SCHEME OF EXAMINATION

&

SYLLABI

Of

Bachelor of Business Administration-Business Analytics

(Honours/Honours with Research)

As per National Education Policy 2020

With effect from academic session 2023-24

Kurukshetra UniversityKurukshetra-136119

(A++ Grade NAAC Accredited)

Abbreviations

AEC	Ability Enhancement Course
CC	Core Course
CC-H	Core course in Honours discipline
CC-HM	Core Course in Minor Subject of Honours Program
DSE	Discipline Specific Elective Course
DSE-H	Discipline specific elective course in Honours
H	Honours
M	Minor
MDC	Multi-Disciplinary Course
PC	Practicum Course
PC-H	Practicum Course in Honours
SEC	Skill Enhancement Course
V	Vocational
VAC	Value Added Course

FIRST YEAR: SEMESTER I

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-UBA-101	Financial Accounting	CC-A1	30	70	-	100	**4**
B23-UBA-102	Principles of Management	CC-B1	30	70	-	100	**4**
B23-UBA-103	Business Organisation	CC-C1	30	70	-	100	**4**
	Each student will opt one course from pool of minor courses for Semester I	CC-M1	15	35	-	50	**2**
	Each student will opt one multidisciplinary course from the discipline which is different from the discipline of business administration	MDC-1				75	**3**
	Each student will opt one course from pool of ability enhancement courses provided by university	AEC-1				50	**2**
	Each student will opt one course from pool of skill enhancement courses provided by university	SEC-1				75	**3**
	Each student will opt one course from pool of value added courses provided by university	VAC-1				50	**2**
Total						**600**	**24**

POOL OF MINOR COURSES FOR SEMESTER I

Course	Course Code	Nomenclature of Minor Course
CC-M1	B23-UBA-104	Business Mathematics-I

FIRST YEAR: SEMESTER II

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-UBA-201	Business Statistics	CC-A2	30	70	-	100	**4**
B23-UBA-202	Managerial Economics	CC-B2	30	70	-	100	**4**
B23-UBA-203	Organisational Behaviour	CC-C2	30	70	-	100	**4**
	Each student will opt one course from pool of minor courses for Semester II	CC-M2	15	35	-	50	**2**
	Each student will opt one multidisciplinary course from the discipline which is different from the discipline of business administration	MDC-2				75	**3**
	Each student will opt one course from pool of ability enhancement courses provided by university	AEC-2				50	**2**
	Each student will opt one course from pool of skill enhancement courses provided by university	SEC-2				75	**3**
	Each student will opt one course from pool of value added courses provided by university	VAC-2				50	**2**
Total						**600**	**24**

POOL OF MINOR COURSES FOR SEMESTER II

Course	Course Code	Nomenclature of Minor Course
CC-M2	B23-UBA-204	Business Mathematics-II

Exit Option: Any student opting for exit option after first year will get **Undergraduate Certificate in Business Administration** provided he/she completes 48 Credits of first two semesters and additional 4 credits of summer training report (100 External Marks) based on summer training of 4-6 weeks undertaken in a business organization. Thus, he/she will be eligible to exit the course with the said 52 Credits. In addition, the summer internship report would be evaluated by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra. Furthermore, the credits of summer internshipreport would be included/mention in the **Undergraduate Certificate in Business Administration**as follow:

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-UBA-205	Summer Internship Report	Internship	-	100*	-	100	**4**

*The summer internship report would be evaluated by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

SECOND YEAR: SEMESTER III

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-UBA-301	Introduction to Business Analytics	CC-A3	30	70	-	100	**4**
B23-UBA-302	Internet of Things and Google Ads	CC-B3	30	70	-	100	**4**
B23-UBA-303	Information Systems for Business	CC-C3	30	70	-	100	**4**
	Each student will opt one course from pool of minor courses for Semester III	CC-M3	30	70	-	100	**4**
	Each student will opt one multidisciplinary course from the discipline which is different from the discipline of business administration	MDC-3				75	**3**
	Each student will opt one course from pool of ability enhancement courses provided by university	AEC-3				50	**2**
	Each student will opt one course from pool of skill enhancement courses provided by university	SEC-3				75	**3**
Total						**600**	**24**

POOL OF MINOR COURSES FOR SEMESTER III

Course	Course Code	Nomenclature of Minor Course
CC-M3	B23-UBA-304	Managerial Accounting

CC-M3	B23-UBA-305	Production Management	

SECOND YEAR: SEMESTER IV

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-UBA-401	Business Analytics Tools	CC-A4	30	70	-	100	**4**
B23-UBA-402	Fundamentals of Marketing Analytics	CC-B4	30	70	-	100	**4**
B23-UBA-403	Programming Fundamentals	CC-C4	30	70	-	100	**4**
	Each student will opt one course from pool of vocational courses provided by university	CC-M4 (V1)				100	**4**
	Each student will opt one course from pool of ability enhancement courses provided by university	AEC-4				50	**2**
	Each student will opt one course from pool of value added courses provided by university	VAC-3				50	**2**
Total						**500**	**20**

Exit Option: Any student opting for exit option after second year will get **Undergraduate Diploma in Business Administration**provided he/she completes 92 credits of first four semesters and additional 4 credits of summer training report (100 external marks) based on summer training of 4-6 weeks in a business organization undertaken after completion of second semester or fourth semester. Thus, he/she will be eligible to exit the course with the said 96 Credits. In addition, the summer internship report would be evaluated by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra. Furthermore, the credits of summer internship report would be included/mention in the **Undergraduate Diploma in Business Administration** as follow:

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-UBA-404	Summer Internship Report	Internship	-	100*	-	100	**4**

*The summer internship report would be evaluated by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

Note: The student seeking admission in fifth semester would have to undergo a compulsory 4-6 weeks summer internship in a business organization after fourth semester and credits for the same will be included in fifth semester.

THIRD YEAR: SEMESTER V

Course code	Nomenclature of the paper	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-UBA-501	Fundamentals of Financial Analytics	CC-A5	30	70	-	100	**4**
B23-UBA-502	Fundamentals of HR Analytics	CC-B5	30	70	-	100	**4**
B23-UBA-503	Basics of Python	CC-C5	30	70	-	100	**4**
	Each student will opt one course from pool of vocational courses provided by university	CC-M5 (V2)				100	**4**
B23-UBA-504	Summer InternshipReport	Internship	-	100*	-	100	**4**
Total						**500**	**20**

*The summer internship report would be evaluated by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

THIRD YEAR: SEMESTER VI

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-UBA-601	Fundamentals of Time Series Data Analysis	CC-A6	30	70	-	100	**4**
B23-UBA-602	Data Analysis Using SPSS	CC-B6	30	70	-	100	**4**
B23-UBA-603	Comprehensive Viva-Voce	CC-C6	-	-	100*	100	**4**
	Each student will opt one course from pool of minor courses for Semester VI	CC-M6	30	70	-	100	**4**
	Each student will opt one course from pool of vocational courses provided by university	CC-M7 (V3)				100	**4**
Total						**500**	**20**

POOL OF MINOR COURSES FOR SEMESTER VI

Course	Course Code	Nomenclature of Minor Course
CC-M6	B23-UBA-604	Basics of Social Media Analytics
CC-M6	B23-UBA-605	Web Analytics

*Comprehensive viva-voce would be conducted by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

Exit option: Any student who exit after 6 semesters must complete 132 credits and he/she would be awarded with **Bachelor of Business Administration.**

Notes:

1. A student will opt for Multidisciplinary Course (MDC) from the subject which is different from the discipline of business administration. Students are not allowed to choose or repeat courses already undergone at the higher secondary level (12th class) or opted as major and minor courses under this category. Provided further that if a Multidisciplinary Course across the discipline cannot be offered by the Department/Institute/College, due to its constraints and available resources, then
i. MDC can be opted out of MOOCs through SWAYAM.
ii. MDC can be completed out of online courses offered by the Kurukshetra University.
iii. MDC can be completed from a cluster college, i.e., from a neighboring college/institute.

