

GURU NANAK COLLEGE (AUTONOMOUS)

(Affiliated to University of Madras and Accredited at A++ Grade By NAAC)

Guru Nanak Salai, Velachery, Chennai - 600042



SCHOOL OF COMMERCE B.COM. COMPUTER APPLICATIONS

(SEMESTER PATTERN WITH CHOICE BASED CREDIT SYSTEM)

(For the UG Batch of 2024-27 and thereafter)

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LOCF - LEARNING OUTCOME BASED CURRICULUM FRAMEWORK

PREAMBLE

1. About the Programme

B. Com (Computer Applications) degree equips a student with fundamentals and concepts on Accountancy, Information Technology, Business Administration, Finance, Economics and Industrial Policies. A student who has completed a B. Com Computer Applications has **career opportunities in both the Public and Private sectors** where they can work as Business Consultants, Auditors, Business Analysts, App Developers, Computer Programmers. This degree enables students to become more skilled and productive workers in an increasingly competitive industry. In fact, the course has been highly successful. As the demand for such graduates is high, the course is attracting more students. With an impressive job market and a well-shaped career, the course is a great choice for students who want to work in a tech-oriented field. To become a **B. Com computer application** student, you must have studied Commerce throughout your tenth and twelfth years. If you are under 25, you can opt for the B. Com Computer Applications course. You should also have a strong interest in mathematics and science.

Applicants should have excellent computer skills and have a thorough knowledge of computer hardware and software. A **Bachelor of Commerce in Computer Applications** degree opens many doors. After graduation, B. Com graduates can work in a variety of industries, including marketing, e-commerce, teaching, and even the stock market. With their strong understanding of technology and business, B. Com graduates can also get jobs in the finance, accounting, and operations sectors. As a result, B. Com graduates are well-equipped to enter various industries and gain a competitive edge in the marketplace.

The future scope of **B. Com Computer Applications** is promising. The course blends the fields of commerce and computer science. The students are trained to become software developers and have a good knowledge of the basics of both the subjects. Moreover, they are given an intellectual foundation that can lead to other opportunities. After graduating, the B. Com Computer Applications graduates can look forward to a bright future in various fields. The course helps students to understand the basics of commerce. It helps them to understand the different aspects of computer applications and the ways to apply them in various business operations. Moreover, it makes them familiar with the process and mechanisms of conducting business transactions through electronic media. Apart from these, the course helps the students to develop analytical skills. As the demand for efficient computer systems in business grows, the job outlook for B. Com graduates in this field is incredibly promising. It is possible to enter top IT companies and earn lucrative salaries.

In addition, if you're passionate about computers and commerce, this course will help you learn to program computers and understand how to use them to make the best financial decisions for your business. In the business world, graduates can work in the IT sector or in the educational

field. Computer analysts help enterprises and companies to improve their processes. The degree also enables them to work as mobile app developers. This can open up a wide range of career opportunities. However, it is important to keep in mind that there are many other options as well. The students can go on to pursue higher education to become software developers, software engineers, or IT specialists.

2. VISION

Transforming life through excellence in **Technical Education** to produce skilled and trained manpower of the highest quality Imbibing traditional cultural values to meet the growing Technological and Socio-Economic needs of our nation and the world at large.

3. MISSION

1. World class Education: Excellence in education, grounded in ethics and critical thinking, for improvement of life.
2. Serve the public through the promotion and advancement of Technical Education and vocational Training, establish the procedures for setting and maintaining standards and quality of technical education and Government on the strategic development of the sector:
3. Upgrade technical courses to meet the world standard through user friendly course curricula
4. Promote quality and innovation in the technical education and training sector.
5. Anticipate and prepare for the changing environment and the future needs in the pursuits of technological advancements.
6. Manage the operations and resources to be effective and fiscally responsible.

4. Programme Educational Outcomes (PEOs)

1. Values of Life, Ethics & Social Concern

The graduates exhibit truth, loyalty, and love as integral moral principles, thereby contributing to a society characterized by enhanced well-being and fundamental goodness in behavior.

2. Employability & Entrepreneurship

The graduates apply analytical, logical, and critical problem-solving skills in professional contexts, elevating employability and cultivating entrepreneurial capabilities through upskilling.

3. Regional/National/Global Relevance & Competency

The graduates foster advanced analytical skills and a heightened appreciation for current Regional/National/Global perspectives, enabling informed and sustainable decision-making in a dynamic environment.

4. Skill Enhancement, Self-Directed & Lifelong Learning

The graduates independently engage in skill-based learning, utilizing infrastructure and opportunities for continuous upskilling, enabling self-evaluation and lifelong excellence attainment.

5. Research Skills & Innovation

The graduates proficiently apply scientific reasoning, fostering creativity, strategic thinking, and effective problem-solving skills. They demonstrate a core competency in generating innovative ideas for advancements and inventions.

5. Programme Outcomes (POs)

PO 1: KNOWLEDGE MANAGEMENT AND PROFESSIONAL COMPETENCY:

Demonstrate and boost the basic concepts and knowledge used in the different areas like Accounting, Tax, Law, Marketing, and Finance

PO 2: CRITICAL THINKING AND CHALLENGES:

To develop critical thinking skills, cultivating the capacity to address challenges and find effective solutions in a business context. To focus on a number of specialization and practical subjects that augments the students to face the challenges in the field of employment.

PO 3: PROBLEM SOLVING TECHNIQUES:

Apply various tools and techniques in solving the problems related to the field of study enhancing the career.

PO 4: COMMUNICATION SKILLS AND DIGITAL LITERACY:

Acquire professional education, business ethics and also to be proficient in using relevant business technologies and software.

PO 5: ADVANCED TECHNOLOGIES AND COMPETENCE:

Develop Basic Computer Technology and to expertise in handling Computer based problem solving techniques.

6. Programme Specific Outcomes (PSOs)

PSO 1: Enable students; acquire comprehensive foundational and intermediate practical knowledge in the areas of accounting, management, law, finance and taxation to become self-sufficient, readily employable and professionally competent individuals.

PSO 2: Raise technically sound professionals by adopting application-oriented, skill-based learning in line with national and global corporate standards for multi-level sustenance.

PSO 3: Develop the potential to formulate and present a broad set of Financial Statements of an organization in accordance with the statutory norms.

PSO 4: Develop traits that support sustainable development in a system that supports women's empowerment, entrepreneurship, and employment.

PSO 5: Facilitate and apply statistical and mathematical tools in research, business and academia.

