University of Mumbai

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Academic Authorities,
Meetings & Services (AAMS)
Room No. 128, M. G. Road, Fort,
Mumbai – 400 032.
Tel. 022-68320033

Re- accredited with A ++ Grade (CGPA 3.65) by NAAC
Category- I University Status awarded by UGC

No. AAMS_UGS/ICD/2024-25/469 Date : 24th March, 2025.

To,
The Director,
Garware Institute of Career Education
and Development,
Vidyanagari
Santacruz (East)
Mumbai – 400 098.

Sub : Post Graduate Diploma in Predictive Analytics.
(One year) (Sem – I & II).

Sir,

With reference to the subject noted above, this is to inform you that the recommendations made by the **Advisory Committee & Board of Management** of Garware Institute of Career Education & Development at its Meeting held on **4th September, 2023** & resolution passed by the **Board of Deans** at its meeting held on **9th August,2023 vide** Item No. **9.2** have been accepted by the **Academic Council** at its meeting held on **1st November, 2023 vide** Item no. **9.3 (B) 14 (N)** and subsequently approved by the **Management Council** at its meeting held on **14th August, 2024 vide** Item No. **6** that in accordance therewith, in exercise of the powers conferred upon the Management Council under Section 74(4) of the Maharashtra Public Universities Act, 2016 (Mah. Act No. VI of 2017) the following program with Ordinance for Title of the Program, Eligibility and Regulation numbers for Duration of Program, Intake Capacity, Scheme of Examinations, Standard of Passing and Credit Structure along with syllabus of **Post Graduate Diploma in Predictive Analytics (Sem I & II)** (Appendix – 'A') have been introduced and the same have been brought into force with effect from the academic year **2023-24**.

The New Ordinances & Regulations as per NEP 2020 is as follows :-

Sr. No	Name of the Programme	Ordinance no. for Title	Ordinance no for Eligibility	Duration
A	P.G Diploma in Predictive Analytics	O.GPA – 55 A	O.GPA – 56 A	One year

2/-

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No. AAMS_UGS/ICD/2024-25/469 Date : 24th March, 2025.

Regulation Nos	
Duration	R. GPA – 131
Intake Capacity	R. GPA – 132
Scheme of examination	R. GPA – 133
Standard of Passing	R. GPA – 134
Credit Structure	R. GPA – 135 A
	R. GPA – 135 B

(Dr. Prasad Karande)
REGISTRAR

A.C/9.3(B) 14 (N) /01/11/2023
M.C/6/14/8/2024

****

Copy forwarded with Compliments for information to:-

1) The Chairman, Board of Deans
2) The Dean, Faculty of Interdisciplinary Studies,
3) The Director, Board of Examinations and Evaluation,
4) The Director, Board of Students Development,
5) The Director, Department of Information & Communication Technology,
6) The Co-ordinator, MKCL.

Copy forwarded for information and necessary action to :-	
1	The Deputy Registrar, (Admissions, Enrolment, Eligibility and Migration Dept)(AEM), dr@eligi.mu.ac.in
2	The Deputy Registrar, Result unit, Vidyanagari drresults@exam.mu.ac.in
3	The Deputy Registrar, Marks and Certificate Unit,. Vidyanagari dr.verification@mu.ac.in
4	The Deputy Registrar, Appointment Unit, Vidyanagari dr.appointment@exam.mu.ac.in
5	The Deputy Registrar, CAP Unit, Vidyanagari cap.exam@mu.ac.in
6	The Deputy Registrar, College Affiliations & Development Department (CAD), deputyregistrar.uni@gmail.com
7	The Deputy Registrar, PRO, Fort, (Publication Section), Pro@mu.ac.in
8	The Deputy Registrar, Executive Authorities Section (EA) eau120@fort.mu.ac.in He is requested to treat this as action taken report on the concerned resolution adopted by the Academic Council referred to the above circular.
9	The Deputy Registrar, Research Administration & Promotion Cell (RAPC), rapc@mu.ac.in
10	The Deputy Registrar, Academic Appointments & Quality Assurance (AAQA) dy.registrar.tau.fort.mu.ac.in ar.tau@fort.mu.ac.in
11	The Deputy Registrar, College Teachers Approval Unit (CTA), concolsection@gmail.com
12	The Deputy Registrars, Finance & Accounts Section, fort draccounts@fort.mu.ac.in
13	The Deputy Registrar, Election Section, Fort drelection@election.mu.ac.in
14	The Assistant Registrar, Administrative Sub-Campus Thane, thanesubcampus@mu.ac.in
15	The Assistant Registrar, School of Engg. & Applied Sciences, Kalyan, ar.seask@mu.ac.in
16	The Assistant Registrar, Ratnagiri Sub-centre, Ratnagiri, ratnagirisubcentar@gmail.com
17	The Director, Centre for Distance and Online Education (CDOE), Vidyanagari, director@idol.mu.ac.in
18	Director, Innovation, Incubation and Linkages, Dr. Sachin Laddha pinkumanno@gmail.com
19	Director, Department of Lifelong Learning and Extension (DLLE), dlleuniversityofmumbai@gmail.com