2. 4-year BBA (Honours) or (Honours with Research) will be offered after completion of 3 year BBA programme to those students who have completed at least 60 credits in the concerned discipline. In addition to the above, 4-year BBA (Honours with Research) will be offered only to those students who have obtained CGPA 7.5 or more in the 3 year BBA programme.

3. BBA (Honours) or (Honours with Research) will be awarded after successful completion of the four year programme securing 180 credits.

4. Student opting for Honours with Research will work on a Research Project or do research during the eighth semester. The dissertation work will be of 12 credits. 8 credits will be earmarked for the evaluation report of the dissertation and viva-voce examination will carry weightage of 4 credits.

<table>
<tr><th colspan="4" align="center">Part A – Introduction</th></tr>
<tr><td>Subject</td><td colspan="3">Business Administration</td></tr>
<tr><td>Semester</td><td colspan="3">I</td></tr>
<tr><td>Name of the Course</td><td colspan="3">Financial Accounting</td></tr>
<tr><td>Course Code</td><td colspan="3">B23-UBA-101</td></tr>
<tr><td>Course Type:
(CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)</td><td colspan="3">CC-A1</td></tr>
<tr><td>Level of the course (As per Annexure-I</td><td colspan="3">Foundation-Level</td></tr>
<tr><td>Pre-requisite for the course (if any)</td><td colspan="3">None</td></tr>
<tr><td>Course Learning Outcomes (CLO):</td><td colspan="3">After completing this course, the learner will be able to:
1. Understand the accounting equations and the rules of recording accounting transactions.
2. Understand the recording of accounting transactions in the books of entry and the preparation of ledger accounts.
3. Understand the preparation of trial balance and reconciliation of accounting statements.
4. Analyze accounting transactions by preparing final accounts of statements for the profit and non-profit business entities.</td></tr>
<tr><td rowspan="2">Credits</td><td>Theory</td><td>Practical</td><td>Total</td></tr>
<tr><td>4</td><td>0</td><td>4</td></tr>
<tr><td>Contact Hours/Week</td><td>4</td><td>0</td><td>4</td></tr>
<tr><td colspan="2">Max. Marks: 100
Internal Assessment Marks: 30
End Term Exam Marks: 70</td><td colspan="2" align="center">Time: 3 Hours</td></tr>
</table>

<table>
<tr><th align="center">Part B- Contents of the Course</th></tr>
<tr><td align="center"><u>Instructions for Paper- Setter</u></td></tr>
</table>

The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Basic Accounting-Nature, scope and objectives of accounting: accounting as information system, users of accounting information. Accounting equation: Accounting concepts and conventions, capital and revenue expenditure; Accounting principles, rules of accounting for recording the transaction for different accounts.	15
II	Journal and Ledger: Double Entry System; Journal and recording of entries in journal; Ledger- Posting from Journal to respective ledger accounts. Preparation of Cash book.	15
III	Trial Balance: Need and objectives; Preparation of Trial Balance; Different types of errors in preparation of trial balance and the rectification of errors. Preparation of Bank Reconciliation statement.	15
IV	Final Accounts: Preparation of Trading Account and Profit and Loss Account; Receipts and payments account, Preparation of Balance sheet for profit and non-profit organizations.	15
Suggested Evaluation Methods		

Internal Assessment:	End Term Examination: **70**
➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Gupta R. L.; Advanced Accounting; S. Chand & Sons.
2. Grewal T. S and M.C. Shukla; Advanced Accounting; S. Chand & Sons.
3. Williams, Haka, Bettner & Carcello; Financial and Managerial Accounting; McGraw Hill

Part A – Introduction	
Subject	**Business Administration**
Semester	**I**
Name of the Course	**Principles of Management**
Course Code	**B23-UBA-102**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-B1**
Level of the course (As per Annexure-I	**Foundation-Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the Nature and Evolution of Management. 2. Apply the Managerial skills and roles at workplace. 3. Apprehend the functions of Management 4. Recognize the latest changes in the field of Management.

Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter

The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Introduction to Management: Concept, Evolution of Management Thought, Functions, Significance, Managerial Roles & Skills; Planning and Decision Making: Concept, Planning Process, Components of Plans.	15
II	Organizing: Concept, Guiding Principles, and Types of organizational structure: Line, Functional, Line & Staff relationship, Delegation of Authority: Meaning and elements of Delegation, Centralization Vs Decentralization.	15
III	Staffing – Nature and Meaning, Importance, Steps; Directing: Elements, Principles and Importance.	15
IV	Communication: Meaning, Process, Barriers, Corrective Measures; Communication networks, Controlling: Concept, Importance, Process of controlling, Control Techniques.	15
Suggested Evaluation Methods		

Internal Assessment:	End Term Examination: **70**
➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Koontz & Weirich. Essentials of Management. Tata McGraw Hill.
2. Kaul Vijay Kumar. Business Organization & Management – Text and Cases. Pearson.
3. Robbins. Fundamentals of Management: Essentials Concept and Applications. Pearson Education.

Part A – Introduction			
Subject	**Business Administration**		
Semester	**I**		
Name of the Course	**Business Organisation**		
Course Code	**B23-UBA-103**		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-C1**		
Level of the course (As per Annexure-I	**Foundation-Level**		
Pre-requisite for the course (if any)	**None**		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the basic concepts in commerce, trade and industry. 2. Understand modern business practices, forms, procedures and functioning of various business organizations. 3. Understand the recent trends and practices in business world. 4. Understand the Government support and Community efforts.		
Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**
Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**		

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Business Organisation: Meaning and nature, Objectives; Evolution; Forms/Types of Business Organizations; Partnership: Characteristics, Registration, Partnership Deed, Rights, Duties and Liabilities, Dissolution of Partnership.	15
II	Joint Stock Company-Concept, Characteristics, Types; Formation of Company; Multinational Companies; Conceptual Framework of Corporate Governance; One person Company.	15
III	Co-operative and State Ownership: Forms/Types; Non- Profit Organizations; Trade Associations; Emergence of Indian MNCs & transnational corporations-Recent trends business world. Globalization & challenges for Indian Business in new millennium.	15
IV	Setting up a New Enterprise Decisions in setting up an Enterprise – opportunity and idea generation, Role of creativity and innovation, Feasibility study and Business Plan, Business size and location decisions, various factors to be considered for starting a new unit, Relevant Government Policies - SEZ (Special Economic Zone) policy etc.	15

Suggested Evaluation Methods

Internal Assessment: ➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	End Term Examination: **70**

<table>
<tr><td colspan="2" align="center">Part C-Learning Resources</td></tr>
<tr><td colspan="2">

Recommended Books/e-resources/LMS:

1. C.R. Basu: Business Organization and Management; McGraw Hill.
2. P.C. Tulsian & Vishal Pandey: Business Organization and Management; Pearson.
3. Frank R. Mason: Business Principles and Organization; Forgotten Books.
4. S. A. Sherlekar: Modern Business Organization; Himalaya Publishing House.
5. Jallo: Business Organization and Management; Tata McGraw Hill.
6. Dr. V. Desai: Organizing and Financing of Small Scale Industry; Himalaya Publishing House.
7. Dr. C. B. Gupta: Industrial Organization and Management; Sultan Chand & Sons
</td></tr>
</table>