7. PEO – PO Mapping

	PEO 1	PEO2	PEO3	PEO4	PEO5
PO 1	3	3	3	3	3
PO 2	3	3	3	3	3
PO3	3	3	3	3	3
PO 4	3	3	3	3	3
PO 5	3	3	3	3	3

8. PO – PSO mapping

	PO 1	PO2	PO3	PO4	PO5
PSO 1	3	3	3	3	3
PSO 2	3	3	3	3	3
PSO3	3	3	3	3	3
PSO 4	3	3	3	3	3
PSO 5	3	3	3	3	3

9. Choice Based Credit System (CBCS)

The College follows the CBCS with Grades under the Semester pattern. Each course is provided with a credit point based on the quantum of subject matter, complexity of the content and the hours of teaching allotted. This is done after a thorough analysis of the content of each subject paper by the members of the Board of Studies and with the approval of the Academic Council. Students are also offered a variety of Job oriented Elective, Multidisciplinary skill-based courses as part of the curriculum. Students can earn extra credits by opting for Massive Open Online Courses (MOOCs) and Certificate Courses.

The evaluation method under CBCS involves a more acceptable grading system that reflects the personality of the student. This is represented as Cumulative Grade Point Average (CGPA) and Grade Point Average (GPA) which are indicators of the Academic Performance of the student. It provides students with a scope for horizontal mobility and empowers them with the flexibility of learning at their convenience.

Eligibility for Admission

Candidates admitted to the first year of the B.Com Computer Applications programme should have passed the higher Secondary Examinations (Academic or Vocational Stream) conducted by the Government of Tamil Nadu or an examination accepted as equivalent thereof by the Syndicate of the University of Madras. Students applying for the PG programme should have taken the UG degree in the relevant subject from a recognized university as per the norms of the University of Madras.

Duration of the Course

The UG programme is of three years duration with six semesters and the PG programme is of two years duration with four semesters. The period from June to November is termed as the odd semester and the period from December to April is referred to as the even semester. Each semester must compulsorily have 90 working days before the students appear for the final End Semester Exam.

Course of Study

The main course of study for the Bachelor's Degree shall consist of the following:

Foundation Courses

PART - I: Tamil/ Hindi /Sanskrit/French

PART - II: English

Core Courses

PART - III: Consisting of (a) Main subject (b) Allied Subjects (c) Elective subjects related to the main subject of study and project work.

PART – IV: Those who have not studied Tamil up to XII standard and have taken a non- Tamil language under Part – I, shall opt for Basic Tamil in the first two semesters.

Those who have studied Tamil up to XII standard, and taken a non -Tamil language under Part – I, shall opt for Advanced Tamil in the first two semesters.

Others, who do not come under either of the clauses mentioned above, can choose a Non-Major Elective (NME) in the first two semesters.

Soft Skills (I, II, III & IV Semesters)

Self-Study (Compulsory) Course (III Semester)

Environmental Studies (IV Semester)

Value Education (V Semester)

Summer Internship (After IV Semester)

PART - V: Compulsory Extension Services

A Student shall be awarded one credit for compulsory extension service. A student must enroll in NSS / NCC /Sports & Games/ Citizen Consumer Club / Enviro Club or any other service organization in the College and should put in compulsory minimum attendance of 40 hours, which shall be duly certified by the Principal of the College. If a student lacks 40 hours compulsory minimum attendance in the extension services in any Semester, s/he shall have to compensate the same, during the subsequent Semesters.

Course Structure

The B.Com Computer Applications programme consists of 15-19 Core courses with 3-4 credits for each paper, 3 Elective courses and 4 Allied courses with 4-5 credits for each paper in addition to 4 Soft Skill courses with two credits each. Internship as a compulsory component carries 2 credits.

10. Consolidated Credit Structure for all the 3 years

Course component		No. of Papers	Credits
Part I	Language	2	6
Part II	English	2	6
Part III	Core	19	76
	Allied	4	20
	Elective	3	15
Part IV	NME	2	4
	Soft Skills	4	8
	EVS	1	2
	Value Education	1	2
	Internship	1	2
	Self-study course	1	2
Part V	Extension activity	1	1
Total		41	144

11.CREDIT DISTRIBUTION FOR EACH SEMESTER:

Semester	Part	Course Component	Name of the Course	Credits	Hours/week	CIA	ESE	Total	
Semester- I	I	Language I	Tamil I/Hindi I/Sanskrit I/French-I	3	6	50	50	100	
	II	English	English- I	3	4	50	50	100	
	III	Core I	Financial Accounting – I		4	6	50	50	100
		Core II	Fundamentals of Computers and Information Technology		4	4	50	50	100
		Allied I	Business Mathematics and Statistics-I		5	6	50	50	100
	IV	NME- I	Basic Tamil-I / Advanced Tamil-I / Basic of Retail Marketing	2	2	50	50	100	
	IV	Soft Skills - I	Communication skill and Personality Development skills	2	2	50	50	100	
TOTAL				23	30	350	350	700	

Semester	Part	Course Component	Name of the Course	Credits	Hours/week	CIA	ESE	Total	
Semester-II	I	Language II	Tamil II/Hindi II/Sanskrit II/ French II	3	6	50	50	100	
	II	English	English - II	3	4	50	50	100	
	III	Core III	Financial Accounting - II		4	6	50	50	100
		Core IV	Practical - Office Automation and Data Visualization Lab		4	4	50	50	100
		Allied II	Business Mathematics and Statistics-II		5	6	50	50	100
	IV	NME- II	Basic Tamil II/Advanced Tamil-II/ Practical E- Commerce		2	2	50	50	100
		Soft Skills - II	Interview Skills and Resume Writing		2	2	50	50	100
Total				23	30	350	350	700	

Semester	Part	Course Component	Name of the Course	Credits	Hours/week	CIA	ESE	Total
Semester- III	III	Core V	Corporate Accounting - I	4	6	50	50	100
		Core VI	Principles of Management	4	5	50	50	100
		Core VII	Programming in C	4	6	50	50	100
		Core VIII	Practical - Programming in C Lab	4	5	50	50	100
		Allied III	Economics for Business Decision (Common to B. Com (GEN), B. Com (CA))	5	6	50	50	100
	IV	Soft Skills - III	Adobe UX Foundation	2	2	50	50	100
		Self-study paper (Compulsory Course) Can choose any one from the two given	1. Indian Heritage and Knowledge System/ 2. Contemporary World and Sustainable Development	2	-	-	100	100
Total				25	30	300	400	700

Semester	Part	Course Component	Name of the Course	Credits	Hours/week	CIA	ESE	Total
Semester-IV	III	Core IX	Corporate Accounting - II	4	6	50	50	100
		Core X	Business Laws	4	5	50	50	100
		Core XI	Web Programming with PHP and MySQL	4	5	50	50	100
		Core XII	Practical - Web Technology using PHP	4	4	50	50	100
		Allied IV	Marketing Management	5	6	50	50	100
	IV	Soft Skills IV	Foundations of Quantitative Aptitude	2	2	50	50	100
		EVS	Environmental Studies	2	2	50	50	100
Total				25	30	350	350	700