Copy for information :-	
1	P.A to Hon'ble Vice-Chancellor, vice-chancellor@mu.ac.in
2	P.A to Pro-Vice-Chancellor pvc@fort.mu.ac.in
3	P.A to Registrar, registrar@fort.mu.ac.in
4	P.A to all Deans of all Faculties
5	P.A to Finance & Account Officers, (F & A.O), camu@accounts.mu.ac.in

To,

1	The Chairman, Board of Deans pvc@fort.mu.ac.in
2	**Faculty of Humanities,** **Dean** 1. Prof.Anil Singh Dranilsingh129@gmail.com **Associate Dean** 2. Dr.Suchitra Naik Naiksuchitra27@gmail.com 3.Prof.Manisha Karne mkarne@economics.mu.ac.in
	Faculty of Commerce & Management, **Dean** 1. Dr.Kavita Laghate kavitalaghate@jbims.mu.ac.in **Associate Dean** 2. Dr.Ravikant Balkrishna Sangurde Ravikant.s.@somaiya.edu 3. Prin.Kishori Bhagat kishoribhagat@rediffmail.com

	Faculty of Science & Technology **Dean** 1. Prof. Shivram Garje ssgarje@chem.mu.ac.in **Associate Dean** 2. Dr. Madhav R. Rajwade Madhavr64@gmail.com 3. Prin. Deven Shah sir.deven@gmail.com
	Faculty of Inter-Disciplinary Studies, **Dean** 1.Dr. Anil K. Singh aksingh@trcl.org.in **Associate Dean** 2.Prin.Chadrashekhar Ashok Chakradeo cachakradeo@gmail.com
3	Chairman, Board of Studies,
4	The Director, Board of Examinations and Evaluation, dboee@exam.mu.ac.in
5	The Director, Board of Students Development, dsd@mu.ac.in DSW direcotr@dsw.mu.ac.in
6	The Director, Department of Information & Communication Technology, director.dict@mu.ac.in

AC-1/11/2023
Item No- 9.3 (B) - 14

As Per NEP 2020

University of Mumbai

Syllabus for

Post-Graduate Diploma in Predictive Analytics

(Garware Institute of Career Education and Development)

Semester- Sem I and II

Ref: GR dated 16th May, 2023 for Credit Structure of PG

(with effect from the academic year 2023-24)

UNIVERSITY OF MUMBAI

AS PER NEP 2020

Sr. No.	Heading	Particulars
1	O: GPA – 55A Title of the Course	Post-Graduate Diploma in Predictive Analytics
2	O: GPA – 56A Eligibility	1. Graduates with a minimum 50% from a recognized University having a flair for numbers can apply. **OR** Passed Equivalent Academic Level 5.5 2. Admissions on the basis of Written Test & Interview.
3	Duration of Program R: GPA – 131	One Year /2 Semesters
4	R: GPA – 132 Intake Capacity	60
5	R: GPA –133 Scheme of Examination	50 Internal – Continuous 50 External- Sem End Exam
6	Standards of Passing R: GPA – 134	50% in each component
7	Credit Structure R: GPA –135A R: GPA –135B	Attached herewith
8	No. of Years / Semesters	One Year, Sem I & II
9	Program Level	P.G. 6
10	Pattern	Semester
11	Status	New
12	To be implemented from Academic Year:	From Academic Year 2023-24