<table>
<tr><td colspan="2" align="center">Part A – Introduction</td></tr>
<tr><td>Subject</td><td>Business Administration</td></tr>
<tr><td>Semester</td><td>I</td></tr>
<tr><td>Name of the Course</td><td>Business Mathematics-1</td></tr>
<tr><td>Course Code</td><td>B23-UBA-104</td></tr>
<tr><td>Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)</td><td>CC-M1</td></tr>
<tr><td>Level of the course (As per Annexure-I</td><td>Foundation Level</td></tr>
<tr><td>Pre-requisite for the course (if any)</td><td>None</td></tr>
<tr><td>Course Learning Outcomes (CLO):</td><td>After completing this course, the learner will be able to:
1. Understand set theory, logical statements and truth table. Find the solution of linear equations.
2. Determine the solution of quadratic equations. Learn the concept and applications of permutations and combinations.
3. Apply binomial theorem. Understand the concepts related to functions, limit and continuity and appropriately apply the concepts of differential calculus to solve related problems.
4. Understand the matrix algebra and its application to business problems. Find the solution of system of simultaneous linear equations using determinants and matrices.</td></tr>
</table>

Credits	Theory	Practical	Total
	2	**0**	**2**
Contact Hours/Week	**2**	**0**	**2**

Max. Marks: **50** Internal Assessment Marks: **15** End Term Exam Marks: **35**	Time: **3 Hours**

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 1.75 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 7 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Set Theory: Representation of sets, equivalent sets, power set, complement of a set. Venn Diagrams: Union and Intersection of sets, De-Morgan's laws.	8
II	Quadratic Equations with real roots: Relations between roots and coefficient of the quadratic equations , Methods of solving a quadratic equation	8
III	Binomial Theorem (positive index). Functions, Limits and Continuity.	7
IV	Matrix System: Matrices, Basic operations on matrices (Addition, Multiplication, Transpose), Determinant of a square matrix, Inverse of a square matrix, Cramer's rule	7
V*		

Suggested Evaluation Methods

Internal Assessment:	End Term Examination: **35**
➢ **Theory**	
● Class Participation: **4**	
● Seminar/presentation/assignment/quiz/class test etc.: **4**	
● Mid-Term Exam: **7**	
➢ **Practicum**	
● Class Participation:	
● Seminar/Demonstration/Viva-voce/Lab records etc.:	
● Mid-Term Exam:	

Part C-Learning Resources
Recommended Books/e-resources/LMS: 1. Dr. Sancheti & Kapoor: Business Mathematics and Statistics; Sultan Chand. 2. R.S. Bhardwaj: Mathematics for Economics & Business; Excel Books, India. 3. M. Raghavachari: Mathematics for Management: An Introduction; Tata McGraw Hills. 4. Azharuddin: Business Mathematics; Vikas Publishers. 5. Gorakh Prasad: Differential Calculus; Rashi Kansal (Pothishala). 6. G. Rangaraj, R. Mallieswari & V. Rema: Business Mathematics; Cengage. 7. Eugene Don, Joel Lerner: Schaum's Outline of Basic Business Mathematics (Schaum's Outlines); McGraw-Hill Education.

*Applicable for courses having practical component.

Part A – Introduction	
Subject	**Business Administration**
Semester	**II**
Name of the Course	**Business Statistics**
Course Code	**B23-UBA-201**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-A2**
Level of the course (As per Annexure-I	**Foundation-Level**
Pre-requisite for the course (if any)	**None**

Course Learning Outcomes (CLO):	After completing this course, the learner will be able to:
	1. Understand the meaning of the statistics and data in everyday life and its presentation for business decision making.
	2. Understand distinctive features and characteristics of data with the help of descriptive and summary statistical measures.
	3. Understand and analyses the departure from statistical normality of data for better business decision making.
	4. Understand the significance of sampling in the statistical data collection and applications in business decision making.

Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Business Statistics: Introduction, Scope, Functions, Importance, Limitations; Distrust of Statistics; Collection of Primary and Secondary data; Types of Statistical Methods; Data Analysis and Interpretation; Graph: Characteristics, Types, Merits and Demerits.	15
II	Measures of Central Tendency: Meaning, Types; Arithmetic Mean; Geometric Mean; Harmonic Mean; Quadratic Mean; Moving Average; Progressive Average; Relation between Mean, Median and mode.	15

III	Measures of Dispersion and Skewness: Absolute and Relative measures of Dispersion range, Quartile deviation, Mean and Standard Deviation; Difference between Skewness and Dispersion, Empirical relation among various measures of Dispersion, Moments and Kurtosis.	15
IV	Sampling: Introduction, Census versus Sample, Errors in Sampling, Types of sampling, Judging reliability of sample; Index numbers: Introduction, Types of Index Numbers, Methods of constructing Index numbers, uses of Index numbers; Time Series analysis: Components and Seasonality analysis.	15

Suggested Evaluation Methods

Internal Assessment:	End Term Examination: **70**
➢ **Theory**	
● Class Participation: **5**	
● Seminar/presentation/assignment/quiz/class test etc.: **10**	
● Mid-Term Exam: **15**	
➢ **Practicum**	
● Class Participation:	
● Seminar/Demonstration/Viva-voce/Lab records etc.:	
● Mid-Term Exam:	

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. D. N Elhance, Veena Elhance & BM Aggarwal. Fundamentals of Statistics. Kitab Mahal.
2. T.N Srivastava and Shailaja Rego. Statistics for Management. McGraw Hill.
3. S.C Gupta. Fundamental of Statistics. Himalaya Publishing House.
4. Levine & Rubin. Statistics for Management. Pearson Publication.
5. S.P Gupta. Statistical Methods. Sultan Chand & Sons.

Part A – Introduction

Subject	**Business Administration**
Semester	**II**
Name of the Course	**Managerial Economics**
Course Code	**B23-UBA-202**

Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-B2**		
Level of the course (As per Annexure-I	**Foundation-Level**		
Pre-requisite for the course (if any)	**None**		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the nature and scope of managerial economics and identify the role of economics in decision making. 2. Understand theory of demand, law of demand and cardinal utility analysis. 3. Understand theory of production, costs, and revenue function. 4. Understand theory of firm and market organization including determination of price under different market conditions.		
Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**
Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**		

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Managerial Economics: Meaning, Nature and Scope. Objectives of the firm, Equilibrium, Utility, Opportunity cost, Marginal and Incremental Principles.	15

II	Theory of Demand: Nature of demand for a product, individual demand, market demand, determinants of demand, Law of demand, Elasticity of demand and its determinants; Theory of Consumer Behaviour: Cardinal utility analysis, Indifference curve analysis, applications of Indifference curves.	15
III	Theory of Production and Costs: The concept of Production function, production with one and two variable inputs, theory of Cost in short run and long run, Revenue function.	15
IV	Theory of firm and market organization: Pricing under Perfect Competition, Pricing under Monopoly, Price Discrimination, Pricing under Monopolistic Competition, Selling cost, Pricing under Oligopoly.	15

Suggested Evaluation Methods

Internal Assessment: ➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	End Term Examination: **70**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Koutsoyiannis, A.: Modern Microeconomics; Palgrave Macmillan.
2. Varshney, R. L. and Maheshwari, K. L.: Managerial Economics; Sultan Chand & Sons.
3. Mote, V., Paul, S., and Gupta, G.: Managerial Economics; McGraw Hill Education.

