BACHELOR OF COMMERCE

B.Com (Business Data Analytics)

SYLLABUS AS PER STATE EDUCATION POLICY

CBCS- Scheme

(2025-26 onwards)- 3rd and 4th Semester

(2026-27 onwards)- 5th and 6th Semester

DEPARTMENT OF STUDIES AND RESEARCH IN COMMERCE

BENGALURU CITY UNIVERSITY

Prasanna Kumara Block, Palace Road, Bengaluru-. 560 009

Proceedings of BOS Meeting

Proceedings of the BOS meeting for UG-B.COM (Regular), B.COM(FINTECH), B.COM AEDP (BFSI), B.Com AEDP(ROM),B.COM(BDA), B.Com (A&F), B.Com (LSCM), B.VOC(A&T), BBA, BBA(Aviation Management), BBA(Business Analytics), programmes as per the SEP structure for the Academic Year 2024-25 held on 20th and 21st June 2025 in the Department of Studies and Research in Commerce, PK Block, Bengaluru City University, Bengaluru-560009.

The board has reviewed and approved the course matrix for 3rd to 6th Semester and syllabus for 3rd, 4th, 5th and 6th semesters of the above mentioned courses. The board authorized the Chairman to make the necessary changes.

MEMBERS PRESENT:

1.	Prof. Jalaja .K.R	Dean and Chairperson , Department Of Commerce, BCU	Chairperson
2.	Dr. Padmaja.P.V	Principal , MLA Academy Of Higher Education, Bengaluru	Member
3.	Dr.Bhavani.H	Associate Professor, Department Of Commerce, Vivekananda Degree College ,Bengaluru	Member
4.	Dr.Swamynathan.C	Associate Professor, Department of Commerce, GFGC Malleshwaram College, Bengaluru	Member
5.	Dr. Mahesh.K.M	Principal, Sri. Bhagawan Mahaveer Jain Evening College, Bengaluru	Member
6	Dr. S. Harish	Principal, Vijaya Evening College, Bengaluru-04	
7	Prof.H R Padmanabha	Associate Professor, M S Ramaiah College of Arts, Science and Commerce	Member
8	Dr.Nagaraja.C	Associate Professor, Department Of Commerce, GFGC Yalahanka College ,Bengaluru	Member
9	Dr. Anitha K P	Assistant Professor, Govt. R C College, Bengaluru	Member
10	Dr.K.Ramachandra	Principal ,Maharani Cluster University.	Member
11	Dr. Ashok M L	Chairman, Dept. of Studies in Commerce and Research, Mysore University	Member

12	Mr. Deep	Sr. Advisor, CII Institute of Quality, Bengaluru-91	Member
13	Mr. RajkumarJayanth	Chartered Accountant, Rajbabu & Associates, Bengaluru-02	Member

Co-Opted Members Present

14	Dr. Pawan Kumar D B	Principal, SLN College of Arts and Commerce, Fort, Bengaluru	Member
15	Dr. Savita K	Principal, BEL First Grade College, Bengaluru	Member
16	Mr. H.N Gururaja Rao.	Visiting Faculty, SLN College of Arts and Commerce, Fort, Bengaluru	Member

Dr. JALAJA. K R, M.COM., MBA., Ph.D
Dean & Chairperson
Department of Commerce
Bengaluru City University

BENGALURU CITY UNIVERSITY

REGULATIONS PERTAINING TO B.COM (BUSINESS DATA ANALYTICS)

As per SEP- CBCS Scheme - 2024-25 onwards

1. INTRODUCTION

As per the Government Order No. ED 166 UNE 2023, Bangalore, dated 08.05.2024, all Universities in Karnataka, are required to revise the curriculum of Degree Programs as per the guidelines of the Karnataka State Higher Education Council and State Education Planning Commission, constituted by the government, from the academic year 2024-2025.

In furtherance of the said Government order, the Program Structure prepared by the BOS will be applicable to the students admitted to B.Com Regular Program in Department of Commerce, BCU, Affiliated Colleges, and Constituent Colleges of Bengaluru City University.

Therefore, this regulation will be applicable to all students seeking admission for B.COM (BDA) Programme from the academic year 2024-25.

Therefore, this regulation will be applicable to all students seeking admission for B.COM - Business Data Analytics Regular Programme from the academic year 2024-25.

The Board of Studies resolved to provide the regulation for B.Com (Business Data Analytics) Undergraduate Program along with Framework and Syllabus for the various Discipline Specific Core Courses and Discipline Specific Elective Courses for each semester.

2. PROGRAM OBJECTIVES:

a) To create manpower for global middle level management equipped with core managerial competencies and relevant IT skills.
b) To cater to the requirements of Industries.
c) To prepare students to take up Higher Education to become business scientists, researchers, consultants and teachers, with core competencies.
d) To develop Ethical Managers with Inter-Disciplinary and Holistic approach.
e) To prepare students to pursue careers in Financial Data Analytics, Marketing Analytics, Human Resource Analytics, Data Science and allied functions in the Corporate Sector.
f) To develop students for competitive examinations of UPSC, KPSC, Staff Selection Commission, Recruitment of Banking, Insurance companies etc.
g) To develop entrepreneurs.
h) To equip students with the knowledge of various types of software and programs for Business data Analytics
i) To enable students to apply the knowledge gained in data analytics for business decisions

3. ELIGIBILITY FOR ADMISSION:

Candidates who have completed Two-year Pre-University Course of Karnataka State or 10+2 years of education in Karnataka and other states or its equivalent are eligible for admission into this program. Students who have cleared 2nd PUC Examination directly (through open schooling are also eligible to apply for this programme. Students who have completed any 3 Years Diploma Programmes with atleast 50 percent of Commerce and Management subjects are eligible for lateral entry into 3rd Semester B.Com.

4. DURATION OF THE PROGRAMME:

The duration of the programme is **THREE** years of Six Semesters. A candidate shall complete his/her degree within **SIX** Academic years from the date of his/her admission to the first semester B.Com. Students successfully completing **THREE** years of the course will be awarded Bachelor's Degree in Commerce (B.COM- Business Data Analytics).

5. MEDIUM OF INSTRUCTION

The medium of instruction and examination shall be in English only.

6. CLASSROOM STRENGTH OF STUDENTS

Maximum number of students in each section shall be 60 or as per University Regulations.

7. 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 courses compulsorily.

A student who fails to complete the course in the manner stated above shall not be permitted to take the University examination.

8. COURSE MATRIX

(i) Annexure-1 for B.COM- BUSINESS DATA ANALYTICS

9. TEACHING AND EVALUATION:

M.Com (All Programs) /MBA / MFA / MBS graduates with basic degree in B. Com (All B.Com Programs), B.B.M, BBA & BBS from a recognized University, are only eligible to teach and evaluate the courses (excepting languages, compulsory additional subjects and core Information Technology related subjects) mentioned in this regulation. Languages, IT related courses and additional courses shall be taught by the Post-graduates as recognized by the respective Board of Studies.

10. 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 course/paper shall be 80 for 4 or 3 credit papers and 40 marks for 2 credit papers.

b. Of the 20 marks allotted for Internal Assessment, 10 marks shall be based on average of two tests (20 Marks each). Each test shall be of at least 01 hour duration to be held during the semester. The remaining 10 marks of the Internal Assessment shall be based on Attendance and Assignments /skill development exercises of 05 marks each. For 2 credit courses, the IA marks will be 10, of which 5 marks shall be based on one test of 20 Marks, reduced to 5 Marks. The remaining 05 marks of the Internal Assessment shall be based on Attendance.

c. The marks based on attendance shall be awarded as given below:
76% to 80% = 02 marks
81% to 85% = 03 marks
86% to 90% = 04 marks.
91% to 100% = 05 marks.

11. PATTERN OF QUESTION PAPER:

For 4/3 credit papers, each question paper shall carry 80 marks and the duration of examination is 3 hours. The Question paper shall ordinarily consist of four sections, to develop testing of conceptual skills, understanding skills, comprehension skills, analytical skills and application of skills. All practical / problems oriented question papers shall be provided only in English. However, the theory subjects' question papers shall be provided in both Kannada and English versions.
The Question Paper will be as per the following Model:

Section A	Conceptual questions (5 questions out of 8)	5 x 2 = 10
Section B	Analytical questions (4 questions out of 6)	4 x 5 = 20
Section C	Essay type questions (3 questions out of 5)	3 x 15 = 45
Section D	Skill Based questions (Compulsory Question)	1 x 5 = 05
Total Marks		80

For 2 credit papers, each question paper shall carry 40 marks and the duration of examination is 2 hours. The Question paper shall ordinarily consist of Four sections, to develop testing of conceptual skills, understanding skills, comprehension skills, analytical skills and application of skills. All practical / problems oriented question papers shall be provided only in English. However, the theory subjects' question papers shall be provided in both Kannada and English versions.
The Question Paper will be as per the following Model:

Section A	Conceptual questions (3 questions out of 6)	3 x 2 = 06
Section B	Analytical questions (2 questions out of 3)	2 x 5 = 10
Section C	Essay type questions (2 questions out of 3)	2 x 10 = 20
Section D	Skill Based questions (Compulsory Question)	1 x 4 = 04
Total Marks		40

a) APPEARANCE FOR THE EXAMINATION:

b) A candidate shall apply for all the courses in each semester 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.

c) A candidate who has passed any language under Part-1 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.

d) 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.

e) A candidate who is permitted to seek admission to this Degree Programme on transfer from any other University, shall have to study and pass the subjects which are prescribed by the University. Such candidates shall however, not be eligible for the award of ranks.

12. MINIMUM FOR A PASS:

(a) A candidate shall be declared to have passed the Semester Examination under each course/paper provided he/she obtains minimum of 35% (i.e. 28/14 marks out of 80/40) marks in written examination / practical examination and 40% marks in aggregate of written/ practical examination and internal assessment put together. However, there is no minimum marks to pass internal assessment tests including other Internal Assessments such as Viva-Voce, Internship Report, Field Survey Report and similar others.

(b) A candidate shall be declared to have passed the program if he/she secures at least 40% of marks or a CGPA of 4.0 (Course Alpha-Sign Grade P) in aggregate of both internal assessment and semester end examination marks put together in each course of all semesters, such as theory papers/ practical / field work / internship / project work / dissertation / viva-voce, provided the candidate has secured at least 40% of marks in the semester end examinations in each course.

(c) The candidates who pass all the semester examinations in the first attempt are eligible for ranks, provided they secure at least CGPA of 6.00 (Alpha-Sign Grade B).

(d) A candidate who passes the semester examinations in parts is eligible for only Class, CGPA and Alpha-Sign Grade but not for ranking.

(e) The results of the candidates who have passed the last semester examination but not passed the lower semester examinations shall be declared as NCL (Not Completed the Lower Semester Examinations). Such candidates shall be eligible for the degree only after completion of all the lower semester examinations.