Dr. Keyurkumar M. Nayak,
Director,
UM-GICED

Prof.(Dr.) Anil Kumar Singh
Dean,
Faculty of Interdisciplinary Studies

Preamble

SYLLABUS FOR POST-GRADUATE DIPLOMA IN PREDICTIVE ANALYTICS

1) Introduction:

The Postgraduate Diploma in Predictive Analytics provides students with the knowledge and practical skills to extract insights from data using advanced modeling techniques. Students learn statistical algorithms, machine learning, and data mining tools to forecast trends and make data-driven decisions across industries. The program focuses on data preprocessing, model evaluation, and result interpretation, preparing graduates for impactful roles in the field of predictive analytics.

2) Program Objectives:

The program objective of the predictive analytics program is to equip students with the knowledge, skills, and tools necessary to effectively analyze data and make data-driven decisions. By mastering predictive modeling techniques, students will learn how to extract valuable insights from large datasets, identify patterns and trends, and forecast future outcomes. The program aims to empower students with the ability to leverage data to inform strategic decision-making, optimize business processes, and drive impactful results across various domains and industries.

Course Objectives:

The objectives of this course is to develop a comprehensive understanding of key concepts, apply diverse predictive modeling algorithms, implement effective data preprocessing and model evaluation strategies, and analyze and communicate actionable insights from predictive models. These objectives aim to equip students with the necessary skills and knowledge to excel in the field of predictive analytics and contribute to data-driven decision-making processes.

3) Learning Outcomes:

CO1: To demonstrate a comprehensive understanding of the key concepts and theories in predictive analytics.

CO2: To apply a variety of predictive modeling algorithms and techniques to solve analytical problems.

CO3: To implement effective data preprocessing, feature selection, and model evaluation strategies.

CO4: To analyze and interpret the results of predictive models and communicate actionable insights.

5) Credit Structure of the program

Year (1 Yr PGD in Predictive Analytics)	Level	(1 Yr)	Major		RM	OJT / FP	RP	Cum. Credit	Degree
			Mandatory*	Electives Any set					
I	**6.0**	**Sem I**	**Course 1 :** Statistical Computing **(Credits 4)** **Course 2 :** Applied Business Statistics and Statistics using Python **(Credits 4)** **Course 3 :** Big Data Analytics **(Credits 4)** **Course 4 :** Introduction to Data Sciences **(Credits 2)**	**Course 1 :** Introduction to Data Management **(Credits 4)** **OR** **Course 2 :** Web Intelligence **(Credits 4)**	Research Methodology **(Credits 4)**			22	**PG Diploma**
I	**6.0**	**Sem II**	**Course 1 :** Machine Learning **(Credits 4)** **Course 2 :** Tools and Techniques of Data Visualization and Communication **(Credits 4)** **Course 3 :** High Performance Computing **(Credits 4)** **Course 4 :** Time Series Modelling **(Credits 2)**	**Course 1 :** Image and Video Analytics **(Credits 4)** **OR** **Course 2:** Social Networking and Mining **(Credits 4)**		OJT / FP **(Credits 4)**		22	
Cum. Cr. For PG Diploma			**28**	**8**	**4**	**4**	**-**	**44**	

Abbreviations: Yr.: Year; Sem.: Semester; OJT: On Job Training: Internship/ Apprenticeship; FP: Field projects; RM: Research Methodology; Research Project: RP; Cumulative Credits: Cum.

