                                           | STA2MN101(P)-Probability Theory 1                                                                                                                                                         |  |                                   |   |   |   |   |                 |    |                  |               |                    |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------|---|---|---|---|-----------------|----|------------------|---------------|--------------------|
| Name of the faculty member: HIMA KC |                                                                                                                                                                           |                                                                                                                                                                                           |  |                                   |   |   |   |   |                 |    |                  |               |                    |
| CO No.                              | CO description                                                                                                                                                            | Course Exit Survey Questions                                                                                                                                                              |  | No. of students given the ratings |   |   |   |   | Total Responses |    | Weighted Average | CO Max. Count | %age CO attainment |
|                                     |                                                                                                                                                                           |                                                                                                                                                                                           |  | 0                                 | 1 | 2 | 3 | 4 | 5               |    |                  |               |                    |
| CO1                                 | Define random variables and distinguish different types of random variables                                                                                               | Are you able to Understand random variables and distinguish different types of random variables                                                                                           |  | 0                                 | 0 | 0 | 0 | 7 | 23              | 30 | 3.76             | 5             | 75.26              |
| CO2                                 | Identify discrete and continuous probability function and analyze data to help entrepreneurial decisions using critical thinking skills.                                  | Are you able to Identify discrete and continuous probability function                                                                                                                     |  | 0                                 | 0 | 0 | 0 | 7 | 23              | 30 | 3.76             | 5             | 75.26              |
| CO3                                 | Describe standard theoretical distributions                                                                                                                               | Are you able to Implement standard theoretical distributions                                                                                                                              |  | 0                                 | 0 | 0 | 0 | 7 | 23              | 30 | 3.76             | 5             | 75.26              |
| CO4                                 | Discuss various tools for association between the bivariate variables.                                                                                                    | Are you able to understand various tools for association between the bivariate variables.                                                                                                 |  | 0                                 | 0 | 0 | 0 | 6 | 24              | 30 | 3.79             | 5             | 75.79              |
| CO5                                 | Distinguish between a population distribution and a sampling distribution and critically evaluate ethical implications of statistical methods aligning with human values. | Are you able to Distinguish between a population distribution and a sampling distribution and critically evaluate ethical implications of statistical methods aligning with human values. |  | 0                                 | 0 | 0 | 0 | 6 | 24              | 30 | 3.79             | 5             | 75.79              |

| CO Assessment method                              | CO1   | CO2   | CO3   | CO4   | CO5   |
|---------------------------------------------------|-------|-------|-------|-------|-------|
| Direct method (IA Test, Assignment/quiz and exam) | 97    | 97    | 97    | 97    | 97    |
| Weightage (80%)                                   | 78    | 78    | 78    | 78    | 78    |
| Indirect method (Course Exit Survey)              | 75.26 | 75.26 | 75.26 | 75.79 | 75.79 |
| Weightage (20%)                                   | 15.05 | 15.05 | 15.05 | 15.16 | 15.16 |
| Final CO Attainment                               | 92.92 | 92.92 | 92.92 | 93.02 | 93.02 |







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**DEPARTMENT OF STATISTICS**

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

Semester: II

STA2MN101(P)-Probability Theory 1

Name of the faculty member: HIMMA KC

**(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 | Indirect Assessment | Overall Attainment | Target (%) | Attainment |
|-----|--------------------------|-------------------|-------------------|---------------------|--------------------|------------|------------|
|     |                          |                   | (a)               | (b)                 | 0.8 (a) + 0.2(b)   |            |            |
| CO1 | PO1, PO3, PO4 & PO9      | PSO1, PSO2 & PSO3 | 97                | 75.26               | 93                 | 75         | YES        |
| CO2 | PO1, PO3, PO5 & PO7      | PSO1, PSO2 & PSO3 | 97                | 75.26               | 93                 |            |            |
| CO3 | PO1, PO2, PO3, PO5 & PO9 | PSO1, PSO2 & PSO3 | 97                | 75.26               | 93                 |            |            |
| CO4 | PO1, PO3, PO4, PO5 & PO8 | PSO1, PSO2 & PSO3 | 97                | 75.79               | 93                 |            |            |
| CO5 | PO1, PO4, PO5, PO7 & PO8 | PSO1, PSO2 & PSO3 | 97                | 75.79               | 93                 |            |            |

**FACULTY**

*Himma KC*

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Asst. Professor  
In charge of Principal  
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