(f) If a candidate fails in a subject/course, either in theory or in practicals, he/she shall appear for that subject only at any subsequent regular examination, as prescribed for completing the programme. He/she must obtain the minimum marks for a pass in that subject (theory and practicals, separately) as stated above.

13. CLASSIFICATION OF SUCCESSFUL CANDIDATES:

a. The results of the First to Sixth semester degree examination shall be declared and classified separately as follows:
   i. **First Class**: Those who obtain 60% and above of the total marks.

ii. **Second Class:** Those who obtain 50% and above but less than 60% of total marks.
iii. **Pass Class:** Rest of the successful candidates who secure 40% and above but less than 50% of marks.

b. Class shall be declared based on the aggregate marks obtained by the candidates in all the courses of all semesters of this Degree Program.
c. The candidates who have passed each course in the semester end examination in the first attempt only shall be eligible for award of ranks. The first ten ranks only shall be notified by the University.

14. PROVISION FOR IMPROVEMENT OF RESULTS:

The candidate shall be permitted to improve the results of the whole examination or of any Semester or a specific course 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.

15. FINAL RESULT / GRADES DESCRIPTION

An alpha-sign grade, the eight-point grading system, as described below shall be adopted for classification of successful candidate. The declaration of result is based on the Semester Grade Point Average (SGPA) earned towards the end of each semester or the Cumulative Grade Point Average (CGPA) earned towards the completion of all the six semesters of the programme and the corresponding overall alpha-sign grades.

Final Result / Grades Description

Semester GPA/Program CGPA	Alpha – Sign/ Letter Grade	Semester/Program % of Marks	Result/Class Description
9.00-10.00	**O** (Outstanding)	90.00-100	Outstanding
8.00- <9.00	**A+** (Excellent)	80.0-<90.00	First Class Exemplary
7.00-<8.00	**A** (Very Good)	70.0-<80.00	First Class Distinction
6.00-<7.00	**B+** (Good)	60.0-<70.00	First Class
5.50-<6.00	**B** (Above Average)	55.0-<60.00	High Second Class
5.00-<5.50	**C** (Average)	50.0-<55.00	Second Class
4.00-<5.00	**P** (Pass)	40.0-<50.00	**Pass Class**
Below 4.00	**F** (Fail)	Below 40	Fail/Re-appear
Ab (Absent)	-	Absent	-

The Semester Grade Point Average (SGPA) in a Semester and the CGPA at the end of each year may be calculated as described in para 17:

16. COMPUTATION OF SEMESTER GRADE POINT AVERAGE AND CUMULATIVE GRADE POINT AVERAGE

l. Calculation of Semester Grade Point Average (SGPA)

The Grade Points (GP) in a course shall be assigned on the basis of marks scored in that course as per the Table I. Any fraction of mark in the borderline less than 0.50 be ignored

in assigning GP and the fractions of 0.50 or more be rounded off to the next integers. The Credit Points (CP) shall then be calculated as the product of the grade points earned and the credits for the course. The total CP for a semester is the sum of CP of all the courses of the semester. The SGPA for a semester is computed by dividing the total CP of all the courses by the total credits of the semester. It is illustrated below with typical examples.

2. Calculation of Cumulative Grade Point Average (CGPA)

The aggregate or cumulative SGPA (CGPA) at the end of the second, fourth and sixth semesters shall be calculated as the weighted average of the semester grade point averages. The CGPA is calculated taking into account all the courses undergone over all the semesters of a programme, i.e. The CGPA is obtained by dividing the total of semester credit weightages by the maximum credits for the programme.

CGPA = ∑ (Ci x Gi) / ∑ Ci

Where Gi is the grade point of the 'i'th course / paper and Ci is the total number of credits for that course/ paper

CGPA= ∑ (Ci x Si) / ∑Ci

Where Si is the SGPA of the 'i'th semester and Ci is the total number of credits in that semester.

17. 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 succeeding examinations (Odd/Even). 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 appearance.

18. MEDALS AND PRIZES:

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

19. 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

ANNEXURE-1

COURSE MATRIX

I Semester

	Courses	Paper Code	Instruction hrs/week	Duration of Exam (Hrs.)	Marks			Credits
					IA	Univ. Exam	Total	
Part 1- Language	**Language-1** - Kannada/Sanskrit/Urdu/Tamil/Telugu/Malayalam/Additional English / Marathi/ Hindi		4	3	20	80	100	**3**
	Language – II English		4	3	20	80	100	**3**
Part 2- DSC	Financial Accounting	1.1	4	3	20	80	100	4
	Principles of Marketing	1.2	4	3	20	80	100	4
	Business Environment	1.3	4	3	20	80	100	4
	Spreadsheet Analytics	1.4	4	3	20	80	100	4
Part 3- CC	Constitutional Values-1		3	1.5	10	40	50	2
	Environmental Studies		3	1.5	10	40	50	2
	Total				**140**	**560**	**700**	**26**

Note: The student shall take up **any one Value- Added Certificate Course of 30 hours,** at Institutional level or any MOOC program under **SWAYAM** portal or through any other recognised training institute. It is compulsory for all students to carry out this course from the beginning of the first semester and before the end of second semester. This will carry **ONE credit,** which will be reflected in the **second semester marks card**. The marks shall be uploaded by the institution, along with IA marks, after obtaining the course completion certificate.

COURSE MATRIX

II Semester

	Courses	Paper Code	Instruction hrs/week	Duration of Exam (Hrs.)	Marks			Credits
					IA	Univ. Exam	Total	
Part 1- Language	**Language-1** - Kannada/Sanskrit/Urdu/Tamil/Telugu/Malayalam/Additional English / Marathi/ Hindi		4	3	20	80	100	**3**
	Language – II English		4	3	20	80	100	**3**
Part 2- DSC	Advanced Financial Accounting	2.1	4	3	20	80	100	4
	Human Resource Management	2.2	4	3	20	80	100	4
	Business Regulations	2.3	4	3	20	80	100	4
	DBMS & SQL	2.4	4	3	20	80	100	4
Part 3- CC	Constitutional Values-2		3	1.5	10	40	50	2
	Value-Added Certificate Course *				25	-	25	1*
	Total				**155**	**520**	**675**	**25**

*** Follow the note given in the first semester Course Matrix.**

COURSE MATRIX

III Semester

	Courses	Paper Code	Instruction hrs/week	Duration of Exam (Hrs.)	Marks			Credits
					IA	Univ. Exam	Total	
Part 1- Language	**Language-1** - Kannada/Sanskrit/Urdu/Tamil/ Telugu/Malayalam/Additional English / Marathi/ Hindi		4	3	20	80	100	**3**
	Language – II English		4	3	20	80	100	**3**
Part 2- DSC	Corporate Accounting	3.1	4	3	20	80	100	4
	Quantitative Analysis for Business Decisions –I	3.2	4	3	20	80	100	4
	Cost Accounting	3.3	4	3	20	80	100	4
	C Programming	3.4	4	3	20	80	100	4
Part 3- SEC	**Data Analysis using Tableau**	3.5	3	1.5	10	40	50	2
	Total				**130**	**520**	**650**	**24**

COURSE MATRIX

IV Semester

	Courses	Paper Code	Instruction hrs/week	Duration of Exam (Hrs.)	Marks			Credits
					IA	Univ. Exam	Total	
Part 1- Language	**Language-1** - Kannada/Sanskrit/Urdu/Tamil/ Telugu/Malayalam/Additional English / Marathi/ Hindi		4	3	20	80	100	**3**
	Language – II English		4	3	20	80	100	**3**
Part 2- DSC	Advanced Corporate Accounting	4.1	4	3	20	80	100	4
	Quantitative Analysis for Business Decisions –II	4.2	4	3	20	80	100	4
	Research Methodology	4.3	4	3	20	80	100	4
	Business Data Analytics	4.4	4	3	20	80	100	4
Part 3- SEC	**Introduction to R**	4.5	3	1.5	10	40	50	2
	Total				**130**	**520**	**650**	**24**

COURSE MATRIX

V Semester

	Courses	Paper Code	Instruction hrs/week	Duration of Exam (Hrs.)	Marks			Credits
					IA	Univ. Exam	Total	
Part 1 DSC	**Introduction to PYTHON**	5.1	4	3	20	80	100	4
	Marketing Analytics	5.2	4	3	20	80	100	4
	Income Tax- I	5.3	4	3	20	80	100	4
	Goods and Services Tax	5.4	4	3	20	80	100	4
	Costing Methods	5.5	4	3	20	80	100	4
Part 2 CC	Survey Project	5.6	2*	-	-	20Viva 80 Report	100	4
	Total				**100**	**500**	**600**	**24**

INSTRUCTIONS: During the V Semester, students shall be assigned Survey Projects and it shall be guided by the Project Guides. Faculty from Commerce and Management department only shall be appointed as Mentors. Survey project shall be undertaken in any area of Commerce and Management on any domain in a small, medium or large organisation.

*Maximum of 50 Students shall be allotted for Project Guidance of 2hrs per week. **However, the workload for Project Guidance should not exceed 4 hrs per week per faculty**. Attendance shall be monitored as per University criteria (minimum 75%). The Project report shall be submitted before the end of the semester for assessment and viva-voce examination.

The marks shall be awarded on the following basis:

- 60 marks for Survey Project and 20 marks for maintenance of Log Book and 20 marks for Viva- Voce examination to be evaluated by the Panel of Examiners appointed by the BOE, BCU
- Minimum passing marks in Survey Project is 40 out of 100.

3 Copies of the Duly Signed marks statements should be prepared by the Panel of Examiners.

Submission Details:

One copy should be submitted to the BOE Chairperson, One Copy to be maintained by the College and the **Original Copy** should be submitted to the office of the Registrar (Evaluation) on the same day.

COURSE MATRIX

VI Semester

	Courses	Paper Code	Instruction hrs/week	Duration of Exam (Hrs.)	Marks			Credits
					IA	Univ. Exam	Total	
Part 1 DSC	**Financial Analytics**	6.1	4	3	20	80	100	4
	Management Accounting	6.2	4	3	20	80	100	4
	Income Tax- II	6.3	4	3	20	80	100	4
	HR Analytics	6.4	4	3	20	80	100	4
	Auditing	6.5	4	3	20	80	100	4
Part 2 CC	Internship	6.6	2*	-	20 Viva 80 Report	-	100	4
	Total				**200**	**400**	**600**	**24**

INSTRUCTIONS: During the VI Semester, students should be assigned **Internship** and it shall be monitored by the Mentors. Faculty from Commerce and Management Department only shall be appointed as Mentors. Internship may be undertaken in any Tiny, Small, Medium or Large organisation.

* **A Maximum 50 Students** shall be allotted to each Mentor. **2 hours** of Mentorship / Workload shall be allotted to a teacher. **However, the workload for Internship Guidance should not exceed 4 hrs per week per faculty**. Attendance shall be monitored as per University criteria (minimum 75%).