Dr. Keyurkumar M. Nayak,
Director,
UM-GICED

Prof.(Dr.) Anil Kumar Singh
Dean,
Faculty of Interdisciplinary Studies

SEMESTER-WISE SYLLABUS

	Subject Code	Core Subjects	Assessment Pattern			Teaching Hours	Total Credits
			Internal Marks	External Marks	Total Marks	Total Hrs	Total Credits
SEMESTER I	**Major Mandatory**						
	PGDPAS1MJP1	Statistical Computing	50	50	100	60	4
	PGDPAS1MJP2	Applied Business Statistics and Statistics using Python	50	50	100	60	4
	PGDPAS1MJP3	Big Data Analytics	50	50	100	60	4
	PGDPAS1MJP4	Introduction to Data Sciences	25	25	50	30	2
	Major Electives (Any One)						
	PGDPAS1P5A	Introduction to Data Management	50	50	100	60	4
	PGDPAS1P5B	Web Intelligence	50	50	100	60	4
	Research Methodology (RM)						
	PGDPAS1P6	Research Methodology	50	50	100	60	4
TOTAL			**275**	**275**	**550**	**330**	**22**
	Major Mandatory						
SEMESTER II	PGDPAS2MJP7	Machine Learning	50	50	100	60	4
	PGDPAS2MJP8	Tools and Techniques of Data Visualization and Communication	50	50	100	60	4
	PGDPAS2MJP9	High Performance Computing	50	50	100	60	4
	PGDPAS2MJP10	Time Series Modelling	25	25	50	30	2
	Major Electives (Any one)						
	PGDPAS2P11A	Image and Video Analytics	50	50	100	60	4
	PGDPAS2P11B	Social Networking and Mining	50	50	100	60	4
	On Job Training / Field Project						
	PGDPAS2P12	OJT/FP	100	–	100	60	4
TOTAL			**325**	**225**	**550**	**330**	**22**
FINAL TOTAL			**600**	**500**	**1100**	**660**	**44**

Sem.- I

SUBJECT-WISE SYLLABUS
Semester 1

Subject Code	Subjects	Total Hours	No of session of 3 Hours
	SEMESTER I: Mandatory		
1.1	**Statistical Computing** ● Unit 1 - Probability Theory: Sample Spaces- Events - Axioms – Counting – Conditional ● Unit 2 - Sampling Distributions & Descriptive Statistics: The Central Limit Theorem, distributions of the sample mean and the sample variance for a normal population, Sampling distributions (Chi-Square, t, F, z). Test of Hypothesis- Testing for Attributes – Mean of Normal Population – One-tailed and two-tailed tests, F-test and Chi-Square test - - Analysis of variance ANOVA – One way and two way classifications. ● Unit 3 - Tabular data- Power and the computation of sample size- Advanced data handling Multiple regression- Linear models- Logistic regression- Rates and Poisson regression Nonlinear curve fitting. ● Unit 4 - Density Estimation- Recursive Partitioning- Smoothers and Generalised Additive Models - Survivals Analysis- Analysing Longitudinal Data- Simultaneous Inference and Multiple Comparisons- Meta-Analysis- Principal Component Analysis- Multidimensional Scaling Cluster Analysis. ● Unit 5 - Introduction to R- Packages- Scientific Calculator- Inspecting Variables- Vectors Matrices and Arrays- Lists and Data Frames- Functions- Strings and Factors- Flow Control and Loops- Advanced Looping- Date and Times. Introduction to Python Packages- fundamentals of Python- Inserting and Exporting Data- Data Cleansing Checking and Filling Missing Data- Merging Data-Operations- Joins	60	20
1.2	**Business Statistics and Statistics using Python** ● Unit 1 - Able to compute Summary Statistics using Excel ● Unit 2 - Familiar with probability concepts (including Bayesian probability) and use Excel to calculate probabilities. ● Unit 3 - Familiar with various probability distribution and application of them in business	60	20

	● Unit 4 - Familiar with various hypothesis testing and application of them in business ● Unit 5 - Apply various Excel in-built and / or user defined functions to perform various hypothesis testing like 't' Statistics, ANOVA, Wilcox- Rank, Mann-Whitney, Kruskal-wallis etc		
1.3	**Big Data Analytics** ● Unit 1 - Introduction to big data : Introduction to Big Data Platform – Challenges of Conventional Systems - Intelligent data analysis – Nature of Data - Analytic Processes and Tools - Analysis vs Reporting Unit 2 - Mining data streams : Introduction To Streams Concepts – Stream Data Model and Architecture - Stream Computing - Sampling Data in a Stream – Filtering Streams – Counting Distinct Elements in a Stream – Estimating Moments – Counting Oneness in a Window – Decaying Window - Real time Analytics Platform(RTAP) Applications – Case Studies - Real Time Sentiment Analysis- Stock Market Predictions. ● Unit 3 - Hadoop: History of Hadoop- the Hadoop Distributed File System – Components of Hadoop Analysing the Data with Hadoop- Scaling Out- Hadoop Streaming- Design of HDFS-Java interfaces to HDFS Basics- Developing a Map Reduce Application-How Map Reduce Works-Anatomy of a Map Reduce Job run-Failures-Job Scheduling-Shuffle and Sort – Task execution - Map Reduce Types and Formats- Map Reduce Features Hadoop environment. ● Unit 4 - Frameworks: Applications on Big Data Using Pig and Hive – Data processing operators in Pig – Hive services – HiveQL – Querying Data in Hive - fundamentals of HBase and ZooKeeper - IBM Info Sphere Big Insights and Streams. ● Unit 5 - Predictive Analytics- Simple linear regression- Multiple linear regression- Interpretation of regression coefficients. Visualizations - Visual data analysis techniques- interaction techniques - Systems and applications.	60	20
1.4	**Introduction to Data Sciences** ● Unit 1 – What is Data Science ● Unit 2 – Evolution of Data Science ● Unit 3 – Various Data Science related profiles and applications ● Unit 4 – Machine Learning and AI in HFT	30	10
Semester 1: ELECTIVES			
SET 1: Electives			
1.5	**Introduction to Data Management** ● Unit 1 – Language of Predictive Analytics ● Unit 2 – Introduction to Data Warehousing ● Unit 3 – Data Preparation ● Unit 4 – Case Study (Investments)	60	20

	OR		
SET 2: Electives			
1.6	**Web Intelligence** ● Unit 1 – Web Analytics – Basics – Traditional Ways – Expectations – Data Collection – Clickstream Data – Weblogs – Beacons – JavaScript Tags – Packet Sniffing – Outcomes data – Competitive data – Search Engine Data. ● Unit 2 – Qualitative Analysis – Customer Centricity – Site Visits – Surveys – Questionnaires – Website Surveys – Post visits – Creating and Running- Benefits of surveys – Critical components of successful strategy. ● Unit 3 – Web Analytic concepts – URLS – Cookies – Time on site – Page views – Understand standard reports – Website content quality – Navigation reports (top pages, top destinations, site overlay). – Search Analytics – Internal search, SEO and PPC – Measuring Email and Multichannel Marketing - Competitive intelligence and Web 2.0 Analytics – Segmentation – Connectable reports. ● Unit 4 – Google Analytics: Analytics - Cookies - Accounts vs Property - Tracking Code - Tracking Unique Visitors - Demographics - Page Views & Bounce Rate Acquisitions - Custom Reporting. ● Unit 5 – Goals & Funnels – Filters - Ecommerce Tracking - Real Time Reports - Customer Data Alert - Adwords Linking - Adsense Linking - Attribution Modeling - Segmentation - Campaign Tracking - Multi-Channel Attribution.	60	20