Semester	Part	Course Component	Name of the Course	Credits	Hours/week	CIA	ESE	Total
Semester- V	III	Core XIII	Income Tax Law and Practice - I	4	6	50	50	100
		Core XIV	Cost and Management Accounting	4	6	50	50	100
		Core XV	Operating System	4	6	50	50	100
		Core XVI	Practical – Python Programming Lab	4	6	50	50	100
		Elective – I IDE	a) Entrepreneurial Development b) Production and Supply Chain Management c) Business Information System	5	5	50	50	100
	IV	Value Education	Value Education	2	1	50	50	100
		Internship	Internship	2	-	-	-	-
Total				25	30	300	300	600

Semester	Part	Course Component	Name of the Course	Credits	Hours/week	CIA	ESE	Total
Semester-VI	III	Core XVII	Income Tax Law and Practice - II	4	6	50	50	100
		Core XVIII	Human Resource Management	4	6	50	50	100
		Core XIX	Software Engineering	4	6	50	50	100
		Elective - II	a) Software Testing Lab using Selenium b) Data Science using numpy and pandas Lab c) R Programming Lab	5	6	50	50	100
		Elective - III	Mini Project	5	6	50	50	100
	V	Extension Activity	Participation in NSS/NCC/ Enviro Club, etc.	1	-	-	-	-
	Total				23	30	250	250
GRAND TOTAL				144	180			

Examination

Continuous Internal Assessment (CIA) will be for 50 percent and End Semester Examination (ESE) will be for 50 percent.

Continuous Internal Assessment (CIA)

Every semester will have a mid-semester examination which will be conducted on completion of 45 working days in each semester. A Model exam for three hours duration will be conducted on completion of 80 working days in each semester. For the courses coming under Part IV, ESE will be conducted in MCQ pattern. Internship credits will be given in semester V after verification of documents by the respective Heads.

The schedule for these tests is as follows:

CIA	Schedule	Syllabus Coverage
Mid Semester Examination	After 45 working days of the Semester	60%
Model Examination	After 80 working days of the Semester	95%

The components for the CIA (Theory & Practicals) are as follows:

Internal Components			
Assessment Type	Nature	Maximum Marks	% of Weightage
CIA	Mid Semester Examination	50	10
Model	Model Examination	100	10
	Assignment		10
	Class activities		15
	Attendance		5
Total			50

The class activity relates to a programme of accepted innovative techniques such as Seminar, Quiz, Portfolio creation, Power Point presentation, Objective tests, Role play, Group discussion, Case Study etc. The mode of evaluation of the class activity will be fixed before the commencement of the semester and an approval will be obtained from the Head of the programme/wing. The students will be informed of the various methods of evaluation once the semester begins.

A record of all such assessment procedures will be maintained by the department and is open for clarification. Students will have the right to appeal to the Principal in case of glaring disparities in marking. CIA marks for practical subjects will be awarded by the respective faculty based on the performance of the student in the model

practical examination, observation notebook, submission of record books, regularity and attendance for the practical classes. The attendance particulars for practical classes will be maintained by the concerned faculty. The marks for attendance will be awarded as per the following:

Percentage of General Attendance	Marks Awarded
90-100	5
75-89	4
60-74	3
<60	0

End Semester Examinations (ESE)

After the completion of a minimum of 90 working days each semester, the End Semester Examinations will be conducted. Examinations for all UG and PG programmes will be held for all courses in November/December and April/May. Practical examinations will be conducted only during the end of the odd / even semester before, during or after the commencement of the theory exam. The schedule for ESE Practicals will be notified by the Controller of Examinations in consultation with the Dean (Academics)

12. Mode of Evaluation

METHODS OF EVALUATION		
Internal Evaluation	Mid Sem Exam (10)	50 Marks
	Model Exam (10)	
	Assignment (10)	
	Class activity (15)	
	Attendance (5)	
External Evaluation	End Semester Examination	50 Marks
Total		100Marks

13. Method of Assessment

Remembering (K1)	<ul style="list-style-type: none"> The lowest level of questions requires students to recall information from the course content Knowledge questions usually require students to identify information in the textbook.
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	<ul style="list-style-type: none"> • Suggested Keywords: Choose, Define, Find, How, Label, List, Match, Name, Omit, Recall, Relate, Select, Show, Spell, Tell, What, When, Where, Which, Who, Why
Understanding (K2)	<ul style="list-style-type: none"> • Understanding off acts and ideas by comprehending organizing, comparing, translating, interpolating and interpreting in their own words. • The questions go beyond simple recall and require students to combined altogether • Suggested Keywords: Classify, Compare, Contrast, Demonstrate, Explain, Extend, Illustrate, Infer, Interpret, Outline, Relate, Rephrase, Show, Summarize, Translate
Application (K3)	<ul style="list-style-type: none"> • Students have to solve problems by using / applying a concept learned in the classroom. • Students must use their knowledge to determine an exact response. • Suggested Keywords: Apply, Build, Choose, Construct, Develop, Experiment with, Identify, Interview, make use of, Model, Organize, Plan, Select, Solve, Utilize
Analyze (K4)	<ul style="list-style-type: none"> • Analyzing the question is one that asks the students to breakdown something into its component parts. • Analyzing requires students to identify reasons causes or motives and reach conclusions or generalizations. • Suggested Keywords: Analyze, Assume, Categorize, Classify, Compare, Conclusion, Contrast, Discover, Dissect, Distinguish, Divide, Examine, Function, Inference, Inspect, List, Motive, Relationships, Simplify, Survey, Take part in, Test for, Theme
Evaluate (K5)	<ul style="list-style-type: none"> • Evaluation requires an individual to make judgment on something. • Questions to be asked to judge the value of an idea, a character, a work of art, or a solution to a problem. • Students are engaged in decision-making and problem solving. • Evaluation questions do not have single right answers. • Suggested Keywords: Agree, Appraise, Assess, Award, Choose, compare, Conclude, Criteria, Criticize, Decide, Deduct, Defend, Determine, Disprove, Estimate, Evaluate, Explain, Importance, Influence, Interpret, Judge, Justify, Mark, Measure, Opinion, Perceive, Prioritize, Prove, Rate, Recommend, Rule on, Select, Support, Value
Create (K6)	<ul style="list-style-type: none"> • The questions of this category challenge students to get engaged in creative and original thinking. • Developing original ideas and problem-solving skills • Suggested Keywords: Adapt, Build, Change, Choose, Combine, Compile, Compose, Construct, Create, Delete, Design, Develop, Discuss, Elaborate, Estimate, Formulate, Happen, Imagine, Improve, Invent, make up, Maximize, Minimize, Modify, Original, Originate, Plan, Predict, Propose, Solution, Solve, Suppose, Test, Theory

SEMESTER - I

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH: 2024-27
PART: III	COURSE COMPONENT: CORE I
COURSE NAME: FINANCIAL ACCOUNTING – I	COURSE CODE:
SEMESTER: I	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY AND PROBLEMS	

COURSE OBJECTIVE:

Introduction to basic accounting concepts and principles of the accounting process.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Develop the ability in understanding the basic accounting concepts and prepare final accounts.
2. Understand the procedures of Accounting under Single entry system.
3. Calculate Depreciation under Straight line method and written down value method and calculate Insurance Claims.
4. Acquire knowledge and applicability of Departmental accounts.
5. Understand the need and prepare Bank Reconciliation Statement.