Minimum of **90 hours** of Internship shall be undertaken by the student after the class hours during the semester. The Report shall consist of the **concerned Industry's Profile, Specific Organisational Profile, Functions and Operations, Nature of work (Internship) undertaken by the student, Experience & Learning Outcomes and suggestions & conclusion.**

The report shall be prepared in about **50-60** pages and include the Internship Certificate along with the log sheet from the Organisation and submitted **before the end of the semester** for **assessment and viva-voce examination**.

The marks shall be awarded on the following basis.

- 60 marks for Internship and 20 marks for maintenance of Log Book shall be evaluated by Internal Guide and 20 marks for Viva- Voce examination to be evaluated by the External Examiners.
- Minimum passing marks in internship is 40 out of 100

The total marks allotted shall be uploaded by the college on the university portal along with IA marks.

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com. BDA 3.1
Name of the Course: CORPORATE ACCOUNTING

COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the students will be able to

a. Understand the treatment of underwriting of Shares & Debentures
b. Comprehend the computation of profit prior to incorporation.
c. Know the valuation of Goodwill.
d. Know the valuation Shares.
e. Prepare the financial statements of Companies as per the New Companies Act 2013.

SYLLABUS:	**HOURS**
Unit-1: Underwriting of Shares & Debentures	**12**

Introduction - Meaning of Underwriting – SEBI regulations regarding underwriting; Underwriting Commission- Types of Underwriting – Firm Underwriting, Open Underwriting - Marked and Unmarked Applications –Determination of Liability in respect of Underwriting Contracts – when shares and debentures are fully and partially underwritten, with and without firm underwriting - Problems relating to Underwriting of Shares and Debentures of Companies only.

Unit- 2: Profit Prior to Incorporation	**10**

Meaning, Calculation of Sales Ratio, Time Ratio, Weighted Ratio, Treatment of Capital and Revenue Expenditure; Ascertainment of Pre-Incorporation and Post Incorporation profits by preparing Statement of Profit and Loss and Preparation of Balance Sheet (Vertical Format) as per schedule III of Companies Act, 2013.

Unit-3: Valuation of Goodwill	**10**

Meaning and Factors influencing Goodwill; Valuation of Goodwill; Circumstances under which Goodwill is valued; Methods of Valuation of Goodwill- Average Profit Method, Capitalization of Average Profit Method, Super Profit Method, Capitalization of Super Profit Method, and Annuity Method-Problems (Based on both Simple and Weighted Average)

Unit- 4: Valuation of Shares	**10**

Meaning and Need for Valuation; Methods of Valuation - Intrinsic Value Method, Yield Method, Fair Value Method; Valuation of Preference Shares - Problems.

Unit- 5: Financial Statements of Companies	**14**

Statutory Provisions regarding Preparation of Financial Statements of Companies as per schedule III of New Companies Act 2013 and IND AS-1; Treatment of Special Items – Tax deducted at source, Advance payment of Tax, Provision for Tax, Depreciation, Interest on Debentures, Dividends; Rules regarding payment of dividends – Transfer to Reserves; Preparation of Statement of profit and loss and Balance Sheet.

Skill Development Activities:

1. Determine Underwriters' Liability in case of an IPO, with imaginary figures.
2. Prepare the format of 'Statement of Profit and loss' with imaginary figures.
3. Prepare Balance Sheet with imaginary figures.
4. Calculate the intrinsic value of shares under Net Asset Method.

Books for References:

1. J.R. Monga, Fundamentals of Corporate Accounting. Mayur Paper Backs, New Delhi
2. V.K. Goyal and Ruchi Goyal, Corporate Accounting. PHI Learning.
3. P. C. Tulsian and Bharat Tulsian, Corporate Accounting, S.Chand
4. S. P. Jain and K. L. Narang – Corporate Accounting
5. Anil Kumar .S, Rajesh Kumar.V and Mariyappa .B, Corporate Accounting, HPH.
6. S P Iyengar, Advanced Accountancy, Sultan Chand
7. R L Gupta, Advanced Accountancy

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com BDA 3.2
Name of the Course: QUANTITATIVE ANALYSIS FOR BUSINESS DECISIONS -I

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the Students will be able to

a. Understand the basics of Quantitative Analysis.
b. Demonstrate the skill of Collecting Quantitative Data and utilizing it for Presentations and Analysis.
c. Demonstrate the skills to use the tools and techniques of data analysis for Business
d. Understand the development & use of Quantitative Techniques for Business decisions.

SYLLABUS:	**HOURS**
Unit-1: Introduction to Statistics	**10**

Introduction- Meaning, Functions, Uses and Limitations of Statistics;
Collection of Data –Sources of Data; Methods of Data Collection; Technique of data collection- Census and Sampling Techniques- Methods of Sampling (Concepts).

Unit- 2: Classification and Tabulation of Data	**10**

Classification: Meaning, objectives and methods of classification of data**,**
Tabulation: Meaning, Parts of a Table **–** Simple problems on Tabulation**;**
Diagrammatic Presentation: One-dimensional Diagrams – Simple Bars, Multiple Bars, Percentage Sub-Divided Bar Diagram; Two Dimensional Diagrams – Pie Diagram

Unit-3: Measures of Central Tendency	**12**

Measures of Central Tendency: Calculation of Arithmetic Mean, Median and Mode for Individual, Discrete and Continuous Series- Problems

Unit- 4: Measures of Dispersion and Skewness	**14**

Measures of Dispersion: Meaning, Absolute and Relative measures of dispersion – Range, Mean Deviation, Standard Deviation - Problems on the above in Individual, Discrete and Continuous Series.
Measures of Skewness: Meaning of Skewness - Tests of Skewness, Measures of Skewness - Calculation of Karl Pearson's Co-efficient of Skewness only- Problems

Unit- 5: Index Numbers	**10**

Meaning, Uses, Classification, Construction of Index Numbers; Methods of constructing Index Numbers – Simple Aggregate Method, Simple Average of Price Relatives Method, Weighted Index numbers, Fisher's Ideal Index (including Time and Factor Reversal tests); Consumer Price Index – Problems.

Skill Development Activities:

1. Draw a blank table showing different attributes
2. Draw a Pie chart with imaginary figures
3. Select 05 components of CPI and collect base year quantity, base year price, current year price and calculate Consumer Price Index.
4. Suggest the best average to be used for the following studies
   a. Average size of shoes
   b. Average rainfall per day
   c. Average wages of employees
   d. Average share price

e. Average size of shirts

Books for References:

1. S P Gupta: Statistical Methods- Sultan Chand, Delhi
2. Dr. B N Gupta: Statistics, Sahityta Bhavan, Agra.
3. R.S Bhardwaj: Business Statistics, Excel Books
5. S C Gupta, Statistical Methods
6. Chikkodi and Sathyaprasad, Quantitative Analysis for Business decisions
7. Sancheti and Kapoor, Statistical Methods and Techniques

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com. BDA 3.3
Name of the Course: COST ACCOUNTING

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the students will be able to

a. Demonstrate an understanding of the concepts of costing and cost accounting.
b. Demonstrate the ability to prepare a Cost Statement.
c. Prepare material related documents, understand the management of stores and issue procedures.
d. Demonstrate the ability to Calculate Wages and Bonus.
e. Classify, allocate, and apportion overheads and Calculate Overhead absorption rates.

SYLLABUS:	**HOURS**
Unit.1: Introduction to Cost Accounting	**08**
Introduction- Meaning and definition- Objectives, Importance and Uses of Cost Accounting, Difference between Cost Accounting and Financial Accounting; Various Elements of Cost and Classification of Cost; Cost object, Cost unit, Cost Centre; Cost reduction and Cost control. Limitations of Cost Accounting.	
Unit- 2: Cost Sheet	**12**
Cost Sheet - Meaning and Cost heads in a Cost Sheet, Preparation of Cost Sheet - Problems on Cost Sheets (including Unit costing and Tenders & Quotations).	
Unit-3: Material Cost	**10**
Material Cost: Meaning, Importance of Material cost; Types of Materials – Direct and Indirect Materials; **Procurement**- Procedure for procurement of materials and documentation involved in materials accounting; **Material Storage**: Duties of Store keeper; **Issue of Materials**- Pricing of material issues, Preparation of Stores Ledger Account under FIFO, LIFO, Simple Average Price and Weighted Average Price Methods – Problems. **Materials control**. - Techniques of Inventory Control - Problems on Level Setting and EOQ.	
Unit- 4: Labour Cost	**12**
Labour Cost: Meaning and Types of Labour Cost –Attendance Procedure-Time keeping and Time booking and Payroll Procedure; Idle Time- Causes and Treatment of Normal and Abnormal Idle time, Over Time; Labour Turnover: Meaning, Causes and Effects of labour turnover; (theory only). **Methods of Wage Payment:** Time rate system and piece rate system; Incentive schemes - Halsey plan, Rowan plan, Taylor's differential piece rate and Merrick's multiple piece rate system, –problems based on calculation of wages and earnings.	
Unit- 5: Overheads	**08**
Overheads: - Meaning and Classification of Overheads; Accounting and Control of Manufacturing Overheads; Collection, Allocation, Apportionment, Re-apportionment and Absorption of Manufacturing Overheads; **Problems** on Primary and Secondary overheads distribution using Reciprocal Service Methods (Repeated Distribution Method and	

Simultaneous Equation Method); **Absorption of Overheads:** Meaning and Methods of Absorption of Overheads (Concept only); **Machine Hour Rate-** Meaning and Problems on calculation of Machine Hour Rate.
Skill Development Activities: 1. Mention the causes of labour turnover in manufacturing organisations. 2. Name any five documents used for material accounting. 3. Prepare a dummy Payroll with imaginary figures. 4. List out the various overhead items under Factory, administrative, Selling & distribution overheads (six items each).
Books for References: 1. Jain, S.P. and K.L. Narang. Cost Accounting: Principles and Methods. Kalyani Publishers 2. Arora, M.N. Cost Accounting – Principles and P r a c t i c e, Vikas Publishing House, New Delhi. 3. Maheshwari, S.N. and S.N. Mittal. Cost Accounting: Theory and Problems. Shri Mahavir Book Depot, New Delhi. 4. Iyengar, S.P. Cost Accounting, Sultan Chand & Sons 5. Charles T. Horngren, Srikant M. Datar, Madhav V. Rajan, Cost Accounting: A Managerial Emphasis, Pearson Education. 6. Jawahar Lal, Cost Accounting., McGraw Hill Education 7. Made Gowda J, Cost Accounting, HPH. 8. Rajiv Goel, Cost Accounting, International Book House 9. Mariyappa B Cost Accounting, HPH

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com. BDA 3.4
Name of the Course: C PROGRAMING

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the Students will be able to:

a. Understand the foundational concepts of C programing.
b. Develop, compile, and execute basic C programs.
c. Utilize data structures effectively for data storage and retrieval.
d. Implement file operations for data analytics applications.
e. Apply C programming skills to basic data analytics tasks.

SYLLABUS:	HOURS
Unit No. 1: Introduction to C Programming	**8**
Introduction to Programing- Meaning, Role of programing in data analytics; Difference between compiled and interpreted languages. Introduction to C Language-History and Importance of C- Structure of a C program-Compilation and execution process. Basic I/O Operations- printf() and scanf() functions, Reading and displaying data.	
Unit No. 2: Data Types and Operators	**8**
Data Types -Basic data types: int, float, char, double-Derived data types: arrays, structures, unions, pointers. Variables and Constants-Declaration and initialization-Scope and lifetime. Operators-Arithmetic operators- Relational operators- Logical operators- Assignment operators-Bitwise operators- Conditional (ternary) operators.	
Unit No. 3: Control Structures and Functions	**10**
Control Structures-Decision-making statements: if, if-else, switch. Looping statements: for, while, do- while. Jump statements: break, continue, goto. Functions-Introduction to functions-Types of functions: standard library and user-defined functions- Function declaration, definition, and call, Scope and lifetime of function variables, Recursion.	
Unit No. 4: Data Structures in C	**10**
Arrays- Introduction to arrays, Types of arrays: single-dimensional and multi-dimensional-Operations on arrays: insertion, deletion, traversal. Strings Introduction to strings, String operations: length, compare, concatenate, copy. Pointers-Introduction to pointers, Pointer arithmetic, Pointers with arrays, strings, and functions. Structures and Unions-Defining structures and unions, Accessing members	
Unit 5: File Operations and Applications in Data Analytics	**20**

File Handling-Introduction to files-Types of files: text and binary-File operations: open, close, read, write, seek. Applications in Data Analytics-Basic data preprocessing using C, Data visualization basics-Introduction to searching and sorting algorithms, File-based data analytics: reading datasets, basic statistical calculations.

Skill Developments Activities:

1. Write the basic data types
2. Explain the various types of functions in C programme
3. List out the different types of arrays
4. Write a note on the searching and sorting algorithm

Books for Reference:

1. "The C Programming Language" by Brian W. Kernighan and Dennis M. Ritchie
2. "C: The Complete Reference" by Herbert Schildt
3. "Data Analysis with C" by Tony Fischetti
4. "Operating System Concepts" by Abraham Silberschatz, Peter B. Galvin, and Greg Gagne
5. "Introduction to Information Systems: Supporting and Transforming Business" by R. Kelly Rainer & Brad Prince
6. "Database System Concepts" by Abraham Silberschatz, Henry F. Korth, and S. Sudarshan
7. "C Programming Absolute Beginner's Guide (3rd Edition)" by Greg Perry and Dean Miller
8. "Programming in ANSI C" by E. Balagurusamy
9. "C Programming for the Absolute Beginner" by Michael Vine
10. "Pointers in C: A Hands on Approach" by Hrishikesh Dewan & Naveen Toppo.

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com BDA SEC 3.5
Name of the Course: DATA ANALYSIS USING TABLEAU

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
2 CREDITS	3 HOURS	30 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Review of Journals and Books etc.

Course Outcomes: On successful completion of the course, the students will be able to

a. Understand the foundational principles of data visualization.
b. Utilize Tableau's features to connect to various data sources and build visualizations.
c. Construct meaningful dashboards tailored to specific business needs.
d. Implement advanced visualization techniques, calculations, and parameters to extract deeper insights.
e. Share, publish, and apply Tableau skills in real-world data analytics scenarios relevant to commerce.

SYLLABUS:	**HOURS**
Unit 1: Introduction to Data Visualization and Tableau	**10**

Introduction to Data Visualization: Importance, principles, types of visual representations (charts, graphs, dashboards), role in analytics. **Introduction to Tableau:** History, industry importance, Tableau Desktop, Tableau Server, and Tableau Public. **Getting Started with Tableau:** Interface overview, connecting to data sources (spreadsheets, databases, web data). **Basic Visualization Techniques:** Drag-and-drop features, creating basic charts (bar, line, pie, scatter plots, histograms), dashboard basics.

[Lab Sessions]

Unit 2: Advanced Data Visualization and Dashboard Design	**10**

Advanced Visualization Techniques: Maps, geographical data, heat maps, tree maps, bubble charts, dual-axis, and combined charts. **Filters, Sorting, and Groups:** Using filters for insights, sorting data, creating and using groups and sets. **Calculated Fields and Parameters:** Creating calculated fields, aggregations, deeper insights, introduction to parameters. **Advanced Dashboard Design:** Best practices, interactivity (actions, filters, tooltips, visual grouping), formatting.

[Lab Sessions]

Unit 3: Sharing, Publishing, and Real-World Applications	**10**

Publishing and Sharing in Tableau: Introduction to Tableau Server and Tableau Public, sharing dashboards and reports, best practices for secure data sharing. **Real-World Applications and Case Studies:** Using Tableau for e-commerce, financial data visualization, customer feedback analysis, and market research.

[Lab Sessions]

Skill Developments Activities:

1. Write a report on the role of data visualization in analytics
2. Demonstrate the use of filters, sorting, and groups
3. Write a step-by-step guide on publishing Tableau dashboards

Textbooks:

1. "Tableau Your Data! Fast and Easy Visual Analysis with Tableau Software" by Daniel G. Murray
2. "Tableau 10 Business Intelligence Cookbook" by Donabel Santos
3. Tableau Official Documentation and Tutorials

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com. BDA 4.1
Name of the Course: ADVANCED CORPORATE ACCOUNTING

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the students will be able to

a. Know the procedure of Redemption of Preference Shares and Debentures.
b. Comprehend the different methods of Amalgamation and Acquisition of Companies.
c. Understand the process of Internal reconstruction.
d. Understand the process of Liquidation of Companies.
e. Prepare the liquidators Final statement of accounts.

SYLLABUS:	**HOURS**
Unit-1: Redemption of Preference Shares	**08**
Meaning – Legal Provisions – Treatment of premium on redemption – creation of Capital Redemption Reserve Account– Fresh issue of shares – Arranging cash balance for the purpose of redemption – minimum number of shares to be issued for redemption – issue of bonus shares – preparation of Balance sheet after redemption (As per Schedule III of Companies Act 2013).	
Unit- 2: Redemption of Debentures	**08**
Meaning – Types of Debentures – Methods of Redemption of Debentures – Lump sum Method, Instalment Method, Sinking Fund Method, Insurance Policy Method (Problems only on Sinking Fund method of Redemption of Debentures)	
Unit-3: Amalgamation and Acquisition of Companies	**14**
Meaning of Amalgamation and Acquisition – Types of Amalgamation – Amalgamation in the nature of Merger – Amalgamation in the nature of Purchase - Methods of Calculation of Purchase Consideration (IND AS - 103), Net asset Method - Net Payment Method and Lumpsum method, Accounting for Amalgamation (Problems under purchase method only) –Ledger Accounts in the Books of Transferor Company and Journal Entries in the books of Transferee Company – Preparation of Balance Sheet after Amalgamation and Acquisition. (As per Schedule III of Companies Act 2013)	
Unit- 4: Internal Reconstruction of Companies	**12**
Meaning of Capital Reduction; Objectives of Capital Reduction; Provisions for Reduction of Share Capital under Companies Act, 2013. Forms of Reduction. Accounting for Capital Reduction. Problems on passing Journal Entries, preparation of Capital Reduction Account and Balance sheet after reduction (Schedule III to Companies Act 2013).	
Unit- 5: Liquidation of Companies	**12**
Meaning of Liquidation, Modes of Winding up – Compulsory Winding up, Voluntary Winding up and winding up subject to Supervision by Court. Order of payments in the event of Liquidation. Liquidator's Statement of Account. Liquidator's remuneration. Problems on preparation of Liquidator's Final Statement of Account.	

Skill Development Activities:

1. List out legal provisions in respect of Redemption of Preference shares.
2. Calculation of Purchase consideration with imaginary figures under Net Asset Method.
3. List out legal provisions in respect of internal reconstruction.
4. Prepare Liquidator's Final Statement of Account with imaginary figures.

Books for References:

1. Arulanandam & Raman ; Corporate Accounting-II, HPH
2. Dr. Venkataraman. R – Advanced Corporate Accounting
3. RL Gupta, Advanced Accountancy, Sultan Chand
4. Shukla and Grewal – Advanced Accountancy, Sultan Chand
5. Anil Kumar .S, Rajesh Kumar.V and Mariyappa .B, Advanced Corporate Accounting, HPH.
6. S P Iyengar, Advanced Accountancy, Sultan Chand
7. Srinivas Putty - Advanced Corporate Accounting, HPH.

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: 4.2
Name of the Course: QUANTITATIVE ANALYSIS FOR BUSINESS DECISIONS-II

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the Students will be able to
a. To apply Correlation and Regression for data analysis
b. Do estimation through time series analysis and find the trend
c. To Interpolate and Extrapolate the data
d. To find the association in two variables

SYLLABUS:	**HOURS**
Unit-1: Correlation Analysis	**10**
Correlation – Meaning & Definition - Uses – Types – Interpretation of Correlation, Probable Error – Calculation of Karl Pearson's Coefficient of Correlation (Deviations taken from Arithmetic Mean only) & Spearman's Rank Correlation – Problems when ranks are given, ranks are not given and tied ranks (Excluding Bi-variate and Multiple correlation).	
Unit- 2: Regression Analysis	**10**
Meaning, Difference between Correlation and Regression, Regression Equations – X on Y and Y on X using Regression Coefficients- Problems on estimations	
Unit-3: Time Series Analysis	**12**
Meaning, Components of a Time Series; Measurement of trend: Calculation of trend values(Y_c) under Least square method and Moving Average method (3 yearly, 4 yearly and 5 yearly moving averages)	
Unit- 4: Interpolation And Extrapolation	**12**
Meaning, Assumptions and uses of Interpolation and Extrapolation. Methods of Interpolation: Binomial expansion method (estimation of One and Two missing Values) and Newton's forward difference method (problems on interpolating with one missing value)	
Unit- 5: Association of Attributes	**12**
Classification, Correlation and Association, Types of Association, Comparison of Observed and Expected Frequencies, Yule's Coefficient of Association. Chi-square Test, Assumptions, Degrees of Freedom, Significance level, Test of goodness of fit, Test of Independence – 2x2 Problems.	

Skill Development Activities:
1. Collect statistics on the ranks given by two judges for 10 beauty pageant candidates and compute rank correlation coefficient
2. Calculate 3 yearly moving averages with imaginary values.
3. Fit a Straight Line Trend with Imaginary Figures and show it graphically
4. Calculate the association of any two attributes with imaginary data.

Books for References:

1. S C Gupta: Fundamentals of Statistics – Himalaya Publishing House
2. S P Gupta: Statistical Methods- Sultan Chand
3. Dr. B N Gupta: Statistics, Sahithya Bhavan
4. Elhance: Statistical Methods, Kitab Mahal
5. Sanchetti and Kapoor: Business Mathematics, Sultan Chand

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com BDA4.3
Name of the Course: RESEARCH METHODOLOGY

COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom lectures, tutorials, Group discussion, Seminar, Case studies & field work, WBL, literature reviews etc.,

Course Outcomes: On successful completion of the course, the students will be able to

a. Explain the fundamental concepts, scope, and methodologies of business research.
b. Apply appropriate research problem formulation, hypothesis development, and sampling techniques to real-world business scenarios.
c. Analyse collected data using statistical tools and techniques to derive meaningful business insights.
d. Critically evaluate research findings and test hypotheses using appropriate statistical methods.
e. Design and develop a well-structured research report with proper interpretation, visualization, and ethical considerations.

SYLLABUS:	**HOURS**
Unit 1: Introduction to Business Research	**10**
Research: Meaning, Purpose, Scientific method, types of research; scope of business research. Review of literature: need, purpose, notes taking.	
Unit 2: Research Design	**12**
Selection and formulation of a research problem, formulation of hypothesis, operational definition of concepts, sampling techniques. Research Design: Meaning, nature, process of preparation, components of research design.	
Unit 3: Data Collection and Processing	**12**
Data: Sources of data, methods, of collection; observation interviewing, mailing; tools for collection data; interview schedule, interview guide, questionnaire, rating scale, socio-metry, check list; pre-testing of tools, pilot study. Processing of data; checking, editing, coding, transcription, tabulation, preparation of tables, graphical representation.	
Unit 4: Tools for Data Analysis	**12**
Statistical Techniques: Descriptive Statistics -Mean, Median, Mode, Standard Deviation, Mean Deviation and Quartile Deviation; Inferential Statistics -t-test, Chi-square test and ANOVA & Regression analysis [Meaning and application of each in Business Research]. **Data analysis tools for Social Science Research**: Python, R, SPSS, Tableau and Excel (Concepts and application only)	
Unit 5: Research Reports	**10**
Research Reports- Characteristics of good Research Report, types of reports, style of report writing, Steps in drafting the Report.	

Skill Developments Activities:

1. Design a questionnaire for a research study
2. List the different types of sampling techniques with suitable examples.
3. List the statistical software tools used in social science research.
4. Write a sample research report outline with an introduction, methodology, and conclusion.

Books for References:

1. Dr. M. Ranganatham, O R Krishnaswami, P N Harikumar: Research Methodology , Himalaya Publishing House.
2. C.R. Kothari, Research Methodology: Methods and Techniques, New Age International Publishers 3rd Edition.
3. Wayne C. Booth, Gregory G. Colomb, Joseph M. Williams, Joseph Bizup, and William T. Fitzgerald, "The Craft of Research", University of Chicago Press, Fourth Edition.
4. Ingeman Arbnor and Björn Bjerke, Methodology for Creating Business Knowledge, Sage Publications, 3rd Edition.
5. Krishna G. Palepu and Paul M. Healy, Business Analysis and Valuation: Using Financial Statements, Cengage Learning, 5th Edition.
6. Joseph F. Hair Jr., Mary Celsi, Arthur H. Money, Phillip Samouel, and Michael J. Page, Essentials of Business Research Methods, Routledge 5th Edition.
7. Satyaprasad and D. R. Satya Raju, Business Research Methods, Himalaya Publishing House 2nd edition.
8. Navdeep Kaur and Dr. Pawan Kumar Taneja, Business Research Methods: A South-Asian Perspective, Kalyani Publishers 1st Edition.

Name of the Program: BACHELOR OF COMMERCE BDA)
Course Code: B.Com. BDA 4.4
Name of the Course: BUSINESS DATA ANALYTICS

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the students will be able to

a. Explain the fundamental concepts of Business Data Analytics.
b. Differentiate between quantitative and qualitative analysis techniques.
c. Use analytical tools and techniques to derive insights from data.
d. Interpret analytical results to support business decisions.
e. Develop analytical models for business case studies.

SYLLABUS:	**HOURS**
Unit No. 1: Introduction to Business Data Analytics	**6**
Definition and Scope of Business Data Analytics, Importance of Data Analytics in Business Decision-Making, Types of Business Analytics: Descriptive, Diagnostic, Predictive, and Prescriptive, Quantitative vs. Qualitative Analysis: Concepts and Differences, Tools for Business Data Analytics (Introduction to Excel, Power BI, and Python) *Practical: Basic operations in Excel and introduction to Power BI dashboards.*	
Unit No. 2: Data Collection, Cleaning, and Visualization	**10**
Sources of Business Data (Primary and Secondary), Data Collection Methods (Surveys, Web Scraping, Transactional Data), Data Cleaning Techniques: Handling Missing Values, Outliers, and Duplicates, Data Visualization Techniques: Charts, Graphs, and Dashboards, Tools for Data Visualization: Excel, Power BI, and Tableau *Practical: Creating dashboards and charts using Excel and Power BI.*	
Unit No. 3: Quantitative Analysis Techniques	**14**
Statistical Analysis: Measures of Central Tendency, Dispersion, and Correlation, Hypothesis Testing: t-tests, Chi-square tests, and ANOVA, Regression Analysis: Simple and Multiple Linear Regression, Time Series Analysis: Moving Averages, Trend Analysis, and Forecasting, Machine Learning Basics: Classification and Clustering Techniques(Theory Only) *Practical: Hands-on exercises in Excel for executing Time series analysis and Regression.*	
Unit No. 4: Qualitative Analysis Techniques	**10**
Understanding Qualitative Data: Text, Images, and Interviews, Sentiment Analysis and Text Mining, Thematic Analysis for Business Insights, Tools for Qualitative Analysis: NVivo, Orange, and Python (NLTK Library) **[Theory Only]**	
Unit 5: Business Applications, Ethics and Data Privacy	**16**

Marketing Analytics: Customer Segmentation, Market Basket Analysis, **Financial Analytics:** Risk Analysis and Fraud Detection, **HR Analytics:** Employee Performance and Retention Analysis, **Supply Chain Analytics:** Demand Forecasting and Inventory Optimization. **[Theory Only];** Ethical Issues in Business Data Analytics, Data Privacy Regulations (GDPR, HIPAA, Indian IT Act)
Skill Developments Activities: 1. Compare and contrast different types of business analytics 2. List and explain commonly used tools for business data analytics with their practical applications. 3. List out the different types of charts used for data visualization and their purposes. 4. Write a note on any one machine learning technique and its application in business analytics.
Textbooks: 1. Evans, James R. *Business Analytics: Methods, Models, and Decisions, McGraw Hill publication* 2. Davenport, Thomas H., *Competing on Analytics, Harvard Business School Press, United States.* 3. Albright, Winston, *Business Analytics: Data Analysis & Decision Making, South-Western College Publishing* 4. Provost, Foster & Fawcett, *Data Science for Business, O'Reilly Media*

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com BDA SEC 4.5
Name of the Course: INTRODUCTION TO R

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
2 CREDITS	3 HOURS	30 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Review of Journals and Books etc.

Course Outcomes: On successful completion of the course, the Students will be able to:

a. Understand the evolution and importance of R programming in Data Analytics.
b. Differentiate between various data types and structures in R.
c. Conduct basic Exploratory Data Analysis (EDA) with 'ggplot2'.
d. Apply basic statistical techniques using R.
e. Grasp fundamental machine learning concepts and algorithms.

Syllabus:	**Hours**
Unit 1: Introduction to R and Data Handling	**10**

Importance of Data Analytics in Business, Role and Capabilities of R Programming, RStudio Interface and Basic Commands, Data Types in R: Vectors, Lists, and Data Frames, Basic Operations: Arithmetic, Logical, Relational, Overview of Control Structures (if, for loops).

(Lab Sessions)

Unit 2: Data Manipulation and Exploratory Data Analysis	**10**

Basics of Data Importing (CSV, Excel), Data Cleaning Techniques (Handling Missing Values), Data Transformation Using dplyr, Exploratory Data Analysis (EDA) with ggplot2, Descriptive Statistics and Key Visualizations.

(Lab Sessions)

Unit 3: Statistical Analysis and Business Applications	**10**

Introduction to Hypothesis Testing and Confidence Intervals, Simple Linear Regression, Introduction to ANOVA and Non-Parametric Tests, Introduction to Machine Learning in Business, Overview of Simple Algorithms (K-Means Clustering, Decision Trees).

(Lab Sessions)

Skill Developments Activities:

1. Write the steps for RStudio installation (brief).
2. Write basic R codes for data frames and logical operations.
3. Write the steps in performing basic data cleaning using dplyr.
4. Explain simple linear regression and its steps in executing in R

Textbooks:

1. *R for Data Science* by Hadley Wickham & Garrett Grolemund
2. *The Art of R Programming* by Norman Matloff
3. *Machine Learning with R* by Brett Lantz
4. *Data Science for Business* by Foster Provost & Tom Fawcett
5. *Introduction to Statistical Learning* by Gareth James et al.

Name of the Program: BACHELOR OF COMMERCE BDA)
Course Code: B.Com. BDA 5.1
Name of the Course: INTRODUCTION TO PYTHON

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the students will be able to

a. Understand Python Programming
b. Apply Control Structures and Functions in Business Decision-Making
c. Analyze Data Structures and Their Role in Business Analytics
d. Evaluate File Handling, Exception Handling, and Data Processing
e. Create Data Analytics Models for Commerce and Management

SYLLABUS:	HOURS
Unit 1: Introduction to Python and Google Colab for Business Applications	**10**

Overview of Python for Commerce & Management, Introduction to Google Colab: Features and Benefits, Writing & Running Python Code in Google Colab, Data Types & Type Conversion Relevant to Business (Integers, Floats, Strings), Operators and Expressions with Business Examples (Profit, Loss, ROI Calculation). **[Theory]**

[Lab Session] Navigating Google Colab (Cells, Markdown, Shortcuts), Writing and Executing Python Scripts in Colab, Business Calculations: Profit Margin, Interest Calculation, Discount Percentage

Unit 2: Control Structures and Functions in Business Scenarios	**12**

Conditional Statements (if, elif, else) for Business Decision Making, Looping (for, while) in Data Processing, Functions: Creating User-defined Functions for Business Analytics, Lambda Functions & Built-in Functions for Quick Calculations, Scope and Lifetime of Variables. [**Theory]**

[Lab Session] Implementing Conditional Statements for Loan Approval Criteria, Writing Loops to Process Sales Data, Creating Functions for Business Calculations (EMI, Depreciation, Taxation)

Mini-Project: Retail Price Optimization using Functions

Unit 3: Data Structures and Business Data Processing	**12**

Lists: Storing & Manipulating Financial Transactions, Tuples: Immutable Business Records, Sets: Unique Customer & Product Data, Dictionaries: Key-Value Storage for Business Analytics, String Manipulation & Formatting in Business Reports **[Theory]**

[Lab Sessions] Storing & Analyzing Sales Data in Lists, Using Dictionaries to Store Customer Information, Extracting Business Insights from String Data (Invoice Processing, Product Names)

Mini-Project: Creating an Inventory Management System	
Unit 4: File Handling, Exception Handling, and Business Data Processing	**10**
Working with CSV Files: Reading & Writing Financial Data, Exception Handling (try-except-finally) for Robust Business Applications, Importing Built-in and User-defined Units, Google Colab Integration: Uploading and Processing Business Data **[Theory]** **[Lab Sessions]** Uploading & Reading Sales Data from CSV in Colab, Implementing Exception Handling for Business Applications, writing a Script to Process Payroll Data with File Handling *Mini-Project: Automating Financial Report Generation*	
Unit 5: Introduction to Data Analytics using Python for Commerce	**12**
Introduction to Pandas: DataFrames for Business Analytics, Using NumPy for Financial Calculations, Data Visualization using Matplotlib & Seaborn, Handling Missing Data in Business Datasets (Dropping, Imputation Techniques), Detecting and Treating Outliers (IQR, Z-score, Winsorization), Introduction to AI/ML Applications in Finance & Marketing. [**Theory]** **[Lab Sessions]** Identifying and Treating Missing Data in Sales/Financial Datasets, Detecting and Handling Outliers in Customer Transaction Data, Analyzing Stock Market Data using Pandas, Processing E-commerce Sales Data using DataFrames, Creating Business Dashboards with Matplotlib *Mini-Project: Sales Forecasting using Historical Data*	
Skill Developments Activities: 1. Write a note on the role of operators in business calculations 2. Summarise the importance of structured data storage in financial analysis 3. Explain the uses of PYTHON in fraud detection and risk management. 4. Write a note on data visualization techniques and their role in decision-making.	
Books for Reference: 1. Hayden Van Der Post, Data Science for Finance with Python: A Comprehensive Guide 2024, Reactive Publishing; 5th edition. 2. Dr Reema Thareja, Data Science and Machine Learning using Python, McGrawHill. 3. Luca Massaron, John Paul Mueller, Python for Data Science for Dummies 3rd Edition, 2023 4. Yves Hilpisch , Python for Finance: Mastering Data-Driven Finance, 3rd edition 5. Hemant Kumar Mehta, Manoj Kumar Solanki, Python for Business Analytics 6. Matt Taddy, Business Data Science: Combining Machine Learning and Economics to Optimize Automated Decisions 2023	

Name of the Program: BACHELOR OF COMMERCE BDA)
Course Code: B.Com. BDA 5.2
Name of the Course: MARKETING ANALYTICS

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminars, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the students will be able to understand

1. Understand the fundamental concepts and applications of Marketing Analytics
2. Demonstrate proficiency in handling and analyzing marketing data using R Programming and BlueSky Statistics
3. Analyze customer behavior and market segmentation using clustering techniques
4. Evaluate the effectiveness of marketing campaigns using A/B Testing, Sentiment Analysis, and Marketing Mix Modeling
5. Develop data-driven marketing recommendations by applying machine learning techniques

SYLLABUS:	**HOURS**
Unit 1: Introduction to Marketing Analytics & Data Handling	**10**

Role & Importance of Marketing Analytics, **Types of Marketing Analytics** – Descriptive, Diagnostic, Discovery, Predictive and Prescriptive.

Marketing Data Sources – CRM, Digital Platforms, Transactional Data.

Data Handling & Preprocessing: [Hands on] Using BlueSky Statistics for importing, cleaning, and basic transformations (GUI-based), Exploratory Data Analysis (EDA) using BlueSky Statistics (Summary Statistics, Visualizations).

Unit 2: Consumer Analytics & Market Segmentation	**12**

Customer Segmentation Methods – Demographic, Behavioural, Psychographic, RFM (Recency, Frequency, Monetary) Analysis for Customer Value Assessment, K-Means & Hierarchical Clustering for Segmentation (**Using R**), Churn Analysis Using Logistic Regression (Using BlueSky Statistics),

Lab Sessions: Customer Segmentation using K-Means & Hierarchical Clustering in R (cluster package) using Neural Networks and NLP; Churn Prediction using Logistic Regression in BlueSky Statistics

Unit 3: Digital & Social Media Analytics	**12**

Google Analytics & Social Media Metrics – Bounce Rate, Click-Through Rate, Conversion Rate.

Text Analysis– Word Frequencies, Word Clouds, Keyword Extraction.

Introduction to Sentiment Analysis Using Prebuilt Libraries in R (syuzhet package) – Understanding Positive, Negative, and Neutral Sentiments.

A/B Testing for Marketing Campaigns (Using BlueSky Statistics), Customer Lifetime Value (CLV) Prediction (Using R's caret package). **Lab Sessions**: Generating Word Clouds & Basic Text Analytics in BlueSky Statistics Sentiment Analysis Using syuzhet in R. A/B Testing using BlueSky Statistics for campaign performance evaluation.	
Unit 4: Marketing Mix Modeling & Pricing Analytics	**10**
Marketing Mix Elements & Demand Forecasting, Price Sensitivity & Elasticity Analysis (Using BlueSky Statistics), Regression-Based Marketing Mix Modeling (Using R), Promotion Effectiveness & Time Series Forecasting (Using R's forecast package). **Lab Sessions:** Time Series Forecasting using forecast package in R. Price Elasticity Analysis using BlueSky Statistics	
Unit 5: AI & Machine Learning in Marketing	**12**
AI in Marketing – Chatbots, Personalization, Customer Insights, Recommender Systems & Personalized Marketing (Using R's *recommenderlab* package), Market Basket Analysis & Association Rules (Using BlueSky Statistics), Predicting Customer Purchase Behaviour (Using R's caret package); Application of ML in Marketing Strategies. Lab Sessions: Recommender Systems using *recommenderlab* in R. Market Basket Analysis using Association Rule Mining in BlueSky Statistics.	
Skill Developments Activities: 1. Write a detailed note on how analytics help businesses make data-driven marketing decisions, with real-world examples. 2. Explain association rules and product bundling strategies used by retailers. 3. Compare Regression-Based Marketing Mix Modeling with Time Series Forecasting 4. Illustrate the Concept of Customer Segmentation	
Books for Reference: 1. Joseph Hair, Dana E. Harrison, and Haya Ajjan, Essentials of Marketing Analytics, McGraw Hill 2024 2. Gina L. Cook, Digital Analytics for Marketing (Mastering Business Analytics), Routledge 2020 3. Bonnie G. Buchanan and George J. Kembel, Marketing Analytics: A Comprehensive Guide v1.0, FlatWorld 2020 4. Seema Gupta and Avadhoot Jathar, Marketing Analytics, Wiley India 2023 5. Robert A, BlueSky Statistics 10 User Guide, Muenchen *Publisher:* Lulu Press *Edition:* First Edition (2021) 6. Chris Chapman and Elea McDonnell, R for Marketing Research and Analytics, Feit	

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com. BDA5.3
Name of the Course: INCOME TAX-1

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the students will be able to

a) Understand the basic concepts of Income Tax as per Income Tax Act 1961.
b) Understand the provisions for determining the residential status of an Individual.
c) Comprehend the meaning of Salary, Perquisites, allowances and Profit in lieu of salary, and various retirement benefits.
d) Compute the income from house property for different categories of house property.
e) Comprehend the assessment procedure and to know the power of income tax authorities.

SYLLABUS:	**HOURS**
Unit-1 : Basic Concepts of Income Tax	**08**

Introduction – Meaning of tax- types of taxes and canons of taxation- Important definitions-
assessment year, previous year including exceptions, assesses, person, income, casual income, Gross total income, Total income, Agricultural income, Tax Rates (Old and New Regimes). Exempted incomes of individuals under section 10.

Unit- 2: Assessment Procedure and Income Tax Authorities	**08**

Meaning of Assessment - Types of Assessment– BDA Assessment- Self Assessment – Best Judgement Assessment- Summary Assessment – Scrutiny Assessment – Income Escaping Assessment - Permanent Account Number -Meaning, Procedure for obtaining PAN and transactions where quoting of PAN is compulsory. Income Tax Authorities their Powers and functions. CBDT, CIT and AO.

Unit-3: Residential Status and Incidence of Tax	**10**

Introduction – Residential status of an individual. Determination of residential status of an individual. Incidence of tax or Scope of Total income. Problems on computation of Gross total Income of an individual (excluding deductions U/S 80).

Unit- 4: Income from Salary	**18**

Introduction - Meaning of Salary - Basis of charge – Definitions – Salary, allowances, Perquisites and profits in lieu of salary - Provident Fund - Retirement Benefits – Gratuity, pension and Leave salary. Deductions U/S 16 and Problems on Computation of Taxable Salary.

Unit- 5: Income from House Property	**12**

Introduction - Basis of charge - Deemed owners -House property incomes exempt from tax, Vacancy allowance and unrealized rent. Annual Value – Determination of Annual Value - Deductions U/S 24 from Net Annual Value - Problems on Computation of Income from House Property.

Skill Development Activities:

1) List out any 6 Incomes exempt from tax under section 10 of an Individual.
2) Draw an organization chart of Income Tax Authorities.
3) Prepare the chart of perquisites received by an employee in an organization.
4) Prepare the chart of Computation of Income under House Property.

Books for References:

1. Mehrotra H.C and T.S.Goyal, Direct taxes, Sahithya Bhavan Publication, Agra.
2. Vinod K. Singhania, Direct Taxes, Taxman Publication Private Ltd, New Delhi.
3. Gaur and Narang, Law and practice of Income Tax, Kalyani Publications, Ludhiana.
4. Bhagawathi Prasad, Direct Taxes.

NOTE: This syllabus is subject to changes as per the amendments made in Income Tax Act annually.

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com BDA5.4
Name of the Course: GOODS AND SERVICES TAX

COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom lectures, tutorials, Group discussion, Seminar, Case studies & field work etc.,

Course Outcomes: On successful completion of the course, the students will be able to
a) Comprehend the concepts of Goods and Services tax.
b) Understand the fundamentals of GST.
c) Understand the GST Registration Process.
d) Analyze the GST Procedures in Business.
e) Know the GST Assessment and it computation

SYLLABUS:	**HOURS**
Unit-1: Introduction to GST	**10**
Introduction-Meaning and Definition of GST, Objectives, Features, Advantages and Disadvantages of GST, Taxes subsumed under GST, Structure of GST (Dual Model) - CGST, SGST and IGST. GST Council, Composition, Powers and Functions. CGST Act-2017-Features and Important definitions	
Unit-2: GST Registration and Taxable Event	**10**
Registration under GST provision and process. Amendment and cancellation of registration, Taxable-event- Supply of goods and services - Meaning, Scope and types – composite supply, Mixed supply. Determination of time and place of supply of goods and services. Levy and collection of tax. List of exempted goods and services-Problems.	
Unit-3: Input Tax Credit	**12**
Input Tax Credit - Eligible and Ineligible Input Tax Credit; Apportionments of Credit and Blocked Credits; Tax Credit in respect of Capital Goods; Recovery of Excess Tax Credit; Availability of Tax Credit in special circumstances; Transfer of Input tax, Reverse Charge Mechanism, tax invoice, Problems on input tax credit	
Unit-4: GST Assessment	**12**
Tax Invoice, Credit and Debit Notes, Returns, Audit in GST, Assessment: Self- Assessment, Summary and Scrutiny. Special Provisions. Taxability of E-Commerce, Anti-Profiteering, and Avoidance of dual control- issues in filing of returns, monthly collection targets, GST Council meetings.	
Unit-5: Valuations of Goods and Services Under GST	**08**
Introduction to Valuation under GST, Meaning and Types of Consideration: a) Consideration received through money b) Consideration not received in money c) Consideration received fully in money. Valuation rules for supply of goods andservices:1) General Valuation Rules; 2) Special Valuation Rules; Other cases for valuation of supply, imported services, imported goods, valuation for discount. Transaction Value: Meaning and conditions for transaction value, inclusive transaction value, and exclusive discount excluded from transaction value. Problems on GST.	

Skill Development Activities:

1. Prepare a tax invoice under the GST Act.
2. Write the procedure for registration under GST.
3. Prepare a chart showing rates of GST.
4. List out the exempted Goods and Services under GST.

Books for References:

1.V.S. Datey, Goods and ServicesTaxes, Taxman.

2.Sathpal Puliana, M.A. Maniyar, Glimpse of Goods and Service Tax, Karnataka Law Journal Publications, Bangalore.

3.Pullani and Maniyar,Goods and ServiceTax, Published by Law Journal,Bangalore.

4.H.C. Mehrotra and V.P.Agarwal,Goods and Services Tax.

5.H.C.Mehotra and S.P.Goyal,Goods and Services Tax.

6. G.B. Baligar, Goods and Services Tax, Ashok Prakashan,Hubli.

NOTE: This syllabus is subject to changes as per the amendments made in GST Act annually.

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com BDA 5.5
Name of the Course: COSTING METHODS

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the students will be able to

a. Understand the various methods of costing applicable to different industries.
b. Determine the cost under different methods of costing.
c. Analyze the Steps involved in different methods of Costing
d. Understand the Meaning and Steps in Activity Based Costing

SYLLABUS:	**HOURS**
Unit-1: Job Costing and Batch Costing	**08**

Job Costing: Meaning, Features, Objectives, Applications, Advantages and Disadvantages, Job cost sheet- Simple problems.
Batch Costing: Meaning, difference between Job and Batch costing; Process of accumulation and calculation; Determination of EBQ- problems

Unit- 2: Contract Costing	**14**

Contract Costing: Meaning, features of Contract costing, Applications of Contract Costing, Differences between Job costing and Contract costing; Terms used in Contract Costing; Treatment of profit on incomplete contracts-Problems on Preparation of Contract account and Contractee's account (excluding Trial Balance and Balance Sheet problems).

Unit-3: Process Costing	**14**

Process costing: Meaning, features and applications of Process Costing; Differences between Job Costing and Process Costing; Treatment of process losses and gains in Process accounts; preparation of Process Accounts - Problems

Unit- 4: Operating Costing	**12**

Introduction to Operating Costing; Application of Operating Costing; Cost components and Cost units for different services - Transport Services, Hospital and Educational institutions; Problems on preparation of Operating Cost Statement for Transport service only

Unit- 5 : Recent Trends in Costing	**08**

Target Costing, Zero based budgeting, Responsibility Accounting, Product Life cycle costing, Focus Costing, Lean Costing (Meaning and features only)

Skill Development Activities:

1. Prepare and Job Cost Sheet with imaginary figures.
2. Prepare the methods of calculating notional profits for contracts at different stages of Completion with imaginary figures.
3. List any five organizations using Process Costing.
4. Identify the costs associated with Life cycle costing

Books for References:

1. 1. S P Jain and K L Narang, Advanced Cost Accounting, Kalyani Publications,
2. Robert S Kaplan and Anthony A Atkinson, Advanced Management Accounting, PHI, New Delhi.
3. Arora, M.N. Methods of Cost Accounting –, Vikas Publishing House, New Delhi.
4. Shank and Govindrajan, Strategic Cost Management, Simon and Schuster, 36 New York.
5. Lin Thomas, Cases and Readings in Strategic Cost Management, McGraw Hill Publications, New York.
6. John K Shank and Vijaya Govindarajan; Strategic Cost Management; Free Press Publication; New York
7. Mariyappa B Methods and Techniques of Costing., HPH.

Name of the Program: BACHELOR OF COMMERCE BDA)
Course Code: B.Com. BDA 6.1
Name of the Course: FINANCIAL ANALYTICS

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
2 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the students will be able to

a) Understand the market forces for global supply chains
b) Comprehend the strategies adopted to manage risks in supply chains.
c) Gain knowledge on the global Supply chain performance
d) Understand the significance of green supply chains

SYLLABUS:	**HOURS**
Unit 1: Introduction to Financial Analytics and Data Sources	**10**

Overview of Financial Analytics: Importance & Applications, Financial Data Sources in India: **RBI, NSE, BSE, SEBI, MOSPI**, Introduction to Python Libraries for Finance: Pandas, NumPy, yFinance, NSEpy, Extracting Financial Data from **NSE, BSE, RBI, and SEBI**

Lab Sessions

Fetching **Indian Stock Market** Data using yfinance & NSEpy
Extracting **Inflation & GDP Data** from RBI & MOSPI (CSV processing)
Loading & Processing **Banking & Forex Data** from RBI

Unit 2: Financial Data Processing & Visualization	**12**

Data Cleaning Techniques for Financial Data, Handling Missing Data & Outliers in Financial Datasets, Key Financial Metrics: **ROI, ROE, EPS, P/E Ratio, Market Capitalization**, Financial Data Visualization: **Candlestick Charts, Moving Averages, Bollinger Bands.**

Lab Sessions

Handling Missing Data in **Stock Market Time Series**
Identifying & Treating Outliers in **Indian Market Returns**
Creating **Financial Dashboards** using Matplotlib & Seaborn
Mini-Project: Stock Market Trend Analysis (NSE/BSE)

Unit 3: Time Series Analysis for Financial Forecasting	**12**

Basics of Time Series Analysis in Finance, ARIMA, SARIMA, and Exponential Smoothing Models, Volatility Modeling: GARCH Model, Introduction to Machine Learning for Financial Forecasting

Lab Sessions

Implementing **Moving Average & Exponential Smoothing**
ARIMA & SARIMA Forecasting on **Indian Stock Market Data**
Volatility Prediction using the **GARCH Model**
Mini-Project: Forecasting Gold & Crude Oil Prices using Indian Market Data

Unit 4: Risk Analysis and Portfolio Optimization	**10**

Introduction to Risk & Return Metrics, **Value at Risk (VaR) & Conditional VaR for Indian Stocks**, Monte Carlo Simulation for **Portfolio Risk Analysis**, Modern Portfolio Theory: **Efficient Frontier & CAPM**

Lab Sessions

Calculating **VaR & CVaR for NSE Stocks**

Monte Carlo Simulation for **Risk Estimation**

Portfolio Optimization using Python (Markowitz Model)

Mini-Project: Constructing an Optimal Investment Portfolio (Indian Market)

Unit 5: Predictive Analytics in Finance	**12**

Credit Scoring & Risk Assessment using Logistic Regression, **Fraud Detection in Banking** using Machine Learning, **Sentiment Analysis on Indian Financial News**, **Algorithmic Trading Strategies** using Python.

Lab Sessions

Predicting **Loan Default Risk** using Logistic Regression

Implementing **Fraud Detection in Banking Transactions**

Sentiment Analysis of **Indian Stock Market News & Tweets**

Backtesting Trading Strategies on NSE Stocks

Mini-Project: Developing a Credit Risk Prediction Model

Skill Developments Activities:

1. **Evaluate major financial data sources in India** (RBI, NSE, BSE, SEBI, MOSPI) and their importance in financial analysis.
2. **Assess the significance of Value at Risk (VaR) and Conditional VaR (CVaR)** in financial risk analysis.
3. **Investigate the role of Machine Learning in finance** for credit scoring, fraud detection, and algorithmic trading.
4. **Compare ARIMA, SARIMA, and GARCH models** for financial forecasting and assess their practical applications.

Textbooks:

1. Yves Hilpisch, *Python for Finance: Mastering Data-Driven Finance* (3rd Edition), O'Reilly Media, 2022.
2. Yves Hilpisch, *AI in Finance*, O'Reilly Media, 2020.
3. Marcos López de Prado, *Advances in Financial Machine Learning*, Wiley, 2018.
4. Matt Taddy, *Business Data Science: Combining Machine Learning and Economics*, McGraw Hill, 2019.
5. RBI, NSE, SEBI reports – Official reports from the Reserve Bank of India (RBI), National Stock Exchange (NSE), and Securities and Exchange Board of India (SEBI) for real-world Indian financial data.

Essential reading:

Manoj Kumar Jena , Srikant Das , Brajaballav Kar , Sentiment Analysis of Chairperson's Message and Its Influence on Financial Performance: Study on NIFTY 50 Companies, Indian Journal of Finance, **DOI**: 10.17010/ijf/2024/v18i11/174639

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com BDA6.2
Name of the Course: MANAGEMENT ACCOUNTING

COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom lectures, tutorials, Group discussion, Seminar, Case studies & field work etc.,

Course Outcomes: On successful completion of the course, the students will be able to

a) Demonstrate the significance of management accounting in decision making.
b) Analyze and interpret the corporate financial statements by using various techniques.
c) Compare the financial performance of corporate through ratio analysis.
d) Understand the latest provisions in preparing cash flow statement.
e) Understand the concepts of Budgetary Control.

SYLLABUS:	**HOURS**
Unit.1:Introduction to Management Accounting	**10**
Meaning and Definition, Objectives, Nature and Scope; Role of Management Accountant; Relationship between Financial Accounting and Management Accounting, Relationship between Cost Accounting and Management Accounting - Advantages and Limitations of Management Accounting. Management Reporting– Principles of Good Reporting System.	
Unit.2:Analysis of Financial Statements	**12**
Analysis of Financial Statements: Meaning and Importance of Financial Statement Analysis; Methods of Financial Analysis – Problems on Comparative Statement analysis, Common Size Statement analysis, Trend Analysis and Du-pont Analysis.	
Unit.3: Ratio Analysis	**10**
Meaning and Definition of Ratios and Ratio Analysis – Uses and Limitations of ratios – Classification of Ratios - Liquidity ratios, Solvency ratios, Turnover ratio and Profitability ratios; Problems on calculation of ratios and construction of Balance Sheet using the ratios.	
Unit.4: Cash flow Analysis	**12**
Meaning and Definition of Cash Flow Statement, Concept of Cash and Cash Equivalents, Uses of Cash Flow Statement – Limitations of Cash Flow Statement– Provisions of Ind. AS-7. Procedure for preparation of Cash Flow Statement – Cash Flow from Operating Activities – Cash Flow from Investing Activities and Cash Flow from Financing Activities – Preparation of Cash Flow Statement according to Ind. AS-7.	
Unit.5: Budgetary Control	**12**
Introduction – Meaning & Definition of Budget and Budgetary Control, Objectives of Budgetary Control, Essential requirements of budgetary control, Advantages and disadvantages of budgetary control; Types of budgets- Functional Budgets, Cash budget, sales budget, purchase budget and production budget, Fixed and Flexible budgets - Problems on Flexible budget (Total cost budget only) and Cash budgets.	

Skill Development Activities:

1. Prepare with imaginary figures a Cash budget.
2. Prepare with imaginary figures comparative statement and analyze the financial position.
3. Prepare with imaginary figures cash flow statement
4. Prepare a Trend analysis statement for three years with imaginary figures.

Books for Reference:

1. Charles T. Horngren, Gary L. Sundem, Dave Burgstahler, Jeff O.Schatzberg, Introduction to Management Accounting, Pearson Education.
2. Khan, M.Y. and Jain, P.K. Management Accounting. McGraw Hill Education.
3. Arora, M. N. Management Accounting, Vikas Publishing House, New Delhi
4. Maheshwari, S.N. and S.N. Mittal, Management Accounting. Shree Mahavir Book Depot, New Delhi.

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com BDA6.3
Name of the Course: INCOME TAX-II

COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom lectures, tutorials, Group discussion, Seminar, Case studies & field work etc.,

Course Outcomes: On successful completion of the course, the students will be able to

a) Understand the procedure for computation of income from business and other Profession.
b) Understand the provisions for computation of capital gains.
c) Learn to compute the taxable income from other sources.
d) Learn the computation of total income of an Individual.
e) Understand the provisions relating to Set Off and Carry Forward of Losses

SYLLABUS:	**HOURS**
Unit. 1: Profits and Gains of Business and Profession	**16**
Introduction-Meaning and definition of Business, Profession and Vocation. - Expenses Expressly allowed - Expenses Expressly Disallowed - Allowable losses - Expressly disallowed expenses and losses, Expenses allowed on payment basis. Problems on computation of income from business of a sole trading concern - Problems on computation of income from profession: Medical Practitioners, Advocates and Chartered Accountants only.	
Unit. 2: Capital Gains	**12**
Introduction - Basis for charge - Capital Assets - Types of capital assets – Transfer - Computation of capital gains – Short term capital gain and Long term capital gain - Exemptions under section 54, 54B, 54EC, 54D and 54F. Problems covering the above sections.	
Unit. 3: Income from other Sources	**10**
Introduction - Incomes taxable under Head income other sources – Securities - Types of Securities - Rules for Grossing up. Ex-interest and cum-interest securities. Bond Washing Transactions - Computation of Income from other Sources.	
Unit. 4: Set Off and Carry Forward of Losses and Deductions from Gross Total Income.	**10**
Meaning- Provisions of Set off and Carry Forward of Losses (Theory only) Deductions under Sections 80C, 80CCC, 80CCD, 80CCG, 80D, 80DD, 80DDB, 80E, 80G, 80GG,80TTA, 80 TTB and 80U as applicable to Individuals.	
Unit. 5: Computation of Total Income and Tax Liability	**08**
Computation of Total Income and tax liability of an Individual Assessee.	

Skill Development activities:

1. Mention the procedure involved in the computation of income from profession.
2. List-out the different types of capital assets and identify the procedure involved in the computation of tax for the same.
3. List out the steps involved in the computation of income tax from other sources and critically examine the same.
4. List any 6 deductions available under section 80

Books for Reference:

1. Mehrotra H.C and T.S.Goyal, Direct taxes, Sahithya Bhavan Publication, Agra.
2. Vinod K.Singhania, Direct Taxes, Taxman Publication Private Ltd, New Delhi
3. Gaur and Narang, Law and practice of Income Tax, Kalyani Publication, Ludhiana.
4. Bhagawathi Prasad, Direct Taxes

NOTE: This syllabus is subject to changes as per the amendments made in Income Tax Act annually.

Name of the Program: BACHELOR OF COMMERCE BDA)
Course Code: B.Com. BDA 6.4
Name of the Course: HR ANALYTICS

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

Course Outcomes: On successful completion of the course, the students will be able to

a. Understand the Fundamentals of HR Analytics
b. Apply Data Collection and Preprocessing Techniques
c. Implement Descriptive and Predictive HR Analytics
d. Analyze Performance and Compensation Data
e. Interpret Emerging Trends in HR Analytics

SYLLABUS:	**HOURS**
Unit No. 1: Introduction to HR Analytics	**10**

Concept & Evolution of HR Analytics, Role of HR Analytics in Decision Making, HR Metrics & KPIs: Employee Turnover, Retention, Productivity, Compensation Metrics, Data Sources in HR Analytics: Surveys, HRIS, Payroll, Performance Management Systems, Ethical and Legal Considerations in HR Analytics.
Lab Session: Introduction to **Python** for HR Analytics (Google Colab, Pandas basics)

Unit No. 2: Data Collection & Preprocessing in HR Analytics	**12**

Data Collection Techniques: Internal vs. External Data, Data Cleaning & Preprocessing: Handling Missing Data, Outliers, Data Transformation, Exploratory Data Analysis (EDA) in HR
Lab Session:
Importing HR datasets using **Pandas**
Data Cleaning using **NumPy, PowerBi & Pandas**
Visualizing HR Data using **Seaborn & Matplotlib**

Unit No. 3: Descriptive & Predictive HR Analytics	**12**

Descriptive Analytics in HR: Employee Performance, Absenteeism, Salary Trends, Predictive Analytics for HR Decision Making: Attrition Prediction; Performance Forecasting; Recruitment Analytics, Regression & Classification Models in HR Analytics
Lab Session:
Building Predictive Models using **Scikit-Learn (Logistic Regression, Decision Trees)**
Case Study: Employee Attrition Prediction

Unit No. 4: Workforce Planning & Sentiment Analysis	**10**

Workforce Planning and Talent Acquisition Analytics, Diversity & Inclusion Analytics, Employee Sentiment Analysis using Text Mining
Lab Session:
Sentiment Analysis on Employee Reviews using **NLTK & VADER**

Workforce Planning using **Time Series Forecasting (Statsmodels)**	
Unit 5: Performance & Compensation Analytics	**12**
Performance Management Analytics: Measuring Productivity & Effectiveness, Compensation Analytics: Pay Equity & Market Benchmarking, HR Dashboards & Visualization: Reporting Key HR Metrics, Future Trends in HR Analytics. **Lab Session:** Creating HR Dashboards using **Streamlit** Case Study: Pay Equity Analysis	

Skill Developments Activities:

1. List out the role of HR Analytics in strategic decision-making. Provide examples of how organizations benefit from HR Analytics.
2. Demonstrate Exploratory Data Analysis (EDA) in the context of HR Analytics. How does it help in understanding employee behaviour?
3. List the uses of predictive analytics to improve employee performance management in organizations.
4. Write a note on importance of Sentiment Analysis in HR practices

Textbooks:

1. Keith McNulty, Handbook of Regression Modelling in People Analytics: With Examples in R, Python and Julia, Chapman & Hall/CRC 2021.
2. Dr. Bharti Motwani, HR Analytics: Practical Approach Using Python, Wiley India 2021
3. Dipak Kumar Bhattacharyya, HR Analytics: Understanding Theories and Applications, SAGE Publications India Pvt Ltd 1st edition.
4. Marielle Smith, Shonna Waters, Patrick McCarthy, & David A. Smith, The Practical Guide to HR Analytics: Using Data to Inform, Transform, and Empower HR Decisions, Society for Human Resource Management (SHRM) 1st edition.
5. Martin Edwards & Kirsten Edwards, Predictive HR Analytics: Mastering the HR Metric, Kogan Page, 2nd edition

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com BDA6.5
Name of the Course: AUDITING

COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom lectures, tutorials, Group discussion, Seminar, Case studies & field work etc.,

Course Outcomes: On successful completion of the course, the students will be able to

a) Understand the conceptual framework of auditing.
b) Examine the risk assessment and internal control in auditing
c) Comprehend the relevance of IT in audit and audit sampling for testing.
d) Examine the company audit and the procedure involved in the audit of different entities.
e) Gain knowledge on different aspect of audit reporting and conceptual framework applicable on professional accountants.

SYLLABUS:	**HOURS**
Unit.1: Introduction to Auditing	**12**
Introduction – Meaning and Definition – Objectives– Types of Audit– Benefits and Inherent Limitations of Audit; Preparation before commencement of new audit; Auditor- Meaning and Essential Qualities of an Auditor; Meaning of Assurance Engagements, Difference between Reasonable Assurance Engagement and Limited Assurance Engagement, Meaning and basic purpose of Engagement and Quality Control Standards.	
Unit.2: Risk Assessment and Internal Control	**10**
Introduction–Audit risk–Assessment of risk. Internal Control: Meaning and objectives–Internal check- Meaning, objectives and fundamental Principles. Internal check with regards to wage payment –Cash sales – and Cash purchases.	
Unit.3: Verification and Valuation of Assets and Liabilities	**12**
Meaning and objectives of verification and valuation – Position of an auditor as regards the valuation of assets. Verification and Valuation of different items of Assets: Land and Building - Plant and Machinery – Investment - Stock in Trade. Verification and Valuation of different items of Liabilities: Bills payable - Sundry Creditors and Contingent liabilities.	
Unit.4: Company Audit and Audit of other Entities	**12**
Company Auditor: Appointment – Qualification – Powers -Duties and liabilities - Professional ethics of an auditor. Other Entities: Audit Procedure of NGOs - Charitable Institutions – Educational institutions – Government – Local Bodies – Cooperative societies – Hotels – Hospitals – Clubs &Banks.	
Unit.5: Audit Report & Professional Ethics Recent Trends in Auditing	**10**
Meaning of Ethics in Auditing, Need for Professional Ethics- Fundamental Principles of Professional Ethics; Independence of Auditors, Threats and Safeguards to Independence of Auditors, Professional Skepticism, SA 210 Agreeing the Terms of Audit Engagement; Basic overview of SQC 1, and SA 220	

Skill Development Activities:

1. Design and develop an audit plan for a joint stock company
2. List the various documents necessary to be verified in the audit process
3. Record the verification procedure with respect to any one fixed asset.
4. List out Professional Ethics of an Auditor.

Books for Reference:

1. B. N. Tandon, Principles of Auditing, S. Chand and Company, New Delhi.
2. T. R. Sharma, Auditing Principles and Problems, Sahitya Bhawan, Agra.
3. J. M. Manjunatha and others, Auditing and Assurance, HPH.
4. Gupta Karnal, Contemporary Auditing, Tata Mc. Graw- Hill, New Delhi.
5. R. G. Saxena, Principles of Auditing.