Sem.- II

Semester 2

Subject Code	Subjects	Total Hours	Session of 3 Hours
	SEMESTER II: Mandatory		
2.1	**Machine Learning** ● Unit 1 – Multiple Linear Regression and Polynomial Regression, Logistic Regression ● Unit 2 - Shrinkage Method for model improvements Part 1 & 2 ● Unit 3 - Variable Reduction Techniques - PCA / PCR Part 1 & 2 ● Unit 4 - R-Squared , Case Studies Using R ● Unit 5 – Tree Based Methods ,Pruning of Tree , Measuring r^2 in tree Gradient Boosting, Bagging and Ensemble Methods, Naïve Bias Algorithm.	60	20
2.2	**Tools and Techniques of Data Visualization and Communication** ● Unit 1 - Design an effective Dashboards for a specified Departments using Excel , Design effective slide presentations to showcase your data story ● Unit 2 - Have a grip on Tableau Worksheet functionalities, Perform Data Manipulation and custom calculation in Tableau Tell Stories with Data ● Unit 3 - Deliver compelling business presentations ● Unit 4 -Creating Sets and Performing Custom Calculations in Tableau, Using R in Tableau, Publish a Tableau Dashboard on web , Importing Data into Tableau , ● Unit 5 - Creating Graphs & Creating Dashboard.	60	20
2.3	**High Performance Computing** ● Unit 1 – Principles of Parallel Algorithms- Graph Algorithms- Minimum Spanning Tree- Prim's Algorithm - Single-Source Shortest Paths-Dijkstra's Algorithm - All-Pairs Shortest Paths - -. Algorithms for Sparse Graphs - Search Algorithms for Discrete Optimization Problems - Sequential Search Algorithms - - Parallel Depth-First Search - Parallel Breadth-First Search - Dynamic Programming - Serial Monadic DP Formulations –No serial Monadic DP Formulations - Serial Polyadic DP Formulations. ● Unit 2 – Shared-memory parallel programming with Open MP- Introduction to Open MP - Parallel 11 execution - Data scoping – Open MP work sharing for loops - Synchronization Reductions - Loop scheduling - Miscellaneous - Case study-Open MP-parallel Jacobi algorithm - Advanced Open MP-Wave front parallelization - Efficient Open MP programming - Profiling Open MP programs.	60	20

	● Unit 3 – Distributed-memory parallel programming with MPI- Message passing- MPI – example - Messages and point-to-point communication - Collective communication - Non blocking point-to-point communication - Virtual topologies - Example- MPI parallelization of Jacobi solver - Communication parameters – Synchronization serialization- contention - Implicit serialization and synchronization - Contention - Reducing communication overhead - Optimal domain decomposition - Aggregating messages - Non blocking vs. asynchronous communication ● Unit 4 – Hybrid parallelization with MPI and Open MP- Basic MPI/Open MP programming models - Vector mode implementation - Task mode implementation - Case study- Hybrid Jacobi solver - MPI taxonomy of thread interoperability - Hybrid decomposition and mapping - Potential benefits and drawbacks of hybrid programming Unit 5 – NVidia – GPU Computing – CUDA – Case studies.		
2.4	**Time Series Modelling** ● Unit 1 - Time Series Decomposition ● Unit 2 - HoltWinters smoothing ● Unit 3 - ARIMA Models ● Unit 4 - Case Study - using R	30	10
Semester 1: ELECTIVES			
SET 1: Electives			
2.5	**Image and Video Analytics** ● Unit 1 – Digital image representation- Visual Perception- Sampling and Quantization- Basic Relations between Pixels- Mathematical Tools Used in Digital Image Processing: Fundamental Operations – Vector and Matric Operations- Image Transforms (DFT, DCT, DWT, Hadamard). ● Unit 2 –Fundamentals of spatial filtering: spatial correlation and convolution-smoothingblurring-sharpening- edge detection - Basics of filtering in the frequency domain: smoothing-blurring-sharpening--Histograms and basic statistical models of image. ● Unit 3 – Colour models and Transformations – Image and Video segmentation-Image and video demonising- Image and Video enhancement- Image and Video compression. ● Unit 4 – Object detection and recognition in image and video-Texture models Image and Video 25 classification models- Object tracking in Video. ● Unit 5 – Applications and Case studies- Industrial- RetailTransportation & Travel- Remote sensing-Video Analytics in WSN: IoT	30	10

