



BENGALURU CITY UNIVERSITY

NEW SYLLABUS 2019 – 20

B.COM(BUSINESS DATA ANALYTICS) DEGREE

(CBCS SEMESTER SCHEME)

DEPARTMENT OF COMMERCE
CENTRAL COLLEGE, BENGALURU.



Bengaluru City University

REGULATIONS PERTAINING TO B.COM (BUSINESS DATA ANALYTICS) DEGREE (CBCS- SEMESTER SCHEME) 2019 – 20 ONWARDS

COURSE –DESCRIPTION:

Business Data Analytics is the hot new buzzword in IT and Business. The proliferation of digital technologies with digital storage and recording media has created massive amounts of diverse data, which can be used for making and carrying out of decisions in Purchasing, Manufacturing, Marketing, Human Resources functions and many other Purposes. The Concept of Big Data refers to massive and often unstructured data, on which the processing capabilities of traditional data management tools result to be inadequate. Big Data can take up terabytes and peta-bytes of storage space in diverse formats including text, video, sound, images and more. The course gives an overview of the Big Data phenomenon, focusing then on extracting value from the Big Data using predictive analytics techniques.

OBJECTIVES

- This Course helps students to think critically about data analysis.
- It enables students to realize Business Analytics as an integral part of modern management in identifying opportunities for creating value, using business analytics and it also helps to estimate the value created by using business analytics
- To enable learners to develop expert knowledge and analytical skills in current and developing areas of analytical statistics
- To provide learners with a deep and systematic knowledge of business and technical strategies for data analytics and the subsequent skills to implement solutions in these areas.
- To facilitate the learner to use applied skills which are directly complementary and relevant to the workplace.
- To develop in the learner a deep and systematic understanding of current issues of research and analysis
- To enable learners to conduct independent research and analysis in the field of data analytics.
- To enable the learner to identify, develop and apply detailed analytical, creative, problem solving skills.
- Provide the learner with a comprehensive platform for career development, innovation and further study.

I. ELIGIBILITY FOR ADMISSION:

Candidates who have completed Two years Pre – University course of Karnataka State or its equivalent as notified by the university from time to time.

II. DURATION OF THE COURSE:

The course of study is Three (03) years of Six Semesters. A candidate shall complete his/her degree within six (06) academic years from the date of his/her admission to the first semester. Students successfully completes Three (03) years of the course will be awarded Bachelor's

III. MEDIUM OF INSTRUCTION

The medium of instruction shall be English. However, a candidate will be permitted to write the examination either in English or in Kannada (in Kannada Only Commerce Theory Papers).

IV. CLASS ROOM STRENGTH OF STUDENTS

There shall be Maximum of 40 students in each section.

V. ATTENDANCE:

- a. For the purpose of calculating attendance, each semester shall be taken as a Unit.
- b. A student shall be considered to have satisfied the requirement of attendance for the semester, if he/she has attended not less than 75% in aggregate of the number of working periods in each of the subjects compulsorily.
- c. A student who fails to complete the course in the manner stated above shall not be permitted to take the University examination.

VI. COURSE MATRIX

Annexure – 1 for B.Com (Business Analytics /Big Data Analytics / Business Data Analytics) Course Matrix

VII. TEACHING AND EVALUATION:

M.Com/MBA/M.Com (F&A) / MBS graduates with B.Com, B.B.M, BBA & BBS as basic degree from a recognized university are only eligible to teach and to evaluate the subjects **(excepting languages, compulsory additional subjects and core Information Technology or Business Analytics related subjects)** mentioned in this regulation. Languages and additional subjects shall be taught by the graduates as recognized by the respective board of studies.

VIII. PRACTICALS / RECORD MAINTENANCE AND SUBMISSION:

- a. Every college is required to establish a dedicated well equipped Internet Connected Computer Lab required to teach Technology based Big Data Analytics Subjects and business lab for the purpose of conducting practical classes & on line assignments, Affiliated Private Colleges seeking Permission to start this B.Com course shall arrange for qualified software trainers in the field of Big-Data Analytics to teach the related subjects.
- b. In every semester, the student should maintain a Practical Record Book in which a minimum of 5 exercises / programs per subject are to be recorded. This Record has to be submitted to the Faculty for evaluation at least 15 days before the end of each semester.

IX. SCHEME OF EXAMINATION:

- a. There shall be a university examination at the end of each semester. The maximum marks for the university examination in each paper shall be 70.
- b. Of the 30 marks of Internal Assessment for Commerce Papers, 20 marks shall be based on two tests. Each test shall be of at least 30 Minutes duration to be held during the semester. The average of two tests shall be taken as the internal assessment marks. The remaining 10 marks of the Internal Assessment shall be based on Attendance.
For all technology (Business Analytics) related subjects Practical Examination shall be conducted for 30 marks by Internal Examiner. The Evaluation in Practical Examination shall be assessed as follows:

1. *Writing Two Programs/Procedures* = 10 Marks
2. *Execution of any one Program* = 10 Marks
3. *Practical Record* = 5 Marks
4. *Viva-Voce* = 5 Marks

- c. The marks based on attendance shall be awarded as given below:

76% to 80%	= 04 marks.
81% to 85%	= 06 marks.
86% to 90%	= 08 marks.
91% to 100%	= 10 marks.

- d. Internal Assessment Marks for Practical's shall be awarded by the faculty concerned based on Syllabus for Practical's provided in each Semester. The student is required to prepare/workout the concerned exercises in a Practical Record Book maintained by him/her and shall submit it to the faculty concerned at least 15 days before the last date of the semester.

X. APPEARANCE FOR THE EXAMINATION:

1. A candidate shall apply for all the parts in each examination when he/she appears for the first time. A candidate shall be considered to have appeared for the examination only if he/she has submitted the prescribed application for the examination along with the required fees to the university.
2. A candidate who has passed any language under Part-I shall be eligible to claim exemption from the study of the language if he/she has studied and passed the language at the corresponding level.
3. Further, candidates shall also be eligible to claim exemption from studying and passing in those commerce subjects which he/she has studied and passed at the corresponding level, subject to the conditions stipulated by the university.
4. A candidate who is permitted to seek admission to this degree course on transfer from any other University shall have to study and pass the subjects which are prescribed by the University. Such candidates shall not however, be eligible for the award of ranks.

XI. MINIMUM MARKS FOR A PASS:

Candidates who have obtained a minimum of 40% marks in university examination (i.e. 28 marks out of 70 marks of theory examination) and 50% in aggregate (i.e., total of university examination and internal assessment marks) in each subject shall be eligible for a pass or exemption in that subject

XII. CLASSIFICATION OF SUCCESSFUL CANDIDATES:

1. The results of the First to Sixth semester degree examination shall be declared and classified separately as follows:
 - a. First Class: Those who obtain 60% and above of the total marks of parts I, II, III & IV.
 - b. Second Class: Those who obtain 50% and above but less than 60% of total marks of parts I, II, III & IV.
 - c. Pass Class: Rest of the successful candidates who secure 40% and above but less than 50% of marks in part I, II and III.
2. Ranks shall be declared on the basis of the aggregate marks obtained by the candidates in this degree course (excluding languages (part I) and non-core subjects (Part IV) as a whole. However, only those candidates who have passes each semester university examination in the first attempt only shall be eligible for award of ranks. The first ten ranks only shall be notified.

XIII. MEDALS AND PRIZES:

No candidates passing an external examination shall be eligible for any scholarship, fellowship, medal, prize or any other award.

XIV. TERMS AND CONDITIONS:

- a) A candidate is allowed to carry all the previous un-cleared papers to the subsequent semester/semesters.
- b) Such of those candidates who have failed/remained absent for one or more papers henceforth called as repeaters, shall appear for exam in such paper/s during the three immediately succeeding examinations. There shall be no repetition for internal assessment test.
- c) The candidate shall take the examination as per the syllabus and the scheme of examination in force during the subsequent appearances.

XV. PATTERN OF QUESTION PAPER:

Each theory question paper shall carry 70 marks and the duration of examination is 3 hours. The Question paper shall ordinarily consist of three sections, to develop testing of conceptual skills, understanding skills, comprehension skills, articulation and application of skills. The question paper setter shall be asked to prepare TWO sets of papers with a maximum of 10% repetition. The Question Paper will be as per the following Model:

i) For Theory Examinations:

SECTION-A 1. a, b, c, d, e, f, g.	(Conceptual questions) Answer any FIVE	(05 X 02 = 10 Marks)
SECTION -B: 2, 3, 4, 5.	(Analytical questions) Answer any THREE	(03 X 05 = 15 Marks)
SECTION-C: 7, 8, 9, 10.	(Essay type questions) Answer any THREE	(03 X 15 = 45 Marks)
Total		70 Marks

XVI. PROVISION FOR IMPROVEMENT OF RESULTS:

The candidate shall be permitted to improve the results of the whole examination or of any Semester or a subject within the prescribed time by the university after the publication of the results. This provision shall be exercised only once during the course and the provision once exercised shall not be revoked. The application for improvement of results shall be submitted to the Registrar (Evaluation) along with the prescribed fee.

XVII. REMOVAL OF DIFFICULTY AT THE COMMENCEMENT OF THESE REGULATIONS:

If any difficulty arises while giving effect to the provision of these Regulations, the Vice Chancellor may in extraordinary circumstances, pass such orders as he may deem fit.

COURSE MATRIX SEMESTER – I

	Subjects	Paper	Instruction hrs./week	Duration of Exam (hrs.)	Marks			Credits
					IA	Uni. Exam	Total	
Part 1 Languages	Language - I: Kannada/Sanskrit/Urdu/Tamil/ Telugu/Malayalam/Additional English / Marathi/ Hindi	1.1	4	3	30	70	100	2
	Language – II : English	1.2	4	3	30	70	100	2
Part 2 Optional	Financial Accounting	1.3	4	3	30	70	100	2
	Business Dynamics and Entrepreneurship	1.4	4	3	30	70	100	2
	Business Statistics – 1	1.5	4	3	30	70	100	2
	Fundamentals of MS-EXCEL	1.6	4	3	30-P	70	100	2
Part 3 Practical's	Practicals on Skill Developments* - Practical on SPSS & MS-EXCEL in Statistics	1.7	4	3	30*	70**	100	2
Part 4	Foundation Course	-	3	2	30	70	100	2
	CC & EA	-	-	-	50	-	50	1
Total Credits								17

* IA marks shall be awarded by the concerned teacher based on Writing and Execution of Program in Lab and Practical Records submitted by the student.

**University (Practical Examination for Part – 3) examination shall be conducted by External Examiner/s appointed by BOE. The Questions for Practical Examination shall be prepared by External or Internal examiners. The Evaluation of Students performance in Lab shall be assessed as follows:

1. Writing Two Programs / Procedures = 25 Marks
2. Executing Both the Programs = 25 Marks
3. Practical Record = 10 Marks
4. Viva – voce = 10 Marks

COURSE MATRIX SEMESTER –II

	Subjects	Paper	Instruction hrs./week	Duration of Exam (hrs.)	Marks			Credits
					IA	Uni. Exam	Total	
Part 1 Languages	Language - I: Kannada/Sanskrit/Urdu/Tamil/ Telugu/Malayalam/Additional English / Marathi/ Hindi	2.1	4	3	30	70	100	2
	Language – II : English	2.2	4	3	30	70	100	2
Part 2 Optional	Advanced Financial Accounting	2.3	4	3	30	70	100	2
	Business Statistics – 2	2.4	4	3	30	70	100	2
	Modern Marketing	2.6	4	3	30	70	100	2
	Fundamentals of Database Management System and SQL	2.5	4	3	30-P	70	100	2
Part 3 Practical's	Practical's on Skill Developments* - Using SQL to create database, insert, update, delete, select, Join, and Project Operations	2.7	4	3	30*	70**	100	2
Part 4	Foundation Course		3	2	30	70	100	2
	CC & EA		-	-	50	-	50	1
Total Credits								17

* IA marks shall be awarded by the concerned teacher based on Writing and Execution of Program in Lab and Practical Records submitted by the student.

** University (Practical Examination for Part – 3) examination shall be conducted by External Examiner/s appointed by BOE. The Questions for Practical Examination is to be prepared by External or Internal examiners. The Evaluation of Students performance in Lab shall be assessed as follows:

1. Writing Two Programs / Procedures = 25 Marks
2. Executing Both the Programs = 25 Marks
3. Practical Record = 10 Marks
4. Viva – voce = 10 Marks

NOTE: It is Advisable for the Students of Business Analytics to do On-line or Off-line Certificate Courses on DBMS and SQL within this Semester.

COURSE MATRIX SEMESTER – III

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA/P	Uni. Exam	Total	
Part 1 Language	Language: Kannada/Sanskrit/Urdu/Tamil/ Telugu/Malayalam/Additional English / Marathi/ Hindi	3.1	4	3	30	70	100	2
Part 2 Optional	Mathematics for Decision Making	3.2	4	3	30	70	100	2
	Corporate Accounting	3.3	4	3	30	70	100	2
	Financial Management	3.4	4	3	30	70	100	2
	Advanced - Excel	3.5	4	3	30-P	70	100	2
	Computer Fundamentals & C – Programming	3.6	4	3	30-P	70	100	2
Part 3 Practical's	Practical's on Skill Developments* - Lab on Statistical Computing using EXCEL functions, Practical on Tableau software.	3.7	4	3	30*	70**	100	2
Part 4	Foundation Course		3	2	30	70	100	2
	CC & EA				50	-	50	1
Total Credits								17

* IA marks shall be awarded by the concerned teacher based on Writing and Execution of Program in Lab and Practical Records submitted by the student.

** University (Practical Examination for Part – 3) examination shall be conducted by External Examiner/s appointed by BOE. The Questions for Practical Examination is to be prepared by External or Internal examiners. The Evaluation of Students performance in Lab is assessed as follows:

- | | |
|--------------------------------------|------------|
| 1. Writing Two Programs / Procedures | = 25 Marks |
| 2. Executing Both the Programs | = 25 Marks |
| 3. Practical Record | = 10 Marks |
| 4. Viva – voce | = 10 Marks |

NOTE: It is Advisable for the Students of Business Analytics to Do On-line or Off-line Certificate Courses on (1). Advance Excel and On (2). C Programming with in this semester

COURSE MATRIX

SEMESTER – IV

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Uni. Exam	Total	
Part 1 Language	Language - I: Kannada/Sanskrit/Urdu/Tamil/ Telugu/Malayalam/Additional English / Marathi/ Hindi	4.1	4	3	30	70	100	2
Part 2 Optional	Tableau - Business Intelligence	4.2	4	3	30-P	70	100	3
	Introduction to R	4.3	4	3	30-P	70	100	2
	Goods & Services Tax	4.4	4	3	30	70	100	2
	Cost Accounting	4.5	4	3	30	70	100	2
	Data Science life cycle	4.6	4	3	30	70	100	2
Part 3 Practical's	Practical's on Skill Developments* Lab on R-Programming.	4.7	4	3	30*	70**	100	2
Part 3	Foundation Course		3	2	30	70	100	2
	CC & E A				50	-	50	1
Total Credits								17

* IA marks shall be awarded by the concerned teacher based on Writing and Execution of Program in Lab and Practical Records submitted by the student.