Part A – Introduction

Subject	**Business Administration**
Semester	**II**

Name of the Course	**Organizational Behaviour**		
Course Code	**B23-UBA-203**		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-C2**		
Level of the course (As per Annexure-I	**Foundation-Level**		
Pre-requisite for the course (if any)	**None**		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the Nature, Evolution of Organizational Behaviour. 2. Understand the process of group formation and role of Groups at workplace. 3. Discover and Understand the concept of Motivation and Leadership theories 4. Comprehend the latest changes happening in the field of Organizational Behaviour.		
Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**
Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**		

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Organizational Behaviour: Definition, Fundamental concepts of OB, Historical Background.	15
II	Motivation: Definition, Importance, Motives, Characteristics, Content Theories of Motivation Morale - Definition and relationship with productivity - Morale Indicators.	15
III	Theories of Leadership -Trait Theory, Behavioral theories, Contingency Theories, Transactional Theories and Transformational Leadership Theory.	15
IV	Group Dynamics and Team building: Concept of Group & Team. Theories of Group Formation – Types of Groups. Importance of Team building at workplace.	15
Suggested Evaluation Methods		

Internal Assessment:	End Term Examination: **70**
➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	

Part C-Learning Resources
Recommended Books/e-resources/LMS: 1. Robbins, S. P. and Sanghi. Organizational Behaviour. Pearson Education. 2. Robbins, S. P. and Judge T. A. Vohra; Organisational Behaviour. Pearson Education.

Part A – Introduction	
Subject	**Business Administration**

Semester	**II**
Name of the Course	**Business Mathematics-1I**
Course Code	**B23-UBA-204**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-M2**
Level of the course (As per Annexure-I	**Foundation Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the application of Average, Ratio and Proportion, Percentage, Profit and Loss, Commission, Discount, Broke of Matrix range in business organisation. 2. Understand simple interest and compound interest and annuities. 3. Understand indices & logarithms. 4. Understand applications of linear programming in solving business problems.

Credits	Theory	Practical	Total
	2	**0**	**2**
Contact Hours/Week	2	0	2

Max. Marks: **50** Internal Assessment Marks: **15** End Term Exam Marks: **35**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 1.75 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 7 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Average, Ratio and Proportion, Percentage, Profit and Loss, Commission, Discount, Broke of Matrix rage	8
II	Simple interest and compound interest. Annuities: Types of annuities, Present value and amount of an annuity (including the case of continuous compounding), Valuation of simple loans and debentures, Problems related to sinking funds.	8
III	Indices & logarithms, arithmetic and geometric progressions and their business applications; sum of first n natural numbers, sum of squares and cubes of first n natural numbers.	7
IV	Linear Programming: Formulation of linear programming problems (LPP) and their solution by graphical and simplex methods. Applications of linear programming in solving business problems.	7

Suggested Evaluation Methods	
Internal Assessment: ➢ **Theory** ● Class Participation: **4** ● Seminar/presentation/assignment/quiz/class test etc.: **4** ● Mid-Term Exam: **7** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	End Term Examination: **35**

Part C-Learning Resources
Recommended Books/e-resources/LMS: 1. E. Don and J. Lerner (2009). Schaum's outline of Basic Business Mathematics (2nd Edition). McGraw Hill.   2. L.N.Paul (2002). Linear Programming: an introductory analysis. Tata McGraw Hill. New.

*Applicable for courses having practical component.

Part A – Introduction	
Subject	**Business Administration**
Semester	**III**
Name of the Course	**Introduction to Business Analytics**
Course Code	**B23-UBA-301**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-A3**
Level of the course (As per Annexure-I	**Intermediate Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the concept and practices of Business Analytics. 2. Understand concepts of Descriptive Analytics. 3. To learn about application of business analytics to real world problem. 4. Understand concepts of Prescriptive Analytics.

Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to

attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Introduction to business analytics, Data Scientist vs. Data Engineer vs. Business Analyst, , Categories of Business Analytical methods and models, Analyst Role in Business Analytics Model, Application of Business Analytics: Retail Analytics, Marketing Analytics, Financial Analytics, Healthcare Analytics, Supply Chain Analytics, Career in Business Analytics.	15
II	Descriptive analytics: Overview of Description Statistics (Central Tendency, Variability), Data Visualization -Definition, Visualization Techniques – Tables, Cross Tabulations, Charts, Dashboards.	15
III	Predictive Analytics: using Linear Regression, Factor Analysis, Cluster Analysis, Econometrics and Time Series Forecasting (concepts and practices).	15
IV	Prescriptive analytics: Concept of Descriptive Analytics – Meaning, Nature, Importance and applications – Decision tree analysis –Risk Analytics – Text Analytics – Web Analytics (Theory and practices)	15

Suggested Evaluation Methods

Internal Assessment: ➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	End Term Examination: **70**

Part C: Learning Resources

Recommended Books/e-resources/LMS:

1. Essentials of Business Analytics: An Introduction to the methodology and its application, Bhimasankaram Pochiraju, SridharSeshadri, Springer
2. Business Analytics : Albright & Winston, Cengage
3. Business Analytics, Tanushri Banerjee & Arindam Banerjee, SAGE Publishing
4. Introduction to Data Science, Laura Igual Santi Seguí, Springer
5. Introduction to Machine Learning with Python: A Guide for Data Scientists 1st Edition, by Andreas   C. Müller, Sarah Guido, O'Reilly
6. Introduction to Data Mining, Pang-Ning Tan, Michael Steinbach, Vipin Kumar, Pearson

Education India

7. An Introduction to Business Analytics, Ger Koole, Lulu.com, 2019

Part A – Introduction	
Subject	**Business Administration**
Semester	**III**
Name of the Course	**Internet of Things and Google Ads**
Course Code	**B23-UBA-302**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-B3**
Level of the course (As per Annexure-I	**Intermediate Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the various concepts, terminologies and architecture of IoT systems. 2. Use sensors and actuators for design of IoT. 3. To understand the concepts of Google Ad Words. 4. To learn about the strategies of Google Ad Words

Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two

parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Fundamentals of IoT: Introduction, Definitions & Characteristics of IoT, IoT Architectures, Physical & Logical Design of IoT, Enabling Technologies in IoT, History of IoT, About Things in IoT, The Identifiers in IoT, About the Internet in IoT, IoT frameworks, IoT and M2M.	15
II	Sensors Networks : Definition, Types of Sensors, Types of Actuators, Examples and Working, IoT Development Boards: Arduino IDE and Board Types, Raspberri Pi Development Kit, RFID Principles and components, Wireless Sensor Networks: History and Context, The node, Connecting nodes, Networking Nodes, WSN and IoT.	15
III	Overview of Google Ad Words, Scope, Objectives, Applications, Framework for Google Ads such as BFab.	15
IV	Content Strategies: Understand different structures and ad types. Master optimization basics, and explore platform reports. Search Advertising, keyword bidding, ad extensions, and various targeting methods.	15
Suggested Evaluation Methods		
Internal Assessment: ➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	End Term Examination: **70**	

Part C-Learning Resources
Recommended Books/e-resources/LMS:
1. Internet of Things (IOT): Architecture and Design Principles by by Raj Kamal. (2020). McGraw Hill Publications.
2. Google Ad Words for Beginners by Corey Rabazinski
2. Ad words for Digital Marketing Ninjas by Mr. Saurabh Choudhary
3. Ultimate Google Ad Words Mastery for Beginners by Kerry Vinter
4. Ad words Campaign, How to run an Ad words Campaign in a safe way: How to set up Google Ads Checklist by Mervin Pafel

Part A – Introduction	
Subject	**Business Administration**
Semester	**III**
Name of the Course	**Information Systems for Business**
Course Code	**B23-UBA-303**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-C3**
Level of the course (As per Annexure-I	**Intermediate Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to; 1. To learn about various models of information systems in an organization. 2. To learn about various networks in an organization. 3. Learn about role of Information systems for business organisation. 4. To learn about role of information system in customer care management.

Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter

The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Overview of Information Systems in Organizations- Basic Model and types; Approaches of Organizational Computing-Centralized, Personal, Distributed, Networked and Client-Server.e-Business Systems: System and Models; Need for Framework and Models; Work System Framework; Work System Principles; Relationship between Work Systems and Information Systems; Need for Balanced View of a System; Information Technology as Driving Force for Innovations.	15
II	Business Processes: Concepts and Significance, Process Modeling: DFD, Flowcharts and Structured English; Communication and Decision Making; Evaluating Business Process Performance: Activity Rate and Output, Consistency, Productivity, Cycle Time, Downtime and Security; Basic Communication and Decision Making Concepts.	15

III	Information System Categories related to Specific Functional Areas of Business: Office Automation Systems; Communication Systems: Teleconferencing, E-Mail, Fax,, SMS, Groupware, Internet, Intranets, Extranets, Knowledge Management, and Group Support Systems.	15
IV	Customer's View of Product and services; Experience; Evaluating Products and Services – Cost, quality, responsiveness, Reliability and Conformance to standards; Compatibility and Maintainability; Units of Measurement – Amount of Data, Time etc; Use of Digitization and Multimedia, Better Software Techniques and Interface with People; and Obstacles in Applying IT in Real World.	15

Part C-Learning Resources
Recommended Books/e-resources/LMS: 1. Haag & Cummings: Information Systems Essentials, 3ed; Tata McGraw Hill   2. Simha&Magal: Business Information Systems – Analysis and Design and Practice, 6ed, AW   3. Nickeson : Business Information Systems, 2nd ed, Prentice Hall of India

Part A – Introduction	
Subject	**Business Administration**
Semester	**III**
Name of the Course	**Managerial Accounting**

Course Code	**B23-UBA-304**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-M3**
Level of the course (As per Annexure-I	**Intermediate Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the management accounting concepts and its application for decision making. 2. Have an analytical understanding of cost accounting. 3. Apply the budgetary control in different business scenarios. 4. Understand the practical application of management control techniques.

Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Management Accounting : meaning, nature, usefulness, functions, scope, conventions, techniques and limitations. Management Accounting Vs. Financial Accounting, Ratio Analysis; meaning, types, nature and limitations.	15

II	Cost Accounting: meaning, uses of cost accounting; various cost concepts; organization of cost accounting department; Classification of Cost, Cost-Sheet and Costing methods	15
III	Budgets and Budgetary Control : meaning, nature, kinds, preparation of various types of budgets, advantages and limitations of budgetary control. Marginal Costing: Break- even -analysis and Decision Involving alternate choices.	15
IV	Standard Costing: Types of variances and their implementation. Management Accounting and Control Techniques : Activity based costing, Uniform Costing, Target Costing, Balanced Score Card.	15

Suggested Evaluation Methods	
Internal Assessment: ➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	End Term Examination: **70**

Part C-Learning Resources
Recommended Books/e-resources/LMS: 1. SN Maheswari, Management Accounting - Sultan Chand &Sons. 2. Jhamb, Fundamentals of Management Accounting – An eBooks India - New Delhi. 3. HorngrenSunderu Stratton, Introduction to Management Accounting - Pearson Education. 4. T. S. Reddy and Hari Prasad Reddy-Management Accounting, Maegham Publication. Dr. S.N. Maheswari : Management Accounting, Vikas Publishing

Part A – Introduction	
Subject	**Business Administration**
Semester	**III**

Name of the Course	**Production Management**
Course Code	**B23-UBA-305**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-M3**
Level of the course (As per Annexure-I	**Intermediate Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the importance of Production management in business environment. 2. Learn about the significance of facility location and its various determinants. 3. Explore the various techniques of inventory control. 4. Familiarize with the concept of six sigma and virtual factory.

Credits		Theory	Practical	Total
		4	**0**	**4**
Contact Hours/Week		**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Production Management – Introduction, functions, Significance, Production system, Responsibilities of Production Manager.	15

	Production Planning & Control (PPC) –Concepts, Objectives, Functions, factors determining.		
II	Introduction to Facility Location and its importance, Factors in Location Analysis: Location Analysis Techniques. Facility Layout – Objectives: Advantages: Basic types of layouts. Capacity Planning – Concepts: Factors Affecting Capacity Planning.	15	
III	Inventory Management – Concepts, Classification: Objectives: Factors Affecting Inventory Control Policy: Inventory costs: Basic EOQ Model: Re-order Level: ABC Analysis. Quality Management - Quality Concepts, Difference between Inspections, Quality Control, Quality Assurances, Total Quality Management: Control Charts: acceptance sampling.	15	
IV	Introduction to modern productivity techniques – just in time, Kanban system. Total Quality Management & six sigma. Functions of Purchasing Management – Objectives, Functions: Methods: Procedure. Value analysis – Concepts. Virtual factory concept.	15	

Suggested Evaluation Methods

Internal Assessment:	End Term Examination: **70**
➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	

Part C-Learning Resources

Recommended Books/e-resources/LMS:
1. K. Aswathappa and K. ShridharaBhat, Production and operations management, Himalaya publishing House.
2. S. N. Chary, Production and operations management, Tata McGraw Hill companies.
3. Chunawalla, Production and Operation Management, Himalaya Publishing House.

Part A – Introduction

Subject	**Business Administration**		
Semester	**IV**		
Name of the Course	**Business Analytics Tools**		
Course Code	**B23-UBA-401**		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-A4**		
Level of the course (As per Annexure-I	**Intermediate Level**		
Pre-requisite for the course (if any)	**None**		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Demonstrate a deep understanding of business analytics principles. 2. Proficiency in use of Excel, SPSS, and R for data analysis, visualization, and modelling. 3. To learn about process of data cleaning. 4. Develop predictive models using SPSS and make data-driven recommendations.		
Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**
Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**		

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Introduction to Data Input: Overview of R Programming, Downloading and installing, Help of Function, Viewing documentation, Data Types, Sub setting, Writing data, Reading from csv files. Data Visualization-Creating bar chart and dot plot, Creating histogram and box plot, Plotting with base graphics.	15
II	Introduction to spreadsheets, reading data, manipulating data. Basic spreadsheet operations and functions, Introduction to some more useful functions such as the IF, nested IF, Introduction to the Data filtering capabilities of Excel, the construction of Pivot Tables to organize data and introduction to charts in Excel, Constructing various Line, Bar and Pie charts. Understanding and constructing Histograms and Scatter plots.	15
III	Basic Statistic-Computing Basic Statistics, Comparing means of two samples, Testing a proportion, Data Munging Basics, Data manipulation in R-List Management, Data Transformation, Merging Data Frames, Outlier Detection, Combining multiple vector.	15
IV	An Overview of SPSS, Listing cases, replacing missing values, computing new variables, recording variables, exploring data, selecting cases, sorting cases, merging files, Creating and editing graphs and charts, Descriptive Statistics: measures of central tendency, variability, deviation from normality, size and stability. Bivariate Correlation	15

Suggested Evaluation Methods

Internal Assessment:	End Term Examination: **70**
➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	

Part C: Learning Resources

Recommended Books/e-resources/LMS:

1. R for Everyone: Advanced Analytics and Graphics by Lander Pearson Education.
2. Data Science for Business by Foster Provost and Tom Fawcett.
3. Python for Data Analysis by Wes McKinney.
4. R for Data Science by Hadley Wickham and Garrett Grolemund.
5. Excel 2019 Bible by Michael Alexander and Richard Kusleika.

6. Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die by Eric Siegel

Part A – Introduction			
Subject	**Business Administration**		
Semester	**VI**		
Name of the Course	**Fundamentals of Marketing Analytics**		
Course Code	**B23-UBA-402**		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-B4**		
Level of the course (As per Annexure-I	**Intermediate Level**		
Pre-requisite for the course (if any)	**None**		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the basic concepts of Marketing Analytics. 2. Understand various tools to have marketing insights in various marketing areas through empirical data. 3. Interpret the marketing data for effective marketing decision making. 4. Draw inferences from data in order to answer descriptive, predictive, and prescriptive questions relevant to marketing managers.		
Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**
Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**		

Part B- Contents of the Course		
Instructions for Paper- Setter		
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.		

Unit	Topics	Contact Hours
I	Introduction to Marketing Analytics: Meaning, characteristics, advantages and disadvantages of marketing analytics, Market Data Sources (Primary and Secondary). Market Sizing: Stakeholders, Applications & Approaches (Top-down and Bottom-up), PESTLE Market Analysis, Porter Five Force Analysis	15
II	Pricing Analytics: Pricing Policy and Objectives, Estimating Demand: Price Elasticity, Estimating Linear and Power Demand Curves, Optimize Pricing, Incorporating Complementary Products, Pricing using Subjective Demand Curve, Pricing Multiple Products, Price Bundling & Nonlinear Pricing: Pure Bundling & Mixed Bundling, Determine Optimal Bundling Pricing, Profit Maximizing strategies using Nonlinear Pricing Strategies, Price Skimming & Sales, Revenue Management: Markdown Pricing and Handling Uncertainty.	15
III	Sales Forecasting: Introduction, Simple Linear Regression & Multiple Regression model to forecast sales, Forecasting in Presence of Special Events, Modelling trend and seasonality Customer Lifetime Value: Concept, Basic Customer Value, Measuring Customer Lifetime value. Market Segmentation: The segmentation-targeting-positioning (STP) framework, Segmentation, Managing the Segmentation process.	15
IV	Retailing & Advertising Analytics: Market Basket analysis, Computing two-way and three-way lift, RFM Analysis. Allocating Retail Space and Sales Resources: Identifying the sales to marketing effort relationship & its modelling, optimizing sales effort Advertising Analysis: Measuring the Effectiveness of Advertising, Pay per Click (PPC), Online Advertising	15
Suggested Evaluation Methods		

Internal Assessment:	End Term Examination: **70**
➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	

Part C: Learning Resources
Recommended Books/e-resources/LMS: 1. Marketing Analytics: Data-Driven Techniques with Microsoft Excel by Wayne L Winston, Wiley India Pvt. Ltd.   2. Marketing Analytics: Strategic Models and Metrics by Stephan Sorger, Create Space Publishing   3. Marketing Engineering and Analytics by Gary Lilen, Arvind Rangaswamy,and Arnaud De Bruyn, Decision Pro, Inc.   4. Marketing Metrics by Dugar Anurag, SAGE Publishing India

Part A – Introduction	
Subject	**Business Administration**
Semester	**IV**
Name of the Course	**Programming Fundamentals**
Course Code	**B23-UBA-403**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-C4**
Level of the course (As per Annexure-I	**Intermediate Level**
Pre-requisite for the course (if any)	**None**

Course Learning Outcomes (CLO):	After completing this course, the learner will be able to:
	1. The objective of this course is to provide basic knowledge of MySql, SAS, and R programming language. 2. To provide an Introduction to programming that combines standard programming capabilities with statistical analysis. 3. The course also gives students the ability to do data analysis and statistical computing. 4. To give an overview of basic data types and operations, functions and packages, charts and graphs.

Credits	Theory	Practical	Total
	3	**1**	**4**
Contact Hours/Week	**3**	**1**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Fundamentals of computer programming, Definition, What is MySql? MySql Installer, Download sample Database, Loading Sample Database, Structured Query Language, Data types.	15
II	Concepts of GUI programming: Fundamentals of graphical user interface (GUI). Program Control, branching and looping, Use in computer programming. Introduction to SAAS and its installation.	15
III	Basics of R, Installation of R studio, Vectors, Matrices, Data types, Importing files, Writing files, Merging Files, Data Manipulation and	15

IV	Functions and sub-routines, Use in computer programming. File handling: Applications and examples Creating Table, Data Integrity, Creating constraints, Querying Database, Retrieving result sets, Functions and Joins, Sub Queries.	15

Suggested Evaluation Methods	
Internal Assessment: ➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	End Term Examination: **70**

Part C-Learning Resources
Recommended Books/e-resources/LMS: 1. "R Cookbook" by Paul Teetor 2. "R for Data Science", Garrett Grolemund and Hadley Wickham 3. "Hands-On Programming with R", Garrett Grolemund **4.** Querying MySQL: Make your MySQL database analytics accessible with SQL operations, data extraction, and custom queries by Adam Aspin. 2022 PBP Publications

Part A – Introduction	
Subject	**Business Administration**
Semester	**V**
Name of the Course	**Fundamentals of Financial Analytics**
Course Code	**B23-UBA- 501**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-A5**

Level of the course (As per Annexure-I	**Intermediate Level**		
Pre-requisite for the course (if any)	**None**		
Course Learning Outcomes (CLO):	After studying this subject, students will be able to: 1. Understand the Corporate Financial Statements. 2. Understand the Financial Management Skills. 3. Understand the Analysis of Financial Statements using spreadsheet skills. 4. Forecasting the Annual Revenues by using Spreadsheet skills.		
Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**
Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**		

Part B- Contents of the Course		
Instructions for Paper- Setter		
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.		
Unit	**Topics**	**Contact Hours**
I	Corporate Financial Statements Spreadsheet skills: Organizing and creating spreadsheets; entering and formatting data values; entering expressions for calculating values; linking worksheets; splitting screens to facilitate working between several worksheets.	15
II	Financial management skills: Understanding the three key financial statements (i.e., a company's income statement, balance sheet, and cash flow statement) and the relationships between the various items on them. Analyzing the year-to-year changes in financial statements and various financial ratios; performing vertical analysis of financial	15

	statements; using financial ratios to benchmark a company's performance against competitors; inserting spreadsheet results into company reports.		
III	Analysis of Financial Statements Spreadsheet skills: Using logical IF statements; using conditional formatting to call attention to conditions that need correcting; pasting an Excel document into a Word document.	15	
IV	Forecasting Annual Revenues Spreadsheet skills: Creating, validating, and using linear, quadratic, cubic, and exponential regression models to fit the trends of historical data; creating various types of charts (e.g., scatter diagrams, forecast charts, error patterns, and downside risk curves); estimating the accuracy of forecasts; expressing forecast accuracy in terms of confidence limits and downside risk curves. Financial management skills: Making forecasts; recognizing the difference between valid and invalid forecasting models; handling the risks inherent in forecasts; adjusting regression models for changes in trends.	15	

Suggested Evaluation Methods	
Internal Assessment: ➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	End Term Examination: **70**

Part C-Learning Resources
Recommended Books/e-resources/LMS: 1. Day Alastair L. Mastering Financial Modelling in Microsoft Excel, Pearson 2nd edition 2. Benninga Simon, Financial Modelling. 3. Pignataro Paul, Financial Modelling and Valuation: A Practical Guide to Investment Banking and Private Equity. 4. Rees Michael, Financial Modelling in Practice.