	Video Analytics Architectures.		
	OR		
	SET 2: Electives		
2.6	**Social Networking and Mining** ● Unit 1 – Unit 1 - Introduction- Introduction to Web - Limitations of current Web – Development of Semantic Web – Emergence of the Social Web – Statistical Properties of Social Networks - Network analysis -Development of Social Network Analysis - Key concepts and measures in network analysis - Discussion networks - Blogs and online communities - Web-based networks. ● Unit 2 - Modeling And Visualization- Visualizing Online Social Networks - A Taxonomy of 26 Visualizations - Graph Representation - ● Centrality- Clustering - Node-Edge Diagrams - Visualizing Social ● Networks with Matrix-Based Representations- Node-Link Diagrams - ● Hybrid Representations - Modelling and aggregating social network ● data – Random Walks and their Applications – Use of Hadoop and ● Map Reduce - Ontological representation of social individuals and ● relationships ● Unit 3 – Mining Communities- Aggregating and reasoning with social ● network data- Advanced Representations - Extracting evolution of ● Web Community from a Series of Web Archive - Detecting ● Communities in Social Networks - Evaluating Communities – Core ● Methods for Community Detection & Mining - Applications of ● Community Mining Algorithms - Node Classification in Social ● Networks ● Unit 4 - Text and Opinion Mining- Text Mining in Social Networks - ● Opinion extraction – Sentiment classification and clustering - ● Temporal sentiment analysis - Irony detection in opinion mining - ● Wish analysis - Product review mining – Review Classification – ● Tracking sentiments towards topics over time. ● Unit 5 - Tools for Social Network Analysis- UCINET – PAJEK – ETDRAW ● StOCNET – Splus – R – NodeXL – SIENA and RSIENA – Real world Social Networks (Facebook- Twitter.etc.)	30	10

PASSING PERFORMANCE GRADING :

The Performance Grading of the learner shall be on ten point scale be adopted uniformly.

Letter Grades and Grade Point

Semester GPA/ Program CGPA Semester / Program	% of Marks	Alpha-Sign/Letter Grade Result	Grading Point
9.00 – 10.00	90.0 - 100	O (Outstanding)	10
8.00 - < 9.00	80.0 < 90.0	A+ (Excellent)	9
7.00 - < 8.00	70.0 < 80.0	A (Very Good)	8
6.00 - < 7.00	60.0 < 70.0	B+ (Good)	7
5.50 - < 6.00	55.0 < 60.0	B (Average)	6
5.00 - < 5.50	50.0 < 55.0	C (Pass)	5
Below 5.00	Below 50	F (Fail)	0
AB (Absent)		Absent	

NOTE : VC : Vocational Courses, SEC : Skill Enhancement Courses, AEC : Ability Enhancement Courses, VEC : Value Education Courses, VSC : Vocational Skill Course, IKS : Indian Knowledge System, OJT: On The Job Training, FP: Field Projects.

The performance grading shall be based on the aggregate performance of Internal Assessment and Semester End Examination.

The Semester Grade Point Average (SGPA) will be calculated in the following manner: SGPA = $\sum CG / \sum C$ for a semester, where C is Credit Point and G is Grade Point for the Course/ Subject.

The Cumulative Grade Point Average (CGPA) will be calculated in the following manner: CGPA = $\sum CG / \sum C$ for all semesters taken together.

PASSING STANDARD:

Passing 50% in each subject /Course separate Progressive Evaluation (PE)/Internal Evaluation and Semester-End/Final Evaluation (FE) examination.

A. Carry forward of marks in case of learner who fails in the Internal Assessments and/ or Semester-end examination in one or more subjects (whichever component the learner has failed although passing is on total marks).
B. A learner who PASSES in the Internal Examination but FAILS in the Semester-end Examination of the Course shall reappear for the Semester-End Examination of that Course. However, his/her marks of internal examinations shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.
C. A learner who PASSES in the Semester-end Examination but FAILS in the Internal Assessment of the course shall reappear for the Internal Examination of that Course. However, his/her marks of Semester-End Examination shall be carried over and he/she shall be entitled for grade obtained by him/her on passing

ALLOWED TO KEEP TERMS (ATKT)

A. A learner shall be allowed to keep term for Semester II irrespective of the number of heads/courses offailure in the Semester I.

B. A learner shall be allowed to keep term for Semester III wherever applicable if he/she passes each ofSemester I and Semester II.

OR

C. A learner shall be allowed to keep term for Semester III wherever applicable irrespective of the numberof heads/courses of failure in the Semester I & Semester II.

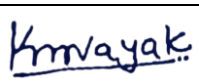
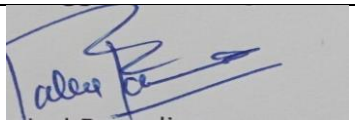
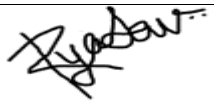
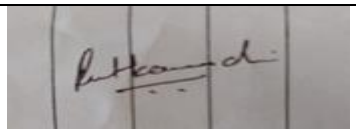
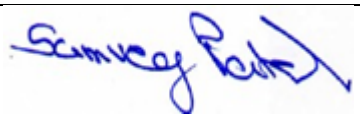
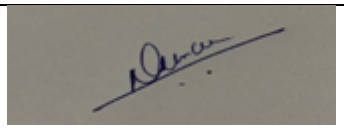
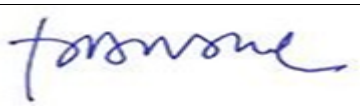
D. A learner shall be allowed to keep term for Semester IV wherever applicable if he/she passes each ofSemester I, Semester II and Semester III.

OR

E. A learner shall be allowed to keep term for Semester IV wherever applicable irrespective of number ofheads/courses of failure in the Semester I, Semester II, and Semester III

****

University of Mumbai's
Garware Institute of Career Education and Development
Board of Studies – Committee members
Course Name: Post Graduate Diploma In Predictive Analytics
Date- 5th June, 2023 & Time- 11.00 am

Sr. No	Name	Signature
1	Dr. Keyurkumar Nayak Director, UM-GICED and Chairman- BOS	
2	Smt. Shilpa Borkar, Placement Officer	
3	Rahul Ranadive Course Coordinator Member Secretary	
4	Mr. Roshani Yadav Industry Experts	
5	Mr. Afshan Dadan Industry Experts	AB
6	Mr. Parth Shah Alumni	AB
7	Ms. Reet Kanodia Alumni	
8	Dr. Samveg Patel NMIMS	
9	Dr. Abhilas Nair Professor IIMK	AB
10	Mr. Rakesh Nair Subject Experts	
11	Dr. Pallavi Gupta Subject Experts	

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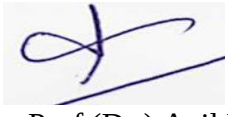

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Appendix B

Justification for (P. G. Diploma in Predictive Analytics)

1.	Necessity for starting the course	The University of Mumbai's Garware Institute of Career Education & Development plans to introduce a one year Post Graduate Diploma in Predictive Analysis.Organizations are turning to predictive analytics to help solve difficult problems like detecting fraud,reducing risks and uncovering new opportunities for optimizing marketing campaigns and improving operations.
2.	Whether the UGC has recommended the course:	Yes, UGC has recommended the course as per gazette no. DL(N)-04/0007/2003-05 dated 11th July 2014. UGC encourages the incorporation of skill oriented and value-added courses to develop skilled manpower.
3.	Whether all the courses have commenced from the academic year 2023-2024	Yes, it would be commencing from the Academic year 2023-24 as per NEP 2020. However, the course was launched in the year 2021
4.	The courses started by the University are self-financed, whether adequate number of eligible permanent faculties are available?	Yes, this course is self-financed. The expert visiting faculty from industries come to teach this course.
5.	To give details regarding the duration of the Course and is it possible to compress the course?	The duration of the course is one year (Two Semesters). It cannot be further compressed.
6.	The intake capacity of each course and no. of admissions given in the current academic year:	The intake capacity of this course is 60 students. The admission procedure is still ongoing.
7.	Opportunities of Employability/ Employment available after undertaking these courses:	From analysts to directors, jobs in this field are in high demand across many sectors and industries. Common among these dynamic professionals are a requirements of Solid quantitative skills and an affinity for numbers. The ability to code – Python, R, and SQL are essential in this industry, communication skills, the ability to problem-solve and make decisions that fall outside the job description.

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