Unit-I

(18 Hours)

Meaning and Scope of Accounting - Objectives of Accounting - Basic Accounting Concepts – Accounting Transactions - Double Entry Book Keeping - Journal - Ledger- Preparation of Trial Balance – Preparation of Cash Book. Preparation of Final Accounts & Adjustments. (Simple Problems only)

Unit-II

(18 Hours)

Accounting for Incomplete Records (Single Entry) Meaning, Features, Defects, Differences between Single Entry and Double Entry System – Statement of Affairs method – Conversation method.

Unit-III

(18 Hours)

Depreciation – Meaning, causes, types – straight line method and written down value method (Change in method excluded) Insurance claims, claims of stock destroyed including Average Clause. (Simple Problems only)

Unit-IV

(18 Hours)

Departmental Accounts need, features, Basis for Allocation of Expenses, treatment of Inter – Departmental Transfer at cost or Selling Price-Treatment of Expenses that cannot be allocated – Preparation of departmental profit and loss.

Unit-V**(18 Hours)**

Bank Reconciliation Statement - Need and Methods of preparation of Bank Reconciliation Statement.

THEORY- 20% PROBLEMS - 80%**RECOMMENDED TEXT BOOKS:**

1. T.S.Reddy & A. Murthy, Financial Accounting, Margum Publications, Chennai.
2. Introduction To Accountancy - T.S. Grewal and S.C. Gupta

REFERENCE BOOKS:

1. R. L. Gupta & M. Radhaswamy – Advanced Accountancy, Sultan Chand , New Delhi.
2. R.L Gupta & V.K. Gupta – Financial Accounting – Sultan Chand Publishing, New Delhi.
4. Dr.S.Manikandan ,Financial Accounting, Scitech Publications, Chennai.

E-LEARNING RESOURCES:

1. <https://books.google.co.in/books?isbn=8126909935>
2. <https://books.google.co.in/books?isbn=9966254455>
3. <https://books.google.co.in/books?isbn=0470635290>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN****Max. Marks: 100**

Section	Question Component	Numbers	Marks	Total
A	Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Answer any 2 out of 4 questions (each in 1200 words)	20-23	20	40
TOTAL MARKS				100

Break up of questions for theory and problem

UNITS	SECTION A		SECTION B		SECTION C	
	THEORY	PROBLEM	THEORY	PROBLEM	THEORY	PROBLEM
I	2	1	1	1	1	1
II	1	1	-	1	-	-
III	1	1	-	1	-	1
IV	2	1	1	1	-	-
V	1	1	-	1	-	1
TOTAL	7	5	2	5	1	3
SECTION A - 12			SECTION B - 7		SECTION C - 4	

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Develop the ability in understanding the basic accounting concepts and prepare final accounts.	PSO 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO2	Understand the procedures of Accounting under Single entry system.	PSO 1,2,3,4 & 5	K1, K2,K3,K4
CO3	Calculate Depreciation under Straight line method and written down value method and calculate Insurance Claims.	PSO 1,2,3,4 & 5	K1, K2,K3,K4,K5
CO4	Acquire knowledge and applicability of Departmental accounts.	PSO 1,2,3,4 & 5	K1, K2,K3,K4
CO5	Understand the need and prepare Bank Reconciliation Statement.	PSO 1,2,3,4 & 5	K1, K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH: 2024-27
PART: III	COURSE COMPONENT: CORE II
COURSE NAME: FUNDAMENTALS OF COMPUTERS AND INFORMATION TECHNOLOGY	COURSE CODE:
SEMESTER: I	MARKS:100
CREDITS:4	TOTAL HOURS:60
THEORY	

COURSE OBJECTIVE:

This course introduces to learn the basic concepts of Computer Science.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. To understand the Computer Fundamentals, Computer History and Computer Types of Computer.
2. To know about the different devices used for Computer
3. To Understand System and Application Software concepts
4. To give exposure to Techniques of Problem Solving: Flowcharting, Algorithms and basic terminology used in computer programming.
5. To know about data structures and create/update basic data files, Basic of Internet usage.

UNIT-I

(12 Hours)

The computer system-their uses and components-CPU: control & logic unit -Generation of computers-Classification of Computers - PC-Laptop - Memory: Volatile, non-volatile & virtual memory-Types of Bus.

UNIT-II

(12 Hours)

Input devices: Keyboard, mouse, joystick, scanner, light pen, and touch screen - Output devices: printers, dot-matrix printer, ink-jet printer, and laser printer-monitor. Storage devices: Magnetic tape, Hard disks, CD-ROM, Speakers. Binary Conversion: Binary, Decimal, Octal and Hexadecimal.

UNIT-III

(12 Hours)

Software concepts: Types of software -System software: Operation System and its types, Assembler, Compiler, and Interpreter. - Application software: Word processing, Presentation tools, Electronic Spreadsheets Database system, DTP Packages, Graphic packages, Business system.

UNIT-IV

(12 Hours)

Principles and Techniques of Programming: Program Definition-Program lifestyle. -Flow-Chart: Definition, Symbols, Benefits, Limitations and examples. - Characteristics, Benefits, Drawbacks and Examples of Algorithms.

Unit-V**(12 Hours)**

Databases: Structure of a data table. -Internet features– E-mail

RECOMMENDED TEXT BOOKS:

- 1."Computer Fundamentals" by P.K. Sinha
- 2."Introduction to Computing" by David Evans
- 3."System Software: An Introduction to Systems Programming" by Leland L. Beck
- 4."Data Structures and Algorithms" by Alfred V. Aho, Jeffrey D. Ullman, John E. Hopcroft
- 5."Database Management Systems" by Raghu Ramakrishnan and Johannes Gehrke

REFERENCE BOOKS:

- 1."Computer Organization and Design" by David A. Patterson and John L. Hennessy
- 2."Programming Logic and Design" by Joyce Farrell

E-LEARNING RESOURCES:

1. <https://www.coursera.org/courses?query=introduction%20to%20computer%20science>
2. <https://www.edx.org/course/introduction-to-computer-hardware>
3. <https://www.khanacademy.org/computing/computer-programming>
4. <https://www.coursera.org/specializations/python>
5. <https://www.edx.org/course/introduction-to-databases>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Numbers	Marks	Total
A	Definition/Principle Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Short Answer Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Essay Answer any 4 out of 6 questions (each in 600 words)	20-25	10	40
TOTAL MARKS				100