** University (Practical Examination for Part – 3) examination shall be conducted by External Examiner/s appointed by BOE. The Questions for Practical Examination is to be prepared by External or Internal examiners. The Evaluation of Students performance in Lab is assessed as follows:

1. Writing Two Programs / Procedures = 25 Marks
2. Executing Both the Programs = 25 Marks
3. Practical Record = 10 Marks
4. Viva – voce = 10 Marks

NOTE: It is Advisable for the Students of Business Analytics to Do On-line or Off-line Certificate Courses on: (1). R Programming (2). DATA Science With in this Semester

COURSE MATRIX SEMESTER – V

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Uni. Exam	Total	
Part 1 Optional	Income Tax –I	5.1	4	3	30	70	100	3
	Auditing & Corporate Governance	5.2	4	3	30	70	100	3
	Business Research Methods	5.3	4	3	30	70	100	3
Part 2 Electives	Financial Analytics	5.4	4	3	30-P	70	100	3
	E – Business & Mobile Commerce	5.5	4	3	30-P	70	100	3
	Application of Python in Business	5.6	4	3	30-P	70	100	3
Part 2 Practical's	Practical's on Skill Developments* - Lab on Python	5.7	4	3	30*	70**	100	3
Part 3	SDC: Report on NGO Service	5.8	-	-	100	-	100	3
	Ability Enhancement Compulsory Course		3	2	30	70	100	2
Total Credits								26

*IA marks shall be awarded by the concerned teacher based on Writing and Execution of Program in Lab and Practical Records submitted by the student.

** University (Practical Examination for Part – 2) examination shall be conducted by External Examiner/s appointed by BOE. The Questions for Practical Examination is to be prepared by External or Internal examiners. The Evaluation of Students performance in Lab is assessed as follows:

1. Writing Two Programs / Procedures = 25 Marks
2. Executing Both the Programs = 25 Marks
3. Practical Record = 10 Marks
4. Viva – voce = 10 Marks

NOTE: It is Advisable for the Students of Business Analytics to do On-line or Off-line Certificate Courses on: (1). Financial Analytics (2). HR Analytics (3). Python Programming, and (4). Tableau Business Intelligence with in this Semester

COURSE MATRIX SEMESTER –VI

	Subjects	Paper	Instruction hrs./week	Duration of Exam(hrs)	Marks			Credits
					IA	Uni. Exam	Total	
Part 1 Optional	Income Tax – II	6.1	4	3	30	70	100	3
	Indian Accounting Standards and IFRS	6.2	4	3	30	70	100	3
Part 2 Electives	Data Warehousing & Data Mining	6.3	4	3	30-P	70	100	3
	Cloud Computing & Internet of things	6.4	4	3	30-P	70	100	3
	Web & Social Intelligence	6.5	4	3	30-P	70	100	3
	Marketing Analytics	6.6	4	3	30-P	70	100	3
Part 3 Practical's	Practical's on Skill Developments* - Lab on Web & Social Intelligence	6.7	4	3	30*	70**	100	3
Part 4	Ability Enhancement Compulsory Course	-	3	2	30	70	100	2
	SDC: Internship Report	6.8	-	-	100	-	100	3
Total Credits								24

* IA marks shall be awarded by the concerned teacher based on Writing and Execution of Program in Lab and Practical Records submitted by the student.

** University (Practical Examination for Part – 2) examination shall be conducted by External Examiner/s appointed by BOE. The Questions for Practical Examination is to be prepared by External or Internal examiners. The Evaluation of Students performance in Lab is assessed as follows:

1. Writing Two Programs / Procedures = 25 Marks
2. Executing Both the Programs = 25 Marks
3. Practical Record = 10 Marks
4. Viva – voce = 10 Marks

NOTE: It is Advisable for the Students of Business Analytics to Do On-line or Off-line Certificate Courses on: (1). Data Warehousing and Data Mining, (2). Cloud Computing and Internet of things, (3). Web and Social Intelligence, (4). Marketing Analytics, and (5). Machine Learning & Deep Learning with in this Semester

1. FOUNDATION COURSE / SKILL DEVELOPMENT / SKILL ENHANCEMENT COURSE (SEC) / ABILITY ENHANCEMENT COMPULSORY COURSE (AECC) / INTERDISCIPLINARY COURSES

- a.** Common for all programmes, MCQ type of question paper shall be used, use of modern teaching aids and supply of study material is recommended.
 - b.** Constitution of Indian and Human Rights
 - c.** Environmental Science
 - d.** Computer Applications and Information Technology
 - e.** Business Entrepreneurship and Management
 - f.** Philosophy, Psychology and Life Skills
 - g.** Personality Development and Leadership
 - h.** Culture, Diversity and Society □ Research Methodology
 - i.** Education and Literacy / Science and Society
 - j.** Human Resource Development / Management
 - k.** Anyone Foreign Language
 - l.** Commodity & Stock Market
 - m.** Mathematics in finance
- Any other Course prescribed by the University from time to time

2. CO-CURRICULAR AND EXTENSION ACTIVITIES (CC& EA)

A student shall opt for any one of the following activities in the first four semesters offered in the college

- N.S.S / N.C.C./Rotary Activities / Rovers and Rangers
- Sports and Games / Activities related to Yoga
- A Small project work concerning the achievements of Indian in different fields
- Evolution of study groups/seminar circles on Indian thoughts and ideas
- Interaction with local communities in their neighborhood and learn about and from them
- Exploring different aspects of Indian civilizations
- Any other Co- curricular and Extra-curricular activities leading to Student Development as prescribed by the University. Evaluation of Co-curricular and Extra Curricular Activities as per the procedure evolved by the University from time to time.

1.3 FINANCIAL ACCOUNTING

LEARNING OBJECTIVE: The objective of this subject is to help the students to acquire Conceptual knowledge of the financial accounts and to impart skills for recording various kinds of Business transactions.

Unit-1: Theoretical Framework of Financial Accounting **08 Hours**

Introduction – Meaning and Definition – Significance of Accounting – Functions of Accounting– Users of Accounting Information - Accounting Principles – Accounting Concepts and Accounting Conventions- Accounting equations, Problems on Accounting Equations - Accounting Standards: List of Indian Accounting Standards.

Unit 2: Conversion of Single Entry into Double Entry System **12 Hours**

Need for Conversion – steps in conversion- ascertainment of capital- total sales- total purchases – Cash and bank balances – stock – Bills Receivable – Bills payable – Preparation of Final accounts – Trading and Profit & Loss Account and Balance Sheet.

Unit 3: Hire Purchase Accounting **12 Hours**

Meaning of Hire Purchase and Installment Purchase System- Hire Purchase v/s sale – differences between Hire Purchase and Installment system, meaning of Some important technical terms – Hire Purchase Agreement – Hire Purchase Price – Cash Price – Hire Purchase Charges – Net Hire Purchase Price – Net Cash Price – Calculation of Interest – Calculation of Cash Price – Journal Entries and Ledger Accounts in the books of Hire Purchaser and Hire Vendor (Asset Accrual Method only and excluding repossession).

Unit 4: Departmental Accounts **10 Hours**

Meaning, Objectives, basis of apportionment of common expenses among different departments-Preparation of Trading and Profit and Loss Account in Columnar form- preparation of balance sheet in horizontal format – (Including Inter Departmental Transfers at cost price only).

Unit 5: Branch Account **10 Hours**

Introduction – Meaning – Objectives – Types of Branches - Dependent Branches – Features – Supply of Goods at Cost Price - Invoice Price – Branch Account in the books of Head Office (Debtors System Only)

Books for Reference:

1. Arulanandam& Raman – Financial Accounting – I, HPH
2. Anil Kumar, Rajesh Kumar and Mariyappa, “Financial Accounting”, HPH
3. Jawaharlal & Seema Srivastava :Financial Accounting, HPH
4. Dr. S.N. Maheswari: Financial Accounting, Vikas Publications
5. S P Jain and K. L. Narang: Financial Accounting- I, Kalyani Publishers
6. Radhaswamy and R.L. Gupta: Advanced Accounting, Sultan Chand
7. Dr.Janardhanan: Financial Accounting, Kalyani Publishers
8. Guruprasad Murthy: Financial Accounting, HPH
9. Soundarrajan& K. Venkataramana, Financial Accounting, SHBP.
10. Dr.Venkataraman& others (7 lecturers): Financial Accounting, VBH

1.4 BUSINESS DYNAMICS AND ENTREPRENEURSHIP

LEARNING OBJECTIVE: The objective of this course is to help students to understand the conceptual framework of management and to know about the entrepreneurial culture and industrial growth to manage in 21st century organizations.

Unit 1: Introduction to Management:

08 Hrs.

Concept and Nature –Types of Managers- Responsibilities and skills of Professional Manager- Functions of Management – Fayol’s Principles of Management – Administration vs. Management– Management Process – Levels of Management – Approaches to the study of Management - Challenges of managing 21st century Corporations/Organisations.

Unit 2: Managerial Functions:

14 Hrs.

Planning - Concept, Significance, Types; Organizing -Concept, Principles, Theories, Types of Organizations; Authority; Responsibility; Power; Delegation; Decentralization; Staffing; Directing; Coordinating; Control - Nature, Process, and Techniques.

Unit 3: Human Resource Management:

14 Hrs.

Meaning, Objectives, Functions, HRM Process, Job Analysis, Job Design, Recruitment, Selection, Placement, Training and Development, Retention of Employees, Performance Appraisal

Unit 4: Introduction to Entrepreneurship:

12 Hrs.

Evolution of Entrepreneurship – Introduction to the concept of Entrepreneurs, Entrepreneurship and Enterprise - Reasons for growth of Entrepreneurship - Characteristics and Classification of Entrepreneurs – Intrapreneurs; Women Entrepreneurs - Problems and Challenges; Competency requirement for entrepreneurs

Unit 5: Government Support for Entrepreneurship:

08 Hrs.

Start-up India, Make in India, Atal Innovation Mission (AIM), Support to Training and Employment Programme (STEP), Jan Dhan, Aadhaar, Mobile (JAM), Digital India, Trade Related Entrepreneurship Assistance and Development (TREAD), Pradhan Mantri Kausalya Vikasyojana (PMKVY), National Skill Development Mission (NSDM). (Concepts only)

BOOKS FOR REFERENCE

- 1 Hersey, Paul, Kenneth H. Blanchard and Dewey E. Johnson: Management of Organisational Behaviour: Utilising Human Resources, Prentice Hall, New Delhi.
- 2 Ivancevich; John and Micheol T. Matheson: Organisational Behaviour and Management, Business Publication Inc., Texas.
- 3 Koontz, Harold, Cyril O'Donnell, and Heinz Wehrich: Essentials of Management, Tata McGraw-Hili, New Delhi. Luthans, Fred: Organizational Behaviour, McGraw-Hill, New York.
- 4 Govindarajan & Natarajan: Principles of Management, Prentice Hall of India Private Limited, New Delhi.
- 5 Tripathy & Reddy: Principles of Management, Tata McGraw-Hill Publications, New Delhi.
- 6 Tandon B.C: Environment and Entrepreneur; Chugh Publications, Allahabad.
- 7 Siner A David: Entrepreneurial Mega books; John Wiley and Sons, New York.
- 8 Srivastava S. B: A Practical Guide to Industrial Entrepreneurs; Sultan Chand and Sons, New Delhi.
- 9 Prasanna Chandra: Project Preparation, Appraisal, Implementation; Tata McGraw Hill, New Delhi

1.5 BUSINESS STATISTICS – 1

Unit – 1: **Introduction:**

10 Hours

Business Statistics – What & Why? Meaning and Definition of Statistics, Functions, Importance, and Limitations of Statistics, Meaning of Data and Information, Classification of Data into Primary & Secondary Data, Data Collection processes involved for Secondary and Primary Data, Preparing Primary Data Collection Tools – Interview Schedule, Observation tools, Questionnaire, Using Google form to collect primary data. Identification of Target respondents to Questionnaire, Sampling & Sampling techniques

Unit – 2: **Presentation of Data:**

15 Hours

Formation of Frequency Distribution Table, Classification according to Class – Intervals, Principles of Classification, Tabulation of Data- Parts of a Table, Review of the Table, Types of Tables, Charting Data – General Rules for Constructing Diagrams, Types of Diagrams, One-Dimensional or Bar Diagrams, Points to be kept in mind while constructing Bar Diagrams, Types of Bar Diagrams, Two – Dimensional Diagrams – Pie Diagram, Choice of a suitable diagram. Graphs; Graphs of time series of line graphs, range – chart, band-graphs, Graphs of Frequency Distributions – Histogram, Frequency Polygon, Smoothed Frequency Curve, Cumulative Frequency Curves of ‘Ogive Curve’.

Unit – 3: **Measures of Central Tendency:**

10 Hours

Introduction to Statistical Averages, Characteristics of a Good Average, Different Methods of Calculation of Arithmetic Mean, Median, Mode, Relationship among Mean, Median & Mode, Different Methods of Calculation of Geometric and Harmonic Mean

Unit – 4: **Measures of Variations/Dispersion:**

11 Hours

Meaning and Definition, Purpose of Measuring Variation, Properties of a Good Measures of Variation, Methods of Measuring Dispersion – Range, Inter-quartile Range or Quartile Deviation, The Average Deviation, Standard Deviations – Calculation of Standard Deviation of Ungrouped and Grouped Data, Relationship between Measures of Variation, Correcting Incorrect Values of Standard Deviation, Coefficient of Variation, Lorenz Curve

Unit – 5: **Skewness and Correlation Analysis:**

10 Hours

Meaning of Skewness, Difference between Variation and Skewness, Measures of Skewness for both Grouped data and Un-grouped data Correlation Analysis: Significance of the Study of Correlation, Types of Correlation – Scatter Diagram Method, Karl Pearson’s Coefficient of Correlation, Rank Correlation and Coefficient of Rank Correlation, Methods of Least Squares.

Note: SPSS or MS-Excel must be introduced in Units 2 to 5 in the lab class

Books for Reference:

1. S.P. Gupta and M.P. Gupta, Business Statistics– Sultan Chand & Sons Educational Publishers – New Delhi., 18th Edition -2014
2. Medhi. J ., Statistical Methods: An introductory text. New Age, 1992.
3. J.K. Sharma, Business Statistics, Pearson Education India, 2007.
4. KVK Sharma, Statistics Made Simple: Do it Yourself on PC- PHI Publication
5. Gupta, S.C, and V.K. Kapoor, Fundamentals of Mathematical Statistics- Cultan Chand & Sons – New Delhi. 2001’
6. Mood A.M. Graybill F.A and Boes D.C, Introduction to the Theory of Statistics, Mcgraw Hill.

1.6 FUNDAMENTALS OF MS-EXCEL

Objective: The objective is to enable the students to learn to work with MS-EXCEL and equip students with hands-on skills on EXCEL operations.

Unit – 1: Introduction: 4 Hours

Basics of Ms-Windows – Desktop, Icon, creating, saving, and using of different documents and applications, Ms- Office: Installing, Customizing, and Using different applications and tools in Ms-Office package, Basics of MS-Word, MS-Access & MS-Outlook.

Unit – 2: Introduction to MS-Excel: 4 Hours

Spreadsheets basics, Need for Spreadsheets, Work-Book, Work –Sheet, Parts of a MS-Excel Work-Sheet- Program area, Work area, Contents of Title-Bar, Manu-Bar, Contents of Manu Ribbons, Meaning of Cell- Cell address, Formula-Bar, Row-Numbers, Column-Letters, Quick Access to Tool-Bar, Office Button, Floating Frames, Adding Work-Sheets in Sheet Tab, Status- Bar., and other features of Excel.

Unit – 3: Work-Sheet and Work-Book Operation: 6 Hours

Selecting Cell and Range of Cells, Merging of Cells, Entering and Saving Data in the Cell, Named Cells, Need of Naming Cells, Entering, Storing, Copying Formula, Using different Arithmetic and logical Operators in Formula, Moving Cell with contents, Copying and Pasting of Cell and Cell Content, Freezing Cells, Editing of Cell Contents, using Cell Formatting Options – Editing Cell Size (increasing Column and Row size of a cell), Text Alignment, using Border, Comments option usage in Cell, Editing and Deleting Comments, Fill, Formatting Fonts, Text Warping, Text Rotate, Using Auto-fit to Adjust Rows and Columns Using of Short-Cuts and Short- Cut Manu, Clear Contents in a Cell,

Adding, Deleting and Copying Work-Sheet with in a Work-Book, Renaming a File or Work-Sheet, Inserting Multiple Work-Sheet at a time, Formatting a Work-Sheet Automatically, Sorting Textual & Numerical DATA, Sort Dates or Times, Sort by Cell Colour, Font Colour, or by icon, Sort by a custom list, Sort Rows, sort by more than column or row and other issues in sorting.

Unit – 4: Tables and Formatting: 16 Hours

Creating a Table, Changing the look of a table, Navigating in a Table, Selecting parts of a Table, Adding, Deleting New Rows / Columns, Moving a Table, Working with the Total Row, Removing Duplicate rows from a table. Sorting and Filtering a table, Converting Table into Range. Formatting tools on the Home Tab, Mini Toolbar,

Fonts, Text Alignment, Wrapping text to fit a cell, Colours and Shading, Borders and Lines, Miming Styles Conditional Formatting and Reporting: Format all Cells by using a Two Colour Scale, Format all Cells by using Data Bars quick formatting, Protecting, Protect a Work-Book, Un Protect Work-Book, Protect Work-Sheet Data, Unprotect Work-Sheet data, Share a Work-Book and Proofing tools- Use a Shared Work-Book to Collaborate, Spelling and Grammar Check, Referencing – Relative, Absolute, Mixed Referencing, Basic Functions Viz., SUM, AVERAGE, MAX, MIN, SQRT, TODAY, COUNT, COUNTIF, VAR, CHAR, AND, OR, NOT, VALUE. ROUND, Introduction to Chart Wizard

Unit – 5: Working with MS-Excel:

20 Hours

Using Formulae to Find the roots of a Quadratic Equations, Prove LHS = RHS for Identities, Formula of a Straight –line ($Y=MX+C$) to find the Slope of a straight –line, Regression Formula, Compound Interest, EMI-Formula, Formulae used in calculating Banker Discount, Bankers gain, True-Discount, Net-Present Value, Sum of AP and GP, Break – Even Analysis, Using Formulae in Ratio Analysis (Balance Sheet Ratios). Using IF Condition, and using Multiple IF Condition in University Result Declaration.

Unit – 6: Preparing worked Work-Sheet for Print:

6 Hours

Normal, Page layout, Page Break View, Choosing Printer, changing Page – Orientation, specifying paper size, Adjusting Page area, Margin and Orientation, Select a Paper Sources, Centering Work-Sheet, Using Header and Footer, Inserting Page Breaks, Removing manual page Breaks, Printing Row and Column Title, Scaling printed output, Preventing certain cells, Objects from being printed, Creating Custom Views of Worksheet, Creating PDF Files.

Reference Books:

1. Microsoft Excel Latest Version Inside Out – Mark Doge and Craig Stinson – PHI Learning Private Limited, New Delhi – 110001.
2. Excel 2013 Bible ; John Walkenbach, Wiley
3. Financial Analysis and Modeling using Excel and VAB: Chandan Sengupta, Wiley
4. Excel Data Analysis – Modeling and Simulation: Hector Guerreor, Springer
5. Microsoft Excel 2013: Data Analysis and Business Modeling: Winston, PHI
6. Excel Functions and Formulas: Bernd Held, BPB Publications.

2.3. ADVANCED FINANCIAL ACCOUNTING:

OBJECTIVE: The objective of this subject is to make the students familiar with the accounting procedures for different types of business.

UNIT 1: Fire Insurance Accounting **12 Hrs**
Introduction – Need – Loss of Stock Policy – Steps for Ascertaining Fire Insurance Claim – Treatment of Salvage – Average Clause – Treatment of Abnormal Items – Computation of Fire Insurance Claims.

UNIT 2: Consignment Accounts **12 Hrs**
Introduction – Meaning – Consignor – Consignee – Goods Invoiced at Cost Price – Goods Invoiced at Selling Price – Normal Loss – Abnormal Loss – Valuation of Stock – Stock Reserve – Journal Entries – Ledger Accounts in the books of Consignor and Consignee.

UNIT 3: Accounting for Joint Ventures **12 Hrs**
Introduction – Meaning – Objectives – Distinction between Joint Venture and Consignment – Distinction between Joint Venture and Partnership – Maintenance of Accounts in the books of co-ventures – Maintaining Separate Books for Joint Venture – Preparation of Memorandum Joint Venture - Problems.

Unit 4: Royalty Accounts **12 Hrs**
Meaning and definition – Technical Terms – Royalty – Landlord – Tenant – Minimum Rent – Short Workings – Recoupment of Short Working under (Fixed Period) restrictive and non-restrictive (Floating Period) Recoupment within the Life of the Lease – Treatment of Strike and Stoppage of work – Accounting Treatment in the books of Lessee and lessor – journal entries and Ledger Accounts including minimum rent account.

UNIT 5: Conversion Of Partnership Firm into a Limited Company **12 Hrs**
Meaning – Objectives of Conversion - Purchase Consideration – Methods of Calculation of Purchase Consideration -Mode of Discharge of Purchase Consideration - Lump Sum Method- Net Assets Method - Net Payment Method - Ledger Accounts in the Books of Vendor – Incorporation Entries in the Books of Purchasing Company, Preparation of Balance Sheet in Vertical form.

BOOKS FOR REFERENCE:

1. Arulanandam& Raman; Advanced Accountancy, HPH
2. Anil Kumar, Rajesh Kumar and Mariyappa, Advanced Financial Accounting, HPH
3. Bhupinder, Financial Accounting: Concepts and Application, Cengage
4. Dr. Alice Mani: Advanced Financial Accounting, SBH.
5. Dr. S.N. Maheswari, Financial Accounting, Vikas Publication
6. S P Jain and K. L. Narang, Financial Accounting, Kalyani Publication
7. Souandrajana& K. Venkataramana, Financial Accounting, SHBP.
8. A Bannerjee; Financial Accounting.
9. Dr. Janardhanan: Advanced Financial Accounting, Kalyani Publishers
10. Radhaswamy and R.L. Gupta, Advanced Accounting, Sultan Chand

2.4 BUSINESS STATISTICS – 2

OBJECTIVE: The objective is to enable the students to learn and analyse data for various descriptive and inferential statistics and understand probability and sampling distributions and application of linear regression in multivariate context for predictive purpose.

- Unit – 1: **Regression Analysis and Time Series Analysis:** **10 Hours**
Regression Analysis: Introduction – Difference between Correlation and Regression Analysis, The Linear Bivariate Regression Model – Regression – lines, Regression – equations ‘Y’ on ‘X’ and ‘X’ on ‘Y’, Regression Coefficients, Standard Errors of Estimates, Coefficient of Determination,
Time Series Analysis: Steps in Forecasting, Requirements of a Good Forecasting Systems, Methods of Forecasting, Business Forecasting and Time-series Analysis, Components of Time-series – Secular(Factor Affecting) Trend, Seasonal Variations, Cyclical Variations, Irregular Variations. Straight – line Trends Measurement – Free hand or graphic method, Methods of Semi Averages, Methods of least square, Non-linear Trend Measurements – Free hand graphic methods, Method of Moving Averages, Second Degree Parabola
- Unit – 2: **Probability and Sampling:** **12 Hours**
Introduction to Probability, meaning, Usefulness, Mathematical Properties, Permutation, Combination, Trail, Event, Sample Space, Mutually Exclusive Cases, Exhaustive Events, Independent Events, Dependent Events, Simple and Compound Events; Measurement: Classical, Relative Frequency Theory of Probability, Limitations, Personalistic View of Probability and Axiomatic Approach of Probability, Addition and Multiplication theorem, Odds, Miscellaneous illustrations, theoretical Questions Practical Problems.
Sampling Theory and Test of Significance: Purpose of Sampling, Principles of Sampling, Principle of Statistical Regularity, Principle of Inertia of Large Numbers
Methods of Sampling: Random Sampling – Stratified Sampling, Systematic Sampling, Multi-stage Sampling. Non-random Sampling Methods – Judgment Sampling, Quota Sampling, Convenience Sampling, Size of Sample: Calculation of Size of Sampling, Sampling Errors, Causes of Bias, Avoidance of Bias, Methods of Reducing Sampling Errors, Non-Sampling Errors – Control of Non-Sampling Errors. Sampling Distributions: The Population (Universe) Distribution, The Sampling Distribution, Relationship between Population, Sample and Sample Distributions, Sampling Distribution of Mean, Distribution of Sample Mean, Standard Deviations, Sampling Distribution of Difference of the two Means, Sampling Distribution of the Number of Successes, Sampling Distribution of Proportions, Sampling Distribution of the Difference of two Proportions. – Problems & Solutions.
- Unit – 3: **Statistical Inference and Hypothesis Testing:** **10 Hours**
Procedure of Hypothesis Testing, Type – 1 and Type – 2 Errors, One-Tailed and Two-Tailed Tests, Tests of Hypothesis Concerning Large Samples, Testing Hypothesis about Population Mean, Testing Hypothesis about the difference between two Means, Testing

Hypothesis Concerning Attributes, Testing Hypothesis about a Population Proportion, Testing Hypothesis about the difference between Two Proportions – Problems and Solutions.

Chi-Square Test: The Chi-Square Distribution, Important Properties of Chi-Square Distribution, Chi-Square Test, Conditions for the Application of χ^2 Test, Use of the Chi-square Table, Yates's Correction for Continuity, Grouping when Frequencies are Small, Cautions while Applying χ^2 Test – Problems and Solutions.

Unit – 4: Analysis of Variance & Interpolation & Extrapolation: 10 Hours
The ANOVA Technique, The Basic Principles of ANOVA, One – Way ANOVA – Analysis of Variance Table, Short-cut Method for One-way ANOVA, Critical Difference. Two-Way ANOVA – One Observation per Cell, More Than One Observation per Cell, Latin-Square Design, Analysis of Co-Variance (ANOCOVA), **Interpolation & Extrapolation – Simple Problems**

Unit – 5: Overview of Multivariate Statistics: 14 Hours
Nature of Multivariate Analysis, Validity and Reliability, Types of Multivariate Techniques, Factor Analysis, Multiple Regression, Logistic Regression, Canonical Correlation, Conjoint Analysis, Cluster Analysis, Multi-Dimensional Scaling, Correspondence Analysis, Structural Equation Modeling, Multivariate Model Building.

Books for References:

1. Ken Black, Business Statistics, New Delhi,.
2. Waller, Derek, Statistics for Business, London: BH Publication, 2013.
3. Lee, Cheng. et.al, Statistics for Business and Financial Economics, New York: Wiley Heidelberg Dordrecht
4. Anderson, David.R., Thomas A. Williams and Dennis J. Sweeney, Statistics for Business and Economics, New Delhi: South Western.
5. S.P. Gupta and M.P. Gupta, Business Statistics– Sultan Chand & Sons Educational Publishers – New Delhi., 18th Edition -2014
6. J.K. Sharma, Business Statistics, Pearson Education India, 2007.
7. KVK Sharma, Statistics Made Simple: Do it Yourself on PC- PHI Publication
8. Gupta, S.C, and V.K. Kapoor, Fundamentals of Mathematical Statistics- Cultan Chand & Sons – New Delhi. 2001'
9. Mood A.M. Graybill F.A and Boes D.C, Introduction to the Theory of Statistics, Mcgraw Hill.

2.5 MODERN MARKETING

OBJECTIVE: The objective of this course is to familiarize the students with the concepts, dimensions and trends in modern marketing practices

- Unit 1: Introduction to Marketing** 16 Hrs
Meaning and Definition, Goals, Concepts of Marketing, Approaches to Marketing, Functions of Marketing, Recent trends in Marketing – Green Marketing and Grey Marketing, Retailing, Relationship Marketing, Customer Relationship Marketing and Social Marketing.
- Unit 2: Marketing Environment** 08 Hrs
Types of Environments - Demographic, Economic, Natural, Political, Legal and Socio-Cultural Environments Market Segmentation – Meaning and Definition, Basis of Market Segmentation, Consumer Behaviour – Factors influencing Consumer Behaviour.
- Unit 3: Marketing Mix** 12 Hrs
Meaning and Elements, Product, Product Mix, Product Line, Product Life Cycle, Product Planning, New Product Development, Branding, Packing and Packaging, Pricing – Factors Influencing Pricing - Methods of Pricing (meanings) and Pricing Policy, Physical Distribution – Meaning - Factors affecting Channels of distribution - Types of Marketing Channels, Promotion – Meaning and Significance of Promotion - Personal Selling and Advertising.
- Unit 4: Digital Marketing** 12 Hrs
Introduction, Features, Process of Digital Marketing, advantages and disadvantages, E-Marketing, Mobile Marketing, Market Disruption caused by Digital Marketing, Challenges and Suitability of Digital Marketing in India.
- Unit 5: Services Marketing** 08 Hrs
Meaning of Services, Characteristics of Services, Classification of Services, Marketing of Services, Difference between Products and Services Marketing, Challenges of Services Marketing, Marketing Mix in Service Industry, Growth of Services Sector in India.

Books for reference:

1. Philip Kotler - Marketing Management, PHI.
2. Davar: Marketing Management. 3. Jain, Singhal, Principles of Marketing, Cengage
3. Janardhan T.G., Leelavathy AM, Bhagya G.B. – Marketing & Service Management, Kalyani Pub.
4. Dr. Alice Mani: Marketing & Services Management, SBH.
5. J.C. Gandhi - Marketing Management, TMH
6. Stanton W.J. et al Michael & Walker, Fundamentals of Management, TMH
7. Jayachandran ; Marketing Management. Excel Books.
10. K. Venkatramana, Marketing Management, SHBP.
11. P N Reddy & Appannaiah, Essentials of Marketing Management, HPH
12. Sontakki, Marketing Management, HPH

2.6 FUNDAMENTALS OF DATABASE MANAGEMENT SYSTEMS & SQL

OBJECTIVE: In this subject student understand Database, Database Management Systems, DDL, DML and SQL.

Unit – 1: **Introduction to Database Management Systems:** **10 Hours**
Meaning and Definition of Database, Objectives of Database, Features of Database, Conceptual Data modeling – File Organization – Data Structure – Data models: HDBMS, NDBMS, RDBMS, OODBMS, Desktop and Server-level Database, Recent Trends in Database.

Unit – 2: **Database Design:** **8 Hours**
Relational Data Model – Relational Algebra – ER Diagrams – Data Dictionary – Normalisation – Boyce Codd Normal Forms – Integrity – Relational Database Languages – Database Administration – File Structures and Indexing.

Object oriented concepts – Structure – Models and Databases – Object life cycle modeling – Objects, Classes, and Patterns – Object interaction modeling – Object Oriented Design – UML,

Unit – 3: **Operation and Management:** **10 Hours**
Client / Server and Databases – Data Warehousing – Query Processing – Concurrency Management – Heterogeneous and Homogenous Systems – Distributed Databases – Controls – Atomicity, Recovery – Security, Back-up and Recovery,
Distributed Databases: Structure of Distributed Database; Trade-offs in Distributing the Database, Advantages of Data Distribution, Disadvantages of Data Distribution; Design of Distributed Databases, Data Replication, Data Fragmentation

Unit – 4: **SQL Structured Query Language:** **12 Hours**
Relational Query Languages, the SQL Query Language, DDL – CREATE Table, ALTER Table, DROP Table, CREATE Index, DROP Index etc., DML – SELECT, UPDATE, DELETE, INSERT INTO etc., DATA – TYPE, Constraints on Attributes – Referential Integrity Constraint, Where-Clause – Arithmetic and Relational Operators

Unit – 5: **Practical Problems and Lab-Work on SQL:** **16 Hours**

Books for References:

1. Gary W.Hansen and James V.Hansen, “Database Management and Design” Prentice Hall
2. C.S.V.Murthy – Data Base Management Systems-HPH
3. C.Laudon. management information-systems, 6th edition, published in the year 2000. p. 6.
4. DR. Milind M. Oka. Management information systems. Everest Publishing House,p.3
5. Gordon. B. Davis & M. H. Olson. Management Information Systems.. Conceptual Foundations, structure and development. Second Edition. P. 6
6. Jacek Błażewicz, et al., “Handbook on parallel and distributed processing”, Springer Science & Business Media, 2013.
7. O’Brien James — A Management Information Systems, Tata Mc Graw Hill, New Delhi.
8. Information Technology Control and Audit, Third Edition, Sandra Senft, Frederick Gallegos, CR Press

3.2 MATHEMATICS FOR DECISION MAKING

(OBJECTIVE: The aim of this course/subject is to expose the students for the application of mathematical tools and techniques in managerial/business decision making and application of mathematics in day to day business functions)

Unit 1: NUMBER SYSTEM, CO-ORDINATE AXIS AND BASIC TRIGONOMETRY 10 Hrs

Introduction – Natural Numbers - Even Numbers – Odd Numbers – Integers – Prime Numbers – Rational and Irrational numbers, Real Numbers, Real Number line, Number line v/s co-ordinate axis, Distance between two points, Basic trigonometric functions, slope of a straight - line. HCF and LCM (Simple problems)

Unit 2: THEORY OF EQUATIONS & Linear Programming 10 Hrs

Introduction – Meaning - Types of Equations – Simple/ Linear Equations and Simultaneous Equations (only two variables), Elimination and Substitution Methods only. Quadratic Equation - Factorization and Formula Method ($ax^2 + bx + c = 0$ form only) and Linear programming

Unit 3: INDICES, MATRICES AND LOGRITHEMS 16 Hrs

Indices and Logarithms: Meaning- Basic Laws of Indices and their application for simplification. Laws of Logarithms –Common Logarithm, Application of Log Table for Simplification

Matrices: Meaning – types – operation on matrices – additions – subtractions and multiplication of two matrices – transpose – determinants – minor of an element – co-factor of an element –inverse – crammer’s rule in two variables – problems.

Unit 4: COMMERCIAL ARITHMETIC 12 Hrs

Simple Interest, Compound Interest including yearly and half yearly calculations, Annuities, Percentages, Bills Discounting, Ratios and proportions, duplicate-triplicate and sub-duplicate of a ratio. Proportions: third, fourth and inverse proportion - problems.

Unit 5: PROGRESSIONS 08 Hrs

PROGRESSIONS: Arithmetic Progression - Finding the ‘nth ’term of AP and Sum to nth term of AP. Insertion of Arithmetic Mean Geometric Progression – Finding the ‘nth ’term of GP and sum to ‘nth ’term of GP and insertion of Geometric Mean

BOOKS FOR REFERENCE:

1. Saha: Mathematics for Cost Accountants, Central Publishers
2. Albright, Business Analytics, Cengage
3. R.G. Saha and Others – Methods and Techniques for Business Decisions, VBH
4. Dr. Sancheti and Kapoor: Business Mathematics and Statistics, Sultan Chand
5. Zamarudeen: Business Mathematics, Vikas

6. R.S Bhardwaj :Mathematics for Economics and Business
7. Anderson, Sweeny, Essentials of Business Analytics, Cengage
8. Madappa, mahadi Hassan, M. IqbalTaiyab – Business Mathematics, Subhash
9. G.R. Veena and Seema : Business Mathematics and Statistics I.K. Intl Publishers
10. Raju, Business Analytics, Cengage GH27 2.5 ORGANIZATIONAL BEHAV

3.3 CORPORATE ACCOUNTING

LEARNING OBJECTIVE: The objective of this subject is to familiarize students with accounting provisions under Companies Act and their application.

Unit 1: ISSUE OF SHARES AND DEBENTURES 14 Hrs.

Share Capital: Subdivision of Share Capital; Issue of Shares, Pricing of Public Issue – Fixed Price Offer Method, Book-building Method; Journal entries for Issue of Shares - when payable fully on application and when payable in instalments - if shares are issued at par, at premium and at discount. Calls-in-arrears and Calls-in-advance. Forfeiture and Re-issue of Shares. Debentures: Meaning & Types of Debentures; Provisions for Issue of Debentures under Companies Act, 2013. Accounting entries for issue of Debentures – when payable fully on application and when payable in instalments; Issue of Debentures other than for Cash; Issue of Debentures as collateral security for loan.

Unit 2: UNDERWRITING OF SHARES AND DEBENTURES 08 Hrs.

Meaning of Underwriting – SEBI regulations regarding underwriting; Underwriting commission. Types of underwriting agreement – conditional and firm; Determination of Liability in respect of underwriting contract – when fully underwritten and partially underwritten – with and without firm underwriting.

Unit 3: FINANCIAL STATEMENTS OF COMPANIES 16 Hrs.

Components of Financial Statements – Statement of Profit and Loss and Balance Sheet. Schedule III of Companies Act, 2013 – Main features of Schedule III – Format and Content of Statement and Profit and Loss & Balance Sheet according to Schedule III. Problems on preparation of Financial Statements. Treatment for typical adjustments – depreciation, interest on debentures, tax deducted at source, advance payment of income tax, provision for taxation, and dividends.

Unit 4: VALUATION OF GOODWILL AND SHARES 12 Hrs.

Valuation of Goodwill: Meaning – Circumstances of Valuation of Goodwill – Factors influencing the value of Goodwill – Methods of Valuation of Goodwill: Average Profit Method, Super Profit Method, Capitalisation of average Profit Method, Capitalization of Super Profit Method, and Annuity Method - Problems. Valuation of Shares: Meaning – Need for Valuation – Factors Affecting Valuation – Methods of Valuation: Intrinsic Value Method, Yield Method - Problems.

Unit 5: MANAGERIAL REMUNERATION 06 Hrs.

Meaning – Provisions under Schedule V of Companies Act regarding Managerial Remuneration. Overall maximum managerial remuneration, Calculation of Net Profits for Managerial Remuneration. Simple Problems on calculation of remuneration payable.

BOOKS FOR REFERENCE:

1. Hanif and Mukherjee, Corporate Accounting, Mc Graw Hill Publishers
2. S P Jain and K. L. Narang, Financial Accounting, Kalyani Publication
3. Dr. S Anil Kumar, Dr. V Rajesh Kumar and Dr. B Mariyappa, Corporate Accounting, HPH
4. Dr. S.N. Maheswari, Financial Accounting, Vikas Publication

5. Soundrajan & K. Venkataramana, Financial Accounting, SHBP.
6. A Bannerjee; Financial Accounting.
7. Dr. Janardhanam: Advanced Financial Accounting, Kalyani Publishers
8. Radhaswamy and R.L. Gupta, Advanced Accounting, Sultan Chand
9. M.C. Shukla and Grewal, Advanced Accounting.

3.4 FINANCIAL MANAGEMENT

LEARNING OBJECTIVE: The objective is to enable students to understand the basic concepts of Financial Management and the role of Financial Management in decision-making.

Unit 1: INTRODUCTION TO FINANCIAL MANAGEMENT **08 Hrs.**

Introduction – Meaning of Finance – Business Finance – Finance Functions – Organization structure of Finance Department - Financial Management – Goals of Financial Management – Financial Decisions – Role of a Financial Manager – Financial Planning – Steps in Financial Planning – Principles of Sound Financial Planning – Factors influencing a sound financial plan.

Unit 2: TIME VALUE OF MONEY **08 Hrs.**

Meaning, Need, Future Value (Single Flow – Uneven Flow & Annuity) – Present Value (Single Flow – Uneven Flow & Annuity)– Doubling Period – Concept of Valuation: Valuation of Bonds, Debentures and shares. Simple Problems

Unit 3: FINANCING & DIVIDEND DECISIONS **14 Hrs.**

Financing Decision: Sources of Long Term Finance – Meaning of Capital Structure, Factors influencing Capital Structure, Optimum Capital Structure – EBIT, EPS Analysis, Leverages – Problems.

Dividend Decision: Meaning & Determinants of Dividend Policy, Types of Dividends, Bonus shares (Meaning only)

Unit 4: INVESTMENT DECISION **16 Hrs.**

Meaning and Scope of Capital Budgeting, Features & Significance, Techniques: Payback Period, Accounting Rate of Return, Net Present Value, Internal Rate of Return and profitability index. Problems.

Unit 5: WORKING CAPITAL MANAGEMENT **10 Hrs.**

Concept of Working Capital, Significance of Adequate Working Capital, Types of Working Capital, Problems of Excess or Inadequate Working Capital, Determinants of Working Capital, Sources of Working Capital, Estimation of Working Capital (Simple Problems)

BOOKS FOR REFERENCE

1. S N Maheshwari, Financial Management, Sultan Chand
2. I M Pandey, Financial Management. Vikas Publication.(1)
3. Prasanna Chandra, Financial Management, TMH(2)
4. Khan and Jain, Financial Management, TMH
5. Dr. V Rajeshkumar and Nagaraju V - Financial management MH India
6. Dr. Aswathanarayana.T – Financial Management, VBH
7. K. Venkataramana, Financial Management, SHBP.
8. G. Sudarshan Reddy, Financial Management, HPH
9. Sharma and Sashi Gupta, Financial Management, Kalyani Publication.
10. P.K Simha – Financial Management.
11. Dr. Alice Mani: Financial Management, SBH.

3.5 ADVANCED - EXCEL

Learning Objective: In this Part of the Study of Excel helps students acquire advance excel skills very much needed in all most all organizations as one of the essential job-skills. Advance Excel being the most extensive tool used for many business and support managerial decision making

Unit – 1: **Formulas (formulae) and Macros Formulas:** **10 Hours**

Entering Formula and copying formula, use of arithmetic: Ratios & Proportions, Discount, Simple Interest, Compound Interest, Annuity, etc., algebraic, trigonometric and statistical functions in excel, use of different forms IF condition, NESTED IF condition etc., and Use of “\$” symbol in coping formula, Macro’s – definition and use, record a macro, assign a macro, run a macro, store a macro, introduction to VBA program, entering formula in macro.

Unit – 2: **Working with Functions in Formula Menu of MS-Excel - 1:** **14 Hours**

Financial Functions: Future Value (FV), FVSCCHEDULE, Present Value (PV), Net Present, Value (NPV), XNPV, PMT, PPMT, Internal Rate of Return (IRR), Modified Internal Rate of Return (MIRR), XIRR, NPER, RATE, EFFECT, NOMINAL DB, SYD, SLD, : Logical Functions: AND, FALSE, IF, IFERROR, NOT, OR, TRUE. Text Functions, Date and Time Functions, Lookup Functions: Vlookup and Hlookup, transpose.

Unit – 3: **Work-Sheet and Work- Operation:** **14 Hours**

Mathematical & Statistical Functions: ROUND, COUNT, COUNIF, MIN, MAX, ROUND, VAR, INT, SQRT, AVERAGE- MEAN, MEDIAN, MOD, STDEV SCORRILATION, RSQ, DEVSQ, COVAR, CHITEST, FTEST, TTEST, ZTEST, Formula Auditing: Trace Precedents, Trace Dependents Show Formula, Error Checking, Using data menu in data analysis: Get external data : Getting data form Ms-Access / database – from web, from text, from other sources, sorting and filtering of data, Data tools: Remove Duplicate data, data validation, group and ungroup data, finding sub-totals, Data consolidation, What-if-Analysis, Generating Descriptive statistics, Protect work book, Protect excel sheets, Share work-book, using comments, allow users to edit ranges,

Unit – 4: **Tables and Formatting:** **12 Hours**

Pivot – tale: Generating pivot-table, and generating pivot charts, inserting pictures, clipart shapes, smart arts, Using Chart wizard: Generating various types pie-charts, column, bar and area diagram in representing data, using graph in data analysis using

excel, Generating Histogram, Frequency Curve and Polygon, Lorenz Curve, Time series graphs, Inserting bit map objects, word Art, Create a link to a web-page, use of view menu in excel. Dealing numbers – Currency, Accounting, Numbers, Dates, - short and long data, time, Percentage, Fractions and scientific expressions

Unit – 5: Use of Macro and VBA in MS-Excel:

6 Hours

Use of Macros: Use macro, record macro, Use relative references, Create a basic calculator with VBA in Excel. Write some code in VBA (Visual Basic for Application) to manipulate records in Excel spreadsheet and work with VBA user form to build graphic user interface application, Write some code in VBA (Visual Basic for Application) to manipulate records in Excel spreadsheet and work with VBA user form to build graphic user interface application.

Reference Books:

1. Microsoft Excel Latest Version Inside Out – Mark Doge and Craig Stinson – PHI Learning Private Limited, New Delhi – 110001.
2. Excel 2013 Bible ; John Walkenbach, Wiley
3. Financial Analysis and Modeling using Excel and VAB: Chandan Sengupta, Wiley
4. Excel Data Analysis – Modeling and Simulation: Hector Guerreor, Springer
5. Microsoft Excel 2013: Data Analysis and Business Modeling: Winston, PHI
6. Excel Functions and Formulas: Bernd Held, BPB Publications.

3.6 COMPUTER FUNDAMENTALS AND C-PROGRAMMING

Objective: In this Part of the Study students understand how computer works, basic knowledge of Computer Hardware and software, types of software, basics of programming, need of programming, Programming in C and object oriented programming languages and elements of C++

Unit – 1: **Fundamentals of Computer Hardware & Software:** **10 Hours**

Definition and characteristics of Computer, Hardware (I/O Devices) and Software, Different types of Software: concept of assembler, compiler, interpreter, loader and linker, Operating systems – types, Programming Languages, Application software, Idea of Algorithm – Representation of Algorithm, Flowchart, Pseudo code with example, algorithm to programs, source code.

Unit – 2: **C – Programming Fundamentals:** **10 Hours**

Keywords, Variables and constants, Structure of a C program, operators and expressions: Arithmetic, Unary, Logical, Bit – wise, Assignment & Conditional operators, Library Functions, Decision making using if...else, Else If Ladder; Switch, break, Continue and Goto statements, Control Statement: Looping using while, do...while, for statements, Nested loops.

Unit – 3: **Arrays, Functions & Pointers:** **10 Hours**

Declaration and Initialization, Multidimensional Arrays, String: Operations of Strings, Functions: Defining & Assessing User defined functions, Function Prototype, Passing Arguments, Passing array as argument, Recursion, Use of Library Functions, Macro V/s Functions, **Pointers:** Declarations, Operations on Pointers, Passing to a function, Pointers & Arrays, Array of Pointers, Array accessing through pointers, Pointer to functions, Function returning pointers, Dynamic Memory Allocations.

Unit – 4: **Structure & Union and File Handling:** **10 Hours**

Defining and Initializing Structure, Array within Structure, Array of Structure, Nesting of Structure, Pointer to Structure, Passing structure and its pointer to Functions, **Unions:** Introduction to Unions and its Utilities. **File-Handling:** Opening and closing file in C, Create, Read and Write data to a file, Modes of Files, Operations on file using C Library Functions, Working with Command Line Arguments, Program Debugging and types of errors.

Unit – 5: **Introduction to C++ (Object Oriented Programming Language):** **16 Hours**

Introduction to C++, C++Programs, Symbols, Identifiers, Data types, Arithmetic Operators and Operator Precedence, Expression, Input, Memory and data, Increment and Decrement Operators, Output, Creating a C++ Program, Sample Program Code, Compiling and Running a C++ program, **Selection Structures:** Control Structures, Relational Operators, Logical (Boolean) Operators, Tutorial to Understand IEEE Floating-Point Errors, Operator Precedence and Associativity, Logical (Boolean) Expressions (also, short-circuit evaluation issues), One-Way (if) Selection, Two-Way (if...else) Selection. Compound (Block), Statement, Nested if and if...else Statements, Preventing Input Failure Using if Statement, Conditional Operator (?:), switch Structures, assert() Function. **Predefined and Value-Returning Functions:-** What are Functions? ,Predefined Functions, User-Defined Functions, Flow of Execution, Microsoft MSDN Library - Standard C++ Library Reference, Microsoft MSDN Library - C/C++ Languages. **Data Types, Arrays and Strings:** Simple and Structured Data Types, Arrays, Intro to Vectors Arrays vs. Vectors, **Pointers:** What are pointers, Declaring Pointers, Pointer Operators, Initializing pointers, Pass – by – Reference with Pointers, Pointer Arithmetic, Topic,

Reference Books:

1. Balaguruswamy. E. Programming in ANSI C 6th Edition, Tata McGraw-Hill, 2012
2. Deitel H M and Deitel P J, C – How to Program, 5th Edition, Prentice – Hall, 2006
3. Samarjit Ghosh, All of “C” 2nd Edition 2009
4. M. T. Somashekara, Problem Solving with C, PHI, 2009
5. Yashwant Kanctkar, Let us C, PBH
6. Rajaramanna V, Computer Fundamental and Programming in C PHI
7. Gottfried. B : Theory and Problems of Programming in C, Schaum Series.
8. Kenneth A. C Problem solving and programming, Prentice Hall.
9. Gill Nasib Singth: Computing Fundamentals and Programming in C, Khanna Books Publishing co., New-Delhi.

4.2 TABLEAU - BUSINESS INTELLIGENCE

(Objectives: Students will be able to understand Data Science Life cycle & Data-Visualization)

Unit – 1: Basics of Tableau, Connecting with data

12 Hours

Basic of Tableau: Tableau interface, Menus and Toolbar, Data Pane, Analytics Pane, Sheet Tabs, Shelves and Cards, Marks Card, Legends, Layout for Dashboards & Stories, Distributing and Publishing. *Distributing & publishing:* Way to share, exploring images and PDFs, Workbook file types, opening workbook files, sharing securely. *Connecting with Data:* Getting Started with Data, Managing Metadata, Managing Extracts, Saving and Publishing Data Sources, Data Prep with Text and Excel Files, Join Types with Union, Cross-database Joins, Data Blending, Additional Data Blending Topics, connecting to Cubes, Connecting to PDFs,

Assignment on: 1. Data Cleansing 2. Assignment on Transformation

Unit – 2: Visual Analytics.

12hours

Getting Started with Visual Analytics, Drill Down and Hierarchies, Sorting, Grouping, Additional Ways to Group, Creating Sets, working with Sets, Ways to Filter, Using the Filter Shelf, Interactive Filters, Where Tableau Filters, Additional Filtering Topics, Parameters, Formatting, The Formatting Pane, Basic Tooltips, Viz in Tooltip, Trend Lines, Reference Lines, Forecasting, Clustering, Analysis with Cubes and MDX.

Unit –3: Dashboards and Stores, Mapping

12 Hours

Dashboards and Stories: Getting Started with Dashboards and Stories, building a Dashboard, Dashboard Objects, Dashboard Formatting, Device Designer, Dashboard Interactivity Using Actions, Story Points. *Mapping:* Getting Started with Mapping, Maps in Tableau, Editing Unrecognized Locations, Spatial Files, Expanding Tableau's Mapping Capabilities, Custom Geocoding , Polygon Maps, Mapbox Integration, WMS: Web Mapping Services, Background Images

Unit – 4: Calculation

12 Hours

Calculations: Calculation Syntax, Introduction to LOD Expressions, Modifying Table Calculations, Aggregate Calculations, Logic Calculations, String Calculations, Number Calculations, Type Calculations, Conceptual Topics with LOD Expressions, Aggregation and Replication with LOD Expressions, Nested LOD Expressions, How to Integrate R and Tableau, Using R within Tableau, Date Calculations, Getting Started with Calculations, Intro to Table Calculations

Unit – 5: Why is Tableau doing that? And how it is doing that?

08 Hours

Why is Tableau Doing That? Understanding Pill Types, Measure Names and Measure Values, Aggregation, Granularity, and Ratio Calculations, When to Blend and When to Join, Fixing "Incorrect" Sorts, Filtering for Top across Panes. *How To?* Finding the Second Purchase Date with LOD Expressions, Using a Parameter to Change Fields, Cleaning Data by Bulk Re-aliasing, Bollinger Bands, Bump Charts, Control Charts, Funnel Charts, Pareto Charts, Waterfall Charts

References:

- 1. Tristan Guillevin ‘Getting Started with Tableau 2019 (Second Edition)’ – Packt**
- 2. Marleen Meter, Devid Baldwin ‘Mastering Tableau 2019.(Second edition)’ – Packt**
- 3. Jshuan N. Milligan ‘ Learning Tableau 20119 (Third edition)’ – Packt.**
- 4. Jen Stirrup Ashutosh Nandeshwar, Ashley Ohmann, Matt Floyd ‘Tableau: Creating Interactive Data Visualisation (Learning Path) – Packt.**
- 5. Jen Stirrup, Ruben Oliva Ramos- ‘ Advanced Analytics with R and Tableau’ – Packt.**
- 6. Joshua N. Milligan, Trustan Guillevin – Learning path – ‘Tableau 10 Complete Reference – Packt.**
- 7. Donable Santos – ‘Tableau 10 Business Intelligence – Cookbook’ – Packt**
- 8. Ryan Sleeper – ‘Practical Tableau’ - O’Reilly**

4.3 INTRODUCTION TO R

(Objectives: In today's world an average of 2 Million users worldwide are rapidly using R for their statistics & data science problems. Every year R users gets increased widely as it is one of the most highly regarded, highly ranked, and fastest growing languages in existence. As a result we can see R has been used in almost 90% of originations. R is an open source programming language which is mainly used for statistical computing. It is totally free, so unlike other paid software's, R can be customized according to our requirements. R is a very unique language and has some really interesting features which aren't present in other languages so R has taken its popularity in recent years. The biggest benefits to open source software's like R is upgrades which happens much more regular)

Unit – 1: **Introduction, Basic Concept, Structures and Control Flow of R:** **16 Hours**

Introduction to R: Overview of R programming, Evolution of R, Applications of R programming, Basic syntax, **Basic Concepts of R:** Reserved Words, Variables & Constants Operators, Operator Precedence, Data Types, Input and Output, **Data structures in R:** Vectors, Matrix, List in R programming Data Frame, Factor, **Control flow:** If...else, If else () Function, Programming for loop While Loop, Break & next, Repeat Loop

Unit – 2: **Functions of R and Usage of Strings in R:** **8 Hours**

Functions: R Functions, Function Return Value, Environment & Scope, R Recursive Function, R Infix Operator, R Switch Function. **Strings:** String construction rules, String Manipulation functions

Unit – 3: **R packages, R Data Reshaping, Working with Files in R :** **8 Hours**

R packages: Study of different packages in R, **R Data Reshaping:** Joining Columns and Rows in a Data Frame Merging Data Frames, Melting and Casting, **Working with files:** Read and writing into different types of files

Unit – 4: **R Object and Class Object, Data visualization in R & Data Management:** **12 Hours**

R object and Class Object and Class: R S3 Class, R S4 Class R Reference Class, R Inheritance, **Data visualization in R and Data Management:** Bar Chart, Dot Plot, Scatter Plot (3D), Spinning Scatter Plots, Pie Chart Histogram (3D) [including colorful ones], Overlapping Histograms, Boxplot, Plotting with Base and Lattice Graphics Missing Value Treatment, Outlier Treatment, Sorting Datasets Merging Datasets, Binning variables

Unit – 5: **Statistical modeling and Databases in R :**

12 Hours

Statistical modeling and Databases in R: Mean, mode, median linear regression, Decision tree, K-means Clustering, RODBC and DBI Package, Performing queries

Reference Books:

9. The Definitive Guide by Tom White.
10. Map Reduce Design Patterns (Building Effective Algorithms & Analytics for Hadoop) by Donald Miner & Adam Shook
11. Professional Hadoop Solutions by Boris Lublinksy, Kevin Smith, and Alexey Yakubovich
12. **S. R. Mani Sekhar And T. V. Suresh Kumar:** Programming with R
13. John Verzani: **Using R for Introductory Statistics 2nd Edition, the R series**
14. Cornillon Pierre – Andre Et. : **R for Statistics**
15. Weblinks: <https://cloudthat.in/course/processing-bigdata-with-apache-hadoop/>

4.4: GOODS AND SERVICES TAX

LEARNING OBJECTIVES: To impart students with knowledge on tax, types of tax and their modalities, to give insight on the taxes influencing a corporate entity – both direct and indirect, and to orient the students on the procedures and formalities to be adhered, with regard to tax matters.

Unit 1: BASICS OF TAXATION **4 Hrs.**

Tax – Meaning and Types, Differences between Direct and Indirect Taxation, Brief History of Indirect Taxation in India, Structure of Indian Taxation.

Unit 2: GOODS AND SERVICES TAX –FRAMEWORK AND DEFINITIONS **12 Hrs.**

Introduction to Goods and Services Tax, Constitutional Framework, Orientation to CGST, SGST and IGST, Meaning and Scope of Supply, Types of Supply. Exemptions from GST

Unit 3: TIME, PLACE AND VALUE OF SUPPLY **20 Hrs.**

Time of Supply – in case of Goods and in case of Services - Problems on ascertaining Time of Supply; Place of Supply – in case of Goods and in case of Services (both General and Specific Services) – Problems on Identification of Place of Supply; Value of Supply – Meaning, Inclusions and Exclusions. Problems on calculation of ‘Value of Supply’

Unit 4: GST LIABILITY AND INPUT TAX CREDIT **14 Hrs.**

Rates of GST – Classification of Goods and Services and Rates based on classification, Problems on computation of GST Liability. Input Tax Credit – Meaning, Process for availing Input Tax Credit – Problems on calculation of Input Tax Credit and Net GST Liability.

Unit 5: GST PROCEDURES **06 Hrs.**

Registration under GST, Tax Invoice, Levy and Collection of GST, Composition Scheme, Due dates for Payment of GST, Accounting record for GST, Features of GST in Tally Package. GST Returns – Types of Returns, Monthly Returns, Annual Return and Final Return – Due dates for filing of returns. Final Assessment. Accounts and Audit under GST.

BOOKS FOR REFERENCE:

1. V Rajesh Kumar and Mahadev, “Indirect Taxes”, Mc Graw Hill Education
2. Datey, V S, “Indirect Taxes”, Taxmann Publications.
3. Hiregange et al, “Indirect Taxes:, Puliani and Puliani.
4. Haldia, Arpit, “GST Made Easy”, Taxmann Publications.
5. Chaudhary, Dalmia, Girdharwal, “GST – A Practical Approach”, Taxmann Publications.
6. Garg, Kamal, “Understanding GST”, Bharat Publications.
7. Hiregange, Jain and Naik, “Students’ Handbook on Goods and Services Tax”, Puliani and Puliani.

4.5 COST ACCOUNTING

LEARNING OBJECTIVES: The objective of this course is to familiarise the students with the cost accounting concepts and their applicability in organisations for the purpose of decision making on cost reduction and efficiency improvement.

Unit 1: INTRODUCTION TO COST ACCOUNTING

14 Hrs

Meaning, Objectives, Importance and Uses of Cost Accounting, Functions of Cost Accounting Department in an Organisation, Difference between Cost Accounting and Financial Accounting; Various Elements of Cost and Classification of Cost; Cost object, Cost unit, Cost driver, Responsibility centres; Cost reduction and Cost control; Methods and Techniques of Costing (Meanings Only); Use of IT in Cost Accounting; Limitations of Cost Accounting; **Cost Sheet:** Meaning and Cost heads in a Cost Sheet, Presentation of Cost Information in Cost Sheet/Statement- Problems on Cost Sheet, Tenders and Quotations.

Unit 2: MATERIALS COST

12 Hrs.

Materials: Meaning, Importance and Types of Materials – Direct and Indirect Material

Materials procurement: Procedure for procurement of materials and documentation involved in procurement of materials – (Bill of materials, Material requisition note, Purchase requisition note, Purchase order, Goods received note); **Material Storage and Records:** Duties of Store keeper, Store records- (Bin card, Stores Ledger, Stock Control Cards); **Material Issues and Valuation:** Procedure for material issues, documents used in material issues – (Material Requisition Note, Material Transfer Note, Materials Return Note); Valuation of material issues – preparation of Stores Ledger/ Account – FIFO, LIFO, Simple Average Price and Weighted Average Price Methods – Problems. **Inventory Control:** Inventory control techniques and determination of various stock levels – Problems on level setting and computation of EOQ; ABC Analysis, FSN Inventory, VED Inventory, HML Inventory, Physical Control- KANBAN, JIT Inventory Management Technique, Perpetual Inventory system (Concepts only).

Unit 3: EMPLOYEE COST

8 Hrs.

Employee Cost: Meaning, Components, Classification and Importance of Employee (Labour) Cost in Organisations; **Attendance Procedure** – Time keeping and Time booking, Idle time – Causes and Treatment of Normal and Abnormal Idle time, Overtime- Causes and Treatment (Theory Only); **Methods of Remuneration (Payment of Wages and Incentives)** Problems on calculation of earnings under Time Rate (Straight Time Rate, Halsey and Rowan Methods) and Piece Rate Systems (Straight Piece Rate and Taylor's Differential Piece Rate); **Employee Turnover** – Meaning, Reasons and Effects of LTO/ETO

Unit 4: OVERHEADS

14 Hrs.

Overheads: Meaning and Classification of Overheads; Accounting and Control of Manufacturing Overheads: Estimation and Collection, Cost Allocation, Apportionment, Re-apportionment and Absorption of Manufacturing Overheads; Problems on Primary and Secondary distribution using Reciprocal Service Methods (Repeated Distribution Method and Simultaneous Equation Method); Absorption of Overheads: Meaning and Methods of Absorption of Overheads; Problems on Machine Hour Rate.

Unit 5: RECONCILIATION OF COST AND FINANCIAL ACCOUNTS**8 Hrs.**

Reasons for differences in Profits under Financial and Cost Accounts; Procedure for Reconciliation – Ascertainment of Profits as per Financial Accounts and Cost Accounts and Reconciliation of Profits of both sets of Accounts – Preparation of Reconciliation Statement – Problems.

BOOKS FOR REFERENCE

1. Jain and Narang. Cost Accounting, Kalyani Publication House
2. M.N Arora Cost Accounting , HPH
3. M.V. Shukla – Cost and Management Accounting
4. N.K. Prasad: Cost Accounting, Books Syndicate Pvt. Ltd.
5. Dr. V Rajeshkumar, Dr. R K Srikanth – Cost Accounting MH India
6. Ratnam, Cost Accounting - Kitabmahal
7. P C Tulsian, Cost Accounting – MHE India
8. Nigam & Sharma: Cost Accounting, HPH
9. Dr. B. Mariyappa: Cost Accounting HPH
10. Khanna, Ahuja & Pandey – Practical Costing - S Chand & Co. Ltd.
11. B.S. Raman, Cost Accounting. United Publisher
12. Ravi M. Kishore – Cost Management – Taxmann.

4.6 DATA SCIENCE LIFE CYCLE

(Objective: Modern business applications are increasingly dependent on data, existing traditional data analysis technologies were not designed for the complexity of the modern world. Data Science has emerged as a new, exciting, and fast-paced discipline that explores novel statistical, algorithmic, and implementation challenges that emerge in processing, storing, and extracting knowledge from Big Data.)

Unit 1 – Introduction to Data Science

12 Hours

What is Data Science? What does Data Science involve? Data science process – roles, stages in data science, Era/History of Data Science, Business Intelligence v/s Data Science, Life cycle of Data Science, Tools of Data Science, Data Extraction & Exploration, Data Analysis Pipeline, Types of Data Raw and Processed Data, Exploratory Data Analysis

Unit 2 – Visualization of Data

12 Hours

Introduction to Visualization, Human Perception and Information Processing, Graphical perception (the ability of viewers to interpret visual (graphical) encodings of information and thereby decode information in graphs Color for information display, Color management systems, Picture visualization and end result, Data Transformation into sources of knowledge through visual representation, Requirements and heuristics for high-quality visualizations. Charts and standard views: relevance and appropriateness. Advanced and innovative tools for data visualization and advanced quantitative analysis, the evaluation of the quality of visualizations and info-graphics

Unit 3– Hadoop and HDFS

12 Hours

History of Hadoop, Apache Hadoop, Analysing Data with Hadoop, Hadoop Streaming, Hadoop Echo System, IBM Big Data Strategy, Introduction to Info-sphere Big-Insights and Big Sheets. **HDFS (Hadoop Distributed File System):** The Design of HDFS, HDFS Concepts, Command Line Interface, Hadoop file system interfaces, Data flow, Data Ingest with Flume and Scoop and Hadoop archives, Hadoop I/O: Compression, Serialization, Avro and File-Based Data structures

Unit 4– Basics of Machine – Learning

12 Hours

What is Machine Learning? Types of Machine Learning, How does a Machine Learning Algorithm works, Parametric and Non-Parametric Algorithms, Regression and Classification:
- Linear regression, cost function, gradient descent, polynomial regression, cost function for logistic regression, regularization, evaluation of machine learning model. Clustering, Preparing Data, Outliers, Problems of Under-fitting and Over-fitting, the bias – Variance trade-off, Data science packages

Overview: Origins and challenges of NLP- Theory of Language - Features of Indian Languages – Issues in Font –Models and Algorithms- NLP Applications. **Morphology And Parts-of-Speech:** Phonology – Computational Phonology - Words and Morphemes – Segmentation – Categorization and Lemmatization – Word Form Recognition – Valency - Agreement - Regular Expressions – Finite State Automata – Morphology- Morphological issues of Indian Languages – Transliteration.

References:

16. Chris Eaton, Dirk Deroos, Tom Deutsch et al., “Understanding Big Data”, McGrawHill, 2012.
17. Alberto Cordoba, “Understanding the Predictive Analytics Lifecycle”, Wiley, 2014.
18. Eric Siegel, Thomas H. Davenport, “Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die”, Wiley, 2013.
19. James R Evans, “Business Analytics – Methods, Models and Decisions”, Pearson 2013.
20. R. N. Prasad, Seema Acharya, “Fundamentals of Business Analytics”, Wiley, 2015.
21. S M Ross, “Introduction to Probability and Statistics for Engineers and Scientists”, Academic Foundation, 2011.
22. David Hand, Heiki Mannila, Padhria Smyth, “Principles of Data Mining”, PHI 2013.
23. Spyros Makridakis, Steven C Wheelwright, Rob J Hyndman, “Forecasting methods and applications”, Wiley 2013(Reprint).
24. David Hand, Heikki Mannila, Padhraic Smyth, “Principles of Data mining”, PHI 2013.
25. <http://cran.r-project.org/doc/manuals/R-intro.html>
26. W.N. Venables, D.M Smith, “An introduction to R”,
27. R in Nutshell , O Reilly,

5.1. INCOME TAX – I

LEARNING OBJECTIVE

The Objective of this subject is to expose the students to the various provision of Income Tax Act relating to computation of Income of individual assesses.

Unit 1: INTRODUCTION TO INCOME TAX 8 Hrs

Brief History of Indian Income Tax - Legal Frame Work – Types of Taxes - Cannons of Taxation – Important Definitions: Assessment, Assessment Year, Previous Year (including Exceptions), Assessee, Person, Income, Casual Income, Gross Total Income,– Scheme of taxation. Meaning and classification of Capital & Revenue. Income tax authorities: Powers & functions of CBDT, CIT & A.O. (Theory only).

Unit 2: EXEMPTED INCOMES 04 Hrs

Introduction – Exempted Incomes u/s 10 applicable to Individual Assesseees.
Agricultural Income – Definition, Scheme of Partial Integration (Theory only)

Unit 3: RESIDENTIAL STATUS AND INCIDENCE OF TAX 8 Hrs

Determination of Residential Status of Individual assesseees, Incidence of Tax. Problems

Unit 4: INCOME FROM SALARY 24 Hrs

Meaning and Definition - Basis of Charge – Advance Salary – Arrears of Salary – Allowances – Perquisites – Provident Fund - Profits in Lieu of Salary: Voluntary Retirement Compensation, Retrenchment Compensation – Gratuity - Commutation of Pension - Encashment of Earned leave - Deductions from Salary u/s 16 – Problems on computation of taxable Income from Salary.

Unit 5: INCOME FROM HOUSE PROPERTY 12 Hrs

Basis of Charge – Deemed Owners – Exempted House Property Income – Composite Rent - Annual Value – Determination of Annual Value – Treatment of Unrealized Rent – Loss due to Vacancy – Deductions from Annual Value u/s 24 – Problems on computation of taxable Income from House Property.

BOOKS FOR REFERENCE:

1. Dr. Vinod K. Singhanian: Direct Taxes – Law and Practice, Taxmann publication.
2. B.B. Lal: Direct Taxes, Konark Publisher (P) ltd.
3. Dr. Mehrotra and Dr. Goyal: Direct Taxes – Law and Practice, Sahitya Bhavan Publication.
4. Dinakar Pagare: Law and Practice of Income Tax, Sultan Chand and sons.
5. Gaur & Narang: Income Tax.
6. 7 Lectures – Income Tax – I, VBH
7. Dr. V.Rajesh Kumar and Dr.R.K.Sreekantha: Income Tax – I, Vittam Publications.

5.2. AUDITING & CORPORATE GOVERNANCE

LEARNING OBJECTIVES: This subject aims at imparting knowledge about the Auditing and Corporate governance.

UNIT 1: NATURE, OBJECTIVE AND SCOPE OF AUDIT **10 Hrs**

Auditing Concepts: Nature, objective and scope of Audit; Relationship of auditing with other disciplines; **Standard Setting Process:** Overview, Standard-setting process, Role of International Auditing and Assurance Standards Board (IAASB) & Auditing and Assurance Standards Board (AASB); Standards on Auditing, Guidance Note(s) issued by the ICAI; **Engagement Standards:** Qualities of Auditor, Elements of System of Quality Control; Ethical requirements relating to an audit of financial statements; Inherent Limitations of an audit

UNIT 2: AUDIT STRATEGY, AUDIT PLANNING AND AUDIT PROGRAMME **10 Hrs**

Audit Strategy; Audit planning; Planning an Audit of Financial Statement; Audit programme; Development of Audit Plan and Programme, Control of quality of audit work - Delegation and supervision of audit work; Materiality and Audit Plan; Revision of Materiality; Documenting the Materiality; Performance Materiality

UNIT 3: AUDIT DOCUMENTATION AND AUDIT EVIDENCE **14 Hrs**

Concept of Audit Documentation; Nature & Purpose of Audit Documentation; Form, Content & Extent of Audit Documentation; Completion Memorandum; Ownership and custody of Audit Documentation; Audit procedures for obtaining audit evidence; Sources of evidence; Relevance and Reliability of audit evidence; Sufficient appropriate audit evidence, Evaluation of Audit Evidence; Audit procedure to identify litigation & claims.

UNIT 4: THE COMPANY AUDIT **12 Hrs**

Eligibility, Qualifications and Disqualifications of Auditors; Appointment of auditors; Removal of auditors; Remuneration of Auditors; Powers and duties of auditors; Branch audit; Joint audit; Reporting requirements under the Companies Act, 2013 including CARO; Other Important Provisions under the Companies Act, 2013 relating to Audit and Auditors and Rules made there under.

UNIT 5: AUDIT REPORT **10 Hrs**

Forming an opinion on the Financial Statements; Auditor's Report- basic elements; Types of Modified Opinion; Circumstances When a Modification to the Auditor's Opinion is Required Qualified, Adverse, Disclaimer of Opinion.

BOOKS FOR REFERENCE

1. P N Reddy & Appannaiah, Auditing, HPH
2. TR Sharma, Auditing, Sahitya Bhavan
3. BN Tandon, Practical Auditing, Sultan Chand
4. Dr. Nanje Gowda, Principles of Auditing, VBH
5. Dr. Alice Mani: Principles & Practices of Auditing, SBH.
6. K. Venkataramana, Principles And Practice Of Auditing, SHBP.
7. MS Ramaswamy, Principles and Practice of Auditing.
8. Dinakar Pagare, Practice of Auditing, Sultan Chand
9. Kamal Gupta, Practical Auditing, TMH
10. R.G Sexena - Principles and Practice of Auditing, HPH

5.3 BUSINESS RESEARCH METHODS

Objectives: The foundation of data science is Business Research Methods, to apply any of Statistical software tools in business data analysis the scientific method of deciding steps to collect relevant data, classification, Analysis and interpretation of business data requires research bent of mind.

Unit – 1: *INTRODUCTION TO BUSINESS RESEARCH*

6 HOURS

Definition, Nature and role of Management Research, Types of Research based on Purpose, Process, Outcome, Nature, Action and Logic, Research concepts, constructs, meaning of propositions and hypotheses, Features of a good Research Study, Research process, and Ethical issues.

Unit – 2: *FORMULATION RESEARCH TOPIC / PROBLEM*

12 HOURS

Selection of the problem/topic for research study: Mode of Selection, Sources of Problem/topic, Process of Identification of topic, Criteria of Selection of topic. Formulation of the Selected Problem: Developing title, Building a conceptual model, Writing Statement of the Problem/topic, Defining objective of the study. Developing operational definition of Concepts, Delimiting the scope of the study, Formulation of Hypothesis- Types of Hypothesis, Functions of Hypotheses, Characteristics of Good Hypotheses, Review of Literature: Sources of Literature, Recording the Literature, Conceptualization – Characteristics of concepts, types of Concepts, Problems of defining concepts – reasons, Types of Definition of Concepts, Steps in Operationalisation of concepts, Variables – types. Measurement, types of measurement, validity and reliability.

Unit – 3: *DATA COLLECTION AND MEASUREMENT*

12 HOURS

Secondary data collection – Collection of secondary data from various sources, Classification of secondary data sources, evaluation of secondary data, benefits and drawbacks of secondary data. Primary data collection: - Classification of survey methods – Observation techniques, classification of observation methods, advantages and disadvantages of observation, Interview techniques, types of interview, focused group method, Personal and group interview. Mailed Questionnaire method – Criteria for questionnaire designing; types of questionnaire; questionnaire design procedure, pilot test, validity and reliability of questionnaire.

Unit – 4: *SAMPLING, SAMPLING SIZE AND DATA PREPARATION*

12 HOURS

Sampling Concept of Sample and Target Population, Census and Sampling, Sample Frame, Sample and Sample element, Sample Size, Determination of Sample Size, Characteristics of a Good Sample, Sampling Design: Probability

and Non-Probability, Sampling v/s Non – Sampling Error, Data Preparation, Field Validation, Data coding, Content Analysis, Classification and Tabulation of Data, Data and Information

Unit– 5: DATA ANALYSIS AND HYPOTHESIS TESTING

12 HOURS

Different Types of Statistical Analysis: Descriptive Statistical analysis (includes uni -variate, by - variate, multivariate analysis) measures of central tendency, measures of dispersion, measures of skewness, kurtosis, and measure of relationships - covariance simple correlation, regression

Inferential Type of Statistical Analysis: Estimation of Parameter values – Point Estimate, Interval Estimate, Testing Hypothesis – Parametric test: one sample t test, two sample t test, One-way ANOVA, Non-parametric tests: one sample Sign, one sample Wilcoxon tests, Mann whitney test Krushal-wallis, Mood’s median test, Friedaman test, and Chi-squire test.

Prescriptive Analysis, Predictive Analysis, Casual Analysis, Exploratory Data Analysis, Mechanistic Analysis. Introduction to Factor Analysis, Cluster Analysis, Discriminate Analysis

Unit – 6: REPORT WRITING – TECHNICAL WRITING

4 HOURS

Introduction to Report writing, Steps in writing research report, types of reports, techniques of writing reports, precautions for writing research report, contents of research report.

Books for reference:

- Research Methodology (Methods & Techniques) – C R Kothari & Gaurav Garg – New age International Publishers – third edition 2016 onwards
- Research Methodology – P Saravanavel – Kitab Mahal, Ashok nagar, Allahabada
- Social Research Method – Alan Bryman, *Oxford University press*
- ***Business Research Methods*** – Alan Bryman, and Emma Bell *Oxford University press*
- Research Methodology Practice – P. Philominathan – Shri A.V.V.M. Pushpam College – Poondi –Thanjavur
- Research Methodology – Methods & Techniques 2 ed, Kothari C. R. – Vishwa Prakashan – New Delhi 1990.
- An Introduction to Research Procedure in Social Sciences – Gopal M. A. – Asia Publishing House - Bombay
- Darlington, Richard B., Sharon Weinberg, and Herbert Walberg (1973). Canonical variate analysis and related techniques. *Review of Educational Research*, 453-454.
- Gorsuch, Richard L. (1983) *Factor Analysis*. Hillsdale, NJ: Erlbaum

5.4 FINANCIAL ANALYTICS

Unit 1: Introduction to Financial Analytics and Time Series Data

12 Hours

Overview of financial analytics: why, when, and how to apply financial analytics in real-world situations, techniques to analyze time series data, evaluate the risk-reward trade off expounded in modern portfolio theory on the prices, returns, and risks of corporate stocks analysis and Fixed Income Securities, Analysis of Common Stocks, Futures and Options, Risk, Uncertainty, Utility and Portfolio Theory, Capital Market Theory, Efficiency, and Imperfections, the analytical techniques in leveraged in other domains. A short introduction to algorithmic trading

Unit 2: Financial Modeling

16 Hours

What is Financial Modeling? Types of Financial Models, Financial Modeling Best Practices, Financial Modeling Skills, Financial Mathematics, Financial Statement Analysis, Forecasting Techniques, Cash Flow concepts: Cash flow statement – Prepare and Analyze, Modeling and forecasting of financial statements , **Capital budgeting:** NPV, IRR – Concept, application, and issues, Use of real options for better financial outcomes, **Predicting stock prices** using machine learning, Credit risk modeling, News analytics (accessing news using web scrapping) and sentiment analysis in finance – Use of R and Excel in Financial Modeling.

Unit 3: Costing, Cost control and Cost reduction Analytics

14 Hours

Costing methods – job-costing, unit – costing, process-costing, contract costing, operating costing, Cost-techniques – forecasting, budgeting and budgeting control, marginal costing, - fixed cost, variable cost, break-even analysis, standard costing – use of excel and database management system in cost-management.

Unit 4: Types of financial performance comparative analysis

8 Hours

Financial performance Analytics – Horizontal analysis (side-by side comparison of organization performance), Vertical analysis, **and Short-term analysis** provides a detailed review of working capital, involving the calculation of turnover rates for accounts receivable, inventory and accounts payable. **Multi-company comparison** entails tallying and comparing major financial ratios of two organizations, usually in the same industry sector, **Industry comparison** contrasts the results of a specific business and the average results of an entire industry.

Predictive sales analytics: use of correlation analysis or past trends to forecast corporate sales, **Product-wise profitability analytics, Value-driven analytics** assesses a business' value drivers, or the key "levers" the organization needs to pull to achieve its goals, **Shareholder value analytics**, which is used to tally the value of a company by examining the returns it provides to shareholders, is used concurrently with profit and revenue analytics

Reference:

1. *Vikash Raj – Business Analytics & Financial Planning*
2. *Goutam Mitra, Leela Mitra – The Hand Book of News Analytics in Finance*
3. *Udamy – Complete Financial Analysts Course – 2020*
4. *Corporate Finance Institute – Complete Financial Modeling Guide – Step – by – Step Best Practices*
5. *Muhammed Zain – CAM PART 1 – Financial Planning, Performance and Analytics – 2020*
6. *John.L. Teall – Financial Market Analytics*
7. *Mark J. D. & Dirk. L Hugen. – Financial Analytics with R*
8. *Edward. E. Williams and John. A. Dobelman – Quantitative Financial Analytics*
9. *Victoria Lemieux Editor – Financial Analysis & Risk Management – Data Governance, Analytics and Life cycle – Springer*
10. *Robert R. Reitano – Introduction to Quantitative Finance – A Math Tool Kit.*
11. *Stephen Blyth – An Introduction to Quantitative Finance*
12. *Daily Motion – Quantitative Financial Analysis – A path to investment profit review*
13. *Haskell Financial Data Modeling & Predictive Analysis – Paval*
14. *Media Corporate /R Net – Investor Fact Book – The McGraw-Hill Companies.*

5.5 E-COMMERCE & MOBILE COMMERCE

Objective: The objective of the subject is to familiarize the students with E-Commerce models and this course will provide an analytical and technical framework to understand the emerging world of e-commerce and mobile commerce. E-commerce and mobile commerce poses both a challenge and an opportunity for managers. As a matter of competitive necessity, savvy managers must gain an understanding of the rapidly changing technology and business

UNIT - 1: E –Commerce and E-business

10 Hrs

Introduction, E-Commerce – Definition, History of E-commerce, Difference between E-Commerce and E - Business Comparison of traditional commerce and e-commerce Advantages/ Disadvantages of e-commerce,. E-Commerce business models – major B to B, B to C model, Consumer-to- Consumer (C2C), Consumer-to-Business (C2B) model, Peer to-Peer (P2P) model – emerging trends. Web auctions, virtual communities, portals, e-business revenue models.

UNIT – 2: Hardware and software & Security Technology for E-Business

12 Hrs

Web server – Internet – World Wide Web - hardware and software for web servers, web hosting choices – shopping cart, Security Issues and *Security Technology for e- commerce*: Security issues, Threats to Security, Security technologies: Cryptography
– Types of Encryption, Firewall technology, SSL, Digital Signature & Digital Certificates.

UNIT – 3: Smart Cards, and EDI as Security technology in e-commerce

12 Hrs

Smart Cards and its applications Electronic Data Interchange- Evolution, uses, Benefits, Working of EDI, EDI Standards, EDI Components, EDI Services, ANSI X12 and EDIFACT

Unit – 4: Overview of Electronic Payment Systems,

10 Hrs

Overview of Electronic Payment Systems :Cybercash, Smart Cards, Electronic Banking - types, Electronic Fund Transfers - Digital Token-based Electronic Payment Systems, E-cash, e-Cheque, Payment Systems on internet- Risk of Electronic Payment Systems. Secure Electronic Transactions (SET) Protocol

Unit – 5: Introduction to Mobile Commerce & Mobile commerce technology

12 Hrs

M-Commerce - Introduction – Infrastructure Of M-Commerce – Types Of Mobile Commerce Services – Technologies Of Wireless Business – Benefits And Limitations, Support, Mobile Marketing & Advertisement, Non – Internet Applications/services in M-Commerce – Wireless/Wired Commerce Comparisons NTT Docomo’s I – Mode – Wireless Devices For Mobile Commerce, The Impact Of Technology Advances On Strategy Formulation In Mobile Communications Networks, 2G, 3G and 4G technology

References:

1. Raydu – E Commerce, HPH
2. Suman. M – E Commerc & Accounting - HPH
3. Kalakota Ravi and A. B. Whinston : Frontiers of Electronic Commerce, Addison Wesley
4. Watson R T : Electronic Commerce – the strategic perspective. The Dryden press
5. Amrutha Gowry & Soundrajana, E – Business & Accounting, SHBP.
6. C.S.V Murthy- E Commerce, HPH
7. Agarwala K.N and Deeksha Ararwala: Business on the Net – Whats and Hows ofE- Commerce
8. Agarwala K. N. and Deeksha Ararwala : Business on the Net – Bridge to the online store front, Macmillan, New Delhi.
9. P. Diwan / S. Sharma – E – Commerce
10. Srivatsava: E.R.P, I.K. International Publishers
11. Diwan, Prag and Sunil Sharma, Electronic Commerce – A manager guide to E- business, Vanity Books International, Delhi
12. Tally for Enterprise Solutions
13. Dave Chaffey, —E-Business and E-Commerce Management, Third Edition, 2009, Pearson Education
14. Brian E. Mennecke, Troy J. Strader, —Mobile Commerce: Technology, Theory and Applications, Idea Group Inc., IRM press, 2003.
15. P. J. Louis, — M – Commerce Crash Course, McGraw – Hill Companies February 2001.
16. Paul May, —Mobile Commerce: Opportunities, Applications, and Technologies of Wireless Business, Cambridge University Press March 2001.
17. Michael P. Papazoglou, Peter M.A. Ribbers, —e – business organizational and Technical foundation —, Wiley India 2009 6. Dr.Pandey , Saurabh Shukla E-commerce and Mobile commerce Technologies , Sultanchand ,2011

5.6 APPLICATION OF PYTHON IN BUSINESS

Objectives: Make Students to understand why Python is a useful scripting language for developers, to learn how to design and program Python applications. to learn how to use lists, tuples, and dictionaries in Python programs., to learn how to identify Python object types, to define the structure and components of a Python program, to learn how to write loops and decision statements in Python. Students will demonstrate the ability to solve problems using system approaches, critical and innovative thinking, and technology to create solutions, will understand the purpose and the process of code reviews, they will be able to create scripts in Python for Autodesk's Maya, and will understand and will be able to articulate and apply the principles of 3D graphics

Unit – 1: Introduction to Python, and Conditional Statements & Looping **08 Hours**

Introduction to Python History Features Setting up path working with Python Basic Syntax Variable and Data Types Operator Conditional Statements & Looping If, If-else, Nested if-else For, While, Nested loops Break, Continue, Pass

Unit – 2: String Manipulation, List Tuple and Dictionaries **12 Hours**

String Manipulation: Accessing Strings Basic Operations String slices Function and Methods, Lists, Tuple and Dictionaries Lists – Introduction, Accessing list, Operations, Working with lists, Function and Methods Tuple – Introduction, Accessing tuples, Operations, Working, Functions and Methods Dictionaries - Introduction, Accessing values in dictionaries, working with dictionaries, Properties, Functions

Unit –3: Functions and Modules in Python **12 Hours**

Functions: Defining a function, calling a function, Types of functions Function Arguments, Anonymous functions, Global and local variables. Modules Importing module, Math module, Random module, Packages, Composition

Unit – 4: Input-Output and Regular Expression **12 Hours**

Input-Output: Printing on screen, Reading data from keyboard, Opening and closing file, Reading and writing files, Functions. Regular expressions: Match function, Search function, Matching VS Searching, Modifiers, Patterns

Unit – 5: Common Gateway Interface (CGI), Database **12 Hours**

CGI: Introduction, Architecture, CGI environment variable, GET and POST methods, Cookies, File upload. *Database:* Introduction, Connections, Executing queries, Transactions, Handling error

References:

1. Paul Barry- 'Head-First Python' – 2nd edition

2. Zed A. Shaw - 'Learn Python the Hard Way' – 3rd edition
3. Dr. R. Nageswara Rao – 'Core Python Programming' 2nd (Kindle Edition) (2018), Dreamtech Press.
4. U. Dinesh Kumar Manaranjan Pradhan – ' Machine Learning using Python' (2019), - Wiley
5. Yashavant Kanetkar, Adithya Kanetkar 'Let Us Python' (2019) – BPB Publication
6. Allen Downey & Jeffrey Elkner – 'Learning with Python' (2015) – Dreamtech Press
7. Luca Massaron John Paul Mueller – 'Python for Data Science' (2019) – Dummies

6.1: INCOME TAX – II

LEARNING OBJECTIVE: The Objective of this subject is to make the students understand the computation of Taxable Income and Tax Liability of individuals assessees.

Unit 1: PROFITS AND GAINS FROM BUSINESS OR PROFESSION **16 Hrs.**

Meaning and Definition of Business, Profession – Vocation - Expenses Expressly Allowed – Allowable Losses – Expenses Expressly Disallowed – Expenses Allowed on Payment Basis - Problems on Computing taxable Business Incomes of Proprietary Concerns and Problems on Computing Income from Profession - Chartered Accountants, Advocates and Medical Practitioners.

Unit 2: CAPITAL GAINS **14 Hrs.**

Basis of Charge – Capital Assets – Transfer of Capital Assets – Computation of Taxable Capital Gains – Exemptions U/S 54, 54B, 54D, 54EC, 54F.

Unit 3: INCOME FROM OTHER SOURCES **08 Hrs.**

Taxable Income under the head Other Sources – Dividend Income – tax treatment for dividends, Interest on Securities, Rules for Grossing up, Bond Washing Transactions, – Problems on Computing Taxable Income from Other Sources.

Unit 4: SET-OFF AND CARRY FORWARD OF LOSSES AND DEDUCTIONS FROM GROSS TOTAL INCOME **08 Hrs.**

Meaning – Provision for Set-off & Carry forward of losses (Theory only).
Deductions u/s: 80C, 80CCC, 80CCD, 80D, 80E, 80G, 80GG, 80GGC, 80TTA, 80TTB, 80U.

Unit 5: ASSESSMENT OF INDIVIDUALS **10Hrs.**

Computation of Total Income and Tax Liability of an Individual Assessee (In case of income from salary & house property, only computed income shall be given).

BOOKS FOR REFERENCE:

1. Dr. Vinod K. Singhania: Direct Taxes – Law and Practice, Taxmann publication.
2. B.B. Lal: Direct Taxes, Konark Publisher (P) ltd.
3. Dinakar Pagare: Law and Practice of Income Tax, Sultan Chand and sons.
4. Gaur & Narang: Income Tax, Kalyani
5. B.B. Lal: Income Tax, Central Sales Tax Law & Practice, Konark Publisher (P) Ltd.
6. Singhania: Income Tax
7. Dr. H.C Mehrothra : Income Tax, Sahitya Bhavan
8. 7 Lecturer Income Tax – VBH

6.2: INDIAN ACCOUNTING STANDARDS AND IFRS

LEARNING OBJECTIVE: The objective of this subject is orient the students about the background and provisions of **accounting standards** which govern and guide the accounting process and preparation of financial statements.

Unit 1: ACCOUNTING STANDARDS **06 Hrs.**

Meaning of Accounting Standards - Need for Accounting Standards - Significance or advantages of Accounting Standards – Limitations of Accounting Standards. Orientation to International Accounting Standards, International Financial Reporting Standards and Convergence to IFRS. Accounting Standards in Indian Context – Introduction to Indian Accounting Standards (Ind AS). Accounting Bodies. Procedure for issuing Accounting Standards by the Accounting Standards Board.

Unit 2: PREPARATION OF FINANCIAL STATEMENTS AS PER IND AS **12 Hrs.**

Framework for preparation of financial statements. Presentation of Financial Statements as per Ind AS 1: Statement of Profit and Loss, Balance Sheet, Statement of Changes in Equity, Statement of Cash Flows and Notes to Accounts. Problems on preparation of Statement of Profit & Loss and Balance Sheet.

Unit 3: PROVISIONS UNDER ACCOUNTING STANDARDS FOR ITEMS APPEARING IN FINANCIAL STATEMENTS **14 Hrs.**

Revenue Recognition (Ind AS 18); Valuation of Inventory (Ind AS 2); Property, Plant and Equipment, including Depreciation (Ind AS 16); Borrowing Cost (Ind AS 23), Intangible Assets (Ind AS 38), Provisions (Ind AS 37), Earnings per Share (Ind AS 33)

Unit 4: PROVISIONS UNDER ACCOUNTING STANDARDS FOR ITEMS THAT DO NOT APPEAR IN FINANCIAL STATEMENTS **10 Hrs.**

Segment Reporting (Ind AS 108), Related Party Disclosures (Ind AS 24), Events occurring after Balance Sheet Date (Ind AS 10), Interim Financial Reporting (Ind AS 34)

Unit 5: CONSOLIDATED FINANCIAL STATEMENTS **14 Hrs.**

Meaning of Group, Holding and Subsidiary Company, Purpose and benefits of preparing Consolidated Financial Statements, Requirements of Companies Act, 2013 in respect of Consolidation of Financial Statements, Components of Consolidated Financial Statements, Calculation of Minority Interest, Calculation of Goodwill or Capital Reserve on Consolidation. Accounting treatment for inter-company debts, unrealised profit on stock, unrealised profit on fixed assets, and inter-company dividends.

BOOKS FOR REFERENCE:

1. Study material of the Institute of Chartered Accountants of India
2. Anil Kumar, Rajesh Kumar and Mariyappa, Indian Accounting Standards, HPH
3. Hanif & Mukherjee, Corporate Accounting, Mc Graw Hill Publishers.
4. Miriyala, Ravikanth, Indian Accounting Standards Made Easy, Commercial Law Publishers

6.3 DATA WAREHOUSING & DATA MINING

Objectives: Students has to understand the structure of Data Warehouse, different data pre-processing techniques, basic descriptive and predictive data mining techniques. Classification algorithms, Prediction algorithms and to learn use of data mining tool on different data sets

Unit – 1: Introduction to Data Warehouse, Data pre-processing: 12 Hours

Introduction to Data Warehouse: Data Warehouse and DBMS Architecture of Data Warehouse, Multidimensional data model, Concepts of OLAP and Data Cube, OLAP operations, Dimensional Data Modeling - Star, Snow flake schemas. *Data pre- processing:* Need Data pre-processing, Attributes and Data types, Statistical descriptions of Data, Handling missing Data, Data sampling, Data cleaning, Data Integration and transformation, Data reduction, Discretization and generating concept hierarchies

Unit – 2: Introduction to Data Mining & Data –Mining techniques 12 Hours

Introduction to Data Mining: Basic concepts of data mining, Types of Data to be mined, Stages of the Data Mining Process, Data Mining Techniques, Knowledge Discovery in Databases, Data Mining Issues, Applications of Data Mining. *Data Mining Techniques:* Association Rule Mining: Basic idea: item sets, Frequent Item- sets, Association Rule Mining, Generating item sets and rules efficiently, FP growth algorithm. *Prediction:* Definition of Prediction Linear regression, Non-linear regression, Logistic regression

Unit –3: Data Mining Techniques: Classification 12 Hours

Data Mining Techniques: Classification: Definition of Classification, Decision tree Induction: Information gain, gain ratio, Gini Index, Issues: Over-fitting, tree pruning methods, missing values, continuous classes, Classification and Regression Trees (CART), Bayesian Classification: Bayes Theorem, Naïve Bayes classifier, Bayesian Networks, Linear classifiers, Least squares, SVM classifiers, Lazy Learners (or Learning from Your Neighbors)

Unit – 4: Data Mining Techniques: Clustering & Performance Measures 12 Hours

Data Mining Techniques: Clustering: Definition of Clustering Partitioning Methods, Hierarchical Methods, Distance Measures in Algorithmic Methods, Density Based Clustering, *Performance Measures:* Precision, recall, F-measure, confusion matrix, cross-validation, bootstrap.

Unit – 5: Problem solving with R 08 Hours

Problem solving with R: filters, Discretization, mining association rules, decision trees, Prediction, k-means

References:

1. Han, Elsevier -‘Data Mining: Concepts and Techniques’, ISBN:9789380931913/ 9788131205358
2. Margaret H. Dunham, S. Sridhar, Data Mining – ‘Introductory and Advanced Topics’, Pearson Education
3. ‘Data warehousing: fundamentals for IT professionals 3rd edition’, Kimball, Wiley Publication
4. Ian H. Witten, Eibe Frank – ‘Data Mining: Practical Machine Learning Tools and Techniques, Elsevier/(Morgan Kaufman)’, ISBN:9789380501864
5. Ning Tan, Michael Steinbach, Vipin Kumar – ‘Introduction to Data Mining (2005)’ Pang Addison Wesley ISBN: 0-321-32136-7 6. [Research-Papers]: Some of the relevant research papers that contain recent results and developments in data mining field

6.4 CLOUD COMPUTING & INTERNET OF THINGS

Objectives: This course gives the idea of evolution of cloud computing and its services available today, which may lead to the design and development of simple cloud service. It also focused on some key challenges and issues around cloud computing. Students should be able to: Identify the architecture and infrastructure of cloud computing, including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud, etc. Explain the core issues of cloud computing such as security, privacy, and interoperability; Choose the appropriate technologies, algorithms, and approaches for the related issues, Identify problems, and explain, analyze, and evaluate various cloud computing solutions, and Basic understanding about Distributed Computing, about networking like VLAN , IP addressing (Class A , B, C), VNET , Subnet , Introduction to RFC 1918 , DNS systems and how they work in general, Cloud Storage Systems

Unit – 1: Introduction

10 Hours

Introduction: Cloud-definition, benefits, usage scenarios, History of Cloud Computing - Cloud Architecture Types of Clouds - Business models around Clouds – Major Players in Cloud Computing - issues in Clouds - Eucalyptus - Nimbus - Open Nebula, Cloud Sims.

Unit – 2: Cloud services

10 Hours

Cloud services: Types of Cloud services: Software as a Service - Platform as a Service – Infrastructure as a Service - Database as a Service - Monitoring as a Service –Communication as services. Service providers- Google, Amazon, Microsoft Azure, IBM, Sales force

Unit –3: Collaborating using cloud services

12 Hours

Collaborating using cloud services: Email Communication over the Cloud - CRM Management - Project Management-Event Management - Task Management – Calendar - Schedules - Word Processing – Presentation Spreadsheet - Databases – Desktop - Social Networks and Groupware

Unit – 4: Virtualization for cloud

12 Hours

Virtualization for cloud: Need for Virtualization – Pros and cons of Virtualization – Types of Virtualization –System Vm, Process VM, Virtual Machine monitor – Virtual machine properties - Interpretation and Binary translation, HLL VM - Hypervisors – Xen, KVM, VMWare, Virtual Box, Hyper-V.

Unit – 5: Security, standards and applications

12 hours

Security, standards and applications: Security in Clouds: Cloud security challenges – Software as a Service Security, Common Standards: The Open Cloud Consortium – The Distributed management Task Force – Standards for application Developers – Standards for Messaging – Standards for Security, End user access to cloud computing, Mobile Internet devices and the cloud.

References:

6. Lee Badger, Tim Grance, Robert Patt-Corner, Jeff Voas, NIST,- 'Draft cloud computing synopsis and recommendation', May 2011.
 7. Anthony T Velte, Toby J Velte, Robert Elsenpeter,- 'Cloud Computing : A Practical Approach', Tata McGraw-Hill 2010.
 8. Haley Beard, - 'Best Practices for Managing and Measuring Processes for On-demand Computing, Applications and Data Centres in the Cloud with SLAs' , Emereo Pty Limited, July 2008.
 9. G.J.Popek, R.P. Goldberg, - 'Formal requirements for virtualizable third generation Architectures', Communications of the ACM, No.7 Vol.17, July 1974.
 10. John Rittinghouse & James Ransome,- 'Cloud Computing, Implementation, Management and Strategy', CRC Press, 2010.
 11. Michael Miller, 'Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Que Publishing', August 2008.
 12. James E Smith, Ravi Nair, 'Virtual Machines', Morgan Kaufmann Publishers, 2006.
- REFERENCES:
13. David E.Y. Sarna – 'Implementing and Developing Cloud Application', CRC press 2011.

6.5 WEB & SOCIAL INTELLIGENCE

Objectives: Organizations worldwide are waking up to the opportunity of this revolutionary medium to fulfill various business objectives ranging from Sales, Marketing, CRM, Product Development and Research. This has created an ever increasing demand of skilled Web Analytics professionals. The objective is to fulfill such demand. After taking this course, student will be able to: - Utilize various Application Programming Interface (API) services to collect data from different social media sources such as Face book, Whatsapp, LinkedIn, YouTube, Twitter, etc., to collected data - primarily structured - using methods involving correlation, regression, and classification to derive insights about the sources and people who generated that data. - Analyze unstructured data - primarily textual comments - for sentiments expressed in them. - Use different tools for collecting, analyzing, and exploring social media data for research and development purposes

Unit – 1: Introduction to web analytics **12 Hours**

What's analysis? Is analysis worth the effort? Small businesses, Medium and large scale businesses Analysis v/s intuition, what *is web analytics?* Getting started with Google Analytics, How Google Analytics works, Accounts, profiles, and users

Unit – 2: Google Analytics **12 Hours**

Getting Started with Google Analytics, How Google Analytics works? Accounts, profiles, and users navigating, Google Analytics Basic metrics, the main sections of Google Analytics report Traffic Sources Direct, referring, and search traffic Campaigns AdWords, AdSense

Unit –3: Content Performance analysis and Visitor analysis **12 Hours**

Content performance analysis: Pages and Landing Pages, Event Tracking and AdSense Site. *Visitor analysis:* Unique visitors Geographic and language information, Technical reports, Benchmarking

Unit – 4: Social media analytics **10 Hours**

Social media analytics: Face book insights, Twitter analytics, YouTube analytics, Social Ad analytics / ROI measurement

Unit – 5: Social and CRM Analysis **10 Hours**

Social & CRM Analysis: Radian6, Sentiment analysis, Workflow management, Text analytics

References:

- 14 Avinash Kaushik,- 'Digital Marketing Evangelist for Google', Co- Founder and Chief Education Officer for Market Motive, and author of two bestselling books: WebAnalytics
- 15 Avinash Kaushik - 'Web Analytics: An Hour a Day tops the chart when it comes to best Web Analytics Books Supplementary'
- 16 Further Reading: Refer Weblinks through Wikipedia, Investopedia,etc.,

6.6 MARKETING ANALYTICS

Objectives: This course will focus on developing marketing strategies and resource allocation decisions driven by quantitative analysis. This course covers basic concepts in marketing process Measuring Brand Assets and also includes Customer Lifetime Value, Regression Analysis, and Spreadsheet with Formulas. Students will know what the basic marketing strategies are, and learn about the core concepts and tools in marketing. Students also know about to measure brand value, calculate brand value, and understand the marketing models.

Unit – 1: The Marketing Process

10 Hours

Introduction to the Marketing Process, Marketing Process, Strategic Challenge, Marketing Strategy with Data, Using Text Analytics, Utilizing Data to Improve Marketing Strategy, Improving the Marketing Process with Analytics, case study

Unit – 2: Metrics for Measuring Brand Assets

12 Hours

Intro to Metrics for Measuring Brand Assets, Snapple and Brand Value, Developing Brand Personality, Developing Brand Architecture, Brand Pyramid, Measuring Brand Value, Revenue Premium as a Measure of Brand Equity, Calculating Brand Value, case study

Unit –3: Customer Lifetime Value

12 Hours

Customer Lifetime Value (CLV), Calculating CLV, Understanding the CLV Formula, Applying the CLV Formula, Extending the CLV Formula, Using CLV to Make Decisions, CLV: A Forward Looking Measure, case study

Unit – 4: Marketing Experiments

12 Hours

Spreadsheet with Formulas, Determining Cause and Effect through Experiments, Designing Basic Experiments, Designing Before - After Experiments, Designing Full Factorial Web Experiments, Designing an Experiment, Analyzing an Experiment, Projecting Lift, Calculating Projected Lift, Pitfalls of Marketing Experiments, Maximizing Effectiveness, case study

Unit – 5: Regression Basics

10 Hours

Using Regression Analysis, What Regressions Reveal, Interpreting Regression Outputs, Multivariable Regressions, Omitted Variable Bias, Using Price Elasticity to Evaluate Marketing, Understanding Log-Log Models, Marketing Mix Models

References:

17. Marketing Analytics A Practitioner's Guide to Marketing Analytics and Research Methods By (author): Ashok Charan (NUS, Singapore)
18. Managing Customer Value One Stage at a Time By (author): Dilip Soman (University of Toronto, Canada), Sara N-Marandi (University of Toronto, Canada)
19. Worldwide Casebook in Marketing Management By (author): Luiz Moutinho (Dublin City

University, Ireland)

20. Data-Driven Marketing: The 15 Metrics Everyone in Marketing Should Know Hardcover – February 8, 2010 by Mark Jeffery (Author)
21. Lean Analytics: Use Data to Build a Better Startup Faster (Lean Series) Hardcover – March 21, 2013 by Alistair Croll (Author), Benjamin Yoskovitz (Author)
22. Digital Marketing Analytics: Making Sense of Consumer Data in a Digital World (Que Biz-Tech) Paperback – April 25, 2013 by Chuck Hemann (Author), Ken Burbary (Author)