Part A – Introduction	
Subject	**Business Administration**
Semester	**V**
Name of the Course	**Fundamentals of HR Analytics**
Course Code	**B23-UBA-502**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-B5**
Level of the course (As per Annexure-I	**Intermediate Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Fundamental understanding of HR analytics. 2. Apply HR Analytical techniques in the areas of HRP, recruitment and selection, Compensation and Benefits and Training etc. 3. To learn about performance analytics. 4. Monitoring and evaluation using HR analytics.

Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions

(two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Introduction to HR Analytics and its role, evaluation.HR information systems and data sources, HR Metrics and HR Analytics; Intuition versus analytical thinking; HRMS/HRIS and data sources; Analytics frameworks like LAMP, HR Scorecard & Workforce Scorecard.	15
II	Human Resource Planning and forecasting: Quantitative and Qualitative Dimensions of HR Planning, Methods and Techniques of HR Demand Forecasting, Data Base for Manpower Forecasting. Recruitment and Selection Analytics: Evaluating Reliability and validity of selection models, Finding out selection bias, Predicting the performance and turnover.	15
III	Performance Analytics: Predicting employee performance, Training requirements, evaluating training and development, Optimizing selection and promotion decisions, Analysing and Classifying training needs, Measuring training effectiveness, Predicting training effectiveness and performance. Designing a Compensation System: Understanding compensation Analytics, quantifiable data, Factors affecting Compensation & Benefits, Analytics for compensation planning, Competency Scorecard.	15
IV	Monitoring impact of Interventions: Tracking impact interventions, Evaluating stress levels and value-change. Formulating evidence based practices and responsible investment, Evaluation mediation process, moderation and interaction analysis. Applications of HR Metrics: HR Metrics, Types of HR Metrics, Staffing Metrics, Training and Development Metrics.	15

Suggested Evaluation Methods

Internal Assessment:	End Term Examination: **70**
➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	

Part C: Learning Resources

Recommended Books/e-resources/LMS:

1. Bhattacharya Kumar Dipak, HR Analytics Understanding Theories and Applications, SAGE
Publishing
2. Banerjee Pratyush, Pandey Jatin and Gupta Manish (2019), Practical Applications of HR Analytics,SAGE Publishing
3. Sesil. J, Applying advanced analytics to HR management decisions: Methods for recruitment, managing performance and improving knowledge management. Prentice Hall.
4. Barnett K, Berk J, Human Capital Analytics. Word Association Publication. Fitz-Enz J,
5. The HR Analytics: Predicting the Economic Value of your Company's Human Capital Investments, AMACOM.

Part A – Introduction	
Subject	**Business Administration**
Semester	**V**
Name of the Course	**Basics of Python**
Course Code	**B23-UBA-503**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-C5**
Level of the course (As per Annexure-I	**Intermediate Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. To learn and understand Python programming basics and paradigm. 2. To learn and understand python looping, control statements and string manipulations. 3. Students should be made familiar with the concepts of GUI controls and designing GUI applications. 4. To learn and know the concepts of file handling, exception handling.

Credits	Theory	Practical	Total

	3	**1**	**4**
Contact Hours/Week	**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Introduction to Python: Python variables, Python basic Operators, Understanding python blocks. Python Data Types, Declaring and using Numeric data types: int, float etc. Introduction to Python packages: Simple programs using the built-in functions of packages	15
II	Python Program Flow Control Conditional blocks: if, else and else if, Simple for loops in python, For loop using ranges, string, list and dictionaries. Use of while loops in python, Loop manipulation using pass, continue, break and else. Programming using Python conditional and loop blocks.	15
III	Python Complex data types: Using string data type and string operations, Defining list and list slicing, Use of Tuple data type. String, List and Dictionary, Manipulations Building blocks of python programs, string manipulation methods, List manipulation. Dictionary manipulation, Programming using string, list and dictionary in-built functions. Python Functions, Organizing python codes using functions.	15
IV	Python File Operations: Reading files, Writing files in python, Understanding read functions, read(), readline(), readlines(). Understanding write functions, write() and writelines() Manipulating file pointer using seek Programming, using file operations. Database Programming: Connecting to a database, Creating Tables,INSERT, UPDATE, DELETE and READ operations, Transaction	15

	Control,Disconnecting from a database, Exception Handling in Databases.	

Suggested Evaluation Methods	
Internal Assessment: ➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	End Term Examination: **70**

Part C-Learning Resources
Recommended Books/e-resources/LMS: 1. Wesley J. Chun, "Core Python Applications Programming", 3rd Edition , Pearson Education, 2016 2. Charles Dierbach, "Introduction to Computer Science using Python", Wiley, 2015 3. Jeeva Jose &P.SojanLal, "Introduction to Computing and Problem Solving with PYTHON", Khanna Publishers, New Delhi, 2016 4. Downey, A. et al., "How to think like a Computer Scientist: Learning with Python", John Wiley, 2015 5. Mark Lutz, "Learning Python", 5th edition, Orelly Publication, 2013, ISBN 978-1449355739 6. John Zelle, "Python Programming: An Introduction to Computer Science", Second edition, Course Technology Cengage Learning Publications, 2013, ISBN 978- 1590282410 7. Michel Dawson, "Python Programming for Absolute Beginers" , Third Edition, Course Technology Cengage Learning Publications, 2013, ISBN 978-1435455009 8. David Beazley, Brian Jones., "Python Cookbook", Third Edition, Orelly Publication, 2013, ISBN 978-1449340377

Part A – Introduction	
Subject	**Business Administration**
Semester	**VI**

Name of the Course	**Fundamentals of Time Series Data Analysis**
Course Code	**B23-UBA-601**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-A6**
Level of the course (As per Annexure-I	**Intermediate Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Know about the basics of time series analysis. 2. Present time series in an informative way, both graphically and with summary statistics. 3. Model time series to analyses the underlying structure(s) in both the time and frequency domains. 4. Draw interpretation from the time series analysis.

Credits	Theory	Practical	Total
	3	**1**	**4**
Contact Hours/Week	**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Introduction to times series data, application of time series from various fields, Components of a time series, Decomposition of time series. Trend: Estimation of trend by free hand curve method, method of semi averages, fitting a various mathematical curve, and growth curves.	15

II	Method of moving averages. Detrending. Effect of elimination of trend on other components of the time series. Seasonal Component: Estimation of seasonal component by Method of simple averages, Ratio to Trend, Ratio to moving average and Link relatives.	15
III	Variate component method: Stationary Time series: Weak stationary, autocorrelationfunction and correlogram of moving average .Forecasting: Exponential smoothing methods, Short term forecasting methods: Brown's discounted regression, Box-Jenkins Method.	15
IV	Depersonalization. Cyclic Component: Harmonic Analysis. Some Special Processes: Moving-average (MA) process and Autoregressive (AR) process of orders one and two, Estimation of the parameters of AR (1) and AR (2) – Yule-Walker equations.	15

Suggested Evaluation Methods

Internal Assessment: ➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	End Term Examination: **70**

Part C-Learning Resources

Recommended Books/e-resources/LMS:
1. Mukhopadhyay P. (2011): Applied Statistics, 2nd ed. Revised reprint, Books and Allied.
2. Time Series Analysis by James D. Hamilton. (1994). Princeton University Press.
3. Time Series Analysis: The Complete Guide by Binit Patel. 2023. Blue Rose One Publications.

Part A – Introduction	
Subject	**Business Administration**
Semester	**VI**
Name of the Course	**Data Analysis Using SPSS**

Course Code	**B23-UBA-602**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-B6**
Level of the course (As per Annexure-I	**Intermediate Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Basic concepts and features of SPSS software. 2. Descriptive Statistics and data visualization using SPSS. 3. Correlation, Regression and Data Manipulation Techniques 4. Hypothesis testing and inferential statistics using SPSS

Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course
Instructions for Paper- Setter

The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Introduction of SPSS: Overview of SPSS software and its interface, Data types and variable properties in SPSS, Data entry and importing data into SPSS. Data Cleaning and Manipulation: Identifying and handling missing data, Data transformation and recoding, Merging	15

	and splitting datasets in SPSS		
II	Descriptive Statistics and Data Visualization: Calculating and interpreting measures of central tendency and dispersion, Creating charts and graphs in SPSS, Exploratory data analysis using SPSS.	15	
III	Correlation and Regression Analysis: Understanding correlation and regression analysis. Performing bivariate and multiple regressions in SPSS. Interpreting regression output and assessing model fit. Data Manipulation Techniques: Creating and computing new variables in SPSS, Subsetting and filtering data in SPSS.	15	
IV	Inferential Statistics: Introduction to hypothesis testing, Conducting t-tests and analysis of variance (ANOVA) in SPSS. Chi-square tests for categorical data.	15	

Suggested Evaluation Methods

Internal Assessment:	End Term Examination: 70
➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	

Part C-Learning Resources

Recommended Books/e-resources/LMS:
1. Discovering Statistics Field,A., Miles J. SAGE Publications Ltd Using IBM SPSS Statistics and Field Z. (2017)
2. Watkins, M. W. (2021). *A step-by-step guide to exploratory factor analysis with SPSS*. Routledge.

3. A Beginner's Guide to Einspruch,E.L SAGE Publications (2020) SPSS for Windows .

4. SPSS for Psychologists: Brace,N. Kemp, R. Palgrave Macmillan (2016) A Guide to Data Analysis and Snelgar, R.

Part A – Introduction

Subject	**Business Administration**		
Semester	**VI**		
Name of the Course	**Basics of Social Media Analytics**		
Course Code	**B23-UBA-604**		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-M6**		
Level of the course (As per Annexure-I	**Intermediate Level**		
Pre-requisite for the course (if any)	**None**		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Explain and discuss the importance of Social Media Analytics. 2. Analyze unstructured data primarily textual comments - for sentiments expressed in them. 3. Apply appropriate analytic tools to a range of social media data sources. 4. Learn about do's and don'ts of Social Media Analytics.		
Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**
Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**		

Part B- Contents of the Course
Instructions for Paper- Setter
The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact

		Hours
I	Phenomenology of social media; Analysis Basics; Sentiment Analysis; Network Analysis Basics.	15
II	Influence and Centrality in Social Networks; Information diffusion; Social ties and information diffusion. The social networks perspective - nodes, ties and influencers, Social network and web data and methods. Graphs and Matrices- Basic measures for individuals and networks. Information visualization	15
III	Social ties and link prediction; Social Spam and Malicious Behaviour. Geospatial social data mining; Privacy in a Networked World.	15
IV	Predicting the future with social media; Emotional contagion; Social tagging and folksonomies.	15

Suggested Evaluation Methods

Internal Assessment:	End Term Examination: 70
➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1.   Social Media Analytics: Effective Tools for Building, Interpreting, and Using Metrics by Marshal Sponder. 2014. McGraw-Hill Education

2.   Social Media Analytics and Practical ApplicationsThe Change to the Competition Landscape by Subodha Kumar & Liangfei Qiu. 2022. CRC Press.
3.   Social Media Analytics by Matthew Ganis & Avinash Kohirkar. 2016. Pearson Publications.

Part A – Introduction

Subject	**Business Administration**
Semester	**VI**
Name of the Course	**Web Analytics**
Course Code	**B23-UBA-605**
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	**CC-M6**
Level of the course (As per Annexure-I	**Intermediate Level**
Pre-requisite for the course (if any)	**None**
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the concept of web analytics. 2. Learn about the data collection and measurement. 3. Develop analytical skills for effective decision alternatives in web analytics. 4. Acquaint with better understanding of implementation of web analytics tools.

Credits	Theory	Practical	Total
	4	**0**	**4**
Contact Hours/Week	**4**	**0**	**4**

Max. Marks: **100** Internal Assessment Marks: **30** End Term Exam Marks: **70**	Time: **3 Hours**

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set nine questions in all and the question paper shall be divided into two parts. **Part 'A'** shall comprise four short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part 'B'** shall comprise eight questions (two questions from each unit) carrying 14 marks each and the student will be required to attempt four questions selecting one question from each unit.

Unit	Topics	Contact Hours
I	Introduction to Web Analytics: Definition, Process, Key terms: Site references, Keywords and Key phrases; building block terms: Visit characterization terms, Content characterization terms, Conversion metrics; Categories: Offsite web, on site web; Web analytics platform, Web analytics evolution, Need of web analytics, Advantages & Limitations.	15
II	Data Collection and Web Analytics Fundamentals: Capturing Data: Web logs, web Beacons, java script tags, packet sniffing; Outcome data: E-commerce, Lead generation, Brand/ Advocacy and support; Competitive Data: Panel Based measurement, ISP based measurement, Search Engine Data; Organizational Structure. Type and size of data, identifying unique page definition, cookies, Link Coding Issues.	15
III	Web Metrics & Analytics: Common metrics: Hits, Page views, visits, unique page views, Bounce, Bounce rate & its improvement, Average time on site, Real time report, traffic source report, custom campaigns, content report, Google analytics; Key Performance Indicator: Need, characteristics, perspective and uses. Graphs and Matrices- Basic measures for individuals and networks. Random graphs & network evolution, Social Context: Affiliation & Identity.	15
IV	Web analytics tools: A/B testing, online surveys, Web crawling and Indexing. Natural Language Processing Techniques for Micro-text Analysis Web analytics 2.0: Web analytics 1.0 & its limitations, Introduction to WA 2.0, competitive intelligence analysis and data sources; website traffic analysis: traffic trends, site overlap and opportunities.	15

Suggested Evaluation Methods

Internal Assessment:	End Term Examination: **70**
➢ **Theory** ● Class Participation: **5** ● Seminar/presentation/assignment/quiz/class test etc.: **10** ● Mid-Term Exam: **15** ➢ **Practicum** ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:	

Part C: Learning Resources

Recommended Books/e-resources/LMS:

1. Rob Stokes, (2014), e marketing: The Essential Guide to Digital Marketing, Quirk Education.
2. Tuten &Bikramjit Rishi, Social Media Marketing, 3rd Ed. 2020, SAGE Publishing India
3. Dave Chaffey, Fiona Ellis-Chadwick, Richard Mayer, Kevin Johnston, (2012), Internet Marketing: Strategy, Implementation and Practice, Prentice Hall.
4. Liana Evans, Social Media Marketing: Strategies for Engaging in Facebook, Twitter & Other Social Media, Que Publishing.
5. Vandana Ahuja, (Digital Marketing, 1st edition, Oxford University Press.
6. AvinashKaushik, Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity,
7. Clifton B., Advanced Web Metrics with Google Analytics, Wiley Publishing, Inc.2nd ed.
8. Kaushik A., Web Analytics 2.0, The Art of Online Accountability and Science of Customer Centricity, Wiley Publishing, Inc. 1st ed.