Break up of Questions for Theory

UNITS	SECTION A	SECTION B	SECTION C
I	2	2	1
II	2	1	1
III	3	1	2
IV	2	2	1
V	3	1	1
TOTAL	12	7	6
SECTION A- 12		SECTION B- 7	SECTION C- 6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	To understand the Computer Fundamentals, Computer History and Computer Types of Computer.	PSO 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO2	To know about the different devices used for Computer	PSO 1,2,3,4 & 5	K1, K2,K3,K4
CO3	To Understand System and Application Software concepts	PSO 1,2,3,4 & 5	K1, K2,K3,K4,K5
CO4	To give exposure to Techniques of Problem Solving: Flowcharting, Algorithms and basic terminology used in computer programming	PSO 1,2,3,4 & 5	K1, K2,K3,K4
CO5	To know about data structures and create/update basic data files, Basic of Internet usage.	PSO 1,2,3,4 & 5	K1, K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH: 2024 - 27
PART: III	COURSE COMPONENT: Allied-I
COURSE NAME: BUSINESS MATHEMATICS AND STATISTICS I	COURSE CODE:
SEMESTER: I	MARKS:100
CREDITS: 5	TOTAL HOURS: 90
THEORY AND PROBLEMS	

(Common to B.COM (CA) & B.COM (PA))

COURSE OBJECTIVE:

To apply knowledge of mathematics with emphasis on management applications and interpret, solve business related problems and analyze real life problems with actual data. To enable the use of statistical, graphical and algebraic techniques wherever relevant.

COURSE OUTCOMES:

1. Recall the basic concepts of set theory, indices, interest, diagrammatic representation, measures of central tendency.
2. Understand the types of sets, exponents and logarithms, annuities, graphical representation, dispersion.
3. Apply operations on set theory, using logarithmic properties to solve problems, simple interest and compound interest, frequency distribution, mean, median, mode.
4. Analyze the permutation and combination, discount, histogram, O-give, pie-chart dispersion.
5. Evaluate exponents and logarithms permutation and combination, frequency distribution, relative measures of dispersion.

UNIT I

(18 Hours)

Set Theory and Interest: Set theory, definition, Elements and types of sets, Operations on Sets, Relations and Functions of Sets Simple interest and Compound interest.

Part One: Chapter 1,8,9.

UNIT II

(18 Hours)

Indices and Logarithms: Laws of Indices, Exponents and Logarithms, Permutations and Combinations.

Part one: Chapter 2,3.

UNIT III

(18 Hours)

Annuity: Annuities – Banker's Discount –Discount on bills.

Part one: Chapter 10,11.

UNIT IV**(18 Hours)**

Diagrammatic and Graphical Representation: Diagrammatic representation of data, Frequency distribution, Graphical representation of Frequency Distribution – Histogram, Frequency Polygon, Ogive, Pie- chart.

Part Two: Chapter 4.

UNIT V**(18 Hours)**

Measures of Central Tendency: Measures of Central Tendency and Dispersion: Mean Median, Mode, Mean Deviation, Quartiles and Quartile Deviation, Standard Deviation, Coefficient of Variation, Coefficient of Quartile Deviation.

Part Two: Chapter 5,6

RECOMMENDED TEXT BOOK:

1. Business Mathematics and Statistics– P.R.Vittal, Margham Publications, Reprint 2022.

REFERENCE BOOKS:

1. Business Mathematics – D.C. Sancheti and V.K. Kapoor, Sultan Chand & Sons, 19th Edition.
2. Statistical Methods – S.P. Gupta, Sultan Chand & sons, 15th Edition.

E-LEARNING RESOURCES:

1. <https://archive.nptel.ac.in/courses/111/101/111101109/>
2. <https://www.digimat.in/nptel/courses/video/110107114/L01.html>
3. <https://ocw.mit.edu/courses/18-655-mathematical-statistics-spring-2016/>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN****Max Marks: 100**

SECTION	QUESTION COMPONENT	NUMBERS	MARKS	TOTAL
A	Answer any 10 out of 12 questions (each in 50 words)	1 - 12	3	30
B	Answer any 5 out of 7 questions (each in 300 words)	13 - 19	6	30
C	Answer any 4 out of 6 questions (each in 1200 words)	20 - 25	10	40
TOTAL MARKS				100

BREAK UP OF QUESTIONS FOR THEORY AND PROBLEMS

UNITS	SECTION A		SECTION B		SECTION C	
	THEORY	PROBLEM	THEORY	PROBLEM	THEORY	PROBLEM
I	1	1	-	1	-	1
II	1	1	-	1	-	1
III	1	1	-	1	-	1
IV	1	1		1	-	1
V	1	1		1	-	1
Any Unit	-	2	-	2	-	1
TOTAL	5	7	-	7	-	6
	SECTION A - 12		SECTION B - 7		SECTION C - 6	

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	2	3	2	2	3
CO 2	3	2	2	3	2
CO 3	3	2	3	3	2
CO 4	2	3	2	2	3
CO 5	2	3	3	3	2
Average	2.4	2.6	2.4	2.6	2.4

PSO-CO-question paper mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Recall the basic concepts of set theory, indices.	PSO 1,2,3,4,5	K1
CO2	Understand the types of sets, exponents and logarithms.	PSO 1,2,3,4,5	K1, K2
CO3	Apply operations on set theory, using logarithmic properties to solve the problems.	PSO 1,2,3,4,5	K3
CO4	Analyze the permutation and combination, discount, histogram, O-give, pie-chart.	PSO 1,2,3,4,5	K3, K4
CO5	Evaluate exponents and logarithms, Permutation and combination, dispersion.	PSO 1,2,3,4,5	K4, K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyze, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: IV	COURSE COMPONENT: NON-MAJOR ELECTIVE –I
COURSE NAME: BASICS OF RETAIL MARKETING	COURSE CODE:
SEMESTER: I	MARKS:100
CREDITS:2	TOTAL HOURS:30
THEORY	

COURSE OBJECTIVE:

Introduction to Retail Marketing intends to provide the students with an overview of the retail industry, concepts and processes and how to use it most effectively in each specific sales channel.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Analyze the growth and various trend in retail business.
2. Provide the basic understanding to broad set of specialized activities and techniques in managerial retail business.
3. Motivate the students to take up retailing business as a carrier in their location
4. Understand labelling and Franchising concept
5. Understand various Communication tools used in retailing.

UNIT – I (6 Hours)

Retailing-Definition-Retail marketing – Growth of organized retailing in India – Importance of Retailing.

UNIT- II (6 Hours)

Functions of Retailing – Characteristics of Retailing –Types of Retailing – Store Retailing – Non-store Retailing.

UNIT – III (6 Hours)

Retail Location Factors – Branding in Retailing – Private Labelling – Franchising concept.

UNIT – IV (6 Hours)

Communication tools used in retailing – sales promotion, E- Retailing – Window Display.

UNIT – V (6 Hours)

Supply Chain Management – Definition – Importance – Role of information technology in Retailing.

RECOMMENDED TEXT BOOK:

1. Dr. L. Natarajan, Retail Marketing, Margham Publication Chennai.

REFERENCE BOOKS:

1. Gilbert Pearson, Retail Marketing Education Asia, 2001
2. Vedamani Gibson, Retail Marketing Jaici Publishing House New Delhi– 2000
3. Herman & Evans Retail Management Phi, New Delhi -2001
4. Michael Levy and Barton a Weitz, Retail Management Tata Mc, Graw hill, New Delhi - 2001

E-LEARNING RESOURCES:

- 1, <https://www.netsuite.com/portal/resource/articles/erp/retail-supply-chain-management.shtml>
2. https://backup.pondiuni.edu.in/storage/dde/downloads/markiii_rm.pdf
3. <https://backup.pondiuni.edu.in/sites/default/files/Retail%20branding%20strategy200813.pdf>

QUESTION PAPER PATTERN: MCQs

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH: 2024- 27
PART: IV	COURSE COMPONENT: SOFT SKILLS-I
COURSE NAME: COMMUNICATION SKILLS AND PERSONALITY DEVELOPMENT SKILLS	COURSE CODE:
SEMESTER: I	MARKS:100
CREDITS: 2	TOTAL HOURS: 30

COURSE OBJECTIVE:

To build communication skills for personal and professional development.

COURSE OUTCOMES:

1. Students will demonstrate the ability to actively listen to others, understand diverse perspectives, and paraphrase key points accurately, enhancing their comprehension skills in various personal and professional contexts.
2. Students will be able to articulate thoughts, ideas, and information clearly and concisely, using appropriate language and structure to convey messages effectively in both written and verbal communication
3. Students will develop confidence in expressing opinions, asserting boundaries, and advocating for themselves and others, leading to enhanced self-assurance and effectiveness in interpersonal and group communication.
4. Students will learn to adapt their communication style and approach based on the audience, context, and purpose of communication, fostering flexibility and versatility in interacting with diverse individuals and groups.
5. Students will acquire techniques for resolving conflicts, managing disagreements, and negotiating mutually beneficial outcomes through effective communication strategies, promoting constructive problem-solving and collaboration in personal and professional settings.

UNIT I: Types of Communication

(6 Hours)

Verbal Communication - Nonverbal Communication - Visual Communication - Written Communication - Interpersonal Communication - Group Communication - Mass Communication - Digital Communication- Barriers – Language- Cultural- Psychological- Semantic- Technological Barriers

UNIT II: Etiquette & Ethical Practices in Communication

(6 Hours)

Active Listening - Respectful Language - Clarity and Conciseness – Truthfulness- Professionalism-Tone -Timeliness - Constructive Feedback - Confidentiality - Cultural Sensitivity - - Emotional Intelligence-Social Intelligence- Social Etiquettes-Accountability

UNIT III: Self-Actualization

(6 Hours)

SWOC Analysis- Self Regulation-Self Evaluation, Self-Monitoring, Self- Criticism, Self-Motivation, Self-awareness and Reflection:

UNIT IV: Leadership and Teamwork**(6 Hours)**

Leadership Skills: Leadership styles- Goal-setting and decision-making- Motivation and influence- Team Dynamics: Team building activities- Conflict resolution- Collaborative problem-solving

UNIT V: Stress and Time Management**(6 Hours)**

Definition of Stress, Types of Stress, Symptoms of Stress, Stress coping ability, Stress Inoculation Training, Time Management and Work-Life Balance: Self-discipline Goal-setting

RECOMMENDED TEXTBOOKS:

1. Goleman, Daniel (2006) *Emotional Intelligence*, Bantam Books
2. Linden, Wolfgang (2004) *Stress Management- From Basic Science to Better Practice-* University of British Columbia, Vancouver, Canada.
3. Hasson, Gill (2012) *Brilliant Communication Skills*. Great Britain: Pearson Education.
4. Monippally, Matthukutty, M. *Business Communication Strategies*. New Delhi: Tata McGraw-Hill Publishing Company Ltd., 2001.
5. Raman, Meenakshi & Sangeetha Sharma (2011) *Communication Skills*, Oxford University Press.

REFERENCE BOOKS

1. N.Krishnaswamy *Current English for College* (1st Edition) - Trinity Press
2. Wood, Julia T (2015) *Interpersonal Communication: Everyday Encounters* 8th Edition, Cengage Learning.

E-LEARNING RESOURCES

1. <http://www.albion.com/netiquette/corerules.html>
2. <http://www.englishdaily626.com/c-errors.php>
3. <https://www.helpguide.org/articles/relationships-communication/nonverbal-communication.htm>
4. <https://www.communicationtheory.org/verbal-vs-non-verbal-communication-with-examples/>
5. <https://letstalkscience.ca/educational-resources/backgrounders/digital-citizenship-ethics>
6. <https://www.switchboard.app/learn/article/teamwork-leadership-skills>

GUIDELINES TO THE QUESTION PAPER SETTERS

QUESTION PAPER PATTERN

Section	Question Component	Numbers	Marks	Total
A	Answer any 5 out of 7 questions (answer in 50 words)	1-7	2	10
B	Answer any 4 out of 6 questions (answer in 300 words)	8-13	5	20
C	Answer any two (Internal (Choice))	14-15	10	20
	Internal & Viva Voce		50	50

BREAK UP OF QUESTIONS

UNITS	SECTION A	SECTION B	SECTION C
I	2	2	----
II	2	1	1
III	1	1	1
IV	1	1	1
V	1	1	1
TOTAL			
	SECTION A - 7	SECTION B - 6	SECTION C - 4

SEMESTER - II

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE III
COURSE NAME: FINANCIAL ACCOUNTING - II	COURSE CODE:
SEMESTER: II	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY AND PROBLEMS	

COURSE OBJECTIVE:

Introduction of Advance Accounting Concept for various kinds of business transactions.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Understand the Accounting Standards and Financial Reporting.
2. Demonstrate the accounting procedure for Branch Accounts under debtors' system and stock & debtors' system.
3. Explain the concept of Hire purchase transactions, calculation of interests and various accounting treatments of Hire purchase system.
4. Analyse the accounting treatment of admission, retirement and death of a Partner.
5. Discuss the various procedures for accounting treatment of Dissolution, Garner Vs Murray, piece meal distribution and maximum loss method.

UNIT -I

(18 Hours)

Accounting Standards for financial reporting-Objectives and uses of financial statements for users-Role of accounting standards. Development of accounting standards in India- Requirements of international accounting standards. Ind AS- Difference between Ind AS and IFRS. (Theory)

UNIT -II

(18 Hours)

Branch Accounting-Dependent branches only and Ascertainment of Profit by Debtors method and Stock and Debtors System. (Simple Problems Only)

UNIT-III

(18 Hours)

Hire Purchase System-Meaning & features, legal provisions of Hire Purchase Act, calculation of Interest, Journal entries in the books of Vendee and Vendor, preparation of various ledger, in the books of hire purchaser and seller. (Simple Problems Only)

UNIT-IV

(18 Hours)

Partnership Firms-Admission of a Partner, Retirement and death of a partner including treatment of goodwill. (Simple Problems Only)

UNIT V:

(18 Hours)

Dissolution of a firm-Garner Vs Murray Case- Insolvency-Piecemeal Distribution and Maximum Loss Method (Simple Problems Only)

THEORY: 20% PROBLEMS: 80%

RECOMMENDED TEXTBOOKS:

1. T.S.Reddy & A. Murthy, Financial Accounting, Margum Publications, Chennai.
2. M C Shukla, S C Gupta & T S Grewal, Financial Accounting II

REFERENCE BOOKS:

1. R. L. Gupta & M. Radhaswamy – Advanced Accountancy, Sultan Chand , New Delhi.
2. R.L Gupta & V.K. Gupta – Financial Accounting – Sultan Chand Publishing, New Delhi.
3. Dr.S.Manikandan ,Financial Accounting, Scitech Publications, Chennai.

E-LEARNING RESOURCES

1. <https://books.google.co.in/books?isbn=8126909935>
2. <https://books.google.co.in/books?isbn=9966254455>
3. <https://books.google.co.in/books?isbn=0470635290>

GUIDELINES TO THE QUESTION PAPER SETTERS QUESTION**PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Numbers	Marks	Total
A	Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Answer any 2 out of 4 questions (each in 1200 words)	20-23	20	40
TOTAL MARKS				100

BREAK UP OF QUESTIONS FOR THEORY AND PROBLEM

UNITS	SECTION A		SECTION B		SECTION C	
	THEORY	PROBLEM	THEORY	PROBLEM	THEORY	PROBLEM
I	3	-	2	-	1	-
II	1	1	-	1	-	1
III	1	1	-	1	-	1
IV	2	1	1	1	-	-
V	1	1	-	1	-	1
TOTAL	8	4	3	4	1	3
SECTION A - 12			SECTION B - 7		SECTION C - 4	

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Understand the Accounting Standards and Financial Reporting.	PSO- 1,2,3,4, & 5	K1,K2,K3,K4,K5
CO2	Demonstrate the accounting procedure for Branch Accounts under debtors' system and stock & debtors' system.	PSO- 1,2,3,4, & 5	K1,K2,K3,K4,K5
CO3	Explain the concept of Hire purchase transactions, calculation of interests and various accounting treatments of Hire purchase system.	PSO- 1,2,3,4, & 5	K1,K2,K3,K4,K5
CO4	Analyse the accounting treatment of admission, retirement and death of a Partner.	PSO- 1,2,3,4, & 5	K1,K2,K3,K4
CO5	Discuss the various procedures for accounting treatment of Dissolution, Garner Vs Murray, piece meal distribution and maximum loss method.	PSO- 1,2,3,4, & 5	K1,K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE IV
COURSE NAME: OFFICE AUTOMATION AND DATA VISUALIZATION LAB	COURSE CODE:
SEMESTER: II	MARKS:100
CREDITS:4	TOTAL HOURS:60
PRACTICAL	

COURSE OBJECTIVE:

This course gives an exposure to Various Software of Office Package.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Apply knowledge of Windows operating System
2. To understand the basics of MS Word and to develop a document with basic menus.
3. Generate MS Excel solutions through Hands on training
4. Design MS PowerPoint Presentations and Train on Internet deployment
5. Develop Business Correspondence skills in the Computerized Platform
6. To import data visualization using Power BI.

MS -WORD

1. Text Manipulations.
2. Usage of Numbering, Bullets, Footer and Headers.
3. Usage of Spell check, and Find & Replace.
4. Text Formatting.
5. Picture insertion and alignment.
6. Creation of documents, using templates.
7. Creation templates
8. Mail Merge Concepts
9. Copying Text & Pictures from Excel

MS-EXCEL & POWER BI

10. Cell Editing
11. Usage of Formulae and Built-in Functions
12. File Manipulations
13. Data Sorting (both number and alphabets)
14. Data Import and Transformation using Power BI.
15. Filtering Data and Color Customization.
16. Interactive dashboards and Data Visualization.

POWER POINT

17. Inserting Clip arts and Pictures
18. Frame movements of the above
19. Insertion of new slides
20. Preparation of Organization Charts
21. Presentation using Wizards
22. Usage of design templates

RECOMMENDED TEXTBOOKS:

1. "Office 365 All-in-One For Dummies" by Peter Weverka
2. "Excel Basics In 30 Minutes (2nd 3.Edition)" by Ian Lamont
3. "PowerPoint 2019 For Dummies" by Doug Lowe

REFERENCE BOOKS:

1. "Office 365 For Dummies" by Rosemarie Withee and Ken Withee
2. "Data Visualization For Dummies" by Mico Yuk

E-LEARNING RESOURCES:

1. <https://www.coursera.org/courses?query=introduction%20to%20computer%20science>
2. <https://www.edx.org/course/introduction-to-computer-hardware>
3. <https://www.khanacademy.org/computing/computer-programming>
4. <https://www.coursera.org/specializations/python>
5. <https://www.edx.org/course/introduction-to-databases>

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Apply knowledge of Windows operating System To understand the basics of MS Word and to develop a document with basic menus.	PSO- 1,2,3,4, & 5	K1,K2,K3,K4,K5
CO2	Generate MS Excel solutions through Hands on training	PSO- 1,2,3,4, & 5	K1,K2,K3,K4,K5
CO3	Design MS PowerPoint Presentations and Train on Internet deployment	PSO- 1,2,3,4, & 5	K1,K2,K3,K4,K5
CO4	Develop Business Correspondence skills in the Computerized Platform	PSO- 1,2,3,4, & 5	K1,K2,K3,K4,K5
CO5	To import data visualization using Power BI.	PSO- 1,2,3,4, & 5	K1,K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH: 2024 - 27
PART: III	COURSE COMPONENT: Allied II
COURSE NAME: BUSINESS MATHEMATICS AND STATISTICS II	COURSE CODE:
SEMESTER: II	MARKS:100
CREDITS: 5	TOTAL HOURS: 90
THEORY AND PROBLEMS	

(Common to B.Com. CA and B.Com PA)

COURSE OBJECTIVE:

To apply knowledge of mathematics with emphasis on management applications and interpret, solve business related problems and analyzing real life problem with actual data.

COURSE OUTCOMES:

1. Recall the concept of arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.
2. Understand the concept of arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.
3. Apply the concept of arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.
4. Analyze arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.
5. Evaluate arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.

UNIT I

(18 Hours)

Sequence and Series: Introduction Sequences, Series, Arithmetic and Geometric progression, Relationship between Arithmetic Mean and Geometric Mean, Sum of first n terms of special series.

Chapters: 6 and 7 (Part one)

UNIT II

(18 Hours)

Differential calculus: Basic concepts of differential calculus, Differentiation - First and second order derivatives – Maxima and minima.

Chapter: 15 (Part one)

UNIT III

(18 Hours)

Probability: Independent and dependent events; mutually exclusive events.

Total and Conditional Probability.

Chapter: 14 (Part two)

UNIT IV**(18 Hours)**

Correlation: Meaning, Applications, types of degree of correlation, Scatter diagram, Karl Pearson's Coefficient of Correlation Rank Correlation.

Regression: Meaning, uses, Difference correlation and regression, linear regression equations.

Chapters: 8 and 9 (Part two)

UNIT V**(18 Hours)**

Time Series: Meaning, need and components of time series, Measurement of trend: Free hand, Semi average, moving average and least square methods. Measurement of seasonal indices: Simple average, Ratio to trend and Ratio to moving average method.

Chapters: 12 (Part two)

RECOMMENDED TEXT BOOK:

1. Business Mathematics and Statistics– P.R. Vittal, Margham Publications ,Reprint 2022

REFERENCE BOOKS:

1. Business Mathematics – D.C. Sancheti and V.K. Kapoor, Sultan Chand & Sons, 19th Edition.

2. Statistical Methods – S.P. Gupta, Sultan chand & sons, 15th Edition.

E-LEARNING RESOURCES:

1. <https://archive.nptel.ac.in/courses/122/104/122104017/>

2. <https://ocw.mit.edu/courses/18-05-introduction-to-probability-and-statistics-spring-2022/>

3. <https://mathforums.com/advanced-probability-statistics/>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN****Max. Marks: 100**

SECTION	QUESTION COMPONENT	NUMBERS	MARKS	TOTAL
A	Answer any 10 out of 12 questions (each in 50 words)	1 - 12	3	30
B	Answer any 5 out of 7 questions (each in 300 words)	13 - 19	6	30
C	Answer any 4 out of 6 questions (each in 1200 words)	20 - 25	10	40
TOTAL MARKS				100

BREAK UP OF QUESTIONS FOR THEORY AND PROBLEMS

UNITS	SECTION A		SECTION B		SECTION C	
	THEORY	PROBLEM	THEORY	PROBLEM	THEORY	PROBLEM
I	1	1	-	1	-	1
II	1	1	-	1	-	1
III	1	1	-	1	-	1
IV	1	1		1	-	1
V	1	1	-	1	-	1
Any Unit	-	2	-	2	-	1
TOTAL	5	7	-	7	-	6
	SECTION A - 12		SECTION B - 7		SECTION C - 6	

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	2	3	2	2	3
CO 2	3	2	2	3	2
CO 3	3	2	3	3	2
CO 4	2	3	2	2	3
CO 5	2	3	3	3	2
Ave.	2.4	2.6	2.4	2.6	2.4

PSO-CO-question paper mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Recall the concept of arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.	PSO 1,2,3,4,5	K1
CO2	Understand the concept of arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.	PSO 1,2,3,4,5	K1, K2
CO3	Apply the concept of arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.	PSO 1,2,3,4,5	K3
CO4	Analyze arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.	PSO 1,2,3,4,5	K3, K4
CO5	Evaluate arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.	PSO 1,2,3,4,5	K4, K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: IV	COURSE COMPONENT: NON-MAJOR ELECTIVE - II
COURSE NAME: PRACTICAL E-COMMERCE LAB	COURSE CODE:
SEMESTER: II	MARKS:100
CREDITS:2	TOTAL HOURS:30
PRACTICAL	

COURSE OBJECTIVE:

To Learn how to design, develop and implement ecommerce web applications and to demonstrate how businesses sell products and services on the Web

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Investigate the emergence of E Commerce and outline different tags to design a web page in HTML.
2. Assess the applicability of Big Data and Digital Dashboards.
3. Create a CSS sheets in HTML web page
4. Integrate theoretical knowledge to Practical application to design the Web Page
5. Outline skills to map inter-dependence of technology in day to day life.

Programs

1. Implements basic HTML tags
2. Implementation of Table tag
3. Implementation of FRAMES
4. Design a FORM in HTML (Yahoo registration form)
5. Validation of FORM using Java Script.
6. Implementation of CSS (All 4 Types)
7. Develop a clock using Java Script
8. DHTML(Layer/DIV)
9. ASP Implement Response Object
10. Connectivity to Database throughASP
11. PROJECT- Develop an E-CommerceWeb Site

PRESCRIBED TEXTBOOKS:

1. "E-Commerce 2025: The Future of E-Commerce" by Blake Martin
2. "Web Development and Design Foundations with HTML5" by Terry Felke-Morris
3. "Learning CSS3 Animations and Transitions: A Hands-on Guide to Animating in CSS3 with Transforms, Transitions, Keyframes, and JavaScript" by Alexis Goldstein

REFERENCE BOOKS:

1. "Big Data: Principles and best practices of scalable real-time data systems" by Nathan Marz and James Warren
2. "Digital Dashboards: Strategic & Tactical: Best Practices, Tips, Models, and Key Performance Indicators" by Sherry Tingley

E-LEARNING RESOURCES:

1. <https://www.coursera.org/learn/html>
2. <https://www.edx.org/course/css-basics>
3. <https://www.khanacademy.org/computing/computer-programming>
4. <https://www.coursera.org/specializations/web-development>
5. <https://www.edx.org/course/introduction-to-asp-net>

QUESTION PAPER PATTERN: MCQs

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH: 2024-27
PART: IV	COURSE COMPONENT: SOFT SKILLS-II
COURSE NAME: INTERVIEW SKILLS AND RESUME WRITING	COURSE CODE:
SEMESTER: II	MARKS:100
CREDITS: 2	TOTAL HOURS: 30

COURSE OBJECTIVE:

To equip the students to acquire the relevant skills for better employability

COURSE OUTCOMES:

1. Students will gain an overall understanding of the concept, the purpose, and the objectives of an interview
2. Students will become aware of the various types of interviews and the nuances of each one of them
3. Students will understand and equip themselves with the techniques and strategies required to ace an interview
4. Students will be able to draft a biodata /CV/Resume in the proper format
5. Students will embark on acquiring the relevant skills and will learn to leverage them effectively for better employability

UNIT I Introduction to Interview Skills

(6 Hours)

Definition- meaning- concept of interview –Purpose- