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BENGALURU  
CITY UNIVERSITY

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BE BOUNDLESS

## DEPARTMENT OF COMMERCE

Central College Campus, Dr. Ambedkar Veedhi, Bengaluru-560001



**SYLLABUS FRAMED ACCORDING TO THE  
NATIONAL EDUCATIONAL POLICY (NEP 2020)**

**ACADEMIC YEAR 2021-22**



# BENGALURU CITY UNIVERSITY

Palace Road, Bengaluru-560001

## B.COM - DATA ANALYTICS

Framed According to the National Educational Policy (NEP 2020)

[To implement from the Academic Year 2021-22]

## **INTRODUCTION**

The curriculum framework for B.Com. Degree is structured to offer a broad outline that helps in understanding the creative potential of new career growth opportunities based on changing industrial and societal needs. The course is upgraded keeping in mind the aspirations of students, with opportunities to major in specializations such as accounting, financial markets, marketing, human resources and banking to focus the students towards a career in those domains. The core concepts within subject have been updated to incorporate the recent advancements, techniques to upgrade the skills of learners to create a focus on various functional areas of business. Problem Based learning has been integrated into the curriculum for a better understanding of various concepts in business and commerce. The syllabus under NEP-2020 is expected to enhance the level of understanding among students and maintain the high standards of graduate program offered in the country. Effort has been made to integrate the use of recent technology and MOOCs to assist teaching-learning process among students. The major objective of the graduate program is to elevate the subject knowledge among students, and making them as critical thinkers thereby students can address the issues related to industry and other business sectors.

## **AIMS AND OBJECTIVES OF UG PROGRAMS IN B.COM:**

- To provide a well trained professional to the requirements of Industries, Banking sectors, Insurance companies, Financing Companies, Transport Agencies and corporates.
- Students can get through the knowledge of finance and accounting.
- The knowledge of different specialisations in accounting, costing, banking and finance with the practical exposure helps the students to stand in organization.
- To impart industry needed skill, problem solving and decision making competencies.
- To make students industry ready and develop various managerial and accounting skills for better professional opportunities
- To enrich students to adapt to an ever changing and dynamic business environment.

**PROCEEDINGS OF UG BOS MEETING OF –  
B.COM, B.COM (BUSINESS DATA  
ANALYTICS/INSURANCE/A&F/LSCM/TTM/TAX  
PROCEDURE/VOCATIONAL/BF) COURSES**

Proceedings of the BOS – UG – B.Com, B.Com (Business Data Analytics/IAS/A&F/LSCM/TTM/Tax Procedure/Vocational/BF) courses for the academic year 2021 – 2022 meeting held on 5th October 2021 at the Chamber of the Chairman (BOS), Department of Commerce, Central College Campus, Bengaluru City University, Bengaluru-560001 at 10:00 A.M. The Board has agreed and approved the course matrix and syllabus of first year of the above mentioned courses. In case any input required shall be initiated by the Chairman and necessary modification shall be done as approved by the Board.

**MEMBERS PRESENT:**

- |     |  |             |
|-----|--|-------------|
| 1.  | Dr.Muninarayanappa.M,<br>Chairman & Dean, Dept of Commerce                         | Chairperson |
| 2.  | Dr. Nagaraj.N,<br>Professor, Dept of Commerce, University of Mysore                | Member      |
| 3.  | Dr. H.Y. Kamble,<br>Professor, Dept of Commerce, Rani Channamma University         | Member      |
| 4.  | Dr.S. Raghunatha Reddy,<br>Dept of Commerce, Yogi Vemana University                | Member      |
| 5.  | Dr.R.Parvathi, Principal,<br>VET first Grade College, Bangalore                    | Member      |
| 6.  | Dr.D Raja Jebasingh,<br>Vice Principal, St. Joseph's Commerce College (Autonomous) | Member      |
| 7.  | Dr.B.G.Bhasakara, Principal, Vivekananda Degree College                            | Member      |
| 8.  | Dr.Padmaja, MLA College of Higher Learning   | Member      |
| 9.  | Dr.Bharathisha Rao, Principal, RVD College   | Member      |
| 10. | Dr.S.Harish, Principal, Vijaya Evening College                                     | Member      |
| 11. | CA Anil Bharadwaj, Chartered Accountant  | Member      |
| 12. | Sri. D Srinivas, Corporate Expert  | Member      |
| 13. | Dr. G.S. Raju, Institute of Valuers, President, Karnataka                          | Member      |

**MINUTES OF THE MEETING:**

1. The Chairman & Dean, Faculty of Commerce & Management, Bengaluru City University, welcomed all the BOS members of the B.COM Board for BOS meeting which was scheduled on 5.10.2021 at 10.00 A.M.

2. The Chairman said that it is not a one day process and continuous delebrations are required from time to time for updation of syllabus and pedagogy.
3. The Chairman highlighted about the Orientation Programme of NEP - 2020 for Commerce and Management faculties which was organised by the Faculty of Commerce and Management at Jnana Jyothi Auditorium on 1st September 2021 with three technical sessions (i.e., **1st session: Structure & Matrix, 2nd session: Policy Implementation and 3rd session: Inter Disciplinary Issues**) clarified all the doubts in implementations of NEP syllabus of UG Programmes by the Faculty of Commerce & Management, Bengaluru City University.
4. The Chairman briefed BOS members about the admission paths for Undergraduate Programmes as follows:
  - i. Exit after 1st year ( I & II Sem) – the candidate will be awarded with Certificate with minimum 48 credits.
  - ii. Exit after completing 3rd and 4th semesters – the candidate will be awarded with Diploma Certificate with minimum 96 credits.
  - iii. Exit after 3rd year ( V & VI Sem) – the candidate will be awarded with Bachelor Degree in Commerce with minimum 144 credits.
  - iv. The candidate can continue the 4th year (VII & VIII Sem) to get honours/ research degree with minimum 186 credits.
  - v. Students completing a 4th year Bachelor's programme with Honours/Research, may be Admitted to a 1st year Master's programme.
  - vi. Students completing a 4th year Bachelor's programme with Research, will be eligible for Admission for Doctoral Programme (Ph.D).
  - vii. After completing the requirements of a 3rd year Bachelor's Degree candidates who meet a minimum CGPA of 7.5 shall be allowed to continue studies in the 4th year Undergraduate programme to pursue and complete the Bachelor's degree with Research.
  - viii. Skill enhancement courses are compulsory for I to VI semesters.
  - ix. Attendance is 75% minimum for every subject.
  - x. Since students opt for Ph.D after honours, some subjects in required in depth knowledge.
  - xi. Introduction of auditing subject at earlier stage as a module in any one accounting Subjects.
  - xii. Instead of Business Regulatory framework, Basics of Auditing can be introduced.
  - xiii. Projects should be done by students outside or online and submit a certificate to validate.

- xiv. Income Tax and GST should be done from excel perspective not book method.
- xv. Research Methodology is a compulsory paper in 7th semester.
- xvi. Advanced excel should be introduced in 1st year.
- xvii. The medium of instruction should be only in English.
- xviii. Digital Currency like crypto currency has lot of scope and should be introduced at some point in curriculum.
- xix. Business Valuation subject needs to be introduced at future date.
- xx. All the B.Com programs can be integrated with specialised programs offered by the professional bodies like US – CMA, ACCA and ICAI (with MoU) to meet the demands of Industry or in collaboration with Miles Education and ISDA.

The meeting concluded with the approval of the BOS Board. It was resolved to implement the above changes in the Curriculum from the academic year 2021 – 2022.

Chairman – BOS

## **1. TITLE AND COMMENCEMENT:**

- a. These regulations shall be called “The Regulations Governing the Choice Based Credit System Semester Scheme with Multiple Entry and Exit Options in the Undergraduate, and Postgraduate Degree Programmes in the Faculty of Commerce.
- b. Regulations shall come into force from the Academic Year 2021-22.

## **2. SALIENT FEATURES OF THE FOUR YEARS MULTIDISCIPLINARY UNDERGRADUATE PROGRAMME WITH MULTIPLE ENTRY AND EXIT OPTIONS:**

- a) The program shall be structured in a semester mode with multiple exit options with Certification, Diploma and Basic Bachelor Degree at the completion of first, second and third years, respectively. The candidate who completes the four years Undergraduate Program, either in one stretch or through multiple exits and re-entries would get a Bachelor's degree with Honours
- b) The four year undergraduate Honours degree holders with research component and a suitable grade are eligible to enter the 'Doctoral (Ph.D.) Program' in a relevant discipline or to enter 'Two Semester Master's Degree programme with project work'.
- c) Candidates who wish to enter the Masters/Doctoral programme in a discipline other than the major discipline studied at the undergraduate programmes, have to take additional courses in the new discipline to meet the requirement or to make up the gap between the requirement and the courses already studied.
- d) There may be parallel five year integrated Master's degree programmes with exit options at the completion of third and fourth years, with the undergraduate basic degree and post-graduate diploma in a discipline, respectively.
- e) There may also be an integrated doctoral programme with exit option at the end of the first year with the Master's degree.
- f) The students who exit with Certification, Diploma and Basic Bachelor Degree shall be eligible to re-enter the programme at the exit level to complete the programme or to complete the next level.
- g) The Multidisciplinary Undergraduate Programme may help in the improvement of all the educational outcomes, with a flexible and imaginative curricular approach. The program provides for both breadth and depth in diverse areas of knowledge. A range of courses are offered with rigorous exposure to multiple disciplines and areas, while specializing in one or two areas. The programme fulfils knowledge, vocational, professional and skill requirements along-side humanities and arts, social, physical and life sciences, mathematics, sports etc.
- h) The curriculum combines conceptual knowledge with practical engagement and understanding that has relevant real world application through practical

laboratory work, field work, internships, workshops and research projects.

- i) A few courses are common to all students which contribute to the breadth of study and two areas of specialization in disciplinary areas provides for depth of study.
- j) The areas of specialization which the students are required to choose are either two disciplines/ subjects or a discipline called 'major' (e.g. History or Economics or Physics or Mathematics) and an area of additional discipline called 'minor' (e.g. Music or Sports or Geography). Students gain deep disciplinary knowledge through theory and practical experiences in their area of specialization (major). They gain a reasonable understanding of the area of additional study (minor) that they choose. Students can choose subject combinations across 'streams' (e.g. a student can choose a 'major' in physics and combine it with a 'minor' in history or Music or Sports). One of the disciplines can also be a vocational subject or Teacher Education.
- k) The students may study two disciplines at the same level or breadth up to the sixth semester and choose one of them for study in the fourth year to obtain the Honours degree in that discipline. A student who wishes to get dual honours degrees may repeat the fourth year of the program in the second discipline
- l) The students may choose one discipline and vocational subject or Teacher Education for their study in the undergraduate program. This will enable them to get an Honours degree either in the discipline or in the vocational subject/ Teacher Education or both, in the discipline and in the vocational subject/ Teacher Education.
- m) Skills shall be explicitly integrated, highly visible, taught in context, and have explicit assessment. The skills shall include abilities in language and communication, working in diverse teams, critical thinking, problem solving, data analysis and life skills.
- n) Students shall be given options to choose courses from a basket of courses which the institution is offering. There shall be no rigidity of combination of subjects.

The Four-Year Choice Based Credit System Semester Scheme makes the product of a University at par with the global practices in terms of academic standards and evaluation strategies. In the emerging scenario of Internationalization of Indian Higher Education, it is imperative that the Universities in India should follow this system so that the mobility of their products both within and across the geographical jurisdiction becomes possible.

### **The Salient Features of the Credit Based Semester Scheme:**

Each course shall carry certain number of credits. Credits normally represent the weightage of a course and are a function of teaching, learning and evaluation strategies such as the number of contact hours, the course content, teaching methodology, learning expectations, maximum marks etc. In the proposed programs, generally one hour of instructions per week in a semester is assigned one credit. In terms of evaluation, one



credit is generally equivalent to 25 marks in a semester. Thus a 3 or 4 credits course will be assessed for 100 marks, 2 credits courses are assessed for 50 marks and one credit course will be assessed for 25 marks. What matters for the calculation of Semester Grade Point Average (SGPA) or the Cumulative Grade Point Average (CGPA) is the percentage of marks secured in a course and the credits assigned to that course.

On this basis, generally, a three-year six-semester undergraduate program will have around 144 credits, and a four-year eight-semester honours degree program will have around 186 credits and a five-year ten-semester master's degree programme will have 228 credits.

### **The general features of the Credit Based Semester Scheme are**

- a. The relative importance of subjects of study are quantified in terms of credits.
- b. The subjects of study include core, elective, ability/skill enhancement courses
- c. The programme permits horizontal mobility in course selections.
- d. The students shall take part in co-curricular and extension activities.
- e. The declaration of result is based on Semester Grade Point Average (SGPA) or Cumulative Grade Point Average (CGPA) earned.

### **3. PROGRAMME:**

- Bachelor of Commerce, Bachelor of Commerce (Business Data Analytics) with Honour, B.Com (Hons) and Master of Commerce M.Com.

### **4. DURATION OF PROGRAMMES, CREDITS REQUIREMENTS AND OPTIONS:**

The undergraduate degree should be of either a three- or four-year duration, with multiple entry and exit options within this period, The four year multidisciplinary Bachelor's programme is the preferred option as it allows the opportunity to experience the full range of holistic and multidisciplinary education with a focus on major and minor subjects as per the student's preference. The four-year programme may also lead to a degree with Research, if the student completes a rigorous research project in the major area(s) of study.

Thus the undergraduate programmes shall extend over four academic years (Eight Semesters) with multiple entry and exit options. The students can exit after the completion of one academic year (Two semesters) with the Certificate in a discipline or a field; Diploma after the study of two academic years (Four Semesters) and Regular Bachelor Degree after the completion of three academic years (Six Semesters). The successful completion of Four Years undergraduate Programme would lead to Bachelor Degrees with Honours in a discipline/subject.

Each semester shall consist of at least 16 weeks of study with a minimum of 90 working days (excluding the time spent for the conduct of final examination of each semester).

## 5. THE CREDIT REQUIREMENTS ARE AS FOLLOWS.

EXIT WITH	Min. Credits Requirement*	NSQF Level
<b>Certificate</b> at the Successful Completion of First Year (Two Semesters) of Four Years Multidisciplinary UG Degree Programme	48	5
<b>A Diploma</b> at the Successful Completion of the Second Year (Four Semesters) of Four Years Multidisciplinary UG Degree Programme	96	6
<b>Basic Bachelor Degree</b> at the Successful Completion of the Third Year (Six Semesters) of Four Years Multidisciplinary Undergraduate Degree Programme	140	7
<b>Bachelor Degree with Honours</b> in a <b>Discipline</b> at the Successful Completion of the Four Years (Eight Semesters) Multidisciplinary Undergraduate Degree Programme	180	8

\*Details of credits are described later in this report

The students shall be required to earn at least fifty per cent of the credits from the Higher Education Institution (HEI) awarding the degree or diploma or certificate: Provided further that, the student shall be required to earn the required number of credits in the core subject area necessary for the award of the degree or Diploma or Certificate, as specified by the degree awarding HEI, in which the student is enrolled.

## 6. National Skills Qualifications Framework

The progressive curriculum proposed shall position knowledge and skills required on the continuum of novice problem solvers (at entry level of the program) to expert problem solvers (by the time of graduation):

At the end of first year	Ability to solve well defined problems
At the end of second year	Ability to solve broadly defined problems
At the end of third year	Ability to solve complex problems that are ill-structured requiring multi-disciplinary skills to solve them
During fourth year-	Experience of workplace problem solving in the form of Internship or Research Experience preparing for Higher Education or Entrepreneurship Experience

The Integrated Master's Degree Programmes shall extend over five academic years (Ten Semesters) with exit options with Regular Bachelor Degree after successful completion of three academic years (Six Semesters) of study and Bachelor Degree with Honours in a

discipline/ subject at the end of four academic years (Eight Semesters). Completion of five years of integrated Master's Degree Programme would lead to Master's degree in a subject.

**Credit Requirements:** The candidates shall complete courses equivalent to a minimum of

- 140 credits to become eligible for the Regular Bachelor Degree,
- 180 credits to become eligible for the Bachelor Degree with Honours
- 220 credits to become eligible for the Integrated Master's Degree.
  
- *Master's Degree Programmes will be of One Academic Year (Two Semesters) for the Four Years Honours Degree holders and*
- *Master's Degree Programmes will be of Two Academic Years (Four Semesters) for the three years basic or three years Honours Degree holders.*
- *Two Years Master's Degree Programmes will have exit option at the end of One Academic Year (Two Semesters) with the Post-graduate Diplomas in the respective disciplines/ subjects, provided they earn a minimum of 44 credits as follows:.*
  
- 44 Credits after the Bachelor Degree to become eligible for the PG Diploma
- 88 Credits after the Bachelor Degree to become eligible for the Master's Degree

It is optional to the candidate to exit or not, after two, four and six semesters of the undergraduate programme with Certificate, Diploma and with Regular Bachelor Degree, respectively. He/she will be eligible to re-join the programme at the exit level to complete either the diploma, degree or the honours degree. Further, all the candidates will be awarded Bachelor degrees on successful completion of three academic years (Six Semesters) of the undergraduate programmes.

A student will be allowed to enter/re-enter only at the Odd Semester and can only exit after the Even Semester. Re-entry at various levels as lateral entrants in academic programmes should be based on the earned credits and proficiency test records.

## **7. ACADEMIC BANK OF CREDITS (ABC)**

The Academic Bank of Credits (ABC), a national-level facility will promote the flexibility of the curriculum framework and interdisciplinary/multidisciplinary academic mobility of students across the Higher Education Institutions (HEIs) in the country with appropriate “credit transfer” mechanism. It is a mechanism to facilitate the students to choose their own learning path to attain a Degree/ Diploma/Certificate, working on the principle of multiple entry and exit as well as anytime, anywhere, and

any level of learning. ABC will enable the integration of multiple disciplines of higher learning leading to the desired learning outcomes including increased creativity, innovation, higher order thinking skills and critical analysis. ABC will provide significant autonomy to the students by providing an extensive choice of courses for a programme of study, flexibility in curriculum, novel and engaging course options across a number of higher education disciplines/ institutions.

## **8. ELIGIBILITY FOR ADMISSIONS:**

A candidate who has passed two years Pre-University Examination conducted by the Pre-University Education Board in the State of Karnataka or any other examination considered as equivalent thereto shall be eligible for admission to these programmes.

## **9. ELIGIBILITY FOR ADMISSION TO POST-GRADUATE PROGRAMMES:**

- a) **GENERAL:** Candidates who have passed the three year Bachelor's degree examination of the University or any other University considered as equivalent thereto, with the respective subject as optional / major / special / main subject, are eligible for admission to the two years Master's Degree programmes provided they have secured a minimum of CGPA of 4.0 or 40% marks in the aggregate of all the subjects and **CGPA of 5 or 50% marks (CGPA of 4.5 or 45% marks for SC/ST/Category I/Differently abled candidates/) marks in the major/cognate subject.**
- b) Candidates who have passed the four year Bachelor's honours degree examination of the University or any other University considered as equivalent thereto, with the respective subject as optional / major / special / main subject, are eligible for admission to the one year Master's Degree programmes provided they have secured a minimum CGPA of 5 or 50% marks (CGPA of 4.5 or 45% marks for SC/ST/Category I/Differently abled candidates/) marks in the subject.

The specific requirements and relaxations admissible for specific Master's Degree Programmes shall be as prescribed by the respective Boards of Studies, approved by the Academic Council and notified by the University.

## **10. MEDIUM OF INSTRUCTION:**

The medium of instruction and examination shall be English or Kannada.

## **11. SUBJECTS OF STUDY**

The Components of Curriculum for Four Years Multidisciplinary Undergraduate Programme: The Category of Courses and their Descriptions are given in the following Table and in

	CATEGORY OF COURSES	OBJECTIVE/OUTCOME
1	Languages	Languages provide the medium of fresh and free thinking, expression and clarity in thought and speech. It forms as a foundation for learning other courses. Helps fluent communication. In addition to English, a candidate shall opt for any of the languages studied at the Pre-University or equivalent level.
2	Ability Enhancement Courses	Ability enhancement courses are the generic skill courses which are basic and needed for all to pursue any career. These courses ensure progression across careers. They enable students to develop a deeper sense of commitment to oneself and to the society and nation largely.
3	Skill Enhancement/ Development Courses / Vocational courses	Skill Enhancement courses are to promote skills pertaining to a particular field of study. The purpose of these courses is to provide students life-skills in hands-on mode so as to increase their employability/ Self-employment. The objective is to integrate discipline related skills in a holistic manner with general education. These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge. The University can suggest its own courses under this category based on its expertise, specialization, requirements, scope and need.
	Foundation/ Discipline based Introductory Courses	Foundation /Introductory courses bridge the gap for a student if he/she has not got a basic groundwork in a specific area of discipline. These courses will supplement in better understanding of how to integrate knowledge to application into a society.
4	Major Discipline Core Courses	A Major discipline is the field in which a student focuses during the course of his/her degree. A course in a discipline, which a candidate should compulsorily study as a core requirement is termed as a Core course. The core courses aim to cover the basics that a student is expected to imbibe in that particular discipline. They provide fundamental knowledge and expertise to produce competent, creative graduates with a strong scientific, technical and academic acumen. These courses are to be taught uniformly across all universities with minimum deviation. The purpose of fixing core courses is to ensure that all the institutions follow a minimum common curriculum so that each institution adheres to a common minimum standard <b>which makes credit transfer and mobility of students easier.</b>

	Major Discipline Elective Courses	<p>Elective Course is a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/subject of study or which provides an extended scope or enables an exposure to some other discipline/ subject/domain or which nurtures the candidate's proficiency/skill.</p> <p>Elective courses offered under the main discipline are referred to as Discipline Specific Electives. These courses provide more depth within the discipline itself or within a component of the discipline and provide advanced knowledge and expertise in an area of the discipline.</p> <p>The institutions have freedom to have their own courses based on their expertise, specialization, requirements, scope and need. The elective courses may be of interdisciplinary nature</p>
	Minor Discipline Courses	<p>A Minor Discipline is a secondary specialization that one may choose to pursue in addition to a Major Discipline. They may be related areas of studies or two distinct areas of studies which are not interrelated at all.</p>
	Open or Generic Elective Courses	<p>Open or Generic Elective Courses are courses chosen from an unrelated discipline/ subject, with an intention to seek exposure beyond discipline/s of choice. The purpose of these is to offer the students the option to explore disciplines of interest beyond the choices they make in core and discipline specific elective courses.</p> <p><b>Note:</b> A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Open or Generic Electives.</p>
5	Project work/ Dissertation/ Internship/ Entrepreneurship	<p>Project work is a special course involving application of knowledge in solving / analysing / exploring a real life situation / difficult problem/ data analysis. Project Work has the intention to provide research competencies at undergraduate level. It enables to acquire special/ advanced knowledge through support study/a project work. Candidates shall carry out project work on his/her own with an advisory support by a faculty member to produce a dissertation/ project report. Internship/ Entrepreneurship shall be an integral part of the Curriculum</p>

	Co-curricular and Extension Activities	These activities help in character building, spiritual growth, physical growth, etc. They facilitate development of various domains of mind and personality such as intellectual, emotional, social, moral and aesthetic developments. Creativity, Enthusiasm, and Positive thinking are some of the facets of personality development and the outcomes of these activities
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### 11.1 ABILITY ENHANCEMENT COURSES:

Ability Enhancement (AE) Courses can be divided into two categories:

- a) AE Compulsory Courses (AECC): The universities may have common curriculum for these papers. There may be one paper each at least in the first four semesters viz.
  - (1) Environmental Studies and
  - (2) Constitution of India.

In addition to these, two languages shall be studied in the first four semesters of the Undergraduate Programmes.

- b) Skill Enhancement Courses (SEC): The universities may offer from a common pool of papers listed by KSHCE/ National Regulatory Bodies such as UGC or GEC/ NHERC or the universities may frame some papers, in addition to the list suggested.

### 11.2 LANGUAGES:

Two languages are to be studied out of which one shall be Kannada and the other shall be either English or an Indian Language or other Foreign language:

English, Sanskrit, Hindi, Tamil, Telugu, Malayalam, Marathi, Konkani, Urdu, Persian, Arabic, German, French, Latin, Russian, Japanese and any other language prescribed/ approved by the university

- a) The Candidates shall study two languages in the first four semesters of the programs. The students who have studied Kannada at the school and/or Pre-University or equivalent level, shall opt Kannada as one of the languages and study it in the first four semesters of the programmes. In addition to Kannada, the students shall opt for another language from the languages offered in the university/college and study it in the first two semesters of the programmes. They may continue to study the same language in the second year or may choose different language in the second year. A candidate may opt for any language listed above even if the candidate has not studied that language at PUC or equivalent level.

- b) Students who have not studied Kannada at any level from school to Pre-University shall study Kannada as functional language in one of the first two semesters along with another language of their choice. They shall study any two languages of their choice in the remaining three semesters. They may change the languages every year. With the permission of the University, a candidate may opt for any other language listed above even if the candidate has not studied that language at PUC or equivalent level
- c) Speech/hearing/visually impaired/mentally challenged and study disabled students are exempted from studying one of the languages prescribed under para 8.2 above.

### 11.3 A) SKILL ENHANCEMENT COURSES (COMMON FOR ALL PROGRAMMES):

- i. Any four skill enhancement/development courses are to be studied in the first six semesters, one per semester as prescribed by the concerned faculty and approved by the Academic Council. The courses may include the following:

SEM.	B.COM./BBA/BMS/BHM
I/II	Digital Fluency/ Creativity and Innovation
III/IV	Artificial Intelligence/ Critical thinking & problem solving
V	Cyber Security/ Entrepreneurship
VI	Professional Communication / German / French/

- i. One soft core course or allied subject each in the seventh and eight semesters of the honours programme and the integrated Master's degree programme or in the first and second semesters of the post-graduate programmes, and one open elective in the ninth semester of the integrated master's programmes are to be studied as prescribed by the respective Board of studies and approved by the Academic council. The soft core courses may include research methodology course, one of the foreign languages such as German, French etc. or any other course prescribed by the university from time to time.

### 11.5 VOCATIONAL SUBJECTS:

Advertising, Computer Applications, Electronic Equipment Maintenance, Entrepreneurship Development, Instrumentation, Office/Home Management and Secretarial Practice, Sales Promotion and Management, Tax Procedure and Practice, Tourism and Travel Management and any other subjects introduced from time to time.

### 11.6 CO-CURRICULAR AND EXTENSION ACTIVITIES

A student shall opt for two of the following activities offered in the college, in each of the first six semesters of the undergraduate programmes. The activity carries a credit each for each of the activities and will be internally assessed for 50 marks.



- a. Physical Education or Activities related to Yoga/ Sports and Games
- b. N.S.S. /N.C.C/ Ranger and Rovers/Red cross
- c. Field studies / Industry Implant Training
- d. Involvement in campus publication or other publications
- e. Publication of articles in newspapers, magazines
- f. Community work such as promotion of values of National Integration, Environment, Human rights and duties, Peace, Civic sense etc.
- g. A Small project work concerning the achievements of India in different fields
- h. Evolution of study groups/seminar circles on Indian thoughts and ideas
- i. Activity exploring different aspects of Indian civilizations
- j. Involvement in popularization programmes such as scientific temper
- k. Innovative compositions and creations in music, performing and visual arts etc.
- l. Any other activities such as Cultural Activities as prescribed by the University.

Evaluation of Co-curricular and Extension Activities shall be as per the procedure evolved by the university from time to time.

## **12. ATTENDANCE AND CHANGE OF SUBJECTS:**

- 12.1 A candidate shall be considered to have satisfied the requirement of attendance for a semester if he/she attends not less than 75% of the number of classes actually held up to the end of the semester in each of the subjects. There shall be no minimum attendance requirement for the Co-curricular and extension activities.
- 12.2 An option to change a language/subject may be exercised only once within four weeks from the date of commencement of the/III Semester on payment of fee prescribed.
- 12.3 Whenever a change in a subject is permitted, the attendance in the changed subject shall be calculated by taking into consideration the attendance in the previous subject studied
- 12.4 If a candidate represents his/her institution / University/ Karnataka State/ Nation in Sports /NCC / NSS / Cultural or any officially sponsored activities he/she may be permitted to claim attendance for actual number of days participated, based on the recommendation of the Head of the Institution concerned. If a candidate is selected to participate in national level events such as Republic Day Parade etc., he/she may be permitted to claim attendance for actual number of days participated based on the recommendation of the head of the Institution concerned.
- 12.5 A candidate who does not satisfy the requirement of attendance in one or more courses/ subjects shall not be permitted to take the University examination of these courses/ subjects and the candidate shall seek re-admission to those courses/ subjects in a subsequent year.

### **13. COURSE PATTERNS AND SCHEMES OF EXAMINATIONS**

The details of the Course Patterns (hours of instructions per week) and the Schemes of Examinations of the different degree programmes are given in the program matrix. The Syllabi of the courses shall be as prescribed by the University.

### **14. PEDAGOGY ACROSS ALL PROGRAMMES**

Effective learning requires appropriate curriculum, an apt pedagogy, continuous formative assessment and adequate student support. The intention is to contextualize curriculum through meaningful pedagogical practices, which determine learning experiences directly influencing learning outcomes. Active, cooperative, collaborative and experiential learning pedagogies are some of the examples. Use of technology in creating learning environment that connects learners with content, peers and instructors all through the learning process respecting the pace of learners is need of the hour.

- a. Classroom processes must encourage rigorous thinking, reading and writing, debate, discussion, peer learning and self-learning.
- b. The emphasis is on critical thinking and challenge to current subject orthodoxy and develop innovative solutions. Curricular content must be presented in ways that invite questioning and not as a body of ready knowledge to be assimilated or reproduced. Faculty should be facilitators of questioning and not authorities on knowledge.
- c. Classroom pedagogy should focus on the 'how' of things i.e. the application of theory and ideas. All courses including social sciences and humanities should design projects and practicums to enable students get relevant hands-on experiences.
- d. Learning must be situated in the Indian context to ensure that there is no sense of alienation from their context, country and culture.
- e. Classroom processes must address issues of inclusion and diversity since students are likely to be from diverse cultural, linguistic, socio-economic and intellectual backgrounds.
- f. Cooperative and peer-supported activities must be part of empowering students to take charge of their own learning.
- g. Faculty will have the freedom to identify and use the pedagogical approach that is best suited to a particular course and student.
- h. Pedagogies like PBL (Problem / Project Based Learning), Service Learning be brought into practice as part of curriculum. Experiential learning in the form of internship with a specified number of credits is to be made mandatory.

Blended learning (BL) mode is to be used to help learners develop 21st century skills along with the effective learning and skill development related to the subject-domains. BL should be carefully implemented and should not be replacing classroom time as a privilege. Every institute should strive to be a model institute to demonstrate a successful implementation of BL in the higher education of our country.

## 15. CONTINUOUS FORMATIVE EVALUATION/ INTERNAL ASSESSMENT:

Total marks for each course shall be based on continuous assessments and semester end examinations. As per the decision taken at the Karnataka State Higher Education Council, it is necessary to have uniform pattern of 40 : 60 for IA and Semester End theory examinations respectively and 50 : 50 for IA and Semester End practical examinations respectively, in all the Universities, their Affiliated and Autonomous Colleges.

<b>TOTAL MARKS FOR EACH COURSE</b>	<b>:</b>	<b>100%</b>
Continuous assessment (C1)	:	20% marks
Continuous assessment (C2)	:	20% marks
Semester End Examination (C3)	:	60% marks.

## 16. EVALUATION PROCESS OF IA MARKS SHALL BE AS FOLLOWS.

- a. The first component (C1) of assessment is for 20% marks. This shall be based on test, assignment, seminar, case study, field work, project work etc. This assessment and score process should be completed after completing 50% of syllabus of the course/s and within 45 working days of semester program.
- b. The second component (C2) of assessment is for 20% marks. This shall be based on test, assignment, seminar, case study, field work, internship / industrial practicum / project work etc. This assessment and score process should be based on completion of remaining 50 percent of syllabus of the courses of the semester.
- c. During the 17th – 19th week of the semester, a semester end examination shall be conducted by the University for each course. This forms the third and final component of assessment (C3) and the maximum marks for the final component will be 60%.
- d. In case of a student who has failed to attend the C1 or C2 on a scheduled date, it shall be deemed that the student has dropped the test. However, in case of a student who could not take the test on scheduled date due to genuine reasons, such a candidate may appeal to the Program Coordinator / Principal. The Program Coordinator / Principal in consultation with the concerned teacher shall decide about the genuineness of the case and decide to conduct special test to such candidate on the date fixed by the concerned teacher but before commencement of the concerned semester end examinations.
- e. For assignments, tests, case study analysis etc., of C1 and C2, the students should bring their own answer scripts (A4 size), graph sheets etc., required for such tests/assignments and these be stamped by the concerned department using their department seal at the time of conducting tests / assignment / work etc.
- f. The outline for continuous assessment activities for Component-I (C1) and Component-II (C2) of a course shall be as under.

### Outline for continuous assessment activities for C1 and C2 **Activities**

<b>Activities</b>	<b>C1</b>	<b>C2</b>	<b>Total Marks</b>
Session Test	10% marks	10% marks	20
Seminars/Presentations/Activity	10% marks	-	10
Case study /Assignment / Field work / Project work etc.	-	10% marks	10
<b>Total</b>	<b>20% marks</b>	<b>20% marks</b>	<b>40</b>

- g. For practical course of full credits, Seminar shall not be compulsory. In its place, marks shall be awarded for Practical Record Maintenance.(the ratio is 50% : 50%)
- h. Conduct of Seminar, Case study / Assignment, etc. can be either in C1 or in C2 component at the convenience of the concerned teacher.
- i. The teachers concerned shall conduct test / seminar / case study, etc. The students should be informed about the modalities well in advance. The evaluated courses / assignments during component I (C1) and component II (C2) of assessment are immediately provided to the candidates after obtaining acknowledgement in the register by the concerned teachers(s) and maintained by the Chairman in the case of a University Post-Graduate Department and the Principal / Director in the case of affiliated institutions. Before commencement of the semester end examination, the evaluated test, assignment etc. of C1 and C2 shall be obtained back to maintain them till the announcement of the results of the examination of the concerned semester.
- j. The marks of the internal assessment shall be published on the notice board of the department / college for information of the students.
- k. The Internal assessment marks shall be communicated to the Registrar (Evaluation) at least 10 days before the commencement of the University examinations and the Registrar (E) shall have access to the records of such periodical assessments.
- l. There shall be no minimum in respect of internal assessment marks.
- m. Internal assessment marks may be recorded separately. A candidate who has failed or rejected the result, shall retain the internal assessment marks.

### **17. MINIMUM FOR A PASS:**

1. No candidate shall be declared to have passed the Semester Examination as the case may be under each course/paper unless he/she obtains not less than 35% marks in written examination / practical examination and 40% marks in the aggregate of written / practical examination and internal assessment put together in each of the courses and 40% marks (including IA) in Project work and viva wherever prescribed.

2. 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 the aggregate of both internal assessment and semester end examination marks put together in each unit 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 unit.
3. The candidates who pass all the semester examinations in the first attempts are eligible for ranks provided they secure at least CGPA of 6.00 (Alpha-Sign Grade B+).
4. A candidate who passes the semester examinations in parts is eligible for only Class, CGPA and Alpha-Sign Grade but not for ranking.
5. 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.
6. If a candidate fails in a subject, either in theory or in practical's, 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 practical's, separately) as stated above

## **18. CARRY OVER:**

Candidates who fail in lower semester examinations may go to the higher semesters and take the lower semester examinations. (A candidate who fails in a lower semester examination may go to the higher semester. However, No candidate shall be permitted to take the a) fifth semester examination unless he/she passes all courses/papers of the first semester examination and b) no candidate shall be permitted to take the sixth semester examination unless he/she passes all courses/papers of the first and second semester examinations. Similarly, no candidate shall be permitted to take the c) seventh semester examination unless he/she passes all papers of the first three semester examinations, and d) no candidate shall be permitted to take the 8th semester examination unless he/she passes all papers of the first four semesters examinations).

## **19. CLASSIFICATION OF SUCCESSFUL CANDIDATES:**

An alpha-sign grade, the eight point grading system, as described below may be adopted. 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 eight semesters of the programme and the corresponding overall alpha-sign grades. If some candidates exit at the completion of first, second or third year of the four years Undergraduate Programmes, with Certificate, Diploma or the Basic Degree, respectively, then the results of successful candidates at

the end of second, fourth or sixth semesters shall also be classified on the basis of the Cumulative Grade Point Average (CGPA) obtained in the two, four, six or eight semesters, respectively. For award of

- Certificate in Arts/ Science/ Commerce
- Diploma in Arts/ Science/ Commerce
- Bachelor's Degree in Arts/ Science/ Commerce
- Bachelor's Degree with Honours in a Discipline/Subject

In addition to the above, successful candidates at the end of tenth semester of the integrated Master's Degree Programmes, shall also be classified on the basis of CGPA obtained in the ten semesters of the Programmes. Likewise, the successful candidates of one year or two semester's Master's Degree Programmes are also classified on the basis of CGPA of two semesters of the Master's Degree Programmes,

**TABLE II: FINAL RESULT / GRADES DESCRIPTION**

Semester GPA/ Program CGPA	Alpha-Sign / Letter Grade	Semester/Program % of Marks	Result / Class Description
9.00-10.00	<b>O (Outstanding)</b>	90.0-100	Outstanding
8.00-<9.00	<b>A+ (Excellent)</b>	80.0-<90.0	First Class Exemplary
7.00-<8.00	<b>A (Very Good)</b>	70.0-<80.0	First Class Distinction
6.00-<7.00	<b>B+ (Good)</b>	60.0-<70.0	First Class
5.50-<6.00	<b>B (Above Average)</b>	55.0-<60.0	High Second Class
5.00-<5.50	<b>C (Average)</b>	50.0-<55.0	Second Class
4.00-<5.00	<b>P (Pass)</b>	40.0-<50.0	Pass Class
Below 4.00	<b>F (Fail)</b>	Below 40	Fail/Reappear
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 Appendix C:

## 20. REJECTION OF RESULTS:

- A candidate may be permitted to reject result of the whole examination of any semester. Rejection of result course/paper wise or subject wise shall not be permitted.
- The candidate who has rejected the result shall appear for the immediately following examination.
- The rejection shall be exercised only once in each semester and the rejection once exercised shall not be revoked.
- Application for rejection of results along with the payment of the prescribed fee shall be submitted to the Registrar (Evaluation) through the College of study together with the original statement of marks within 30 days from the date of publication of the result.
- A candidate who rejects the result is eligible for only SGPA/CGPA or Class and not for ranking.

## 21. IMPROVEMENT OF RESULTS

- A candidate who has passed in all the papers of a semester may be permitted to improve the result by reappearing for the whole examination of that semester.
- The reappearance may be permitted during the period N+2 years (where N refers to duration of the program) without restricting it to the subsequent examination only.
- The student may be permitted to apply for improvement examination 45 days in advance of the pertinent semester examination whenever held.

- d. If a candidate passes in all the subjects in reappearance, higher of the two aggregate marks secured by the candidate shall be awarded for that semester. In case the candidate fails in the reappearance, candidate shall retain the earlier result.
- e. A candidate who has appeared for improvement examination is eligible for class/CGPA only and not for ranking.
- f. Internal assessment (IA) marks shall be shown separately. A candidate who wants to improve the result or who, having failed, takes the examination again or who has appeared for improvement shall retain the IA marks already obtained.
- g. A candidate who fails in any of the semester examinations may be permitted to take the examinations again at a subsequent appearance as per the syllabus and scheme of examination in vogue at the time the candidate took the examination for the first time. This facility shall be limited to the following two years.

## **22. TRANSFER OF ADMISSION:**

Transfer of admissions are permissible only for odd semesters for students of other universities and within the University.

### **22.1 CONDITIONS FOR TRANSFER OF ADMISSION OF STUDENTS WITHIN THE UNIVERSITY.**

- a. His/her transfer admission shall be within the intake permitted to the college.
- b. Availability of same combination of subjects studied in the previous college.
- c. He/she shall fulfil the attendance requirements as per the University Regulation.
- d. He/she shall complete the programme as per the regulation governing the maximum duration of completing the programme.

### **22.2 CONDITIONS FOR TRANSFER ADMISSION OF STUDENTS OF OTHER UNIVERSITIES.**

- a. A Candidate migrating from any other University may be permitted to join odd semester of the degree programme provided he/she has passed all the subjects of previous semesters / years as the case may be. Such candidates must satisfy all other conditions of eligibility stipulated in the regulations of the University.
- b. His/her transfer admission shall be within the intake permitted to the college.
- c. He/she shall fulfil the attendance requirements as per the University Regulation.
- d. The candidate who is migrating from other Universities is eligible for overall SGPA/CGPA or Class and not for ranking.
- e. He/she shall complete the programme as per the regulation governing the maximum duration of completing the programme as per this regulation.



### **23. POWER TO REMOVE DIFFICULTIES**

If any difficulty arises in giving effect to the provisions of these regulations, the Vice-Chancellor may by order make such provisions not inconsistent with the Act, Statutes, Ordinances or other Regulations, as appears to be necessary or expedient to remove the difficulty. Every order made under this rule shall be subject to ratification by the Appropriate University Authorities.

### **24. REPEAL AND SAVINGS:**

The existing Regulations governing three years Bachelor degree programmes in the faculties of Arts, Science and Commerce shall stand repealed. However, the above Regulations shall continue to be in force for the students who have been admitted to the course before the enforcement of this regulation.

**TEMPLATE FOR IAT**  
**INTERNAL ASSESSMENT TEST**  
**BACHELOR OF COMMERCE - B.COM - DATA ANALYTICS**

**Course Code:**

**Name of the Course:**

Duration: 1 Hour

Total Marks: 20

**SECTION-A**  
(Based on the Remembering)

I. Answer Any Two of the following questions. Each carries Two Marks.

(2 x 2= 4)

- 1.
- 2.
- 3.

**SECTION- B**  
(Understanding and Applying)

II. Answer Any Two of the following questions. Each carries Eight marks.

(2 x8= 16)

- 4.
- 5.
- 6.

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**APPEARANCE FOR THE EXAMINATION**

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.

**SEMESTER END EXAMINATION - TEMPLATE**  
**BACHELOR OF COMMERCE - B.COM - DATA ANALYTICS**

**Course Code:**

**Name of the Course:**

**Duration: 2.00 Hours**

**Total Marks: 60**

**SECTION-A**  
**(Conceptual Questions)**

**I.** Answer any Five of the following questions. Each question carries Two Marks. (5 x 2= 10)

- a.
- b.
- c.
- d.
- e.
- f.
- g.

**SECTION- B**  
**(Application Questions)**

Answer any Four of the following question. Each question carries Five Marks. (4 x5= 20)

- 2.
- 3.
- 4.
- 5.
- 6.

**SECTION- C**  
**(Analyses and Understanding Questions)**

Answer Any Two of the following question. Each question carries Twelve Marks. (2 x12= 24)

- 7.
- 8.
- 9.

**SECTION- D**  
**(Skill Development Questions)**

Answer Any One of the following question, carries Six Marks. (1 x6= 06)

- 10.
- 11.

**NEW EDUCATION POLICY  
INITIATIVES  
CURRICULUM FRAMEWORK FOR  
FOUR-YEAR UNDER GRADUATE  
PROGRAM IN COMMERCE**

**Bachelor of Commerce,  
Bachelor of Commerce ( Data Analytics)  
with Honour,  
B.Com (Hons) and Master of Commerce  
M.Com.**

## B.COM – PROGRAM

Regulations for Bachelor of Commerce, Bachelor of Commerce (Data Analytics) with Honour,  
B.Com (Hons) and Master of Commerce M.Com.

### SEMESTER – I

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	Lang.1.1	Language -I	AECC	3+1+0	60	40	100	3
2	Lang.1.2	Language -II	AECC	3+1+0	60	40	100	3
3	B.Com.DA.1.1	Financial Accounting	DSC -1	3+0+2	60	40	100	4
4	B.Com.DA.1.2	Fundamentals of MS-Excel	DSC -2	4+0+0	60	40	100	4
5	B.Com.DA.1.3	Business Statistics – 1	DSC -3	4+0+0	60	40	100	4
6	B.Com.DA.1.4	Digital Fluency/ Basics of Computer	SEC -SB	1+0+2	25	25	50	2
7	B.Com.DA.1.5	<b>Any one of the following:</b> a. Accounting for Everyone b. Personal Finance and Planning	OEC -1	3+0+0	60	40	100	3
8	B.Com.DA.1.6	Yoga	SEC -VB	0+0+2	-	25	25	1
9	B.Com.DA.1.7	Health & Wellness	SEC -VB	0+0+2	-	25	25	1
<b>SUB TOTAL (A)</b>					<b>385</b>	<b>315</b>	<b>700</b>	<b>25</b>

### SEMESTER – II

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
10	Lang.2.1	Language -I	AECC	3+1+0	60	40	100	3
11	Lang.2.2	Language – II	AECC	3+1+0	60	40	100	3
12	B.Com.DA.2.1	Advanced Financial Accounting	DSC -4	3+0+2	60	40	100	4
13	B.Com.DA.2.2	Business Statistics – 2	DSC -5	3+0+2	60	40	100	4
14	B.Com.DA.2.3	Fundamentals of Database Management System and SQL	DSC -6	4+0+0	60	40	100	4
15	B.Com.DA.2.4	Environmental Studies	AECC	2+0+0	25	25	50	2
16	B.Com.DA.2.5	<b>Any one of the following:</b> a. Investing in stock markets b. Innovation Management	OE-2	3+0+0	60	40	100	3
17	B.Com.DA.2.6	Sports	SEC -VB	0+0+2	-	25	25	1
18	B.Com.DA.2.7	NCC/NSS/R&R(S&G)/ Cultural	SEC -VB	0+0+2	-	25	25	1
<b>SUB TOTAL (B)</b>					<b>385</b>	<b>315</b>	<b>700</b>	<b>25</b>

**EXIT OPTION WITH CERTIFICATION –  
WITH ABILITY TO SOLVE WELL DEFINED PROBLEMS**

### SEMESTER – III

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
19	Lang.3.1	Language -I	AECC	3+1+0	60	40	100	3
20	Lang.3.2	Language – II	AECC	3+1+0	60	40	100	3
21	B.Com.DA.3.1	Corporate Accounting	DSC– 7	3+0+2	60	40	100	4
22	B.Com.DA.3.2	Advanced - Excel (P=Practical Exam)	DSC– 8	3+0+2	60	40	100	4
23	B.Com.DA.3.3	Computer Fundamental & C – Programming ( P = (P=Practical Exam)	DSC– 9	3+0+2	60	40	100	4
24	B.Com.DA.3.4	Artificial Intelligence	SEC	1+0+2	25	25	50	2
25	B.Com.DA.3.5	<b>Any one of the following:</b> a. Project management b. Good Governance c. Advertising Skills d. Entrepreneurship Skills	OEC-3	3+0+0	60	40	100	3
26	B.Com.DA.3.6	Sports	SEC-VB	0+0+2	-	25	25	1
27	B.Com.DA.3.7	NCC/NSS/R&R(S&G)/ Cultural	SEC-VB	0+0+2	-	25	25	1
<b>SUB TOTAL (C)</b>					<b>385</b>	<b>315</b>	<b>700</b>	<b>25</b>

### SEMESTER – IV

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
28	Lang.4.1	Language -I	AECC	3+1+0	60	40	100	3
29	Lang.4.2	Language – II	AECC	3+1+0	60	40	100	3
30	B.Com.DA.4.1	Advanced Corporate Accounting	DSC– 10	3+0+2	60	40	100	4
31	B.Com.DA.4.2	Introduction to R ( P = Practical Exam)	DSC– 11	3+0+2	60	40	100	4
32	B.Com.DA.4.3	Data Science life cycle	DSC– 12	4+0+0	60	40	100	4
33	B.Com.DA.4.4	Constitution of India	AECC	2+0+0	25	25	50	2
34	B.Com.DA.4.5	<b>Any one of the following:</b> a. Risk Management b. Digital Marketing c. Creativity & Innovation d. Sustainable Development	OEC-4	3+0+0	60	40	100	3
35	B.Com.DA.4.6	Sports	SEC-VB	0+0+2	-	25	25	1
36	B.Com.DA.4.7	NCC/NSS/R&R(S&G)/ Cultural	SEC-VB	0+0+2	-	25	25	1
<b>SUB TOTAL (D)</b>					<b>385</b>	<b>315</b>	<b>700</b>	<b>25</b>

EXIT OPTION WITH DIPLOMA – ABILITY TO SOLVE BROADLY DEFINED PROBLEMS.

## SEMESTER – V

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
37	B.Com.DA .5.1	FinancialAnalytics in Business	DSC-13	3+0+2	60	40	100	4
38	B.Com.DA .5.2	Application of Python in Business	DSC-14	3+0+2	60	40	100	4
39	B.Com.DA .5.3	Tableau - Business Intelligence	DSC-15	4+0+0	60	40	100	4
40	B.Com.DA .5.4	One Course from the Selected Elective Group – Paper – 1	DSE-1	3+0+2	60	40	100	3
41	B.Com.DA .5.5	Basics of Spread Sheet Modelling OR Report on Study of Start -ups and Innovative Business Ideas	VOG1	2+0+2	60	40	100	3
42	B.Com.DA .5.6	Internship	Intern -1	0+0+2	-	50	50	2
43	B.Com.DA .5.7	Cyber Security or some other SEC	SEC	1+0+2	25	25	50	2
44	B.Com.DA .5.8	Sports	SEC– VB	0+0+2	-	25	25	1
45	B.Com.DA .5.9	NCC/NSS/R&R(S&G)/ Cultural	SEC– VB	0+0+2	-	25	25	1
<b>SUB TOTAL (F)</b>					<b>325</b>	<b>325</b>	<b>650</b>	<b>24</b>

## SEMESTER – VI

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
46	B.Com. DA6.1	Management Accounting	DSC-16	3+0+2	60	40	100	4
47	B.Com. DA6.2	Data Warehousing & Data Mining	DSC-17	3+0+2	60	40	100	4
48	B.Com. DA6.3	Web & Social Intelligence	DSC-18	3+0+2	60	40	100	4
49	B.Com. DA6.4	One Course from the Selected Elective Group – Paper – 2	DSE-2	3+0+2	60	40	100	3
50	B.Com. DA6.5	Basics of Spread Sheet Modelling OR Report on Study of Start -ups and Innovative Business Ideas	VOC-2	2+0+2	60	40	100	3
51	B.Com. DA6.6	Internship	Intern -2	0+0+2	-	50	50	2
52	B.Com. DA6.7	Professional Communication	SEC- SB	1+0+2	25	25	50	2
53	B.Com. DA6.8	Sports	SEC– VB	0+0+2	-	25	25	1
54	B.Com. DA6.9	NCC/NSS/R&R(S&G)/ Cultural	SEC– VB	0+0+2	-	25	25	1
<b>SUB TOTAL (F)</b>					<b>325</b>	<b>325</b>	<b>650</b>	<b>24</b>
<b>GRAND TOTAL - DEGREE</b>					<b>2190</b>	<b>1910</b>	<b>4100</b>	<b>148</b>

Students have to select dual electives out of the list of electives given in Fifth and Sixth Semester. Electives selected in the fifth semester should be continued in the sixth semester. However they can change the electives in the seventh semester. The electives selected in the seventh semester will continue in the eighth semester.

EXIT OPTION WITH BACHELOR DEGREE -ABILITY TO SOLVE COMPLEX PROBLEMS THAT ARE ILL-STRUCTURED REQUIRING MULTI-DISCIPLINARY SKILLS TO SOLVE THEM.

### SEMESTER – VII

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
55	B.Com.DA. 7.1	International Financial Reporting Standards	DSC-19	4+0+0	60	40	100	4
56	B.Com.DA.7.2	Advanced Business Statistics	DSC-20	3+0+2	60	40	100	4
57	B.Com.DA.7.3	Cloud Computing & Internet of things	DSC-21	3+0+2	60	40	100	4
58	B.Com.DA.7.4	One Course from the Selected Elective Group-PIII	DSE-3	3+1+0	60	40	100	3
59	B.Com.DA.7.5	ERP Applications	VOC-3	2+0+2	60	40	100	3
60	B.Com.DA.7.6	Research Methodology	RM-1	3+0+0	60	40	100	3
<b>SUB TOTAL (G)</b>					<b>360</b>	<b>240</b>	<b>600</b>	<b>21</b>

### SEMESTER – VIII

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
61	B.Com.DA.8.1	Marketing Analytics	DSC-22	3+0+2	60	40	100	4
62	B.Com.DA.8.2	Data Warehousing & Data Mining	DSC-23	4+0+0	60	40	100	4
63	B.Com.DA.8.3	Business Analytics OR Data Analysis & Decision Sciences	DSC-24	3+0+2	60	40	100	4
64	B.Com.DA.8.4	Managing Digital Platforms	VOC-4	2+0+2	60	40	100	3
65	B.Com.DA.8.5 <b>Or</b>	Research Projects/Internship with Viva – voce <b>OR</b>	-	-	120	80	200	6
65	B.Com.DA.8.5	Elective Paper (Two Courses from the Selected Elective Group-Paper IV & V)	DSE-4	2+0+2 (P) 3+0+0 (T)	60	40	100	3*
66	B.Com.DA.8.6		DSE-5	2+0+2 (P) 3+0+0 (T)	60	40	100	3*
<b>SUB TOTAL (H )</b>					<b>360</b>	<b>240</b>	<b>600</b>	<b>21</b>
<b>GRAND TOTAL OF (A+B+C+D+E+F+G+H)</b>					<b>2910</b>	<b>2390</b>	<b>5300</b>	<b>190</b>

\*In lieu of the research Project, two additional elective papers/ Internship may be offered



Award of Bachelor of Commerce Degree with Honours, (With the completion of courses equal to a minimum of 180 credits)

**BACHELOR DEGREE WITH HONORS – EXPERIENCE OF WORKPLACE PROBLEM SOLVING IN THE FORM OF INTERNSHIP OR RESEARCH EXPERIENCE PREPARING FOR HIGHER EDUCATION OR ENTREPRENEURSHIP EXPERIENCE.**

**NOTES:**

- One Hour of Lecture is equal to 1 Credit.
- One Hour of Tutorial is equal to 1 Credit (Except Languages).
- Two Hours of Practical is equal to 1 Credit

**Acronyms Expanded**

AECC	: Ability Enhancement Compulsory Course
DSC ©	: Discipline Specific Core (Course)
SEC-SB/VB	: Skill Enhancement Course-Skill Based/Value Based
OEC	: Open Elective Course
DSE	: Discipline Specific Elective
SEE	: Semester End Examination
CIE	: Continuous Internal Evaluation
L+T+P	: Lecture+Tutorial+Practical(s)

Note: Practical Classes may be conducted in the Business Lab or in Computer Lab or in Class room depending on the requirement. One batch of students should not exceed half (i.e., 30 or less than 30 students) of the number of students in each class/section. 2 Hours of Practical Class is equal to 1 Hour of Teaching, however, whenever it is conducted for the entire class (i.e., more than 30 students)

2 Hours of Practical Class is equal to 2 Hours of Teaching.

## ELECTIVE GROUPS AND COURSES:

<b>Discipline Specific Electives–V Semester</b>						
<b>Sl. No</b>	<b>Accounting</b>	<b>Finance</b>	<b>Banking &amp; Insurance</b>	<b>Marketing</b>	<b>Human Resources</b>	<b>IT</b>
1	Ind.AS and IFRS	Financial Markets & Intermediaries	Indian Banking System	Retail Management	Human Resources Development	Financial Analytics

<b>Discipline Specific Electives–VI Semester</b>						
1	e-Business& Accounting	Investment Management	Banking Innovations & Technology	Customer Relationship Marketing	Cultural Diversity at Work Place	HR Analytics
2	Accounting for Services Sector	Global Financial System & Practices	Principles & Practice of Insurance	Digital Marketing	NewAge Leadership Skills	Marketing Analytics
3	Accounting for Government and Local Bodies	Risk Management	Insurance Law and Regulations	Consumer Behavior& Marketing Research	Labour Laws& Practice	ICT Application in Business

<b>Discipline Specific Electives–VII Semester</b>						
1	Forensic Accounting	Corporate Structuring	Banking Products & Services	Logistics& Supply Chain Management	Strategic HRM	DBMS & SQL

<b>Discipline Specific Electives–VII Semester</b>						
1	Innovations in Accounting	Corporate Valuation	e-Banking	E - Commerce	International HRM	Web & Social Intelligence
2	Accounting Information System	Analysis of Financial Statements	Insurance Planning& Management	Services Marketing	Employee Welfare& Social Security	Artificial Intelligence & Machine Learning in Business

NOTE: Student shall continue with the same elective group in V and VI semesters, however, he/she may change the elective group in VII semester, but shall continue in the same group in VIII semester.

**Name of the Program:** Bachelor of Commerce (Data Analytics)

**Course Code:** B.Com. 1.1

**NAME OF THE COURSE: FINANCIAL ACCOUNTING**

COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classrooms lecture, tutorials, Group discussion, Seminar, Case studies & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the Students will be able to		
a) Understand the theoretical framework of accounting as well accounting standards.		
b) Demonstrate the preparation of financial statement of manufacturing and non-manufacturing entities of sole proprietors.		
c) Exercise the accounting treatments for consignment transactions & events in the books of consignor and consignee.		
d) Understand the accounting treatment for royalty transactions & articulate the Royalty agreements.		
e) Outline the emerging trends in the field of accounting.		
<b>SYLLABUS:</b>	<b>HOURS</b>	
<b>Module- 1: Theoretical Framework of Accounting</b>	<b>10</b>	
Introduction-Meaning and Scope of Accounting- Objectives of Accounting-Importance of Accounting-Function of Accounting-Terminologies used in accounting- Users of Accounting Information-Accounting Process-Basis of Accounting: Cash basis and Accrual Basis-Branches of Accounting- Principles of Accounting-Concepts and Conventions- Accounting Standards-Indian Accounting Standards (IND AS).		
<b>Module -2: Financial Statements of Sole Proprietors</b>	<b>12</b>	
Introduction-Meaning of Sole Proprietor-Meaning of Financial Statements - Manufacturing and non-manufacturing Entities: Financial statements of Manufacturing Concerns -Statement of Manufacture, Statement of Trading and Profit & Loss -Balance Sheet. Financial statement of Non-manufacturing Concerns, Statement of Profit and Loss and Balance sheet.		
<b>Module.3: Consignment Accounts</b>	<b>12</b>	
Introduction-Meaning of Consignment-Consignment vs Sales-Pro-forma Invoice-Accounts Sales-Types Commission-Accounting for Consignment Transactions & Events in the books of Consignor and Consignee - Treatment of Normal & Abnormal Loss. -Valuation of Closing Stock-Goods sent at Cost Price and Invoice Price- problem.		
<b>Module.4: Royalty Accounts</b>	<b>14</b>	
Introduction-Meaning- Terms used in royalty agreement: Lessee, Lessor, Minimum Rent – Short Workings –Recoupment of Short Working–Accounting Treatment in the books of Lessee and lessor – Journal Entries and Ledger Accounts including minimum rent account.		

<b>Module.5: Emerging Trends in Accounting</b>	<b>08</b>
<p>Digital Transformation of Accounting-Big Data Analytics in Accounting-Cloud Computing in accounting- - Green Accounting-Human Resource Accounting, Inflation Accounting, Database Accounting. (Theory Only).</p>	
<p><b>Skill Developments Activities:</b></p> <ol style="list-style-type: none"> <li>1. Collect Annual Reports of sole proprietors and identify accounting concepts and conventions followed in the preparation of the annual reports.</li> <li>2. Collect Annual Reports of sole proprietors and identify the different components.</li> <li>3. Preparation of Pro-form invoice and accounts sales with imaginary figures.</li> <li>4. Collect Royalty Agreements and draft dummy royalty agreements with imaginary figures.</li> <li>5. Identify latest innovations and developments in the field of accounting.</li> <li>6. Any other activities, which are relevant to the course.</li> </ol>	
<p><b>Text Books:</b></p> <ol style="list-style-type: none"> <li>1. Muninarayanappa. M and Nirmala. M (2021); Financial Accounting, Jayvee International Publications, Bangalore</li> <li>2. ICAI Study Materials on Principles &amp; Practice of Accounting, Accounting and Advanced Accounting.</li> <li>3. Robert N Anthony, David Hawkins, Kenneth A. Merchant, (2017) Accounting: Text and Cases, Mc Graw-Hill Education, 13th Edition.</li> <li>4. S.Anil Kumar, V.Rajesh Kumar and B.Mariyappa – Financial Accounting, Himalaya Publishing House, New Delhi.</li> <li>5. SP Iyengar (2005), Advanced Accounting, Sultan Chand &amp; Sons, Vol.1.</li> <li>6. Charles T. Horngren and Donna Philbrick, (2013) Introduction to Financial Accounting, Pearson Education, 11th Edition.</li> <li>7. J.R. Monga, Financial Accounting: Concepts and Applications. Mayur Paper Backs, New Delhi, 32nd Edition.</li> <li>8. S.N. Maheshwari, and. S. K. Maheshwari. Financial Accounting. Vikas Publishing House, New Delhi, 6th Edition.</li> <li>9. B.S. Raman (2008), Financial Accounting Vol. I &amp; II, United Publishers &amp; Distributors</li> <li>10. Compendium of Statements and Standards of Accounting. The Institute of Chartered Accountants of India, New Delhi.</li> </ol> <p><b>Note: Latest edition of text books may be used.</b></p>	

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 1.2 <b>NAME OF THE COURSE: FUNDAMENTALS OF MS-EXCEL</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classrooms lecture, Case studies, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the Students will be able to <ul style="list-style-type: none"> <li>· Fundamentals of Excel helps Students to learn how to start working with MS-EXCEL right from basics to Tables.</li> <li>· To understand the various templates and printing of their work.</li> <li>· The course aims to understand the most extensive tool used for many analysis in general and in Business Analytics in Particular, this module will equip students with hands-on skills on excel operations</li> </ul>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module No. 1: INTRODUCTION</b>		<b>12</b>
Basics of Ms-Windows – Desktop, Icon, creating, saving, and using of different documents and applications, Ms- Office: Installing, Customizing, and Using different applications and tools in Ms-Office package, Basics of MS-Word, MS-Access & MS-Outlook.		
<b>Module No. 2: INTRODUCTION TO MS-EXCEL</b>		<b>12</b>
Spreadsheets basics, Need for Spreadsheets, Work-Book, Work –Sheet, Parts of a MS-Excel Work-Sheet- Program area, Work area, Contents of Title-Bar, Manu-Bar, Contents of Manu Ribbons, Meaning of Cell- Cell address, Formula-Bar, Row-Numbers, Column-Letters, Quick Access to Tool-Bar, Office Button, Floating Frames, Adding Work-Sheets in Sheet Tab, Status- Bar., and other features of Excel.		
<b>Module No. 3: WORK-SHEET AND WORK-BOOK OPERATION</b>		<b>12</b>
Selecting Cell and Range of Cells, Merging of Cells, Entering and Saving Data in the Cell, Named Cells, Need of Naming Cells, Entering, Storing, Copying Formula, Using different Arithmetic and logical Operators in Formula, Moving Cell with contents, Copying and Pasting of Cell and Cell Content, Freezing Cells, Editing of Cell Contents, using Cell Formatting Options – Editing Cell Size (increasing Column and Row size of a cell), Text Alignment, using Border, Comments option usage in Cell, Editing and Deleting Comments, Fill, Formatting Fonts, Text Warping, Text Rotate, Using Auto-fit to Adjust Rows and Columns Using of Short-Cuts and Short-Cut Manu, Clear Contents in a Cell, Adding, Deleting and Copying Work-Sheet with in a Work-Book, Renaming a File or Work-Sheet, Inserting Multiple Work-Sheet at a time, Formatting a Work-Sheet Automatically, Sorting Textual & Numerical DATA, Sort Dates or Times, Sort by Cell Colour, Font Colour, or by icon, Sort by a custom list, Sort Rows, sort by more than column or row and other issues in sorting.		

<b>Module No. 4:</b>	<b>TABLES AND FORMATTING</b>	<b>12</b>
<p>Creating a Table, Changing the look of a table, Navigating in a Table, Selecting parts of a Table, Adding, Deleting New Rows / Columns, Moving a Table, Working with the Total Row, Removing Duplicate rows from a table. Sorting and Filtering a table, Converting Table into Range. Formatting tools on the Home Tab, Mini Toolbar, Fonts, Text Alignment, Wrapping text to fit a cell, Colours and Shading, Borders and Lines, Miming Styles Conditional Formatting and Reporting: Format all Cells by using a Two Colour Scale, Format all Cells by using Data Bars quick formatting, Protecting, Protect a Work-Book, Un Protect Work-Book, Protect Work-Sheet Data, Unprotect Work-Sheet data, Share a Work-Book and Proofing tools- Use a Shared Work-Book to Collaborate, Spelling and Grammar Check, Referencing – Relative, Absolute, Mixed Referencing, Basic Functions Viz., SUM, AVERAGE, MAX, MIN, SQRT, TODAY, COUNT, COUNTIF, VAR, CHAR, AND, OR, NOT, VALUE. ROUND, Introduction to Chart Wizard</p>		
<b>Module No. 5:</b>	<b>WORKING WITH MS-EXCEL</b>	<b>08</b>
<p>Using Formulae to Find the roots of a Quadratic Equations, Prove LHS = RHS for Identities, Formula of a Straight –line (<math>Y=MX+C</math>) to find the Slope of a straight –line, Regression Formula, Compound Interest, EMI-Formula, Formulae used in calculating Banker Discount, Bankers gain, True-Discount, Net-Present Value, Sum of AP and GP, Break – Even Analysis, Using Formulae in Ratio Analysis (Balance Sheet Ratios). Using IF Condition, and using Multiple IF Condition in University Result Declaration.</p>		
<b>Module No. 6:</b>	<b>PREPARING WORKED WORK -SHEET FOR PRINT</b>	<b>08</b>
<p><b>Reference Materials</b></p> <ol style="list-style-type: none"> <li>1. Rajkumar S and Nagarajan G and Naveen Kumar M, Fundamentals of MS Excel, Jayvee International Publications, Bangalore.</li> <li>2. Microsoft Excel Latest Version Inside Out – Mark Doge and Craig Stinson – PHI Learning Private Limited, New Delhi – 110001.</li> <li>3. Excel 2013 Bible ; John Walkenbach, Wiley</li> <li>4. Financial Analysis and Modeling using Excel and VAB: Chandan Sengupta, Wiley</li> <li>5. Excel Data Analysis – Modeling and Simulation: Hector Guerreor, Springe</li> <li>6. Microsoft Excel 2013: Data Analysis and Business Modeling: Winston, PHI</li> <li>7. Excel Functions and Formulas: Bernd Held, BPB Publications.</li> </ol>		

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 1.3 <b>NAME OF THE COURSE: BUSINESS STATISTICS – 1</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classrooms lecture, Case studies, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the Students will be able to <ul style="list-style-type: none"> <li>· To understand the basic concepts of statistics</li> <li>· To able to present the data</li> <li>· The students able understand and measures of central tendency</li> </ul> To understand the Skewness and Correlation Analysis		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module No. 1: INTRODUCTION TO STATISTICS</b>		<b>10</b>
Business Statistics – What & Why? Meaning and Definition of Statistics, Functions, Importance, and Limitations of Statistics, Meaning of Data and Information, Classification of Data into Primary & Secondary Data, Data Collection processes involved for Secondary and Primary Data, Preparing Primary Data Collection Tools – Interview Schedule, Observation tools, Questionnaire, Using Google form to collect primary data. Identification of Target respondents to Questionnaire, Sampling & Sampling techniques		
<b>Module No. 2: PRESENTATION OF DATA</b>		<b>15</b>
Formation of Frequency Distribution Table, Classification according to Class – Intervals, Principles of Classification, Tabulation of Data- Parts of a Table, Review of the Table, Types of Tables, Charting Data – General Rules for Constructing Diagrams, Types of Diagrams, One-Dimensional or Bar Diagrams, Points to be kept in mind while constructing Bar Diagrams, Types of Bar Diagrams, Two – Dimensional Diagrams – Pie Diagram, Choice of a suitable diagram. Graphs; Graphs of time series of line graphs, range – chart, band-graphs, Graphs of Frequency Distributions – Histogram, Frequency Polygon, Smoothed Frequency Curve, Cumulative Frequency Curves of 'Ogive Curve'.		
<b>Module No. 3: MEASURES OF CENTRAL TENDENCY</b>		<b>10</b>
Introduction to Statistical Averages, Characteristics of a Good Average, Different Methods of Calculation of Arithmetic Mean, Median, Mode, Relationship among Mean, Median & Mode, Different Methods of Calculation of Geometric and Harmonic Mean		
<b>Module No. 4: MEASURES OF VALUATION AND STANDARD DEVIATION</b>		<b>11</b>
Meaning and Definition, Purpose of Measuring Variation, Properties of a Good Measures of Variation, Methods of Measuring Dispersion – Range, Inter-quartile		

Range or Quartile Deviation, The Average Deviation, Standard Deviations – Calculation of Standard Deviation of Ungrouped and Grouped Data, Relationship between Measures of Variation, Correcting Incorrect Values of Standard Deviation, Coefficient of Variation, Lorenz Curve

**Module No. 5: Corelation and Skewness**

**10**

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

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

**Books for Reference:**

1. Nirmala M and Raghunatha Reddy .S (2021); Business Statistics, Jayvee International Publications, Bangalore.
2. S.P. Gupta and M.P. Gupta, Business Statistics– Sultan Chand & Sons Educational Publishers – New Delhi., 18th Edition -2014
3. Medhi. J., Statistical Methods: An introductory text. New Age, 1992.
4. J.K. Sharma, Business Statistics, Pearson Education India, 2007.
5. KVK Sharma, Statistics Made Simple: Do it Yourself on PC- PHI Publication
6. Gupta, S.C, and V.K. Kapoor, Fundamentals of Mathematical Statistics- Sultan Chand & Sons – New Delhi. 2001'
7. Mood A.M. Graybill F.A and Boes D.C, Introduction to the Theory of Statistics, McGraw

**Note: Latest edition of text books may be used.**



<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 1.5 a.(Open Elective Course) <b>NAME OF THE COURSE: ACCOUNTING FOR EVERYONE</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
3 CREDITS	3 HOURS	42 HOURS
<b>Pedagogy:</b> Classrooms lecture, tutorials, Group discussion, Seminar, Case studies & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the Students will be able to <ol style="list-style-type: none"> <li>1. Analyse various terms used in accounting;</li> <li>2. Make accounting entries and prepare cash book and other accounts necessary while running a business;</li> <li>3. Prepare accounting equation of various business transactions;</li> <li>4. Analyse information from company's annual report;</li> <li>5. Comprehend the management reports of the company.</li> </ol>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module 1: Introduction to Accounting</b>		<b>08 Hours</b>
Meaning, Importance and Need, Its objectives and relevance to business establishments and other organizations, and individuals. Accounting information: meaning, users and utilities, sources of accounting information. Some Basic Terms – Transaction, Account, Asset, Liability, Capital, Expenditure & Expense, Income, Revenue, Gain, Profit, Surplus, Loss, Deficit. Debit, Credit, Accounting Year, Financial Year.		
<b>Module 2: Transactions and Recording of Transactions</b>		<b>08 Hours</b>
Features of recordable transactions and events, Basis of recording – vouchers and another basis. Recording of transactions: Personal account, Real Account and Nominal Account; Rules for Debit and Credit; Double Entry System, journalizing transactions; Preparation of Ledger, Cash Book including bank transactions. (Simple Problems)		
<b>Module 3: Preparation of Financial Statements</b>		<b>10 Hours</b>
Fundamental Accounting Equation; Concept of revenue and Capital; Preparation of financial statements. (Simple problems)		
<b>Module 4: Company Accounts</b>		<b>08 Hours</b>
Explanation of certain terms – Public Limited Company, Private Limited Company, Share, Share Capital, Shareholder, Board of Directors, Stock Exchange, Listed Company, Share Price, Sensex - BSE, NSE; Annual report, etc. Contents and disclosures in Annual Report, Company Balance Sheet and Statement of Profit and Loss. Content Analysis based on annual report including textual analysis.		

<b>Module 5: Management Reports</b>	<b>08 Hours</b>
<p>Reports on Management Review and Governance; Report of Board of Directors - Management discussion analysis- Annual Report on CSR – Business responsibility report – Corporate governance report – Secretarial audit report.</p>	
<p><b>Skill Development Activities:</b></p> <ol style="list-style-type: none"> <li>1. Download annual reports of business Organisations from the websites and go through the contents of the annual report and present the salient features of the annual report using some ratios and content analysis including textual analysis.</li> <li>2. Prepare accounting equation by collecting necessary data from medium sized firm.</li> <li>3. Prepare financial statements collecting necessary data from small business firms.</li> <li>4. Collect the management reports of any large scale organisation and analyse the same.</li> <li>5. Any other activities, which are relevant to the course.</li> </ol>	
<p><b>Text Books:</b></p> <ol style="list-style-type: none"> <li>1. Nirmala. M and Satyanarayana (2021), Accounting for Everyone, Jayvee International Publications, Bangalore.</li> <li>2. Hatfield, L. (2019). Accounting Basics. Amazon Digital Services LLC.</li> <li>3. Horngren, C. T., Sundem, G. L., Elliott, J. A., &amp; Philbrick, D. (2013). Introduction to Financial Accounting. London: Pearson Education.</li> <li>4. Siddiqui, S. A. (2008). Book Keeping &amp; Accountancy. New Delhi: Laxmi Publications Pvt. Ltd.</li> <li>5. Sehgal, D. (2014). Financial Accounting. New Delhi: Vikas Publishing House Pvt. Ltd.</li> <li>6. Tulsian, P. C. (2007). Financial Accounting. New Delhi: Tata McGraw Hill Publishing Co. Ltd.</li> <li>7. Mukharji, A., &amp; Hanif, M. (2015). Financial Accounting. New Delhi: Tata McGraw Hill Publishing Co. Ltd.</li> <li>8. Maheshwari, S. N., Maheshwari, S. K., &amp; Maheshwari, S. K. (2018). Financial Accounting. New Delhi: Vikas Publishing House Pvt. Ltd.</li> <li>9. Khan, M. Y. and Jain, P. K. Management Accounting. McGraw Hill Education.</li> <li>10. Arora, M. N. Management Accounting, Vikas Publishing House, New Delhi</li> </ol> <p><b>Note: Latest edition of text books may be used.</b></p>	

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 1.5 b.(Open Elective Course) <b>NAME OF THE COURSE: : PERSONAL FINANCE AND PLANNING</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
3 CREDITS	3 HOURS	42 HOURS
<b>Pedagogy:</b> Classrooms lecture, tutorials, Group discussion, Seminar, Case studies & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the Students will be able to <ol style="list-style-type: none"> <li>1. Explain the meaning and appreciate the relevance of Financial Planning;</li> <li>2. Familiarize with regard to the concept of Investment Planning and its methods;</li> <li>3. Examine the scope and ways of Personal Tax Planning;</li> <li>4. Analyze Insurance Planning and its relevance;</li> <li>5. Develop an insight into retirement planning and its relevance.</li> </ol>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module 1: Introduction to Financial Planning</b>		<b>08 Hours</b>
Financial goals, Time value of money, steps in financial planning, personal finance/loans, education loan, car loan & home loan schemes. Introduction to savings, benefits of savings, management of spending & financial discipline, Net banking and UPI, digital wallets, security and precautions against Ponzi schemes and online frauds such as phishing, credit card cloning, skimming.		
<b>Module 2: Investment Planning</b>		<b>08 Hours</b>
Process and objectives of investment, Concept and measurement of return & risk for various assets class, Measurement of portfolio risk and return, Diversification & Portfolio formation. Gold Bond; Real estate; Investment in Greenfield and brownfield Projects; Investment in fixed income instruments- financial derivatives & Commodity market in India. Mutual fund schemes including SIP; International investment avenues.		
<b>Module 3: Personal Tax Planning</b>		<b>10 Hours</b>
Tax Structure in India for personal taxation, Scope of Personal tax planning, Exemptions and deductions available to individuals under different heads of income and gross total income, Special provision u/s 115BAC vis-à-vis General provisions of the Income-tax Act, 1961. Tax avoidance versus tax evasion.		
<b>Module 4: Insurance Planning</b>		<b>08 Hours</b>
Need for Protection planning. Risk of mortality, health, disability and property. Importance of Insurance: life and non-life insurance schemes. Deductions available under the Income-tax Act for premium paid for different policies.		

<b>Module 5: Retirement Benefits Planning</b>	<b>07 Hours</b>
Retirement Planning Goals, Process of retirement planning, Pension plans available in India, Reverse mortgage, New Pension Scheme. Exemption available under the Income-tax Act, 1961 for retirement benefits.	
<p><b>Skill Development Activities:</b></p> <p><b>The learners are required to:</b></p> <ol style="list-style-type: none"> <li>1. Perform electronic fund transfer through net-banking and UPI.</li> <li>2. Identify certain Ponzi schemes in the market during the last few selected years.</li> <li>3. Prepare tax planning of a hypothetical individual</li> </ol>	
<p><b>Text Books:</b></p> <ol style="list-style-type: none"> <li>1. Nirmala. M and Nagarajan.G (2021), Personal Finance and Planning, Jayvee International Publications, Bangalore</li> <li>2. Indian Institute of Banking &amp; Finance. (2017). Introduction to Financial Planning. New Delhi: Taxmann Publication.</li> <li>3. Pandit, A. (2014). The Only Financial Planning Book that You Will Ever Need. Mumbai: Network 18 Publications Ltd.</li> <li>4. Sinha, M. (2008). Financial Planning: A Ready Reckoner. New York: McGraw Hill Education. Halan, M. (2018). Let's Talk Money: You've Worked Hard for It, Now Make It Work for You. New York: HarperCollins Publishers.</li> <li>5. Tripathi, V. (2017). Fundamentals of Investment. New Delhi: Taxmann Publication.</li> </ol> <p>Note: Latest edition of text books may be used.</p>	

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 2.1 <b>NAME OF THE COURSE: ADVANCED FINANCIAL ACCOUNTING</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classrooms lecture, Case studies, Tutorial classes, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the Students will be able to a) Understand & compute the amount of claims for loss of stock & loss of Profit. b) Learn various methods of accounting for hire purchase transactions. c) Deal with the inter-departmental transfers and their accounting treatment. d) Demonstrate various accounting treatments for dependent & independent branches. e) Prepare financial statements from incomplete records.		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module-1: Insurance Claims for Loss of Stock</b>		<b>10</b>
Meaning, Need and Advantages of Fire Insurance-Special terminologies in Fire Insurance Claims – Insurer, Insured, Premium, Salvage, Insurance Policy, Sum Assured, Under Insurance, over insurance Average Clause, Claim. Problems on Ascertainment of Fire Insurance Claim including problems on abnormal line of goods.		
<b>Module - 2: Hire Purchase Accounting</b>		<b>10</b>
Meaning of Hire Purchase and Installment Purchase System- difference between Hire Purchase and Installment Purchase – Important Definitions – Hire Purchase Agreement – Hire Purchase Price – Cash Price – Hire Purchase Charges – Net Hire Purchase Price – Net Cash Price – Calculation of Interest – Calculation of Cash Price – Journal Entries and Ledger Accounts in the books of Hire Purchaser and Hire Vendor (Asset Accrual Method only).		
<b>Module -3: Departmental Accounts</b>		<b>12</b>
Meaning and Features of Departmental Undertaking-Examples of Department Specific Expenses and Common Expenses -Need and Bases of Apportionment of Common Expenses-Preparation of Statement of Trading and Profit and Loss in Columnar form, Statement of General Profit and Loss and Balance Sheet – Simple problems involving Inter Departmental Transfers at Cost Price (vertical form).		
<b>Module-4: Branch Accounts</b>		<b>12</b>
Meaning of Branch Accounts -Objectives and Advantages of Branch Accounting Types of Branches – Meaning and features of Dependent Branches, Independent Branches and Foreign Branches-Methods of maintaining books of accounts by the Head Office –Debtors System- ascertainment of Profit or Loss of Branch under Debtors System – Supply of goods at Cost Price and supply of goods at Invoice Price.		

<b>Module -5: Conversion of Single-Entry System into Double Entry System</b>	<b>12</b>
<p>Single entry system- Meaning – Features – Merits – Demerits – Types. Conversion into Double Entry system – Need for Conversion – Preparation of Statement of Affairs – Cash book – Memorandum Trading Account – Total Debtors Account – Total Creditors Account – Bills Receivable Account – Bills Payable Account – Statement of Trading and Profit &amp; Loss and Balance Sheet.</p>	
<p><b>Skill Development Activities:</b></p> <ol style="list-style-type: none"> <li>1. Identify the procedure &amp; documentations involved in the insurance claims.</li> <li>2. Collect hire purchase agreement and draft dummy hire purchase agreements with imaginary figures.</li> <li>3. Identify the common expenditures of a departmental undertaking</li> <li>4. Collect the procedure and documentations involved in the establishment of various branches.</li> <li>5. Visit any sole proprietor firm and identify the steps involved in the conversion of single entry into double entry system.</li> <li>6. Any other activities, which are relevant to the course.</li> </ol>	
<p><b>Text Books:</b></p> <ol style="list-style-type: none"> <li>1. Muninarayanappa. M and Raghu. V.N, Advanced Financial Accounting, Jayvee International Publications, Ed. 2021, Bangalore.</li> <li>2. ICAI Study Materials on Principles &amp; Practice of Accounting, Accounting and Advanced Accounting.</li> <li>3. S.Anil Kumar, V.Rajesh Kumar and B.Mariyappa – Financial Accounting, Himalaya Publishing House, New Delhi</li> <li>4. SP Iyengar (2005), Advanced Accounting, Sultan Chand &amp; Sons, Vol.1.</li> <li>5. Robert N Anthony, David Hawkins, Kenneth A. Merchant, (2017) Accounting: Text and Cases, McGraw-Hill Education, 13th Edition.</li> <li>6. Charles T. Horngren and Donna Philbrick, (2013) Introduction to Financial Accounting, Pearson Education, 11th Edition.</li> <li>7. J.R. Monga, Financial Accounting: Concepts and Applications. Mayur Paper Backs, New Delhi, 32nd Edition.</li> <li>8. S.N. Maheshwari, and. S. K. Maheshwari. Financial Accounting. Vikas Publishing House, New Delhi, 6th Edition.</li> <li>9. B.S. Raman (2008), Financial Accounting Vol. I &amp; II, United Publishers &amp; Distributors</li> <li>10. Compendium of Statements and Standards of Accounting. The Institute of Chartered Accountants of India, New Delhi.</li> </ol> <p><b>Note: Latest edition of text books may be used.</b></p>	

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 2.2 <b>NAME OF THE COURSE:</b> BUSINESS STATISTICS – 2		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classrooms lecture, Case studies, Tutorial classes, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the Students will be able to learn and analyse data for various descriptive and inferential statistics and understand probability and sampling distributions and application of linear regression in multivariate context for predictive purpose		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module No. 1: REGRESSION ANALYSIS AND TIME SERIES ANALYSIS</b>		<b>10</b>
Regression Analysis: Introduction – Difference between Correlation and Regression Analysis, The Linear Bivariate Regression Model – Regression – lines, Regression – equations 'Y' on 'X' and 'X' on 'Y', Regression Coefficients, Standard Errors of Estimates, Coefficient of Determination, Time Series Analysis: Steps in Forecasting, Requirements of a Good Forecasting Systems, Methods of Forecasting, Business Forecasting and Time-series Analysis, Components of Time-series – Secular(Factor Affecting) Trend, Seasonal Variations, Cyclical Variations, Irregular Variations. Straight – line Trends Measurement – Free hand or graphic method, Methods of Semi Averages, Methods of least square, Non-linear Trend Measurements – Free hand graphic methods, Method of Moving Averages, Second Degree Parabola collect primary data. Identification of Target respondents to Questionnaire, Sampling & Sampling techniques		
<b>Module No. 2: PROBABILITY AND SAMPLING</b>		<b>12</b>
Introduction to Probability, meaning, Usefulness, Mathematical Properties, Permutation, Combination, Trail, Event, Sample Space, Mutually Exclusive Cases, Exhaustive Events, Independent Events, Dependent Events, Simple and Compound Events; Measurement: Classical, Relative Frequency Theory of Probability, Limitations, Personalistic View of Probability and Axiomatic Approach of Probability, Addition and Multiplication theorem, Odds, Miscellaneous illustrations, theoretical Questions Practical Problems. Sampling Theory and Test of Significance: Purpose of Sampling, Principles of Sampling, Principle of Statistical Regularity, Principle of Inertia of Large Numbers Methods of Sampling: Random Sampling – Stratified Sampling, Systematic Sampling, Multi-stage Sampling. Non-random Sampling Methods – Judgment Sampling, Quota Sampling, Convenience Sampling, Size of Sample: Calculation of Size of Sampling, Sampling Errors, Causes of Bias, Avoidance of Bias, Methods of Reducing Sampling Errors, Non-Sampling Errors – Control of Non-Sampling Errors. Sampling Distributions: The Population (Universe) Distribution, The Sampling Distribution, Relationship between Population, Sample and Sample Distributions, Sampling Distribution of Mean, Distribution of Sample Mean, Standard Deviations, Sampling Distribution of Difference of the two Means,		

Sampling Distribution of the Number of Successes, Sampling Distribution of Proportions, Sampling Distribution of the Difference of two Proportions. – Problems & Solutions.	
<b>Module No. 3: STATISTICAL INFERENCE AND HYPOTHESIS TESTING</b>	<b>10</b>
<p>Procedure of Hypothesis Testing, Type – 1 and Type – 2 Errors, One-Tailed and Two- Tailed Tests, Tests of Hypothesis Concerning Large Samples, Testing Hypothesis about Population Mean, Testing Hypothesis about the difference between two Means, Testing Hypothesis Concerning Attributes, Testing Hypothesis about a Population Proportion, Testing Hypothesis about the difference between Two Proportions – Problems and Solutions.</p> <p>Chi-Square Test: The Chi-Square Distribution, Important Properties of Chi-Square Distribution, Chi-Square Test, Conditions for the Application of <math>\chi^2</math> Test, Use of the Chi-square Table, Yates's Correction for Continuity, Grouping when Frequencies are Small, Cautions while Applying <math>\chi^2</math> Test – Problems and Solutions.</p>	
<b>Module No. 4: ANALYSIS OF VARIANCE &amp; INTERPOLATION &amp; EXTRAPOLATION</b>	<b>10</b>
The ANOVA Technique, The Basic Principles of ANOVA, One – Way ANOVA – Analysis of Variance Table, Short-cut Method for One-way ANOVA, Critical Difference. Two-Way ANOVA – One Observation per Cell, More Than One Observation per Cell, Latin-Square Design, Analysis of Co-Variance (ANOCOVA), Interpolation & Extrapolation – Simple Problems	
<b>Module No. 5: OVERVIEW OF MULTIVARIATE STATISTICS</b>	<b>14</b>
Nature of Multivariate Analysis, Validity and Reliability, Types of Multivariate Techniques, Factor Analysis, Multiple Regression, Logistic Regression, Canonical Correlation, Conjoint Analysis, Cluster Analysis, Multi-Dimensional Scaling, Correspondence Analysis, Structural Equation Modeling, Multivariate Model Building.	
<p><b>Books for Reference:</b></p> <ol style="list-style-type: none"> <li>1. Nirmala M (2021), Jayvee International Publication, Bangalore.</li> <li>2. Ken Black, Business Statistics, New Delhi.</li> <li>3. Waller, Derek, Statistics for Business, London: BH Publication, 2013.</li> <li>4. Lee, Cheng. et.al, Statistics for Business and Financial Economics, New York: Wiley Heidelberg Dordrecht</li> <li>5. Anderson, David.R., Thomas A. Williams and Dennis J. Sweeney, Statistics for Business and Economics, New Delhi: South Western.</li> <li>6. S.P. Gupta and M.P. Gupta, Business Statistics– Sultan Chand &amp; Sons Educational Publishers – New Delhi., 18th Edition -2014</li> <li>7. J.K. Sharma, Business Statistics, Pearson Education India, 2007.</li> <li>8. KVK Sharma, Statistics Made Simple: Do it Yourself on PC- PHI Publication</li> <li>9. Gupta, S.C, and V.K. Kapoor, Fundamentals of Mathematical Statistics- Cultan Chand &amp; Sons – New Delhi. 2001'</li> <li>10. Mood A.M. Graybill F.A and Boes D.C, Introduction to the Theory of Statistics, Mcgraw Hill.</li> </ol>	



<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code: : B.Com – LSCM - 2.3</b> <b>NAME OF THE COURSE: FUNDAMENTALS OF DATABASE MANAGEMENT SYSTEMS AND SQL</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classrooms lecture, Case studies, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the Students will be able to 1. The aim of this course is to enable students to understand Database Management Systems and the significance of DDL, DML in SQL Portion of RDBMS. Knowledge of Excel and SQL would equip students with hands-on skills on DBMS operations with SQL. 2. To understand DBMS structure and file management system in DBMS		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module No. 1: INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS</b>		<b>10</b>
Meaning and Definition of Database, Objectives of Database, Features of Database, Conceptual Data modeling – File Organization – Data Structure – Data models: HDBMS, NDBMS, RDBMS, OODBMS, Desktop and Server-level Database, Resent Trends in Database.		
<b>Module No. 2: DATABASE DESIGN</b>		<b>08</b>
Relational Data Model – Relational Algebra – ER Diagrams – Data Dictionary – Normalisation – Boyce Codd Normal Forms – Integrity – Relational Database Languages – Database Administration – File Structures and Indexing. Object oriented concepts – Structure – Models and Databases – Object life cycle modeling – Objects, Classes, and Patterns – Object interaction modeling – Object Oriented Design – UML		
<b>Module No. 3: OPERATION AND MANAGEMENT</b>		<b>10</b>
Client / Server and Databases – Data Warehousing – Query Processing – Concurrency Management – Heterogeneous and Homogenous Systems – Distributed Databases – Controls – Atomicity, Recovery – Security, Back-up and Recovery,  Distributed Databases: Structure of Distributed Database; Trade-offs in Distributing the Database, Advantages of Data Distribution, Disadvantages of Data Distribution; Design of Distributed Databases, Data Replication, Data Fragmentation		
<b>Module No. 4: SQL STRUCTURED QUERY LANGUAGE</b>		<b>12</b>
Relational Query Languages, the SQL Query Language, DDL – CREATE Table, ALTER Table, DROP Table, CREATE Index, DROP Index etc., DML – SELECT, UPDATE, DELETE, INSERT INTO etc., DATA – TYPE, Constraints on Attributes – Referential Integrity Constraint, Where-Clause – Arithmetic and Relational Operators		

<b>Module No. 5: PRACTICAL PROBLEMS AND LAB-WORK ON SQL</b>	<b>16</b>
Practical Problems And Lab-Work On SQL	
<p><b>Reference Materials</b></p> <ol style="list-style-type: none"> <li>1. Nagarajan G and Clement King Fundamentals of Database Management Systems and SQL (2021), Jayvee International Publication, Bangalore.</li> <li>2. Clement King and Raju G.S, Fundamentals of Database Management Systems and SQL (2021), Jayvee International Publication, Bangalore.</li> <li>3. Gary W.Hansen and James V.Hansen, “Database Management and Design” Prentice Hall</li> <li>4. C.S.V. Murthy – Data Base Management Systems-HPH</li> <li>5. C.Laudon. Management information systems 6th edition, published 2000. P.</li> <li>6. Dr. Milind m. Oka. Management information systems. Everest publishing house. P.3</li> <li>7. Gordon. B. Davis &amp; M. H. Olson. Management Information Systems.. Conceptual Foundations, structure and development. SECOND EDITION. P.6</li> <li>8. Jacek Błażewicz, et al., “Handbook on parallel and distributed processing”, Springer Science &amp; Business Media, 2013.</li> </ol> <p><b>Note: Latest edition of text books may be used.</b></p>	

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 2.4 a (Open Elective Course) <b>Name of the Course:</b> INVESTING IN STOCK MARKETS		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
3 CREDITS	3 HOURS	42 HOURS
<b>Pedagogy:</b> Classrooms lecture, Case studies, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the Students will be able to		
<ol style="list-style-type: none"> <li>1. Explain the basics of investing in the stock market, the investment environment as well as risk &amp; return;</li> <li>2. Analyse Indian securities market;</li> <li>3. Examine EIC framework and conduct fundamental analysis;</li> <li>4. Perform technical analysis;</li> <li>5. Invest in mutual funds market.</li> </ol>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module 1: Basics of Investing</b>		<b>10 Hours</b>
Basics of Investment & Investment Environment. Risk and Return, Avenues of Investment -Equity shares, Preference shares, Bonds & Debentures, Insurance Schemes, Mutual Funds, Index Funds. Indian Security Markets - Primary Market, Secondary Market and Derivative Market. Responsible Investment.		
<b>Module 2: Fundamental Analysis</b>		<b>08 Hours</b>
Top down and bottom up approaches, Analysis of international & domestic economic scenario, Industry analysis, Company analysis (Quality of management, financial analysis: Both Annual and Quarterly, Income statement analysis, position statement analysis including key financial ratios, Cash flow statement analysis, Industry market ratios: PE, PEG, Price over sales, Price over book value, EVA), Understanding Shareholding pattern of the company.		
<b>Module 3: Technical Analysis</b>		<b>08 Hours</b>
Trading rules (credit balance theory, confidence index, filter rules, market breath, advances vs declines and charting (use of historic prices, simple moving average and MACD) basic and advanced interactive charts. Do's & Don'ts of investing in markets.		
<b>Module 4: Indian Stock Market</b>		<b>08 Hours</b>
Market Participants: Stock Broker, Investor, Depositories, Clearing House, Stock Exchanges. Role of stock exchange, Stock exchanges in India- BSE, NSE and MCX. Security Market Indices: Nifty, Sensex and Sectoral indices, Sources of financial information. Trading in securities: Demat trading, types of orders, using brokerage and analyst recommendations.		
<b>Module 5: Investing in Mutual Funds</b>		<b>08 Hours</b>
Concept and background on Mutual Funds: Advantages, Disadvantages of		

investing in Mutual Funds, Types of Mutual funds- Open ended, close ended, equity, debt, hybrid, index funds and money market funds. Factors affecting choice of mutual funds. CRISIL mutual fund ranking and its usage, calculation and use of Net Asset Value.

**Skill Development Activities:**

1. Work on the spreadsheet for doing basic calculations in finance.
2. Learners will also practice technical analysis with the help of relevant software.
3. Practice use of Technical charts in predicting price movements through line chart, bar chart, candle and stick chart, etc., moving averages, exponential moving average.
4. Calculate of risk and return of stocks using price history available on NSE website.
5. Prepare equity research report-use of spreadsheets in valuation of securities, fundamental analysis of securities with the help of qualitative and quantitative data available in respect of companies on various financial websites, etc.

**Text Books:**

1. Nirmala M and Shobha T.S (2021), Investing in Stock Markets, Jayvee International Publications, Bangalore.
2. Chandra, P. (2017). Investment Analysis and Portfolio Management. New Delhi: Tata McGraw Hill Education.
3. Kevin, S. (2015). Security Analysis and Portfolio Management. Delhi: PHI Learning. Ranganatham,
4. M., & Madhumathi, R. (2012). Security Analysis and Portfolio Management. Uttar Pradesh: Pearson (India) Education.
5. Pandian, P. (2012). Security Analysis and Portfolio Management. New Delhi: Vikas Publishing House.

**Note: Latest edition of text books may be used.**

<b>Name of the Program:</b> Bachelor of Commerce (B.Com.) <b>Course Code:</b> B.Com. 2.4 b (Open Elective Course) <b>Name of the Course:</b> INNOVATION MANAGEMENT		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
3 CREDITS	3 HOURS	42 HOURS
<b>Pedagogy:</b> Classrooms lecture, Case studies, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the Students will be able to		
1 The students can be able to defining types and patterns of innovation. 2 Search of the sources of innovation and ideas generating. 3 Students can be able to defining innovation-related strategic decisions within organizations. 4 Managing the processes of new product development. 5 Developing the paths of cooperation for innovation-based projects.		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module 1: Exploring Innovations</b>		<b>10 Hours</b>
Public Administration- meaning, nature and scope and limitations; Concept and functions of a welfare state; Emergence of civil society; Factors leading to emergence of civil society; Concept of liberty, Theories of liberty; Concept of equality, Dimensions of equality; Concept of justice, dimensions of justice. Similarity and Dissimilarity between Public Administration and Business Administration.		
<b>Module 2: Application of Innovation</b>		<b>10 Hours</b>
Good society: Need and Importance, Moral Reasoning, Theories of Moral Reasoning; Diversity, Equity and Equality; Leadership; Responsibility, Accountability; Globalization and society; Cross cultural issues; Ethical Conduct of National and Multinational Corporations.		
<b>Module 3: Marketing Innovation Products</b>		<b>10 Hours</b>
Constitution of India- Preamble, Fundamental rights, Directive Principles of state policies; India's federal system, NITI AYOOG-role and functions; Impact of political system on business environment- policies, programmes and procedure; Ease of doing business; Start-up India, Stand Up India, Make in India, Recent trends in taxation policies-impact on investment and business.		
<b>Module 4: Evaluation of Innovation</b>		<b>08 Hours</b>
Judicial System- features and structure; Jurisdiction, Powers and Functions, Judicial Review, Judicial Activism and business, Human Rights and business-challenges and opportunities, Social Justice. Public Interest Litigation and writs-challenges and opportunities for business.		
<b>Module-V: Innovation in Reality</b>		<b>04 Hours</b>
Mind-set, Lateral thinking, Out of Box Approach, Creativity, Innovation for Problem Solving.		

### **Skill Development Activities:**

- 1 Make students apply their knowledge on innovation and innovation dynamics to real case.
- 2 Make students work on their teamwork skills.
- 3 Make students develop their online collaborative working skills and learn how to use some of the appropriate tools to that extent.
- 4 Make students develop their data collection and analysis skills.

### **Text Books:**

1. Culture, Innovation, and Growth Dynamics by Elias G. Carayannis; Ali Pirzadeh; Denisa Popescu
2. Nagarajan & Raj Kumar S ;(2021) Innovation Management; Jayvee International Publications; Ist Edition,
3. Phillips, J. J., & Phillips, P. P. (2018). Using Design-Thinking in Your Innovation Projects. *Journal for Quality & Participation*, 41(3), 12–15.
4. Schoemaker, P. J. H., Heaton, S., & Teece, D. (2018). Innovation, Dynamic Capabilities, and Leadership. *California Management Review*, 61(1), 15–42.
5. The Oxford handbook of group creativity and innovation. (2019). Oxford University Press.

**Note: Latest edition of text books may be used.**

# NATIONAL EDUCATION POLICY 2020

## Key features:

- ❖ **Multi-disciplinary and holistic education system.**
- ❖ **Flexibility, mobility, competitiveness and freedom to choose.**
- ❖ **Multiple Entry-Exit options.**
- ❖ **Students centric learning system.**
- ❖ **Transformative education system.**

## Experiential Learning:

- **Focus on experiential, inquiry and discovery based teaching learning methods.**
- **Arts, Sports and story-telling and ICT integrated pedagogy**
- **Promoting peer tutoring as voluntary and joyful activity under the supervision of teachers.**

## Promotion of peer tutoring:

- ✓ **Promoting peer tutoring as voluntary and joyful activity under the supervision of teachers.**
- ✓ **No hard separation between curricular co-curricular and extracurricular area.**

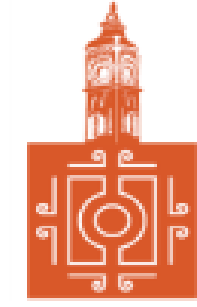
## Bagless days:

- **Bagless days to be scheduled in academic Calendar.**

## Use and integration of technology:

- **Integration of technology enable pedagogy in classes 6-12**

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BE BOUNDLESS



# BENGALURU CITY UNIVERSITY

CHOICE BASED CREDIT SYSTEM

(Semester Scheme with Multiple Entry and Exit Options for  
Under Graduate Course- as per NEP 2020)

Revised Syllabus for

**B.COM - DATA ANALYTICS**

**2022-23 onwards**



# DEPARTMENT OF COMMERCE

Central College Campus, Dr. Ambedkar Veedhi, Bengaluru-560001

## **B.COM - DATA ANALYTICS**

SYLLABUS FRAMED ACCORDING TO THE  
NATIONAL EDUCATIONAL POLICY

(NEP 2020)

ACADEMIC YEAR 2022-23 ONWARDS



**PROCEEDINGS OF UG BOS MEETING OF – B.COM, B.COM (DATA ANALYTICS/INSURANCE/A&F/LSCM/TTM/TAXPROCEDURE/VOCATIONAL/BF) COURSES**

Proceedings of the BOS – UG – B.Com, B.Com (Data Analytics/IAS/A&F/LSCM/TTM/Tax Procedure/Vocational/BF) courses for the academic year 2022 – 2023 meeting held on 14<sup>th</sup> October 2022, at the Department of Commerce, PK Block, Bengaluru City University, Bengaluru-560009 at 11:00 A.M. The Board has reviewed and approved the course matrix and syllabus of first four semesters of the above mentioned courses. The board authorized the chairman to make the necessary changes and get the approval for the same.

**MEMBERS PRESENT:**

- |   |          |
|---|----------|
| 1. Dr.M Muniraju, Chairman & Dean, Dept of Commerce                   | Chairman |
| 2. Dr. K R Jalaja, Associate Professor, Dept. of Commerce, BCU,       | Member   |
| 3. Dr. Sarvamangala, Associate Professor, Dept. of Commerce, BU       | Member   |
| 4. Dr. Nagaraj.N, Professor, Dept of Commerce, University of Mysore   | Member   |
| 5. Dr. Y.Muniraju, Professor in Commerce, Mangalore University        | Member   |
| 6. Dr.D Channappa, Chairman and Professor, Osmania University         | Member   |
| 7. Dr.R.Parvathi, Principal, VET first Grade College, Bangalore       | Member   |
| 8. Dr.D Raja Jebasingh, Vice Principal, St. Joseph's Commerce College | Member   |
| 9. Dr.B.G.Bhasakara, Principal, Vivekananda Degree College            | Member   |
| 10. Dr.Padmaja P V, Principal, MLA Academy of Higher Learning         | Member   |
| 11. Dr.S N Venkatesh, Principal, RVD College                          | Member   |
| 12. Dr.S.Harish, Principal, Vijaya Evening College                    | Member   |

**CO-OPTED MEMBERS**

13. Dr. Bhavani H, Head,  
Dept. of Commerce, M L A First Garde College for Women,
14. Prof. Gururaj Rao, Associate Professor, Vijaya College
15. Dr. Swaminathan, Associate Professor, GFGC, Malleswaram
16. Dr. Srihari, Associate Professor, SSMRV College, Bengaluru
17. Dr. Nagaraj C, GFGC, Yelahanka
18. Ms. Priya Srinivas, BMS College of Management

**Chairman BOS**

## B.COM - DA – PROGRAM

### SEMESTER – I

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	Lang.1.1	Language -I	AECC	3+1+0	60	40	100	3
2	Lang.1.2	Language -II	AECC	3+1+0	60	40	100	3
3	B.Com.DA.1.1	Financial Accounting	DSC -1	3+0+2	60	40	100	4
4	B.Com.DA.1.2	<b>Fundamentals of MS-Excel (P=Practical Exam)</b>	DSC -2	3+0+2	60	40	100	4
5	B.Com.DA.1.3	Business Statistics - I	DSC -3	3+0+2	60	40	100	4
6	B.Com.DA.1.4	Digital Fluency/ Basics of Computer	SEC-SB	1+0+2	30	20	50	2
7	B.Com.DA.1.5	<b>Any one of the following:</b> a. Accounting for Everyone b. Personal Finance and Planning	OEC -1	3+0+0	60	40	100	3
8	B.Com.DA.1.6	Yoga	SEC-VB	0+0+2	-	25	25	1
9	B.Com.DA.1.7	Health & Wellness	SEC-VB	0+0+2	-	25	25	1
<b>SUB TOTAL (A)</b>					<b>390</b>	<b>310</b>	<b>700</b>	<b>25</b>

### SEMESTER – II

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
10	Lang.2.1	Language -I	AECC	3+1+0	60	40	100	3
11	Lang.2.2	Language – II	AECC	3+1+0	60	40	100	3
12	B.Com. DA.2.1	Advanced Financial Accounting	DSC -4	3+0+2	60	40	100	4
13	B.Com.DA.2.2	Business Statistics - II	DSC -5	3+0+2	60	40	100	4
14	B.Com.DA.2.3	<b>Fundamental of Data Base Management System and SQL</b>	DSC -6	3+0+2	60	40	100	4
15	B.Com.DA.2.4	Environmental Studies	AECC	2+0+0	30	20	50	2
16	B.Com.DA.2.5	<b>Any one of the following:</b> a. Investing in stock markets b. Innovation Management	OE-2	3+0+0	60	40	100	3
17	B.Com.DA.2.6	Sports	SEC-VB	0+0+2	-	25	25	1
18	B.Com.DA.2.7	NCC/NSS/R&R(S&G)/ Cultural	SEC-VB	0+0+2	-	25	25	1
<b>SUB TOTAL (B)</b>					<b>390</b>	<b>310</b>	<b>700</b>	<b>25</b>

**EXIT OPTION WITH CERTIFICATION –  
WITH ABILITY TO SOLVE WELL DEFINED PROBLEMS**

### SEMESTER – III

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
19	Lang.3.1	Language -I	AECC	3+1+0	60	40	100	3
20	Lang.3.2	Language – II	AECC	3+1+0	60	40	100	3
21	B.Com. DA.3.1	Corporate Accounting	DSC– 7	3+0+2	60	40	100	4
22	B.Com.DA.3.2	Management Principles and Applications	DSC– 8	3+0+2	60	40	100	4
23	B.Com.DA.3.3	<b>Advanced Excel</b>	DSC– 9	3+0+2	60	40	100	4
24	B.Com.DA.3.4	Financial Education & Investment Awareness	SEC	1+0+2	30	20	50	2
25	B.Com.DA.3.5	<b>Any one of the following:</b> a. Advertising Skills b. Entrepreneurship Skills	OEC-3	3+0+0	60	40	100	3
26	B.Com.DA.3.6	Sports	SEC-VB	0+0+2	-	25	25	1
27	B.Com.DA.3.7	NCC/NSS/R&R(S&G)/ Cultural	SEC-VB	0+0+2	-	25	25	1
<b>SUB TOTAL (C)</b>					<b>390</b>	<b>310</b>	<b>700</b>	<b>25</b>

### SEMESTER – IV

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
28	Lang.4.1	Language -I	AECC	3+1+0	60	40	100	3
29	Lang.4.2	Language – II	AECC	3+1+0	60	40	100	3
30	B.Com.DA.4.1	Human Resource Management	DSC– 10	3+0+2	60	40	100	4
31	B.Com.DA.4.2	Principles of Marketing	DSC– 11	3+0+2	60	40	100	4
32	B.Com.DA.4.3	<b>Data Science life cycle</b>	DSC– 12	4+0+0	60	40	100	4
33	B.Com.DA.4.4	Constitution of India	AECC	2+0+0	30	20	50	2
34	B.Com.DA.4.5	<b>Any one of the following:</b> a. Banking Operations b. Principles of Event Management	OEC-4	3+0+0	60	40	100	3
35	B.Com.DA.4.6	Sports	SEC-VB	0+0+2	-	25	25	1
36	B.Com.DA.4.7	NCC/NSS/R&R(S&G)/ Cultural	SEC-VB	0+0+2	-	25	25	1
<b>SUB TOTAL (D)</b>					<b>390</b>	<b>310</b>	<b>700</b>	<b>25</b>

**EXIT OPTION WITH DIPLOMA – ABILITY TO SOLVE BROADLY DEFINED PROBLEMS.**

### SEMESTER – V

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
37	B.Com.DA .5.1	Financial Management	DSC-13	3+0+2	60	40	100	4
38	B.Com.DA .5.2	Income Tax -I	DSC-14	3+0+2	60	40	100	4
39	B.Com.DA .5.3	GST Law and Practice	DSC-15	3+0+2	60	40	100	4
40	B.Com.DA .5.4	<b>Marketing Analytics</b>	DSC -16	3+0+2	60	40	100	3
41	B.Com.DA .5.5	<b>Introduction to R ( P = Practical Exam)</b>	VOC-1	2+0+2	60	40	100	3
42	B.Com.DA .5.6	Internship	Intern -1	0+0+2	-	50	50	2
43	B.Com.DA .5.7	Cyber Security or some other SEC	SEC	1+0+2	30	20	50	2
44	B.Com.DA .5.8	Sports	SEC– VB	0+0+2	-	25	25	1
45	B.Com.DA .5.9	NCC/NSS/R&R(S&G)/ Cultural	SEC– VB	0+0+2	-	25	25	1
<b>SUB TOTAL (F)</b>					<b>330</b>	<b>320</b>	<b>650</b>	<b>24</b>

### SEMESTER – VI

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
46	B.Com. DA.6.1	Management Accounting	DSC-17	3+0+2	60	40	100	4
47	B.Com. DA.6.2	Cost Accounting	DSC-18	3+0+2	60	40	100	4
48	B.Com. DA.6.3	<b>Financial Analytics</b>	DSC-19	3+0+2	60	40	100	4
49	B.Com. DA.6.4	<b>Data Analysis using Tableau</b>	DSC-20	3+0+2	60	40	100	3
50	B.Com. DA.6.5	Application of Python in Business Decisions	VOC-2	2+0+2	60	40	100	3
51	B.Com. DA.6.6	Internship	Intern -2	0+0+2	-	50	50	2
52	B.Com. DA.6.7	Professional Communication	SEC- SB	1+0+2	30	20	50	2
53	B.Com. DA.6.8	Sports	SEC– VB	0+0+2	-	25	25	1
54	B.Com. DA.6.9	NCC/NSS/R&R(S&G)/ Cultural	SEC– VB	0+0+2	-	25	25	1
<b>SUB TOTAL (F)</b>					<b>320</b>	<b>320</b>	<b>650</b>	<b>24</b>
<b>GRAND TOTAL - DEGREE</b>					<b>2220</b>	<b>1880</b>	<b>4100</b>	<b>148</b>

EXIT OPTION WITH BACHELOR DEGREE -ABILITY TO SOLVE COMPLEX PROBLEMS THAT ARE ILL-STRUCTURED REQUIRING MULTI-DISCIPLINARY SKILLS TO SOLVE THEM.

### SEMESTER – VII

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
55	B.Com.DA. 7.1	International Business	DSC-21	4+0+0	60	40	100	4
56	B.Com.DA.7. 2	Business Regulations	DSC-22	3+0+2	60	40	100	4
57	B.Com.DA.7.3	<b>Web and Social Intelligence</b>	DSC-23	3+0+2	60	40	100	4
58	B.Com.DA.7.4	<b>HR Analytics</b>	DSC-24	3+1+0	60	40	100	3
59	B.Com.DA.7.5	ERP Applications	VOC-3	2+0+2	60	40	100	3
60	B.Com.DA.7.6	Research Methodology	RM-1	3+0+0	60	40	100	3
<b>SUB TOTAL (G)</b>					<b>360</b>	<b>240</b>	<b>600</b>	<b>21</b>

### SEMESTER – VIII

SL NO	Course Code	Title of the Course	Category of Course	Teaching Hours per Week (L+T+P)	SEE	CIE	Total Marks	Credits
61	B.Com.DA.8.1	Financial Reporting and IND AS	DSC-25	3+0+ 2	60	40	100	4
62	B.Com.DA.8.2	<b>Cloud Computing and IOT</b>	DSC-26	4+0+0	60	40	100	4
63	B.Com.DA.8.3	<b>Econometrics</b>	DSC-27	3+0+2	60	40	100	4
64	B.Com.DA.8.4	Advance SQL	VOC-4	2+0+2	60	40	100	3
65	B.Com.DA.8.5	Research Projects/Internship with Viva – voce	-	-	120	80	200	6
<b>SUB TOTAL (H )</b>					<b>360</b>	<b>240</b>	<b>600</b>	<b>21</b>
<b>GRAND TOTAL OF (A+B+C+D+E+F+G+H)</b>					<b>2940</b>	<b>2360</b>	<b>5300</b>	<b>190</b>

Award of Bachelor of Commerce Degree with Honours, (With the completion of courses equal to a minimum of 180 credits)

**BACHELOR DEGREE WITH HONORS – EXPERIENCE OF WORKPLACE PROBLEM SOLVING IN THE FORM OF INTERNSHIP OR RESEARCH EXPERIENCE PREPARING FOR HIGHER EDUCATION OR ENTREPRENEURSHIP EXPERIENCE.**

**NOTES:**

- One Hour of Lecture is equal to 1 Credit.
- One Hour of Tutorial is equal to 1 Credit (Except Languages).
- Two Hours of Practical is equal to 1 Credit

**Acronyms Expanded**

AECC	: Ability Enhancement Compulsory Course
DSC ©	: Discipline Specific Core (Course)
SEC-SB/VB	: Skill Enhancement Course-Skill Based/Value Based
OEC	: Open Elective Course
DSE	: Discipline Specific Elective
SEE	: Semester End Examination
CIE	: Continuous Internal Evaluation
L+T+P	: Lecture +Tutorial+Practical(s)

Note: Practical Classes may be conducted in the Business Lab or in Computer Lab or in Class room depending on the requirement. One batch of students should not exceed half (i.e., 30 or less than 30 students) of the number of students in each class/section. 2 Hours of Practical Class is equal to 1 Hour of Teaching, however, whenever it is conducted for the entire class (i.e., more than 30 students)

2 Hours of Practical Class is equal to 2 Hours of Teaching.

<b>Name of the Program:</b> Bachelor of Commerce (B.Com-Data Analytics)) <b>Course Code:</b> B.Com.DA 1.1 <b>NAME OF THE COURSE: FINANCIAL ACCOUNTING</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classroom lectures, tutorials, Group discussion, Seminar, Case studies & field work etc.,		
<b>Course Outcomes:</b> Course Outcomes: On successful completion of the course, the students will be able to a. Understand the theoretical framework of accounting as well as accounting standards. b. Demonstrate the ability to prepare financial statement of manufacturing and nonmanufacturing entities of sole proprietors. c. Workout the accounting treatments for consignment transactions & events in the books of consignor and consignee. d. Understand the accounting treatment for royalty transactions & articulate the Royalty agreements. Demonstrate various accounting treatments for dependent and independent branches		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module- 1: Theoretical Framework of Accounting</b>		<b>08</b>
Introduction-Meaning and Scope of Accounting- Objectives of Accounting- Importance of Accounting-Function of Accounting-Terminologies used in accounting- Users of Accounting Information-Accounting Process-Basis of Accounting: Cash basis and Accrual Basis-Branches of Accounting- Principles of Accounting-Concepts and Conventions- Accounting Standards-Indian Accounting Standards (IND AS)- <b>Theory</b> , Accounting equations, Problems on Accounting Equations		
<b>Module -2: Financial Statements of Sole Proprietary Concerns</b>		<b>12</b>
Introduction-Meaning of Sole Proprietor-Meaning of Financial Statements - Manufacturing and non-manufacturing Entities: Financial statements of Manufacturing Concerns -Statement of Manufacture, Statement of Trading and Profit & Loss -Balance Sheet - <b>problems</b>		
<b>Module. 3: Consignment Accounts</b>		<b>12</b>
Introduction – Meaning – Consignor – Consignee – Goods Invoiced at Cost Price – Goods Invoiced at Selling Price – Normal Loss – Abnormal Loss – Valuation of Stock – Stock Reserve – Journal Entries – Ledger Accounts in the books of Consignor- <b>problems.</b>		
<b>Module.4: Royalty Accounts</b>		<b>12</b>
Introduction-Meaning- Terms used in royalty agreement: Lessee, Lessor, Minimum Rent – Short Workings –Recoupment of Short Working–Accounting Treatment in the books of Lessee only – Journal Entries and Ledger Accounts including minimum rent account. ( <b>Sub-lease and lessor books excluded</b> )- <b>problems</b>		



<b>Module.5: Branch Accounts</b>	<b>12</b>
<p>Meaning of Branch Accounts -Objectives and Advantages of Branch Accounting Types of Branches – Meaning and features of Dependent Branches, Independent Branches and Foreign Branches-Methods of maintaining books of accounts by the Head Office – Debtors System- ascertainment of Profit or Loss of Branch under Debtors System – <b>Problems</b></p>	
<p><b>Skill DevelopmentActivities:</b></p> <ol style="list-style-type: none"> <li>1. Collect Annual Financial Statements of sole proprietary concerns and identify accounting concepts and conventions followed in the preparation of the annual financial statements.</li> <li>2. Preparation of Pro-form invoice and accounts sales with imaginary figures.</li> <li>3. Prepare Royalty table with imaginary figures.</li> <li>4. Prepare Branch Account with imaginary figures</li> </ol>	
<p><b>Books for Reference:</b></p> <ol style="list-style-type: none"> <li>1. Robert N Anthony, David Hawkins, Kenneth A. Merchant, (2017) Accounting: Text and Cases, Mc Graw-Hill Education, 13thEdition.</li> <li>2. S.Anil Kumar, V.Rajesh Kumar and B.Mariyappa – Financial Accounting, Himalaya Publishing House, New Delhi.</li> <li>3. SPIyengar (2005), Advanced Accounting, Sultan Chand &amp; Sons, Vol.1.</li> <li>4. Charles T. Horngren and Donna Philbrick, (2013) Introduction to Financial Accounting, Pearson Education, 11thEdition.</li> <li>5. J.R. Monga, Financial Accounting: Concepts and Applications. Mayur Paper Backs, New Delhi, 32ndEdition.</li> <li>6. S.N. Maheshwari, and. S. K. Maheshwari. Financial Accounting. Vikas Publishing House, New Delhi, 6th Edition.</li> <li>7. B.S. Raman (2008), Financial Accounting Vol. I &amp; II, United Publishers &amp; Distributors</li> </ol>	

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com.DA 1.2 <b>Name of the Course: FUNDAMENTALS OF MS-EXCEL</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classroom lectures, Case studies, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to <ul style="list-style-type: none"> <li>· Fundamentals of Excel helps Students to learn how to start working with MS-EXCEL right from basics to Tables.</li> <li>· To understand the various templates and printing of their work.</li> <li>· The course aims to understand the most extensive tool used for many analysis in general and in Business Analytics in Particular, this module will equip students with hands-on skills on excel operations</li> </ul>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module No. 1:</b>	<b>Introduction</b>	<b>12</b>
Basics of MS-Windows – Desktop, Icon, creating, saving, and using of different documents and applications, MS- Office: Installing, Customizing, and Using different applications and tools in MS-Office package, Basics of MS-Word, Basics of MS Power Point.		
<b>Module No. 2:</b>	<b>Introduction to MS-Excel</b>	<b>12</b>
Spreadsheets basics, Need for Spreadsheets, Work-Book, Work –Sheet, Parts of a MS-Excel Work-Sheet- Program area, Work area, Contents of Title-Bar, Manu-Bar, Contents of Manu Ribbons, Meaning of Cell- Cell address, Formula-Bar, Row-Numbers, Column-Letters, Quick Access to Tool-Bar, Office Button, Floating Frames, Adding Work-Sheets in Sheet Tab, Status- Bar., and other features of Excel.		
<b>Module No. 3:</b>	<b>Work-Sheet and Work-Book Operation</b>	<b>12</b>
Selecting Cell and Range of Cells, Merging of Cells, Entering and Saving Data in the Cell, Named Cells, Need of Naming Cells, Entering, Storing, Copying Formula, Using different Arithmetic and logical Operators in Formula, Moving Cell with contents, Copying and Pasting of Cell and Cell Content, Freezing Cells, Editing of Cell Contents, using Cell Formatting Options – Editing Cell Size (increasing Column and Row size of a cell), Text Alignment, using Border, Comments option usage in Cell, Editing and Deleting Comments, Fill, Formatting Fonts, Text Warping, Text Rotate, Using Auto-fit to Adjust Rows and Columns Using of Short-Cuts and Short-Cut Manu, Clear Contents in a Cell, Adding, Deleting and Copying Work-Sheet with in a Work-Book, Renaming a File or Work-Sheet, Inserting Multiple Work-Sheet at a time, Formatting a Work-Sheet Automatically, Sorting Textual & Numerical DATA, Sort Dates or Times, Sort by Cell Colour, Font Colour, or by icon, Sort by a custom list, Sort Rows, sort by more than column or row and other issues in sorting.		

<b>Module No. 4:</b>	<b>Tables And Formatting</b>	<b>12</b>
<p>Creating a Table, Changing the look of a table, Navigating in a Table, Selecting parts of a Table, Adding, Deleting New Rows / Columns, Moving a Table, Working with the Total Row, Removing Duplicate rows from a table. Sorting and Filtering a table, Converting Table into Range. Formatting tools on the Home Tab, Mini Toolbar, Fonts, Text Alignment, Wrapping text to fit a cell, Colours and Shading, Borders and Lines, Miming Styles Conditional Formatting and Reporting: Format all Cells by using a Two Colour Scale, Format all Cells by using Data Bars quick formatting, Protecting, Protect a Work-Book, Un Protect Work-Book, Protect Work-Sheet Data, Unprotect Work-Sheet data, Spelling and Grammar Check, Referencing – Relative, Absolute, Mixed Referencing, Basic Functions Viz., SUM, AVERAGE, MAX, MIN, SQRT, TODAY, COUNT, COUNTIF, CHAR, AND, OR, NOT, VALUE. ROUND.</p>		
<b>Module No. 5:</b>	<b>Working with Ms-Excel</b>	<b>08</b>
<p>Using Formulae to Find the roots of a Quadratic Equations, Formula of a Straight –line (<math>Y=MX+C</math>) to find the Slope of a straight line, Regression Formula, EMI-Formula, Formulae used in calculating Banker Discount, Bankers gain, True-Discount, Net-Present Value, Sum of AP and GP,) Using IF Condition, and using Multiple IF Condition in University Result Declaration.</p>		
<p><b>Books for Reference</b></p> <ol style="list-style-type: none"> <li>1. Rajkumar S and Nagarajan G and Naveen Kumar M, Fundamentals of MS Excel, Jayvee International Publications, Bangalore.</li> <li>2. Microsoft Excel Latest Version Inside Out – Mark Doge and Craig Stinson – PHI Learning Private Limited, New Delhi – 110001.</li> <li>3. Excel 2013 Bible ; John Walkenbach, Wiley</li> <li>4. Financial Analysis and Modeling using Excel and VAB: Chandan Sengupta, Wiley</li> <li>5. Excel Data Analysis – Modeling and Simulation: Hector Guerreor, Springe</li> <li>6. Microsoft Excel 2013: Data Analysis and Business Modeling: Winston, PHI</li> <li>7. Excel Functions and Formulas: Bernd Held, BPB Publications.</li> </ol>		

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. DA. 1.3 <b>NAME OF THE COURSE: BUSINESS STATISTICS – 1</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classroom lectures, Case studies, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to: 1. Understand the basic concepts of statistics. 2. Articulate and analyse the visualised data. 3. Structure the data for further evaluation. 4. Link the relevance of Index number. 5. Understands to build correlation of variables.		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module No. 1: Introduction to Statistics</b>		<b>10</b>
<b>Basics of Statistics:</b> Meaning, Definition need of statistics, Business statistics, The <i>DCOVA</i> framework for Business statistics (define, collect, organize, visualize, and analyze). <b>Data:</b> Data in Business environment, Sources of Data - Primary Data & Secondary data, Methods of collecting Primary Data and Secondary Data. Population and Sample, Data Formatting and Data Cleaning. <b>Techniques of Data Collection:</b> Census and Sampling techniques, methods of sampling.		
<b>Module No. 2: Data Organising and Visualising</b>		<b>08</b>
Formation of Frequency Distribution Table, Classification – Meaning and Types, Tabulation of Data- Parts of a Table, Types of Tables, Diagrammatic Presentation of the data – General Rules for Constructing Diagrams, Types of Diagrams, One-Dimensional - Bar Diagrams, Two – Dimensional Diagrams – Pie Diagram.		
<b>Module No. 3: Descriptive Statistics</b>		<b>12</b>
<b>Measures of Central Tendency:</b> Calculation of Mean, Median, Quartiles, Mode in Individual, Discrete and Continuous series. Geometric Mean in Individual series (Problems) <b>Measures of Dispersion:</b> Mean Deviation, Quartile Deviation, Standard Deviation, Coefficient of Variation -Problems. <b>Shapes:</b> Skewness, Tests of Skewness, Measures of Skewness - Karl Pearson’s Coefficient of Skewness and Bowley’s Coefficient of Skewness - problems.		
<b>Module No. 4: Probability</b>		<b>14</b>
<b>Introduction to probability:</b> Meaning of Probability; Meaning of Terminologies - Sample space, Experiment, Deterministic experiment, Random experiment, Trial , Event- Null event, Simple event, Compound event, Sure event, Equally likely events, Mutually exclusive events, independent, dependent events and conditional		

<p>probability. Complement of an event, Union and intersection of events; Outcomes - Meaning of Favorable and Exhaustive outcomes.</p> <p>Meaning of Classical and Empirical/statistical methods of assigning probabilities. Classical/ Mathematical, Empirical/Statistical, and axiomatic definitions of probability. Statement of addition theorem of probability (non-mutually and mutually exclusive events) Problems.</p> <p><b>Note: Interactive Graphics for Probability can be sourced from <u>Seeing Theory</u></b></p>	
<b>Module No. 5: Correlation Analysis</b>	<b>10</b>
<p>Correlation- Definition, Types-(Simple, Multiple, Partial. Causation, Spurious, positive, negative, (degrees of correlation). Significance of study of correlation analysis.</p> <p>Methods of Study Correlation- scatter diagram, Karl Pearson's coefficient of correlation for ungrouped and grouped data. Properties of coefficient of correlation, Probable error (Problems-ungrouped and grouped data).</p>	
<p><b>Books for Reference:</b></p> <ol style="list-style-type: none"> <li>1. Berenson: Basic of Business Statistics Pearsons Publication.</li> <li>2. Evas: Statistics, Data Analysis and Decision modelling, Pearsons Publication.</li> <li>3. S.P. Gupta and M.P. Gupta: Business Statistics, Sultan Chand &amp; Sons Educational Publishers.</li> <li>4. N. D Vohra: BUSINESS STATISTICS: Text and Problems - With Introduction to Business Analytics, McGrew Hill Publication.</li> <li>5. Dr. B N Gupta: Statistics, Sahitya Bhavan Agra</li> </ol> <p><b>Skill Development: MS Excel sessions to be conducted for 2<sup>nd</sup>, 3<sup>rd</sup> and 5<sup>th</sup> Modules.</b></p>	

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 1.5 a.(Open Elective Course) <b>NAME OF THE COURSE: ACCOUNTING FOR EVERYONE</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
3 CREDITS	3 HOURS	42 HOURS
<b>Pedagogy:</b> Classroom lectures, tutorials, Group discussion, Seminar, Case studies & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to <ol style="list-style-type: none"> <li>1. Analyse various terms used in accounting.</li> <li>2. Understand the procedure for recording the transaction.</li> <li>3. Learn posting the journal entry to ledger</li> <li>4. Learn to prepare ledger accounts and cash books.</li> <li>5. Learn to prepare final accounts</li> </ol>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module 1: Introduction to Accounting</b>		<b>08 Hours</b>
<b>Accounting:</b> Meaning, Importance and objectives of Accounting, Concepts and Convention of Accounting. <b>Accounting Information:</b> Meaning, Users, Sources of accounting information. Some Basic Terms –Transaction, Account, Asset, Liability, Capital, Expenditure, Income, Revenue, Profit, Loss, Concept of revenue and Capital; Debit, Credit, Accounting Year, Financial Year. <b>Accounting Equations</b> – Simple Problems on Accounting Equation.		
<b>Module 2: Recording of Transactions</b>		<b>12 Hours</b>
Features of recordable transactions and events, Recording of Transactions; Types of Accounts - Personal account, Real Account and Nominal Account ; Golden Rules of Accounting-Rules for Debit and Credit; Double Entry System, Journalizing transactions (Simple Problems on Journal Entries of Sole Proprietorship Concern)		
<b>Module 3: Preparation of Ledger Accounts and Cash Book</b>		<b>10 Hours</b>
<b>Ledger</b> – Meaning of Ledger, Format of Ledger Account, Preparation of Ledger Accounts (Simple Problems on Journalising the transactions and posting in Ledger Accounts), <b>Cash Book</b> -Meaning of Cash Book, Posting of transactions in cash book. (Simple Problems on Single and Triple Columnar Cash Book)		
<b>Module 4: Preparation of Final Accounts</b>		<b>08 Hours</b>
Preparation of Trial Balance and Final Accounts. (Simple problems on Trial Balance, Trading, Profit and Loss Accounts and Balance Sheet with T-format).		

**Skill Development Activities:**

1. Write an accounting equation using Imaginary figures.
2. Prepare final accounts collecting necessary data from small business firms.
3. Prepare a Trial Balance with Imaginary Figures.
4. Prepare a Triple Columnar Cash Book with imaginary transactions.
5. Pass any five journal entries with imaginary transactions for Sole proprietary concern.

**Books for Reference:**

1. Hatfield, L. (2019). Accounting Basics. Amazon Digital Services LLC.
2. Horngren, C. T., Sundem, G. L., Elliott, J. A., & Philbrick, D. (2013). Introduction to Financial Accounting. London: Pearson Education.
3. Siddiqui, S. A. (2008). Bookkeeping & Accountancy. New Delhi: Laxmi Publications Pvt. Ltd.
4. Sehgal, D. (2014). Financial Accounting. New Delhi: Vikas Publishing House Pvt. Ltd.
5. Tulsian, P. C. (2007). Financial Accounting. New Delhi: Tata McGraw Hill Publishing Co. Ltd.
6. Mukharji, A., & Hanif, M. (2015). Financial Accounting. New Delhi: Tata McGraw Hill Publishing Co. Ltd.
7. Maheshwari, S. N., Maheshwari, S. K., & Maheshwari, S. K. (2018). Financial Accounting. New Delhi: Vikas Publishing House Pvt. Ltd.
8. Khan, M.Y. and Jain, P.K. Management Accounting. McGraw Hill Education.
9. Arora, M.N. Management Accounting, Vikas Publishing House, New Delhi

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 1.5 b. (Open Elective Course) <b>Name of the Course:</b> PERSONAL FINANCE AND PLANNING		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
3 CREDITS	3 HOURS	42 HOURS
<b>Pedagogy:</b> Classroom lectures, tutorials, Group discussion, Seminar, Case studies & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to <ol style="list-style-type: none"> <li>1. Explain the meaning and appreciate the relevance of Financial Planning.</li> <li>2. Familiarize with regard to the concept of Investment Planning and its methods.</li> <li>3. Examine the scope and ways of Personal Tax Planning.</li> <li>4. Analyze Insurance Planning and its relevance.</li> <li>5. Develop an insight into retirement planning and its relevance.</li> </ol>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module 1: Introduction to Financial Planning</b>		<b>08 Hours</b>
Financial goals, steps in financial planning, time value of money, personal loans, education loan, car loan & home loan schemes. Introduction to savings, benefits of savings, management of spending & financial discipline.		
<b>Module 2: Investment Planning</b>		<b>08 Hours</b>
Meaning, process and objectives of investment, Concept and measurement of return & risk, Types of return: Income and capital appreciation <b>Different investment avenues:</b> Corporate Securities, Bank deposits, Company deposits, Post Office Savings Schemes, Government Securities, Insurance Schemes, Provident Fund, Pension loans, Mutual fund, Commodities, Foreign currency, Real estate, Paintings and Antiques, Gold and Bullion, Chits and Nidhi, Exchange Traded Funds (ETF).		
<b>Module 3: Personal Tax Planning</b>		<b>10 Hours</b>
Tax Structure in India for personal taxation, Scope of Personal tax planning, Exemptions and deductions available to individuals (U/s 80C, 80CCC, 80CCD, 80D, 80DD, 80TTA, 80 U) from Gross Total Income. Tax avoidance versus tax evasion.		



<b>Module 4: Retirement Planning</b>	<b>07 Hours</b>
Retirement Planning Goals, Process of retirement planning, Pension plans available in India, New Pension Scheme, Provident Fund: Employee Provident Fund (EPF) and Public Provident Fund (PPF). Deductions available under the Income Tax Act, 1961 for retirement plans.(Theory only)	
<p><b>Skill Development Activities:</b></p> <ol style="list-style-type: none"> <li>1. Design a portfolio using any five assets with imaginary figures.</li> <li>2. Identify different types / classes of mutual funds available in India</li> <li>3. List out any six insurance schemes in India.</li> <li>4. List out the deductions available under the Income Tax Act, 1961 for retirement plans.</li> </ol>	
<p><b>Books for Reference:</b></p> <ol style="list-style-type: none"> <li>1. Indian Institute of Banking &amp; Finance. (2017). Introduction to Financial Planning. New Delhi: Taxmann Publication.</li> <li>2. Pandit, A. (2014). The Only Financial Planning Book that You Will Ever Need. Mumbai: Network 18 Publications Ltd.</li> <li>3. Sinha, M. (2008). Financial Planning: A Ready Reckoner. New York: McGraw Hill Education. Halan, M. (2018). Let's Talk Money: You've Worked Hard for It, Now Make It Work for You. New York: HarperCollins Publishers.</li> <li>4. Tripathi, V. (2017). Fundamentals of Investment. New Delhi: Taxmann Publication.</li> </ol>	

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. DA. 2.1 <b>Name of the Course:</b> <b>ADVANCED FINANCIAL ACCOUNTING</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classroom lectures, Case studies, Tutorial classes, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to a) Understand & compute the amount of claims for loss of stock & loss of Profit. b) Learn various methods of accounting for hire purchase transactions. c) Deal with the inter-departmental transfers and their accounting treatment. d) Prepare financial statements from incomplete records. e) Outline the emerging trends in the field of accounting		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module-1: Insurance Claims for Loss of Stock</b>		<b>12</b>
Meaning, Need and Advantages of Fire Insurance-Special terminologies in Fire Insurance Claims – Insurer, Insured, Premium, Salvage, Insurance Policy, Sum Assured, Under Insurance, over insurance Average Clause, Claim. Problems on Ascertainment of Fire Insurance Claim including problems on abnormal line of goods- <b>Problems</b>		
<b>Module - 2: Hire Purchase Accounting</b>		<b>12</b>
Meaning of Hire Purchase and Installment Purchase System- difference between Hire Purchase and Installment Purchase – Important Definitions – Hire Purchase Agreement – Hire Purchase Price – Cash Price – Hire Purchase Charges – Calculation of Interest – Calculation of Cash Price – Journal Entries and Ledger Accounts in the books of Hire Purchaser only. (Asset Accrual Method only)- <b>Problems</b>		
<b>Module -3: Departmental Accounts</b>		<b>12</b>
Meaning and Features of Departmental Undertaking-Examples of Department Specific Expenses and Common Expenses -Need and Bases of Apportionment of Common Expenses-Preparation of Statement of Trading and Profit and Loss in Columnar form, Statement of General Profit and Loss and Balance Sheet – Simple problems involving Inter Departmental Transfers at Cost Price (vertical form)- <b>Problems</b>		
<b>Module-4: Conversion of Single-Entry System into Double Entry System</b>		<b>12</b>
Single entry system- Meaning – Features – Merits – Demerits – Types. Conversion into Double Entry system – Need for Conversion – Preparation of Statement of Affairs – Cash book – Memorandum Trading Account – Total Debtors Account – Total Creditors Account – Bills Receivable Account – Bills Payable Account – Statement of Trading and Profit & Loss and Balance Sheet- <b>Problems</b>		

<b>Module -5: Emerging Trends in Accounting</b>	<b>08</b>
Digital transformation of Accounting – Big Data Analytics in Accounting- Cloud Computing in accounting- Green Accounting- Human Resource Accounting, Inflation Accounting, Database Accounting ( <b>Meaning and Features only</b> )	
<p><b>Skill Development Activities:</b></p> <ol style="list-style-type: none"> <li>1. Identify the procedure &amp; documentations involved in the insurance claims.</li> <li>2. Prepare the purchase table with imaginary figures.</li> <li>3. Identify the common expenditures of a departmental undertaking</li> <li>4. Identify latest innovations and developments in the field of accounting.</li> <li>5. Prepare a Memorandum Trading Account with imaginary figures.</li> <li>6. Identify the latest Accounting trends.</li> </ol>	
<p><b>Books for Reference:</b></p> <ol style="list-style-type: none"> <li>1. S.N. Maheshwari, and. S. K. Maheshwari. Financial Accounting. Vikas Publishing House, New Delhi, 6thEdition.</li> <li>2. B.S. Raman (2008), Financial Accounting Vol. I &amp; II, United Publishers &amp; Distributors</li> <li>3. S.Anil Kumar, V.Rajesh Kumar and B.Mariyappa – Financial Accounting, Himalaya Publishing House, New Delhi</li> <li>4. SP Iyengar (2005), Advanced Accounting, Sultan Chand &amp; Sons, Vol.1.</li> <li>5. Robert N Anthony, David Hawkins, Kenneth A. Merchant, (2017) Accounting: Text and Cases, McGraw-Hill Education, 13thEdition.</li> <li>6. Charles T. Horngren and Donna Philbrick, (2013) Introduction to Financial Accounting, Pearson Education, 11thEdition.</li> <li>7. J.R. Monga, Financial Accounting: Concepts and Applications. Mayur Paper Backs, New Delhi, 32ndEdition.</li> </ol>	

**Name of the Program:** Bachelor of Commerce (Data Analytics)

**Course Code:** B.Com.DA.2.2

**NAME OF THE COURSE: BUSINESS STATISTICS – 2**

COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classroom lectures, Case studies, Tutorial classes, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to: <ol style="list-style-type: none"><li>1. Analyze simple linear regression and interpreting the results</li><li>2. Understand and demonstrate time series forecasting techniques</li><li>3. Execute Probability and Theoretical distribution theories.</li><li>4. Construct hypothesis and summarize the results</li><li>5. Formulate ANOVA model and interpret the results.</li></ol>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module No. 1: Linear Regression</b>		<b>10</b>
Regression- Definition, regression lines, regression equations of x on y and y on x(problems). Properties of regression coefficients. Introduction to Multiple Linear regression (Concepts Only)		
<b>Module No. 2: Time Series Analysis</b>		<b>10</b>
Meaning and Components of Time Series, Uses of time series analysis. Measurement of the trend by Graphical, Semi average, moving averages method (Period of moving average being 3, 4 or 5) and method of least squares -Problems on fitting a linear trend- normal equations, obtaining trend values, estimating future trends, Plotting actual and trend values (Graphically). Fitting a second degree (Quadratic) and exponential trends- Normal equations and obtaining the trend equation, Forecasting, and estimation.		
<b>Module No. 3: Normal Distribution</b>		<b>14</b>
Normal distribution definition of Normal distribution, properties, problems on P.D.F and properties. Definition of SNV, standard normal distribution through P.D.F. Finding probabilities and expected numbers when mean and variance are given. Finding the probabilities within one, two and three (sigma) limits.		
<b>Module No. 4: Hypothesis Testing and Statistical Inference</b>		<b>12</b>
Basic Concept of Hypothesis Testing – Hypothesis Formulation, Significance Level, Decision Rules. Type I and Type II error. One Sample Hypothesis Testing – One Sample Test for Means, One Sample Test for Proportions, One Sample Test for Variance using p-values. Two sample Hypothesis Test – Two sample Test for Means, Two sample Test for Means with Paired samples, Two sample Test for Proportion, Two sample Test and Confidence Intervals. Test For Equality of Variance. (t-test, z-test, Chi-square test problems to be solved)		

<b>Module No. 5: Analysis of Variance</b>	<b>10</b>
<p>Introduction to One way ANOVA, Partitioning the sum of squares, The ANOVA assumptions, Applying One Way ANOVA. Randomized complete Block ANOVA, Fisher's least significant difference test. Two Factor ANOVA: Two Factor ANOVA replications.</p>	
<p><b>Books for Reference:</b></p> <ol style="list-style-type: none"> <li>1. Groebner, David F.; Shannon, Patrick W.; Fry, Phillip C, Business Statistics, Global Edition, Pearsons Publication.</li> <li>2. Berenson: Basic of Business Statistics Pearsons Publication.</li> <li>3. Evas: Statistics, Data Analysis and Decision modelling, Pearsons Publication.</li> <li>4. S.P. Gupta and M.P. Gupta: Business Statistics, Sultan Chand &amp; Sons Educational Publishers.</li> <li>5. N. D Vohra: BUSINESS STATISTICS: Text and Problems - With Introduction to Business Analytics, McGrew Hill Publication.</li> <li>6. Dr. B N Gupta: Statistics, Sahitya Bhavan Agra</li> <li>7. David Freedman, Statistics, Viva Books.</li> </ol> <p><b>Skill Development: MS Excel sessions to be conducted for 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup> and 5<sup>th</sup> Modules.</b></p>	

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com.DA. - 2.3 <b>Name of the Course:</b> <b>FUNDAMENTALS OF DATABASE MANAGEMENT SYSTEMS AND SQL</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classroom lectures, Case studies, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to <ol style="list-style-type: none"> <li>1. Understand Database Management Systems and the significance of DDL, DML in SQL Portion of RDBMS. Knowledge of Excel and SQL would equip students with hands-on skills on DBMS operations with SQL.</li> <li>2. Understand DBMS structure and file management system in DBMS</li> <li>3. Understand the Concept of Operation and Management.</li> <li>4. Understand the application of SQL.</li> </ol>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module No. 1: Introduction to Database Management Systems</b>		<b>10</b>
Meaning and Definition of Database, Objectives of Database, Features of Database, Conceptual Data modeling – File Organization – Data Structure – Data models: HDBMS, NDBMS, RDBMS, OODBMS, Desktop and Server-level Database, Recent Trends in Database.		
<b>Module No. 2: Database Design</b>		<b>08</b>
Relational Data Model – Relational Algebra – ER Diagrams – Data Dictionary – Normalisation – Boyce Codd Normal Forms – Integrity – Relational Database Languages – Database Administration – File Structures and Indexing. Object oriented concepts – Structure – Models and Databases – Object life cycle modeling – Objects, Classes, and Patterns – Object interaction modeling – Object Oriented Design – UML		
<b>Module No. 3: Operation and Management</b>		<b>10</b>
Client / Server and Databases – Data Warehousing – Query Processing – Concurrency Management – Heterogeneous and Homogenous Systems – Distributed Databases – Controls – Atomicity, Recovery – Security, Back-up and Recovery,  Distributed Databases: Structure of Distributed Database; Trade-offs in Distributing the Database, Advantages of Data Distribution, Disadvantages of Data Distribution; Design of Distributed Databases, Data Replication, Data Fragmentation		
<b>Module No. 4: SQL Structured Query Language.</b>		<b>12</b>
Relational Query Languages, the SQL Query Language, DDL – CREATE Table, ALTER Table, DROP Table, CREATE Index, DROP Index etc., DML – SELECT, UPDATE, DELETE, INSERT INTO etc., DATA – TYPE, Constraints on Attributes – Referential Integrity Constraint, Arithmetic and Relational Operators		
<b>Module No. 5: Lab Sessions</b>		<b>16</b>

Practical Problems and Lab-Work on SQL.

**Books for References:**

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

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 2.5 a (Open Elective Course) <b>Name of the Course:</b> INVESTING IN STOCK MARKETS		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
3 CREDITS	3 HOURS	42 HOURS
<b>Pedagogy:</b> Classroom lectures, Case studies, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to <ol style="list-style-type: none"> <li>1. Explain the basics of investing in the stock market.</li> <li>2. Differentiate between Primary and Secondary Market.</li> <li>3. Understand different methods of issue of shares.</li> <li>4. Understand the different methods of pricing the issue of shares.</li> <li>5. Understand Demat A/c and Depository Participants managing Demat A/c.</li> </ol>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module 1: Indian Stock Market</b>		<b>08 Hours</b>
Introduction to Indian Stock Markets, History, Organization, Governing body, Functions of stock Exchange, Players in Stock Market, SEBI – Objectives, Role and Powers.		
<b>Module 2: Investing in Primary and Secondary Markets</b>		<b>12 Hours</b>
Meaning, Objectives, Scope, and Functions of Primary and Secondary Markets- Difference between Primary and Secondary Market, Methods of issue of shares in primary market, methods of pricing the issue of shares in primary market, Listing of shares.		
<b>Module 3: Trading in Stock Market</b>		<b>14 Hours</b>
<b>Broker-</b> Meaning, Role and Responsibilities, Brokerage charges. <b>Trading &amp; Settlement-</b> Procedure for Trading – Buying Order, Sell Order, Long and Short Positions, Bid and Ask Price, Volume, Stop Loss; Types of Trading – Online Trading and Offline Trading.		
<b>Module 4: Depository participants in India</b>		<b>08 Hours</b>
<b>Demat Account-</b> Meaning and Need for Demat Account, Steps in Opening Demat Account and related documentations. <b>Depositories in India:</b> National Securities Depository Ltd. (NSDL)- Features and Functions, Central Depository Services Ltd. (CDSL)- Features and Functions.		

<b>Skill Development Activities:</b> <ol style="list-style-type: none"> <li>1. List out the recent IPO in Indian Primary Market.</li> <li>2. List out the leading share brokers in India.</li> </ol>
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3. Procedure for Opening the Demat A/c.
4. List out the functions of CDSL and NSDL.

**Books for Reference:**

1. Chandra, P. (2017). Investment Analysis and Portfolio Management. New Delhi: Tata McGraw Hill Education.
2. Kevin, S. (2015). Security Analysis and Portfolio Management. Delhi: PHI Learning. Ranganatham,
3. M., & Madhumathi, R. (2012). Security Analysis and Portfolio Management. Uttar Pradesh: Pearson (India) Education.
4. Pandian, P. (2012). Security Analysis and Portfolio Management. New Delhi: Vikas Publishing House.

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics.) <b>Course Code:</b> B.Com. 2.5 b (Open Elective Course) <b>Name of the Course:</b> INNOVATION MANAGEMENT		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
3 CREDITS	3 HOURS	42 HOURS
<b>Pedagogy:</b> Classroom lectures, Case studies, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to		
1 Define types and patterns of innovation. 2 Search of the sources of innovation and ideas generating. 3 Define innovation-related strategic decisions within organizations. 4 Managing the processes of new product development. 5 Developing the paths of cooperation for innovation-based projects.		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module 1: Introduction to Innovation Management</b>		<b>12 Hours</b>
Innovation: Concept of innovation, characteristics, importance, principles of innovation, process of innovation, factors influencing innovation, determinants of innovation (Internal and external- technological, social, economic, politico-legal); Innovation Management: Concept, scope, characteristics of good innovation management, significance of innovation management		
<b>Module 2: Managerial aspects of innovation:</b>		<b>12 Hours</b>
Organisational mechanism for stimulating innovation: separate units for innovation activity, project-based organisations, new venture division (merits and demerits of each); Traits of innovative organisations, current trends- Virtual organisations, boundaryless organisations, learning organisations; Managing innovation function: Planning, making resource allocation, organising staffing, leading and controlling for innovation		
<b>Module 3: Areas of innovation</b>		<b>10 Hours</b>
<b>Product innovation:</b> concept, Types (continuous and discontinuous), product innovation methods, Disruptive innovation packaging and positioning innovation <b>Process innovation:</b> concept, characteristics, Types of process innovations, Process improvement methods-5W2H, Work simplification, KAIZEN, Six Sigma, BPR (Business Process reengineering), benchmarking- TQM, Business Process reengineering (meanings only).		
<b>Module 4: Legal aspects of innovation</b>		<b>08 Hours</b>
Safeguarding Innovation, Concept of IPR, Patent, Trademark, Industrial design, Copyright, trade secrets; Indian Patents and Design Act 1991- Concept, features of the act, inventions that cannot be patented, procedure to apply for patents.		

### **Skill Development Activities:**

1. Application of the knowledge on innovation and innovation dynamics to real time cases.
2. Identify the traits of Innovative organisations.
3. ~~Discuss some of the disruptive innovative practices impacting small businesses.~~
4. List out the steps involved in obtaining patent in India.

### **Books for Reference:**

1. Krishnamacharyulu C S G & R Lalitha “Innovation management”, , HPH Pvt. Ltd.
2. James A Christiansen “Competitive Innovation Management”- Macmillan Business, 2000
3. Paul Trott, “Innovation Management & New product development”, , Pitman 2000
4. S S George,” Managing innovation in the new millennium: The ICFAI Press
5. Tidd J Bessant J , “ managing Innovation”, 3<sup>rd</sup> edition, Wiley, Chichester, 20009.
6. Nagarajan & Raj Kumar S ;(2021) Innovation Management; JayveeInternational Publications; Ist Edition,
7. Phillips, J. J., & Phillips, P. P. (2018). Using Design-Thinking in YourInnovation Projects. Journal for Quality & Participation, 41(3), 12–15.
8. Culture, Innovation, and Growth Dynamics by Elias G. Carayannis; AliPirzadeh; DenisaPopescu
9. Schoemaker, P. J. H., Heaton, S., & Teece, D. (2018). Innovation, DynamicCapabilities, and Leadership. California Management Review, 61(1), 15–42.
10. The Oxford handbook of group creativity and innovation. (2019). OxfordUniversity Press.

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. DA 3.1 <b>Name of the Course:</b> CORPORATE ACCOUNTING		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>4 Credits</b>	<b>3+2 Hrs.</b>	<b>56 Hrs.</b>
<b>Pedagogy:</b> Classroom lectures, Case studies, Tutorial Classes, Group discussion, Seminar & Field Work etc.,		
<b>Course Outcomes: On successful completion of the course, the students will be able to</b> <ol style="list-style-type: none"> <li>Understand the treatment of underwriting of corporate Securities.</li> <li>Comprehend the computation of profit prior to incorporation.</li> <li>Know the valuation of Goodwill.</li> <li>Know the valuation corporate Securities.</li> <li>Prepare the financial statements of companies as per the Companies Act 2013.</li> </ol>		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Underwriting of Corporate Securities</b>		<b>12</b>
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 contract – when fully underwritten and partially underwritten – with and without firm underwriting problem relating to Underwriting of Shares and Debentures of Companies only.		
<b>Module No. 2: Profit Prior to Incorporation</b>		<b>10</b>
Introduction - 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 (Vertical Format) as per schedule III of Companies Act, 2013.		
<b>Module No.3 Valuation of Goodwill</b>		<b>10</b>
Introduction - Valuation of Goodwill –factors influencing goodwill, circumstances of valuation of goodwill- 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)		
<b>Module No. 4: Valuation of Corporate Securities</b>		<b>10</b>
Introduction - Meaning – Need for Valuation – Factors Affecting Valuation – Methods of Valuation: Intrinsic Value Method, Yield Method, Earning Per Share Method, Fair Value of shares. Valuation of Preference Shares – Valuation of Debentures		
<b>Module 5: Financial Statements of Companies</b>		<b>14</b>
Statutory Provisions regarding preparation of Financial Statements of Companies as per schedule III of 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. Name the list of Indian companies which have issued IPO / FPO in recent times.
2. Determine Underwriters' Liability in case of an IPO, with imaginary figures.
3. Prepare the format of 'Statement of Profit and Loss' and "Balance Sheet' with imaginary figures.
4. Prepare Balance Sheet with imaginary figures.
5. Calculation of intrinsic value of shares under Net Asset Method.

**Reference Books:**

1. J.R. Monga, Fundamentals of Corporate Accounting. Mayur Paper Backs, New Delhi.
2. M.C. Shukla, T.S. Grewal, and S.C. Gupta. Advanced Accounts. Vol.-II. S. Chand & Co., New Delhi.
3. S.N. Maheshwari and S. K. Maheshwari. Corporate Accounting. Vikas Publishing House, New Delhi.
4. Ashok Sehgal, Fundamentals of Corporate Accounting. Taxman Publication, New Delhi.
5. V.K. Goyal and Ruchi Goyal, Corporate Accounting. PHI Learning.
6. Jain, S.P. and K.L. Narang. Corporate Accounting. Kalyani Publishers, New Delhi.
7. Bhushan Kumar Goyal, Fundamentals of Corporate Accounting, International Book House
8. P. C. Tulsian and Bharat Tulsian, Corporate Accounting, S.Chand
9. Amitabha Mukherjee, Mohammed Hanif, Corporate Accounting, McGraw Hill Education
10. Arulanandam & Raman ; Corporate Accounting –II
11. Madegowda J – Advanced corporate accounting, HPH
12. Soundarajan. A & K. Venkataramana, Corporate Accounting, VBH.
13. S. P. Jain and K. L. Narang – Corporate Accounting
14. S. Bhat- Corporate Accounting.
15. S P Iyengar, Advanced Accountancy, Sultan Chand
16. R L Gupta, Advanced Accountancy.
17. Anil Kumar .S, Rajesh Kumar.V and Mariyappa .B, Corporate Accounting, HPH.

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. DA 3.2 <b>Name of the Course:</b> MANAGEMENT PRINCIPLES AND APPLICATIONS		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classroom lectures, tutorials, Group discussion, Seminar, Case studies & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to a) Bring out the relevance of F W Taylor's view on management in today's knowledge era. b) Design strategic plans for various organisations for the attainment of organisational goals. c) Differentiate between the different types of organisational structures and authority and identify the best one for an MNC. d) Compare the different types of leadership styles. e) Identify a few control techniques for better productivity of an organisation.		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module 1: Introduction to Management</b>		<b>12</b>
Introduction-Meaning and importance of Management - Functions of Management -Role of Managers - Management Thoughts of: F W Taylor, Peter F Drucker and Henry Fayol ( <b>only</b> ). Fourteen principles of Management.		
<b>Module 2: Planning</b>		<b>08</b>
<b>Planning</b> -Meaning -Nature-Purpose-Types of plans-Planning process- Limitations of Planning; <b>Decision-making</b> -Meaning - Importance - Decision making Process; SWOC Analysis.		
<b>Module 3: Organizing</b>		<b>14</b>
Meaning-Process of Organizing, Principles of Organizing; Authority - Types of authority, Centralization and Decentralization of Authority - Meaning, Advantages and Disadvantages; Span of Management; Delegation of authority (meaning only); <b>Types of Organisational Structures – Traditional Forms</b> -Line, Line and staff and functional, committee Matrix organization structure (concepts only), <b>Modern forms</b> - Bureaucratic, horizontal, Network Organisations, Virtual Organisations, free form organisations (concepts only)		
<b>Module 4: Staffing Leading</b>		<b>14</b>
<b>Staffing</b> -Meaning - Staffing Process (Recruitment and Selection Process only). <b>Motivation:</b> Meaning and Importance of Motivation, Extrinsic and intrinsic motivation-Motivation; Theories of motivation: Maslow's Need Hierarchy Theory, Herzberg's Two-factor Theory; <b>Leadership:</b> Meaning- Importance -Styles of Leadership-Autocratic, Democratic, Benevolent, Free Reign, Transactional leadership, Transformational Leadership, Transforming Leadership (concepts only); <b>Communication:</b> Meaning		

and types -Oral and written communication - Formal and informal communication -Barriers to communication- Measures to overcome barriers to communication.

**Module 5: Coordination and Controlling**

**08**

**Coordination:** Meaning- Importance-Principles of Coordination.

**Control:** Meaning- Process- Limitations - Principles of Effective Control- Techniques of control – PERT/CPM (Only concepts), Emerging issues in Management; **(Theory Only)**

**Skill Development Activities:**

1. Collect the photographs and biodata of any three leading contributors of management thoughts.
2. List out the different plans at the strategic, tactical and operational levels of an organisation.
3. Draw a organisational chart showing the flow of authority and responsibility followed in any organization.
4. Analyse the different leadership styles of any five companies from different sectors.
5. Identify the controlling mechanism used in a manufacturing firm.

**Reference Books:**

1. Harold Koontz and Heinz Weihrich (2017), Essentials of Management: An International and Leadership Perspective, McGraw Hill Education, 10th Edition.
2. Stephen P Robbins and Madhushree Nanda Agrawal (2009), Fundamentals of Management: Essential Concepts and Applications, Pearson Education, 6th Edition.
3. James H. Donnelly, (1990) Fundamentals of Management, Pearson Education, 7th Edition.
4. B.P. Singh and A.K.Singh (2002), Essentials of Management, Excel Books
5. P C Tripathi & P N Reddy (2005), Principles of Management, TMH Publications, 3rd Edition.
6. Koontz Harold (2004), Essentials of Management, Tata McGraw Hill.
7. Rajkumar.S and Nagarajan. G (2021) Management Principles and Applications, Jayvee International Publications, Bangalore

**Name of the Program:** Bachelor of Commerce (Data Analytics)  
**Course Code:** B.Com. DA 3.3  
**Name of the Course:** **ADVANCED EXCEL**

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

**Pedagogy:** Classroom lectures, Case studies, Group discussion, Seminar & fieldwork etc.,

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

1. Work on different syntax for Business Decisions.
2. Understand the various worksheets and their operations.
3. Understand the formatting of tables.
4. Understand the use of macros and VBA.

<b>SYLLABUS:</b>	<b>HOURS</b>
<b>Module No. 1: Formulas (Formulae) And Macros Formulas</b>	<b>10</b>
Entering Formula and copying formula, use of arithmetic: Ratios & Proportions, Discount, Simple Interest, Compound Interest, Annuity, etc., algebraic, trigonometric and statistical functions in excel, use of different forms IF condition, NESTED IF condition etc., and Use of "\$" symbol in coping formula, Macro's – definition and use, record a macro, assign a macro, run a macro, store a macro, introduction to VBA program, entering formula in macro.	
<b>Module No. 2: Working with Functions in Formula Menu of MS-Excel - 1</b>	<b>14</b>
Financial Functions: Future Value (FV), FVSCCHEDULE, Present Value (PV), Net Present, Value (NPV), XNPV, PMT, PPMT, Internal Rate of Return (IRR), Modified Internal Rate of Return (MIRR), XIRR, NPER, RATE, EFFECT, NOMINAL DB, SYD, SLD, : Logical Functions: AND, FALSE, IF, IFERROR, NOT, OR, TRUE. Text Functions, Date and Time Functions, Lookup Functions: Vlookup and Hlookup, transpose.	
<b>Module No. 3: Work-Sheet and Work- Operation</b>	<b>14</b>
<p><b>Mathematical Functions:</b> ROUND, COUNT, COUNIF, MIN, MAX, ROUND, INT, SQRT,</p> <p><b>Statistical Functions</b> -Descriptive statistics- AVERAGE -MEAN, MEDIAN, MOD, STDEV, VAR, RSQ, DEVSQ, COVAR.</p> <p><b>Inferential Statistics</b> - CHISQ.TEST, FTEST, TTEST, ZTEST</p> <p><b>Formula Auditing:</b> Trace Precedents, Trace Dependents Show Formula, Error Checking, using data menu in data analysis: Get external data: Getting data from– from web, from text, from other sources, sorting and filtering of data, Data tools: Remove Duplicate data, data validation, group and ungroup data, finding sub-totals, Data consolidation, What-if-Analysis- Goal Seek, Scenario Manager, Tables.</p>	
<b>Module No. 4: Tables and Formatting</b>	<b>12</b>



Pivot – tale: Generating pivot-table, and generating pivot charts, inserting pictures, clipart shapes, smart arts, Using Chart wizard: Generating various types pie-charts, column, bar and area diagram in representing data, using graph in data analysis using excel, Generating Histogram, Frequency Curve and Polygon, Lorenz Curve, Time series graphs, Inserting bit map objects, word Art, Create a link to a web-page, use of view menu in excel. Dealing numbers – Currency, Accounting, Numbers, Dates, - short and long data, time, Percentage, Fractions and scientific expressions

**Module No. 5: Use of Macro and VBA in MS-Excel**

**06**

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

**Books for Reference:**

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

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. DA 3.5 (OEC) <b>Name of the Course:</b> ADVERTISING SKILLS		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hrs	42 Hrs
<b>Pedagogy:</b> Classrooms lecture, Case studies, Group discussion & Seminar etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to <ol style="list-style-type: none"> <li>Familiarize with advertising concepts.</li> <li>Able identify effective media choice for advertising.</li> <li>Develop ads for different media.</li> <li>Measure the advertising effectiveness.</li> <li>Analyse the role of advertising agency.</li> </ol>		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Introduction</b>		<b>12</b>
Communication Process; Advertising as a tool of communication; Meaning, nature and importance of advertising; Types of advertising; Advertising objectives. Audience analysis; Setting of advertising budget: Determinants of advertising.		
<b>Module No. 2: Media Decisions</b>		<b>12</b>
Major media types and their characteristics; Internet as an advertising media- merits and demerits; Factors influencing media choice; media selection, media scheduling, Advertising through the Internet-media devices.		
<b>Module No. 3: Message Development</b>		<b>08</b>
Advertising appeals, Advertising copy and elements, Essential of Message Development; Preparing ads for different Media- Video Advertising: Television & YouTube, Audio Channels: Radio & Podcast Advertising, Newspapers, Print & Digital Publications (Magazines), Out-Of-Home Advertising, Social Media.		
<b>Module No. 4: Advertising Agency</b>		<b>10</b>
Advertising Agency: Role and types of advertising agencies, selection of advertising agency; Social and Ethical aspects of advertising in India.		
<b>Skill Development Activities:</b>		
<ol style="list-style-type: none"> <li>Analyze the audience feedback on advertisement of any one FMCG.</li> <li>List out any ten products/services advertised through internet.</li> <li>Design any two ads for Newspaper.</li> <li>Examine the legal aspects of advertising in India and submit the report.</li> </ol>		

### **Books for Reference:**

1. George E Belch, Michael A Belch, Keyoor Purani, Advertising and Promotion .An Integrated Marketing Communications Perspective (SIE), McGraw Hill Education
2. S. Wats Dunn, and Arnold M. Barban. Advertising: It's Role in Marketing. Dryden Press
3. Burnett, Wells, and Moriatty. Advertising: Principles and Practice. 5th ed. Prentice Hall of India, New Delhi.
4. Batra, Myers and Aakers. Advertising Management. PHI Learning.
5. Terence A. Shimp. Advertising and Promotion: An IMC Approach. Cengage Learning.
6. Sharma, Kavita. Advertising: Planning and Decision Making, Taxmann Publications
7. Jaishree Jethwaney and Shruti Jain, Advertising Management, Oxford University Press, 2012
8. Chunawala and Sethia, Advertising, Himalaya Publishing House
9. Ruchi Gupta, Advertising, S. Chand & Co.
10. O'Guinn, Advertising and Promotion: An Integrated Brand Approach, Cengage Learning

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 3.5 (OEC) <b>NAME OF THE COURSE:</b> ENTREPRENEURSHIP SKILLS		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>3 Credits</b>	<b>3 Hrs.</b>	<b>42 Hrs.</b>
<b>Pedagogy:</b> Classroom lectures, Case studies, Group discussion & Seminar etc.,		
<b>Course Outcomes: On successful completion of the course, the students will be able to</b> <ol style="list-style-type: none"> <li>a. Discover their strengths and weaknesses in developing the entrepreneurial mind-set.</li> <li>b. Familiarize themselves with the mechanism of setting up, monitoring and maintaining an Enterprise.</li> <li>c. Understand the various procedures for setting up the Startups in India.</li> <li>d. Understand the role of Government in supporting entrepreneurship</li> </ol>		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No.1</b>	<b>Introduction</b>	<b>14</b>
Introduction to Entrepreneurship- Need of becoming entrepreneur- Traits of successful entrepreneur, enabling environment available to become an entrepreneur; Business Development Process; Self-discovery, Idea Generation-Idea Evaluation-Feasibility analysis- Finding team.		
<b>Module No. 2: Enterprise Set-up</b>		<b>10</b>
Procedure for setting up an enterprise; Different aspects involved in setting up an enterprise: Legal Aspects, Marketing Aspects, Managerial Aspects and Financial Aspects.		
<b>Module No. 3: Monitoring and Maintaining an Enterprise</b>		<b>10</b>
Importance of Monitoring and Maintaining and enterprise; Monitoring mechanism for maintaining an enterprise- Introduction to different government schemes supporting entrepreneurship.		
<b>Module No. 4: Startups in India</b>		<b>08</b>
Meaning – Establishment of Startups – Procedure for Startups – Benefits of growing startups to the Indian Economy, Emerging trends in startups-Domains that are ruling in the startup space in India.		

**Skill Development Activities:**

1. Prepare a budget for a new business with imaginary figures.
2. Identify the traits required for an entrepreneur.
3. List out practical challenges in setting-up a business enterprise.
4. List out the various Government schemes for promoting entrepreneurs.

**Books for Reference:**

1. Entrepreneurship - Starting, Developing, and Management a new Enterprise – Hisrich and –Peters-Irwin
2. Fayolle A (2007) Entrepreneurship and new value creation. Cambridge, Cambridge University Press
3. Hougard S. (2005) The business idea. Berlin, Springer
4. Lowe R & S Mariott (2006) Enterprise: Entrepreneurship & Innovation. Burlington, Butterworth Heinemann

<b>Name of the Program: B.com (Data Analytics)</b> <b>Course Code: 4.1</b> <b>Name of the Course: HUMAN RESOURCE MANAGEMENT</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy: Classroom lectures, tutorials, Group discussion, Seminar, Case studies &amp; field work etc.,</b>		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to <ol style="list-style-type: none"> <li>Ability to describe the role and responsibility of Human resources management functions on business</li> <li>Ability to describe HRP, Recruitment and Selection process</li> <li>Ability to describe to induction, training, and compensation aspects.</li> <li>Ability to explain performance appraisal and its process.</li> <li>Ability to demonstrate Employee Engagement and Psychological Contract.</li> </ol>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module No. 1: Introduction to Human Resource Management</b>		<b>10</b>
Meaning and Definition of HRM – Features Objectives, Differences between Human Resource Management and Personnel Management, Importance, Functions and Process of HRM, Role of HR Manager, Trends influencing HR practices		
<b>Module No. 2: Human Resource Planning, Recruitment &amp; Selection</b>		<b>14</b>
Human Resource Planning: Meaning and Importance of Human Resource Planning, Process recruitment of HRP; HR Demand Forecasting- Meaning and Techniques (Meanings Only) and HR supply forecasting; Succession Planning – Meaning and Features Job Analysis: Meaning and Uses of Job Analysis, Process of Job Analysis – Job Description, Job Specification, Job Enlargement, Job Rotation, Job Enrichment (Meanings Only) Recruitment – Meaning, Methods of Recruitment, Factors affecting Recruitment, Sources of Recruitment; Selection – Meaning, Steps in Selection Process, Psychometric tests for Selection, Barriers to effective Selection, Making Selection effective; Placement, Gamification – Meaning and Features		
<b>Module No. 3: Induction, Training and Compensation</b>		<b>10</b>
Induction: Meaning, Objectives and Purpose of Induction, Problems faced during Induction, Induction Program Planning. Training: Need for training, Benefits of training, Assessment of Training Needs and Methods of Training and Development; Kirkpatrick Model; Career Development. Compensation: Direct and Indirect forms of Compensation (Meaning Only), Compensation Structure.		

<b>Module No. 4: Performance Appraisal, Promotion &amp; Transfers</b>	<b>14</b>
Performance appraisal: Meaning and Definition, Objectives and Methods of Performance Appraisal – Uses and Limitations of Performance Appraisal, Process of Performance Appraisal; Promotion: Meaning and Definition of Promotion, Purpose of Promotion, Basis of promotion; Transfer: Meaning of Transfer, Reasons for Transfer, Types of Transfer, Right Sizing of Work Force, Need for Right Sizing	
<b>Module No. 5: Employee Engagement and Psychological Contract</b>	<b>08</b>
Employee Engagement (EE): Meaning and Types of EE, Drivers of Engagement - Measurement of EE, Benefits of EE. Psychological contract: Meaning and features	
<b>Skill Development Activities:</b>	
<ol style="list-style-type: none"> <li>1. Preparation of Job Descriptions and Job specifications for a Job profile</li> <li>2. Choose any MNC and present your observations on training program</li> <li>3. Develop a format for performance appraisal of an employee.</li> <li>4. Discussion of any two Employee Engagement models.</li> <li>5. Analysis of components of pay structure based on the CTC sent by the Corporate to the institute for the various jobs of different sectors.</li> </ol>	
<b>Books for Reference:</b>	
<ol style="list-style-type: none"> <li>1. Aswathappa, Human Resource Management, McGraw Hill</li> <li>2. Edwin Flippo, Personnel Management, McGraw Hill</li> <li>3. C.B.Mamoria, Personnel Management, HPH</li> <li>4. Subba Rao, Personnel and Human Resources Management, HPH</li> <li>5. Reddy &amp; Appanainah, Human Resource Management, HPH</li> <li>6. Madhurimalal, Human Resource Management, HPH</li> <li>7. S.Sadri &amp; Others: Geometry of HR, HPH</li> <li>8. Rajkumar: Human Resource Management I.K. Intl</li> <li>9. Michael Porter, HRM and Human Relations, Juta &amp; Co.Ltd.</li> <li>10. K. Venkataramana, Human Resource Management, SHBP</li> <li>11. Chartered Accountants of India, New Delhi.</li> </ol>	

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. DA 4.2 <b>Name of the Course: PRINCIPLES OF MARKETING</b>		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classroom lectures, tutorials, Group discussion, Seminar, Case studies & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to <ul style="list-style-type: none"> <li>a. Understand the basic concepts of marketing and assess the marketing environment.</li> <li>b. Discover the new product development &amp; identify the factors affecting the price of a Product in the present context.</li> <li>c. Judge the impact of promotional techniques on the customers &amp; importance of channels of distribution.</li> <li>d. Outline the recent developments in the field of marketing.</li> <li>e. Analyze the consumer behavior in the present scenario and marketing segmentation</li> </ul>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module 1: Introduction to Marketing</b>		<b>12</b>
<b>Marketing:</b> Introduction- Meaning- Nature - Scope-Importance of Marketing; Concepts & Approaches of Marketing; Concept of Need-Want-Demand - Customer Value - Customer Creation; Differences between Selling vs. Marketing; Marketing Management (concept only). <b>Marketing Environment:</b> Meaning-importance-Micro and Macro Environment in Marketing. <b>Marketing Mix – Product – Price - Place &amp; Promotion.</b>		
<b>Module 2: Consumer Behaviour &amp; Market Segmentation</b>		<b>12</b>
<b>Consumer Behaviour:</b> Meaning and importance of consumer behaviour-Consumer buying decision process; Factors influencing consumer buying behavior. <b>Market Segmentation:</b> Meaning, importance and bases of market segmentation.		
<b>Module 3: Product and Pricing</b>		<b>12</b>
<b>Product:</b> Meaning and features - product classification- Concept of product line, product mix, Branding, Packaging and labelling; Product Life Cycle – meaning and Stages in Product Life Cycle - New product Development- Meaning and stages in NPD <b>Pricing:</b> Meaning and Significance; Factors affecting price of a product; Types of Pricing and pricing strategies.		
<b>Module 4: Promotion and Distribution</b>		<b>12</b>
<b>Promotion:</b> Meaning and importance of promotion; Types of promotion: advertising, personal selling and sales promotion and their distinctive characteristics. Promotion Mix and factors affecting promotion mix decisions. <b>Distribution:</b> Meaning and types of channels of distribution, Factors affecting choice of distribution channel.		
<b>Module 5: Recent Developments in Marketing</b>		<b>08</b>



Online marketing, direct marketing, services marketing, green marketing, Rural marketing; Search Engine Marketing-Mobile Marketing- Social Media Marketing-Email Marketing-Network Marketing (concepts only).

**Skill Development Activities:**

- a. Analyse the consumer behaviour of people in your locality and identify their needs, wants & purchasing power as customers.
- b. Collect information on consumer behaviour towards home appliances in your locality.
- c. Visit any departmental store and collect the information on quantity pricing (Eg: one unit vs. multiple units or 1 kg vs. 5, 10 or 100 kgs.) of any two home consumption products.
- d. Develop a logo, Tag line and an advertisement for your own clothing brand.
- e. Identify some of the recent promotion strategies adopted by a few large companies.
- f. List out the salient features of a good advertisement copy.

**Books for Reference:**

1. Philip Kotler (2015), Principles of Marketing. 13th edition. Pearson Education.
2. Saxena Rajan, (2017) Marketing Management, Tata McGraw-Hill Publishing Company Ltd., New Delhi. Fifth Edition.
3. Kumar Arun & Meenakshi N (2016), Marketing Management, Vikas Publishing House Pvt. Ltd., New Delhi. Third Edition
4. Panda Tapan (2008), Marketing Management, Excel books, New Delhi, Second Edition.
5. Michael, J. Etzel, Bruce J. Walker, William J Stanton and Ajay Pandit. Marketing: Concepts and Cases. (Special Indian Edition), McGraw Hill Education
6. William D. Perreault, and McCarthy, E. Jerome., Basic Marketing. Pearson Education.
7. Majaro, Simon. The Essence of Marketing. Pearson Education, New Delhi.
8. Iacobucci and Kapoor, Marketing Management: A South Asian Perspective. Cengage Learning.
9. Chhabra, T.N., and S. K. Grover. Marketing Management. Fourth Edition.

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. DA 4.3 <b>Name of the Course:</b> DATA SCIENCE LIFE CYCLE		
COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS
<b>Pedagogy:</b> Classroom lectures, Case studies, Tutorial classes, Group discussion, Seminar & field work etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to: <ol style="list-style-type: none"> <li>1. Understand the Concept of Data Science and its Life Cycle.</li> <li>2. Prepare the Visualization of Data.</li> <li>3. Understand the concept of Hadoop and HDFS</li> <li>4. Understand the concept of Machine Learning and Algorithm.</li> <li>5. Understand the basics of NLP.</li> </ol>		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module No. 1: Introduction to Data Science</b>		<b>12</b>
What is Data Science? What does Data Science involve? Data science process – roles, stages in data science, Era/History of Data Science, Business Intelligence v/s Data Science, Life cycle of Data Science, Tools of Data Science, Data Extraction & Exploration, Data Analysis Pipeline, Types of Data Raw and Processed Data, Exploratory Data Analysis		
<b>Module No. 2: Visualization of Data</b>		<b>12</b>
Introduction to Visualization, Human Perception and Information Processing, Graphical perception (the ability of viewers to interpret visual (graphical) encodings of information and thereby decode information in graphs Color for information display, Color management systems, Picture visualization and end result, Data Transformation into sources of knowledge through visual representation, Requirements and heuristics for high-quality visualizations. Charts and standard views: relevance and appropriateness. Advanced and innovative tools for data visualization and advanced quantitative analysis, the evaluation of the quality of visualizations and info-graphics		
<b>Module No. 3: Hadoop and HDFS</b>		<b>12</b>
<b>History</b> of Hadoop, Apache Hadoop, Analysing Data with Hadoop, Hadoop Streaming, Hadoop Echo System, IBM Big Data Strategy, Introduction to Info-sphere Big-Insights and Big Sheets. <b>HDFS (Hadoop Distributed File System):</b> The Design of HDFS, HDFS Concepts, Command Line Interface, Hadoop file system interfaces, Data flow, Data Ingest with Flume and Scoop and Hadoop archives, Hadoop I/O: Compression, Serialization, Avro and File-Based Data structures		

<b>Module No. 4: Basics of Machine Learning</b>	<b>12</b>
<p>What is Machine Learning? Types of Machine Learning, How does a Machine Learning Algorithm works, Parametric and Non-Parametric Algorithms, Regression and Classification:- Linear regression, cost function, gradient descent, polynomial regression, cost function for logistic regression, regularization, evaluation of machine learning model. Clustering, Preparing Data, Outliers, Problems of Under-fitting and Over- fitting, the bias – Variance trade-off, Data science packages</p>	
<b>Module No. 5: Basics of Natural Language Processing (NLP)</b>	<b>08</b>
<p><b>Overview:</b> Origins and challenges of NLP- Theory of Language - Features of Indian Languages – Issues in Font –Models and Algorithms- NLP Applications.  <b>Morphology And Parts-of-Speech:</b> Phonology – Computational Phonology - Words and Morphemes – Segmentation – Categorization and Lemmatization – Word Form Recognition – Valency -Agreement - Regular Expressions – Finite State Automata – Morphology- Morphological issues of Indian Languages – Transliteration.</p>	
<p><b>Books for Reference:</b></p> <ol style="list-style-type: none"> <li>1. Chris Eaton, Dirk Deroos, Tom Deutsch et al., “Understanding Big Data”, McGrawHill, 2012.</li> <li>2. Alberto Cordoba, “Understanding the Predictive Analytics Lifecycle”, Wiley, 2014.</li> <li>3. Eric Siegel, Thomas H. Davenport, “Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die”, Wiley, 2013.</li> <li>4. James R Evans, “Business Analytics – Methods, Models and Decisions”, Pearson 2013.</li> <li>5. R. N. Prasad, Seema Acharya, “Fundamentals of Business Analytics”, Wiley, 2015.</li> <li>6. S M Ross, “Introduction to Probability and Statistics for Engineers and Scientists”, Academic Foundation, 2011.</li> <li>7. David Hand, Heiki Mannila, Padhria Smyth, “Principles of Data Mining”, PHI 2013.</li> <li>8. Spyros Makridakis, Steven C Wheelwright, Rob J Hyndman, “Forecasting methods and applications”, Wiley 2013( Reprint).</li> <li>9. David Hand, Heikki Mannila, Padhraic Smyth, “Principles of Datamining”, PHI 2013.</li> <li>10. <a href="http://cran.r-project.org/doc/manuals/R-intro.html">http://cran.r-project.org/doc/manuals/R-intro.html</a></li> <li>11. W.N. Venables, D.M Smith, “An introduction to R”,</li> <li>12. R in Nutshell , O Reilly,</li> </ol>	

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 4.5 b (OEC) <b>Name of the Course: BANKING OPERATIONS</b>		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>3 Credits</b>	<b>3 Hrs.</b>	<b>42 Hrs.</b>
<b>Pedagogy:</b> Classroom lectures, Case studies, Group discussion & Seminar etc.,		
<b>Course Outcomes: On successful completion of the course, the students will be able to</b> <ol style="list-style-type: none"> <li>1. Understand the concept of banks and banking and its operations</li> <li>2. Comprehend the procedures and risks involved in different types of accounts</li> <li>3. Utilize the knowledge for bank operations</li> <li>4. Comprehend the recent banking practices</li> </ol>		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Introduction to Banking</b>		<b>10</b>
<b>Introduction to Banking:</b> Meaning, Importance, Types of banks in India, Functions of Banks - Primary, Secondary & Modern functions of banks; <b>RBI</b> -Role & Functions of RBI.		
<b>Module No. 2: Different types of Accounts</b>		<b>10</b>
<b>Different types of Accounts</b> – Savings Account, Current Account, Fixed Deposit Account, Recurring Deposit account- Features and Procedure for opening and operating these accounts. <b>Special types of accounts:</b> Procedure for opening and operating the accounts of Sole proprietorship, partnership accounts, Joint Stock Companies, Minor, illiterates, joint account holders, clubs and associations, Hindu Undivided family. <b>Cheques:</b> Meaning, Definition and features of Cheques; Crossing of Cheques – Types of Crossing; Endorsements: Meaning, Kinds of Endorsement.		
<b>Module No. 3: Loans and Advances</b>		<b>08</b>
<b>Loans and Advances;</b> Different types of loans, Kinds of lending facilities- Loans and advances, Cash Credit, Overdraft and Bills discounting, Procedure for borrowing and lending, precautions to be taken by the banker and customer, documents to be submitted for borrowing loans.		
<b>Module No. 4: Innovations in Banking Operations</b>		<b>08</b>
<b>Technologies in Banking Operations:</b> Debit and Credit Cards, Internet banking, M-Banking, ATM, Electronic fund transfer, MICR, RTGS, NEFT, Digital Platforms.		
<b>Skill Development Activities:</b> <ol style="list-style-type: none"> <li>1. Collect and fill dummy account opening form for a savings account and fixed deposit account of any bank.</li> <li>2. Draft specimen of a cheque and fill up the details with imaginary names.</li> <li>3. List out some of the recent banking practices in India</li> <li>4. Collect and fill dummy RTGS/ NEFT form of any bank.</li> </ol>		

**Books for Reference:**

1. Nagarajan. G, Sudesh and Raju. G.S (2021); Law and Practice of Banking, Jayvee International Publications, Bangalore.
2. Gordon & Natarajan, Banking Theory Law and Practice, HPH, 24th Edition
3. S. P. Srivastava (2016), Banking Theory & Practice, Anmol Publications
4. Maheshwari. S.N. (2014), Banking Law and Practice, Kalyani Publishers, 11 Edition
5. Shekar. K.C (2013), Banking Theory Law and Practice, Vikas Publication, 21st Edition.
6. Dr. Alice Mani (2015), Banking Law and Operation, SBH.

<b>Name of the Program:</b> Bachelor of Commerce (Data Analytics) <b>Course Code:</b> B.Com. 4.6 (OEC) <b>NAME OF THE COURSE: PRINCIPLES OF EVENT MANAGEMENT</b>		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>3 Credits</b>	<b>3 Hrs.</b>	<b>42 Hrs.</b>
Pedagogy: Classroom lectures, Case studies, Group discussion & Seminar etc.,		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to <ol style="list-style-type: none"> <li>1. Understand the significance of various events</li> <li>2. Demonstrate the ability to organize the event.</li> <li>3. Demonstrate the ability to conduct the event.</li> <li>4. Prepare the budget require for conducting an event.</li> </ol>		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Introduction to Event Management</b>		<b>12</b>
Event- Meaning, Importance and Types of Events, Analysis of Event, Event Management- Meaning, Decision Makers and their Roles and Responsibilities, 5 Cs of Event Management.		
<b>Module No. 2: Event Management Planning and Procedure</b>		<b>12</b>
Establishing of Policies & Procedures, Steps in Planning the event, Principles of Event Management, Permissions and Licenses from Government and Local Authorities.		
<b>Module No. 3: Conduct of an Event.</b>		<b>12</b>
Preparing a Planning Schedule, Steps in Organizing an event, Assigning Responsibility, Event Safety and Security, Conducting the Event-Checklist (Pre, during and post event check list), Communication- channels of communications for different types of events,		
<b>Module No. 4: Budgeting and Reporting</b>		<b>10</b>
Preparation of Event Budget-Items of expenditure for various events, managing the event budget. Reporting of event- organizing the event report, steps in preparing the event report.		
<b>Skill Development</b> <ol style="list-style-type: none"> <li>1. Preparation of Event Plan for a Wedding.</li> <li>2. Preparing Budget for conduct of National level sports meet of a college.</li> <li>3. Preparation of Event Check List for College Day Celebrations</li> <li>4. Preparation of Budget for Conducting inter collegiate fest.</li> <li>5. Prepare a brief report of a student's seminar conducted in your college.</li> </ol>		

### **Book for References:**

1. Event Entertainment and Production – Author: Mark Sonderm CSEP Publisher: Wiley & Sons, Inc. ISBN: 0-471-26306-0
2. Anne Stephen – Event Management
3. Special Event Production – Doug Matthews – ISBN 978-0-7506-8523-8
4. The Complete Guide to successful Event Planning – Shannon Kilkenny
5. Human Resource Management for Events – Lynn Van der Wagen (Author)
6. Successful Team Management (Paperback) – Nick Hayed (Author)
7. Event Management & Public Relations by Savita Mohan – Enkay Publishing House
8. Event Management & Public Relations by Swarup K. Goyal – Adhyayan Publisher – 2009
9. Principle of Event Management – Shrikant S., Skyward Publisher.

## TEMPLATE FOR INTERNAL ASSESSMENT TEST - B.COM (DA)

Course Code:

Name of the Course:

Duration: 1 Hour

Total Marks: 20

### **SECTION-A**

(Based on the Remembering)

I. Answer Any Two of the following questions. Each carries Two Marks.

(2 x 2= 4)

- 1.
- 2.
- 3.

### **SECTION- B**

(Understanding and Applying)

II. Answer Any Two of the following questions. Each carries Eight marks.

(2 x8= 16)

- 4.
- 5.
- 6.



**SEMESTER END EXAMINATION - TEMPLATE**

**B.COM - DA**

**Course Code:**

**Name of the Course:**

**Duration: 2.00 Hours**

**Total Marks: 60**

**SECTION-A**  
**(Conceptual Questions)**

I. Answer any Five of the following questions. Each question carries Two Marks. (5 x 2= 10)

- a.
- b.
- c.
- d.
- e.
- f.
- g.

**SECTION- B**  
**(Application Questions)**

Answer any Four of the following question. Each question carries Five Marks. (4 x5= 20)

- 2.
- 3.
- 4.
- 5.
- 6.

**SECTION- C**  
**(Analyses and Understanding Questions)**

Answer Any Two of the following question. Each question carries Twelve Marks. (2 x12= 24)

- 7.
- 8.
- 9.

**SECTION- D**  
**(Skill Development Questions)**

Answer Any One of the following question, carries Six Marks. (1X6=6)

- 10.
- 11.





# **BENGALURU CITY UNIVERSITY**

**CHOICE BASED CREDIT SYSTEM**

**(Semester Scheme with Multiple Entry and Exit Options for  
Under Graduate Course)**

**Syllabus for B.Com (Business Data Analytics)  
(V & VI Semester)**

**2023-24 onwards**

**PROCEEDINGS OF THE MEETING OF THE BOS-UG-B.COM, B.COM BDA /IAS  
/A&F/ LSCM /TTM, B.VOC (A&T)/B.VOC (RM) COURSES**

Proceedings of the meeting of the BOS(UG) B.Com/B.Com-BDA/B.Com-IAS / B.Com-A&F/B.Com-LSCM/B.Com-TTM/B.Voc(A&T)/B.Voc(RM) Courses held on 8<sup>th</sup> and 9<sup>th</sup> August 2023 from 11:00 AM onwards, in the Department of Commerce, PK Block, Bengaluru City University, Bengaluru.

The board members had prepared the draft syllabus for the 5<sup>th</sup> and 6<sup>th</sup> semesters of the above mentioned courses and presented in the meeting. After elaborate discussions and deliberations, the draft syllabus was modified as per the suggestions of the board members and finalised.

Further, the board authorised the Chairperson to make the necessary changes, if required.

**MEMBERS PRESENT:**

1.	<b>Dr. Jalaja .K.R</b>	<b>Dean and Chairperson , Department Of Commerce, BCU</b>	<b>Chairperson</b>
2.	Dr. M. Muniraju	Former Dean and Chairman, Department Of Commerce, BCU	Member
3.	Dr. R. Sarvamangala	Dean and Chairperson , Department Of Commerce, BUB	Members
4.	Dr. Nagaraju. N	Professor, Department Of Commerce, Mangaluru University, Mangaluru	Members
5.	Dr. Channappa	Professor, Department Of Commerce, Osmania University, Hyderabad.	Member
6.	Dr. B. G. Bhaskara	Principal , Sheshadripuram College, Bengaluru	Member
7.	Dr. Padmaja. P.V	Principal , MLA Academy of Higher Education, Bengaluru	Member
8.	Dr. Parvathi	Principal, VET First Grade College, Bengaluru	Member
9.	Dr. S. N. Venkatesh	Principal, Sheshadripuram College, Yelahanka, Bengaluru	Member
10.	Dr. S. Harish	Principal, Vijaya Evening College, Bengaluru	Member
11.	Dr. D. Raja Jebasingh	Associate Professor, Department Of Commerce, St Joseph's College of Commerce ,Bengaluru	Member

## CO-OPTED MEMBERS:

12.	Dr. G. Venugopal	Principal VVN Degree College, Bengaluru	Member
13.	Dr. Bhavani.H	Associate Professor, Department of Commerce, Vivekananda Degree College ,Bengaluru	Member
14.	Shri. Gururaja Rao. H.N	Associate Professor, Department of Commerce, Vijaya College, Bengaluru	Member
15.	Dr. Savitha.K	Principal, BEL First Grade College, Bengaluru	Member
16.	Dr. Swaminathan C	Associate Professor, Department of Commerce, GFGC, Malleshwaram, Bengaluru	Member
17.	Dr. Padmanabha. H.R	Principal, ASC Silver Valley College, Bengaluru	Member
18.	Dr. Srihari	Associate Professor, Department of Commerce, SSMRV College, Bengaluru	Member
19.	Dr. Nagaraja. C	Assistant Professor, Department of Commerce, GFGC Yelahanka, Bengaluru	Member
20.	Smt. Asha. N	Principal, Sindhi College, Bengaluru	Member
21.	Smt. Priya Srinivasa	Assistant Professor, Department of Commerce, BMS College of Commerce and Management, Bengaluru	Member

*bibi* 12/09/23  
Dr. JALAJA. K R. M.COM., MBA., Ph.D  
Dean & Chairperson  
Department of Commerce  
Bengaluru City University  
CS ScanScanner

**Chairperson- BOS(UG)**

## B.COM (BUSINESS DATA ANALYTICS)

Semester V								
Sl. No.	Course Code	Title of the Course	Category of Courses	Teaching Hours/ Week (L + T +	SEE	CIE	Total Marks	Credits
37	COM 5.1	Financial Management	DSC-13	3+0+2	60	40	100	4
38	COM 5.2	Income Tax Law and Practice-I	DSC-14	3+0+2	60	40	100	4
39	COM 5.3	Financial markets and services	DSC-15	4+0+0	60	40	100	4
40	COM 5.4	<b>Business Data Analytics</b>	DSC-16	3+0+2	60	40	100	3
41	COM 5.5	<b>Introduction to 'R'</b>	DSC-17	3+0+2	60	40	100	3
42	COM 5.6	<b>C Programming</b>	Vocational-1	3+0+2	60	40	100	4
43	COM 5.7	Cyber Security <b>OR</b> Employability Skills	SEC - SB	2+0+2	60	40	100	3
<b>Sub –Total (E)</b>					<b>420</b>	<b>280</b>	<b>700</b>	<b>25</b>
Semester VI								
Sl. No.	Course Code	Title of the Course	Category of Courses	Teaching Hours/ Week (L + T +	SEE	CIE	Total Marks	Credits
44	COM 6.1	Management Accounting	DSC-18	3+0+2	60	40	100	4
45	COM 6.2	Income Tax Law and Practice-II	DSC-19	3+0+2	60	40	100	4
46	COM 6.3	Fundamentals of Cost Accounting	DSC-20	3+0+2	60	40	100	4
47	COM 6.4	<b>Marketing Analytics</b>	DSC-21	3+0+2	60	40	100	3
48	COM 6.5	<b>Application of Python in Business decisions</b>	DSC-22	3+0+2	60	40	100	3
49	COM 6.6	<b>Data Analysis using Tableau</b>	Vocational-2	3+0+2	60	40	100	4
50	COM 6.7	Internship	3 Hours per Teacher for a batch of 50 students	1+0+2		100	100	3
<b>Sub –Total (F)</b>					<b>360</b>	<b>340</b>	<b>700</b>	<b>25</b>

**Note:** The students shall undergo 4 weeks of internship programme in any business organization ( Tiny, small, medium or large scale) immediately after completion of the 4<sup>th</sup> Semester Examination but 45 Days before the end of 6<sup>th</sup> Semester classes and shall submit internship report to the College. Colleges shall submit internship report marks along with 6<sup>th</sup> Semester Internal Assessment marks.

- Marks allotted for Internship (100) shall be split into 60 marks for report and 40 marks for Viva-voce. Evaluation of report and conduct of Viva- voce shall be at the institutional level.
- 01 hour of Internship class shall be taken in the classroom for explaining and guiding on internship and 02 hours of Practical class shall be used to monitor the Internship Course.

<b>Name of the Program: Bachelor of Commerce (Data Analytics)</b> <b>Course Code: B.Com. BDA .5.1</b> <b>Name of the Course: Financial Management</b>		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>4 Credits</b>	<b>4 Hrs.</b>	<b>56 Hrs.</b>
<b>Pedagogy: Classrooms lecture, Case studies, Tutorial Classes, Group discussion, Seminar &amp; fieldwork etc.,</b>		
<b>Course Outcomes: On successful completion of the course, the students' will be able to</b> <ol style="list-style-type: none"> <li>Understand the role of financial managers effectively in an organization.</li> <li>Apply the compounding &amp; discounting techniques for time value of money.</li> <li>Take investment decisions with appropriate capital budgeting techniques for investment proposals.</li> <li>Understand the factors influencing the capital structure of an organization.</li> <li>Estimate the working capital requirement for the smooth running of the business</li> </ol>		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Introduction to Financial Management</b>		<b>12</b>
Introduction –Meaning of Finance, Finance Function, Objectives of Finance function, Organization of Finance function -Meaning and definition of Financial Management; Goals of Financial Management, Scope of Financial Management, Functions of Financial Management, Role of Finance Manager in India. Financial planning-- Meaning –Need – Importance -Steps in financial Planning – Principles of a sound financial plan and Factors affecting financial plan.		
<b>Module No. 2: Time Value of Money</b>		<b>10</b>
Introduction – Meaning of time value of money-time preference of money- Techniques of timevalue of money: Compounding Technique-Future value of Single flow, Multiple flow and Annuity -Discounting Technique-Present value of Single flow, Multiple flow – and Annuity. Doubling Period- Rule 69 and 72.		
<b>Module No. 3: Financing Decision</b>		<b>14</b>
Introduction-Meaning and Definition of Capital Structure, Factors determining the Capital Structure, Concept of Optimum Capital Structure, EBIT-EPS Analysis- Problems. Leverages: Meaning and Definition, Types of Leverages- Operating Leverage, Financial Leverage and Combined Leverages – Theory and Problems.		
<b>Module No. 4: Investment Decision</b>		<b>12</b>
Introduction-Meaning and Definition of Capital Budgeting, Features, Significance – Steps in Capital Budgeting Process. Techniques of Capital budgeting: Traditional Methods – Pay Back Period, and Accounting Rate of Return – DCF Methods: Net Present Value Internal Rate of Return and Profitability Index - Theory and Problems.		
<b>Module 5: Working Capital Management</b>		<b>12</b>
Introduction- Meaning and Definition, types of working capital, Operating cycle, Determinants of working capital needs – Estimation of working capital requirements. dangers of excess and inadequate working capital, Merits of adequate working capital, Sources of working capital. Cash Management, Receivable Management and Inventory Management (Concepts only).		

**Skill Development Activities:**

1. Prepare the list of Functions of Finance Manager.
2. As a finance manager of a company, design an appropriate Capital Structure.
3. Evaluate a capital investment proposal by using NPV method with imaginary figures.
4. Calculate EBIT and EPS with imaginary figures.
5. Calculate PBP with imaginary figures of Uneven Cash inflow for three years.

**Books for reference:**

- IM Pandey, Financial management, Vikas publications, New Delhi.
- Abrish Guptha, Financial management, Pearson.
- Khan & Jain, Basic Financial Management, TMH, New Delhi.
- S N Maheshwari, Principles of Financial Management, Sulthan Chand & Sons, New Delhi.
- Chandra & Chandra D Bose, Fundamentals of Financial Management, PHI, New Delhi.
- Ravi M Kishore, Financial Management, Taxman Publications
- Prasanna Chandra, Financial Management, Theory and Practice, Tata McGraw Hill



<b>Name of the Program: Bachelor of Commerce (Data Analytics)</b> <b>Course Code: B.Com. BDA .5.2</b> <b>Name of the Course: Income Tax Law and Practice – I</b>		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>4 Credits</b>	<b>4 Hrs.</b>	<b>56 Hrs.</b>
<b>Pedagogy: Classrooms lecture, Case studies, Tutorial classes, Group discussions, Seminar &amp; fieldwork etc.,</b>		
<b>Course Outcomes: On successful completion of the course, the students will be able to</b>		
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 of house property for different categories of house property. e) Comprehend the assessment procedure and to know the power of income tax authorities.		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Basic Concepts of Income Tax</b>		<b>08</b>
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.		
<b>Module No. 2: Assessment Procedure and Income Tax Authorities</b>		<b>08</b>
Meaning of Assessment - Types of Assessment– Regular Assessment- Self Assessment – Best Judgement Assessment- Summary Assessment – Scrutiny Assessment – Income Escaping Assessment - Permanent Account Number -Meaning, Procedure for obtaining PAN and transactions were quoting of PAN is compulsory. Income Tax Authorities their Powers and functions. CBDT, CIT and AO.		
<b>Module No. 3: Residential Status and Incidence of Tax</b>		<b>10</b>
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)		
<b>Module No. 4: Income from Salary</b>		<b>18</b>
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.		
<b>Module No. 5: Income from House Property</b>		<b>12</b>
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 Developments Activities:**

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

**Books for Reference:**

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

Name of the Programme: Bachelor of Commerce (Data Analytics)		
Course Code: B.Com. BDA .5.3		
Name of the Course: Financial Markets & Services		
Course Credits	No. of Hours per Week	Total No of Teaching Hours
4 Credits	4 Hrs.	56 Hrs.
<b>Pedagogy: Classrooms lecture, Case studies, Tutorial classes, Group discussions, Seminar &amp; field work etc.,</b>		
<b>Course Outcomes:</b> On successful completion of the course, the students will be able to:		
a) Understand the Overview of Indian financial system.		
b) Understand the different types of financial institutions and their role.		
c) Understand concept of financial services, types and functions.		
d) Understand the different types of financial Instruments and its features.		
e) Understand the different types of financial market and its role.		
Syllabus		Hours
<b>Module No. 1: Overview of Indian Financial System</b>		<b>08</b>
Introduction to Financial System – Features, Constituents of Financial System; Financial Institutions; Financial Services; Financial Markets and Financial Instruments, Financial Regulators (a brief profile of RBI, SEBI, IRDAI).		
<b>Module No. 2: Financial Institutions</b>		<b>14</b>
Meaning, Need for Financial Institutions; Banks – Meaning, Types of Banks, Role of Banks, Insurance Companies – Meaning, Types of Insurance, Role of Insurance; NBFC’S – Meaning, Types of NBFC’s , Role of NBFC’s, EXIM Bank –Meaning, Role and Objectives; Asset Management Companies (AMC) – Meaning, Role of AMC in Mutual Funds.		
<b>Module No. 3: Financial Services</b>		<b>12</b>
Financial Services – Meaning, Objectives, Functions, Characteristics; Types of Financial Services - Merchant Banking – Functions and Operations, Leasing, Factoring, Bill Discounting, Credit Card, Debit Card, Loans and Advances –Meaning and Types, Venture Capital & Credit Rating.		
<b>Module No. 4: Financial Markets</b>		<b>12</b>
Meaning and Definition, Types of Financial Markets, Role and Functions of Financial Markets, Constituents of Financial Markets- Money Market, Capital Market – Primary and Secondary Market, Methods of Issue of shares in the primary market, -Stock Exchange – Role and Function of Stock Exchange.		
<b>Module No. 5: Financial Instruments</b>		<b>10</b>
Meaning, Types of Instruments-Money Market Instruments-Commercial Paper, CD’s Treasury Bills, Promissory Notes, Bills of Exchange, Money at Call and Short Notice; Capital Market and Instruments- Equity Shares, Preference Shares, Debenture/ Bonds, Public Deposits.		

**Skill Development Activities:**

1. Prepare a List of Private Banks in India
2. Draft a specimen of Bills of Exchange with imaginary content
3. Prepare a List of Fund Based and Fee-Based Financial Services.
4. Draft a Chart of the Financial Market

**Books for References:**

- L.M. Bhole, Financial Institutions & Markets, McGraw Hill
- Khan, M.Y, Indian Financial System, McGraw Hill
- Sharma, Meera, Management of Financial Institutions, Eastern Economy Edition
- Bhole and Mahakud, Financial Institutions and Markets – Structure, Growth and Innovations, McGraw Hill
- Guruswamy, S., Financial Services and System, McGraw Hill
- Edminister. R.O, Financial Institutions, Markets & Management, McGraw Hill
- Khan. M.Y, Indian Financial System, Vikas Pub. House
- H.R Machiraju, Indian Financial System, Vikas Pub. House
- E.Gorden & K. Nataraj, Financial Markets and Services, HPH

<b>Name of the Program: Bachelor of Commerce (Data Analytics)</b> <b>Course Code: B.Com. BDA .5.4</b> <b>Name of the Course: Business Data Analytics</b>		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>3 Credits</b>	<b>4 Hrs.</b>	<b>56 Hrs.</b>
<b>Pedagogy: Classrooms lecture, Case studies, Group discussions, Seminar &amp; field worketc.,</b>		
<b>Course Outcomes: On successful completion of the course, the students' will be able to</b> a) Differentiate between the four main types of analytics: Descriptive, Diagnostic, Predictive, and Prescriptive. b) Handle the Data in R studio software c) Perform the statistical analysis using R software d) Perform the predictive modelling using JASP software e) Define the prescriptive analytics		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Introduction to Business Analytics</b>		<b>10</b>
Definition and importance of business analytics, Types of analytics: Descriptive, Diagnostic, Predictive, Prescriptive, the analytics process model, role of data in business decision making.		
<b>Module No. 2: Data Management and Preprocessing</b>		<b>10</b>
Importance of data quality, Data sourcing and collection techniques, Data cleaning and preprocessing, handling missing data, Transformation and normalization using Excel and R Software, Introduction to data warehousing (Concept Only)		
<b>Module No. 3: Statistical Analysis and Visualization</b>		<b>12</b>
Descriptive statistics in business analytics, Probability and probability distributions, Hypothesis testing and inference, Correlation and regression analysis using R software. Introduction to data visualization, Visualization tools and best practices using Power BI software.		
<b>Module No. 4: Predictive Modeling and Machine Learning</b>		<b>12</b>
Introduction to predictive modelling, Linear regression and logistic regression, Classification techniques: Decision Trees, Random Forests, Naïve Bayes, etc., using JASP and R software. Clustering and segmentation, Basics of neural networks and deep learning (Theory only), Model validation and evaluation metrics using Python software.		
<b>Module 5: Prescriptive Analytics and Decision Optimization</b>		<b>12</b>
Introduction to prescriptive analytics, Linear and integer programming, Simulation and risk analysis (Theory only), Decision analysis and decision trees using R software, Multi-criteria decision-making, Applications of prescriptive analytics in business contexts (Theory Only)		

**Skill Development Activities:**

1. Write the different types of analytics
2. Write the steps in data cleaning using Excel and R
3. Write the different types of charts available in Power BI
4. Differentiate between Neural Network and Deep Learning
5. Write the codes for Decision tree in R studio

**Books for Reference:**

- Data Science for Business" by Foster Provost and Tom Fawcett
- Data Wrangling with Python" by Jacqueline Kazil and Katharine Jarmul
- Business Analytics: Data Analysis & Decision Making" by S. Christian Albright and Wayne L. Winston
- Spreadsheet Modeling and Decision Analysis" by Cliff Ragsdale
- Practical Statistics for Data Scientists" by Peter Bruce and Andrew Bruce
- Storytelling with Data" by Cole Nussbaumer Knaflic
- Pattern Recognition and Machine Learning" by Christopher M. Bishop
- An Introduction to Statistical Learning" by Gareth James, Daniela Witten, Trevor Hastie, and Robert Tibshirani

Name of the Program: Bachelor of Commerce (Data Analytics)		
Course Code: B.Com. BDA .5.5		
Name of the Course: Introduction to R		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	4 Hrs.	56 Hrs.
<b>Pedagogy: Classroom lectures, Case studies, Tutorial Classes, Group discussions, Seminar &amp; fieldwork etc.,</b>		
<b>Course Outcomes: On successful completion of the course, the students will be able to</b>		
a) Understand the evolution and importance of the R programming language in Data Analytics.		
b) Understand and differentiate between various data types and structures in R, including vectors, matrices, lists, data frames, and factors.		
c) Conduct Exploratory Data Analysis (EDA) using R, leveraging descriptive statistics and data visualization techniques with 'ggplot2'.		
d) Understand and apply various probability distributions such as binomial, poisson, and normal distributions.		
e) Grasp fundamental concepts of machine learning and its relevance in business scenarios.		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Introduction to R and Data Analytics</b>		<b>12</b>
Background and Importance of Data Analytics, Definition of Data Analytics, Applications in Commerce and Business, Role of R in Data Analytics. Introduction to the R Programming Language- History and Development of R - Features and Capabilities, Importance in Statistical Analysis. Setting up R and RStudio- Installation Process, Navigating the RStudio Interface, Basic R Commands.		
<b>Module No. 2: Basics of R Programming</b>		<b>08</b>
Data Types and Structures in R- Vectors, Matrices, Lists, Data Frames, Factors. Basic Operations in R- Arithmetic Operations, Logical Operations, Relational Operations, Flow Control Statements- if, else, and else if, for loop, while loop, repeat loop.		
<b>Module No. 3: Data Manipulation and Exploration in R</b>		<b>12</b>
Data Importing and Exporting- Reading Data from CSV, Excel, and Databases. Writing Data to Different Formats, Data Cleaning and Transformation- Handling Missing Values- Data Transformation using dplyr- Aggregating Data. Exploratory Data Analysis (EDA)- Descriptive Statistics - Visualizing Data using ggplot2- Correlation and Covariance.		
<b>Module No. 4: Statistical Analysis in R</b>		<b>12</b>
Basics of Statistical Analysis- Probability Distributions (Binomial, Poisson, Normal)- Hypothesis Testing- Confidence Intervals. Regression Analysis- Simple Linear Regression- Multiple Linear Regression- Assessing Model Fit. Other Advanced Techniques- ANOVA (Analysis of Variance)- Non-parametric Tests- Time Series Analysis (basic introduction)		
<b>Module No. 5: Machine Learning with R</b>		<b>12</b>
Introduction to Machine Learning in R- Basic Concepts and Importance in Business- Simple Algorithms: K-means Clustering, Decision Trees- Introduction to R packages like caret and random Forest.		

**Skill Development Activities:**

1. Write the steps for the Installation of R studio programs.
2. Write the basics codes for Data frame, Logical operation, relational operational with imaginary data.
3. Write the steps for data cleaning and data transformation using excel.
4. Write the difference between the simple regression and multiple regression.
5. Write the importance of machine learning in business

**Books for Reference:**

- "R for Data Science" by Hadley Wickham & Garrett Grolemund
- "Data Science for Business" by Foster Provost and Tom Fawcett
- "The Art of R Programming" by Norman Matloff
- "R in Action" by Robert Kabacoff
- "Data Wrangling with R" by Bradley Boehmke
- "Practical Statistics for Data Scientists" by Peter Bruce & Andrew Bruce
- "Statistical Analysis with R For Dummies" by Joseph Schmuller
- "Machine Learning with R" by Brett Lantz
- "Introduction to Statistical Learning" by Gareth James, Daniela Witten, Trevor Hastie, and Robert Tibshirani



<b>Name of the Program: Bachelor of Commerce (Data Analytics)</b> <b>Course Code: B.Com. BDA 5.6 (Vocational Course-1)</b> <b>Name of the Course: Fundamentals of C Programming</b>		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>4 Credits</b>	<b>4 Hrs.</b>	<b>56 Hrs.</b>
<b>Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussions, Seminar &amp; fieldwork etc.,</b>		
<b>Course Outcomes: On successful completion of the course, the students' will be able to</b>		
a) Understand the foundational concepts of C programming. 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.		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Introduction to C Programming</b>		<b>10</b>
Introduction to Programming- What is programming? -Role of programming 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.		
<b>Module No. 2: Data Types and Operators</b>		<b>10</b>
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.		
<b>Module No. 3: Control Structures and Functions</b>		<b>10</b>
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.		
<b>Module No. 4: Data Structures in C</b>		<b>10</b>
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		
<b>Module No. 5: File Operations and Applications in Data Analytics</b>		<b>20</b>
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 Development 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
5. Explain string operations

**Books for Reference:**

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

## SEMESTER VI

<b>Name of the Program: Bachelor of Commerce (Data Analytics)</b> <b>Course Code: B.Com. BDA.6.1</b> <b>Name of the Course: Management Accounting</b>		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs.	56 Hrs.
<b>Pedagogy: Classroom lectures, Case studies, Tutorial Classes, Group discussions, Seminar &amp; fieldwork etc.,</b>		
<b>Course Outcomes: On successful completion of the course, the students' will be able to</b> <ol style="list-style-type: none"> <li>a) Demonstrate the significance of management accounting in decision making.</li> <li>b) Analyse and interpret the corporate financial statements by using various techniques.</li> <li>c) Compare the financial performance of corporates through ratio analysis.</li> <li>d) Understand the latest provisions in preparing cash flow statement.</li> <li>e) Understand the concepts of Budgetary Control.</li> </ol>		
Syllabus:		<b>Hours</b>
<b>Module No. 1: Introduction to Management Accounting</b>		<b>10</b>
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.		
<b>Module No. 2: Analysis of Financial Statements</b>		<b>12</b>
Analysis of Financial Statements: Meaning and Importance of Financial Statement Analysis - Methods of Financial Analysis – Problems on Comparative Statement analysis – Common Size Statement analysis and Trend Analysis.		
<b>Module No. 3: Ratio Analysis</b>		<b>10</b>
Meaning and Definition of Ratio and Ratio Analysis – Uses and Limitations of ratios – Classification of Ratios: Turnover ratio - Liquidity ratios - Profitability ratios and Solvency ratios. Problems.		
<b>Module No. 4: Cash flow Analysis</b>		<b>12</b>
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.		
<b>Module No. 5: Budgetary Control</b>		<b>12</b>
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 and Cash budget only.		

**Skill Development Activities:**

1. Prepare with imaginary figures a Flexible or Cash budget.
2. Prepare with imaginary figures comparative statement and analyse the financial position.
3. Prepare with imaginary figures statements of any one corporate entity, analyse the same by using ratio analysis.
4. Prepare with imaginary figures cash flow statement
5. Prepare a Trend analysis statement for three years with imaginary figures.

**Books for Reference:**

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

**Name of the Program: Bachelor of Commerce (Data Analytics)**  
**Course Code: B.Com. BDA.6.2**  
**Name of the Course: Income Tax Law & Practice – II**

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
<b>4 Credits</b>	<b>4 Hrs.</b>	<b>56 Hrs.</b>
<b>Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussions, Seminar &amp; field work etc.,</b>		
<b>Course Outcomes: On successful completion of the course, the students will be able to</b>		
<ul style="list-style-type: none"> <li>a) Understand the procedure for computation of income from business and other Profession.</li> <li>b) Understand the provisions for computation of capital gains.</li> <li>c) Learn to compute the taxable income from other sources.</li> <li>d) Learn the computation of total income of an Individual.</li> <li>e) Understand the provisions relating to Set Off and Carry Forward of Losses</li> </ul>		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Profits and Gains of Business and Profession</b>		<b>16</b>
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 Practitioner - Advocate and Chartered Accountants.		
<b>Module No. 2: Capital Gains</b>		<b>12</b>
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.		
<b>Module No. 3: Income from other Sources</b>		<b>10</b>
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.		
<b>Module No. 4: Set Off and Carry Forward of Losses and Deductions from Gross Total Income.</b>		<b>10</b>
Meaning- Provisions of Set off and Carry Forward of Losses (Theory only) <b>Deductions</b> under Sections 80C, 80CCC, 80CCD, 80CCG, 80D, 80DD, 80ddb, 80E, 80G, 80GG, 80TTA, 80TTB and 80U as applicable to Individuals.		
<b>Module No. 5: Computation of Total Income and Tax Liability</b>		<b>08</b>
Computation of Total Income and tax liability of an Individual assessee under Old Regime.		

**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
5. Prepare a format for computation of taxable income and tax liability of an individual assessee

**Books for Reference:**

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

<b>Name of the Program: Bachelor of Commerce (Data Analytics)</b> <b>Course Code: B.Com. BDA.6.3</b> <b>Name of the Course: Cost Accounting</b>		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>4 Credits</b>	<b>4 Hrs.</b>	<b>56 Hrs.</b>
<b>Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussions, Seminar &amp; fieldwork etc.,</b>		
<b>Course Outcomes: On successful completion of the course, the students will be able to</b>		
a) Demonstrate an understanding of the concepts of costing and cost accounting. b) Classify, allocate apportion overheads and calculate overhead absorption rates. c) Demonstrate the ability to calculate labour cost. d) Demonstrate the ability to prepare a cost sheet. e) Prepare material-related documents, understand the management of stores and issue procedures		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Introduction to Cost Accounting</b>		<b>12</b>
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. Cost Sheet - Meaning and Cost heads in a Cost Sheet, Presentation of Cost Information in Cost Sheet. Problems on Cost Sheet, Tenders and Quotations.		
<b>Module No. 2: Material Cost</b>		<b>12</b>
Materials: Meaning, Importance and 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; Pricing of material issues Preparation of Stores Ledger Account under FIFO, LIFO, Simple Average Price and Weighted Average Price Methods – Problems. Materials control. - Technique of Inventory Control - Problems on Level Setting and EOQ.		
<b>Module No. 3: Labour Cost</b>		<b>8</b>
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- Causes and Treatment (theory only). Labour Turnover: Meaning, Reasons and Effects of labour turnover Methods of Wage Payment: Time rate system and piece rate system; Incentive schemes - Halsey plan, Rowan plan –problems based on calculation of wages and earnings only.( No Cost sheet related problems)		
<b>Module No. 4: Overheads</b>		<b>14</b>
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); Problems on calculation of Machine Hour Rate.		
<b>Module No. 5: Marginal Costing</b>		<b>10</b>
Meaning and Definition – Need for Marginal Costing - Advantages & Limitations. Preparation of Marginal Cost statement. Break–even Analysis: Meaning, Calculation of P/V ratio, Calculation of Break-Even point, Calculation of margin of safety, Preparation of Break-Even Chart.		

**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).
5. Prepare a cost sheet with imaginary figures.

**Books for Reference:**

- Jain, S.P. and K.L. Narang. Cost Accounting: Principles and Methods. Kalyani Publishers
- Arora, M.N. Cost Accounting – Principles and Practice, Vikas Publishing House, New Delhi.
- Maheshwari, S.N. and S.N. Mittal. Cost Accounting: Theory and Problems. Shri Mahavir Book Depot, New Delhi.
- Iyengar, S.P. Cost Accounting, Sultan Chand & Sons
- Charles T. Horngren, Srikant M. Datar, Madhav V. Rajan, Cost Accounting: A Managerial Emphasis, Pearson Education.
- Jawahar Lal, Cost Accounting., McGraw Hill Education
- Madegowda J, Cost Accounting, HPH.
- Rajiv Goel, Cost Accounting, International Book House



<b>Name of the Program: Bachelor of Commerce (Data Analytics)</b> <b>Course Code: B.Com. BDA.6.4</b> <b>Name of the Course: Marketing Analytics</b>		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>3 Credits</b>	<b>4 Hrs.</b>	<b>56 Hrs.</b>
<b>Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussions, Seminar &amp; fieldwork etc.,</b>		
<b>Course Outcomes: On successful completion of the course, the students' will be able to</b> <ol style="list-style-type: none"> <li>1. Concepts of Marketing Analytics</li> <li>2. How to install R and its libraries</li> <li>3. Perform the Descriptive statistics using R</li> <li>4. Apply regression model for prediction</li> <li>5. Define the application of marketing analytics in marketing</li> </ol>		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: INTRODUCTION TO MARKETING ANALYTICS AND DATA MINING</b>		<b>12</b>
Introduction to Marketing Analytics, Need of Marketing Analytics, Benefits of Marketing Analytics, Data mining –Definition, Classes of Data mining methods – Grouping methods, Predictive modeling methods, Linking methods to marketing applications. Process model for Data mining – CRISP DM.		
<b>Module No. 2: INTRODUCTION TO R</b>		<b>8</b>
About R, Data types and Structures, Data coercion, Data preparation: Merging, Sorting, Splitting, Aggregating, Introduction to R Libraries – How to install and invoke, Introduction to R Graph – Basic R charts – Different types of charts.		
<b>Module No. 3: DESCRIPTIVE ANALYTICS</b>		<b>12</b>
Exploratory Data Analysis using summary table and various charts to find the insights, slicing and dicing of the Customer data. Inferential Statistics: T-Test, ANOVA, Chi-Square using marketing data and exploring relationship (Correlation)		
<b>Module No. 4: PREDICTION AND CLASSIFICATION MODELLING USING R</b>		<b>12</b>
Introduction to Prediction and Classification modelling, data splitting for training and testing purposes, Prediction modelling: Predicting the sales using Moving Average Model and Regression Model (Simple and Multiple Regression model), Classification modelling: Customer churn using Binary logistic regression and decision tree.		
<b>Module No. 5: APPLICATION OF ANALYTICS IN MARKETING</b>		<b>12</b>
Association Rules – Market Basket Analysis for Product Bundling and Promotion, RFM (Recency Frequency Monetary) Analysis, Customer Segmentation using K-Means Cluster Analysis, Key Driver Analysis using Regression Model.		

**Skill Development activities:**

1. Write the process for Data Mining
2. Write the steps for installing R software and libraries
3. Explain the difference between t-test and ANOVA
4. Write the steps in applying binary logistics regression using R studio
5. Explain the Key Driver Analysis using the Regression Model.

**Books for Reference:**

- Marketing Analytics: Data-Driven Techniques with Microsoft® Excel® Published by John Wiley & Sons, Inc
- Marketing Data Science, Thomas W. Miller Published by Pearson
- Marketing Metrics, Neil T Bendle, Paul W. Farris, Phillip E. Pfeifer published by Pearson
- Marketing Analytics, Mike Grigsby published by Kogan Page

<b>Name of the Program: Bachelor of Commerce (Data Analytics)</b> <b>Course Code: B.Com. BDA.6.5</b> <b>NAME OF THE COURSE: Application of Python In Business Decisions</b>		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>3 Credits</b>	<b>4 Hrs.</b>	<b>56 Hrs.</b>
<b>Pedagogy: Classroom lectures, tutorials, Group discussion, Seminar, Case studies&amp; field work etc.,</b>		
<b>Course Outcomes:</b> On successful completion of the course,the students will be able to <b>a)</b> Set up a Python environment, Apply Python syntax rules and structure to write basic programs. <b>b)</b> Recognize the significance of Python libraries like NumPy and Pandas in data analytics. <b>c)</b> Interpret visualizations to draw meaningful insights from data. <b>d)</b> Apply basic statistical techniques to summarize and analyze data. <b>e)</b> Prepare data, perform feature selection, and build multiple linear regression models.		
<b>SYLLABUS:</b>		<b>HOURS</b>
<b>Module- 1: Introduction to Python.</b>		<b>12</b>
<b>Introduction to Python:</b> <b>Overview of Python:</b> history, features, and applications. Setting up the Python environment. <b>Python Basics:</b> Python syntax and structure: statements, comments, indentation. Using Python as a calculator: arithmetic operations, variables, and data types. <b>Data Types and Variables:</b> Understanding data types: integers, floats, strings, Booleans. Declaring and using variables in Python. Type conversion and basic operations.		
<b>Module-2: Python for Data Analytics</b>		<b>12</b>
<b>Introduction</b> to Python libraries for data analytics (NumPy, Pandas). Loading and manipulating data using Pandas Data Frames. Basic data analysis operations: filtering, sorting, aggregating. <b>Data Importing and Cleaning:</b> Reading data from various sources: CSV, Excel, and databases. Data cleaning techniques: handling missing values, duplicates, and outliers.		
<b>Module. 3: Exploratory Data Analysis (EDA)</b>		<b>12</b>
Introduction to EDA and its importance in data analysis. Visualising data distributions, relationships, and patterns. Using Pandas and Matplotlib/Seaborn for EDA. ( <b>Practical sessions to be conducted using Real-time examples</b> )		
<b>Module.4: Basic Statistical Techniques</b>		<b>12</b>
Measures of central tendency: mean, median, mode. Measures of dispersion: range, variance, standard deviation. Correlation and covariance. Linear Regression ( <b>Practical sessions to be conducted using Real time examples</b> ).		
<b>Module.5: Multiple Linear Regression</b>		<b>08</b>
Introduction to Multiple Linear Regression, Moving from SLR to MLR, Recognizing Multicollinearity problems, Reading and understanding the data, Data Preparation, Building Model, Residual Analysis and Prediction, Variable Selection using Recursive Feature Elimination ( <b>Practical sessions to be conducted using Real time examples</b> )		

**Skill Development Activities:**

Apply Python programming and data analysis skills to analyze a dataset predict the model using Multiple Linear Regression. The steps you should follow are as follows.

***(Practical record book to be used)***

- 1.Data Preparation
2. Data Exploration and Cleaning
- 3.Exploratory Data Analysis
- 4.Descriptive Statistics
- 5.Multiple Linear Regression
- 6.Model Evaluation and Prediction

**Books for Reference:**

- Gowrishankar S and Veena A - Introduction to Python Programming – CRC Press
- Paul Barry- ‘Head-First Python’ – 2nd edition
- Zed A. Shaw - ‘Learn Python the Hard Way’ – 3rd edition
- Dr. R. Nageswara Rao – ‘Core Python Programming’ 2nd (Kindle Edition)(2018), Dreamtech Press.
- U. Dinesh Kumar Manaranjan Pradhan – ‘ Machine Learning using Python’ (2019), - Wiley
- Yashavant Kanetkar, Adithya Kanetkar ‘Let Us Python’ (2019) – BPB Publication
- Allen Downey & Jeffrey Elkner – ‘Learning with Python’ (2015) – Dreamtech Press
- Luca Massaron John Paul Mueller – ‘Python for Data Science’ (2019) – Dummies

<b>Name of the Program: Bachelor of Commerce (Data Analytics)</b> <b>Course Code: B.Com. BDA.6.6 (Vocational Course)</b> <b>Name of the Course: Data Analysis using Tableau</b>		
<b>Course Credits</b>	<b>No. of Hours per Week</b>	<b>Total No. of Teaching Hours</b>
<b>4 Credits</b>	<b>4 Hrs.</b>	<b>56Hrs.</b>
<b>Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussions, Seminar &amp; fieldwork etc.,</b>		
<b>Course Outcomes: On successful completion of the course, the students will be able to</b> 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.		
<b>Syllabus:</b>		<b>Hours</b>
<b>Module No. 1: Introduction to Data Visualization and Tableau</b>		<b>8</b>
Understanding Data Visualization- Importance and principles of data visualization-Types of visual representations (charts, graphs, dashboards, etc.)- Role of data visualization in data analytics. Introduction to Tableau- History and importance of Tableau in the industry, Tableau Desktop, Tableau Server, and Tableau Public: A brief overview, Installing and setting up Tableau Desktop.		
<b>Module No. 2: Getting Started with Tableau</b>		<b>12</b>
Tableau Interface - Overview of the Tableau Desktop interface- Connecting to data sources: spreadsheets, databases, and web data connectors. Basic Visualization Techniques-Drag-and-drop features-Creating basic charts: bar, line, pie, scatter plots, and histograms-Dashboard and story creation basics.		
<b>Module No. 3: Deep Dive into Data Visualization with Tableau</b>		<b>8</b>
Advanced Visualization Techniques- Maps and geographical data representation - Heat maps, tree maps, and bubble charts- Dual-axis and combined charts. Working with Filters, Sorting, and Groups - Using filters for insights-Sorting data for better analysis-Creating and using groups and sets.		
<b>Module No. 4: Calculations, Parameters, and Advanced Dashboard Design</b>		<b>14</b>
Calculated Fields and Parameters- Creating calculated fields- Aggregations and calculations for deeper insights-Introduction to parameters and their applications. Advanced Dashboard Design-Best practices for dashboard design-Incorporating interactivity: actions, filters, and highlighting-Tooltips, visual grouping, and formatting for better visualization.		
<b>Module No. 5: Sharing, Publishing, and Real-World Applications</b>		<b>14</b>
Publishing and Sharing in Tableau-Introduction to Tableau Server and Tableau Public-Sharing dashboards and reports-Best practices for sharing sensitive data. Real-World Applications and Case Studies-Using Tableau in e-commerce- Financial data visualization using Tableau-Analyzing customer feedback and market research data.		

**Skill Development activities:**

1. Write the Role of data visualization in analytics
2. Write the different types of charts available in Tableau
3. Write the steps for performing filter and sorting using tableau
4. Write the steps in performing dashboard using tableau
5. Steps in analysing customer feedback and market research data.

**Books for Reference:**

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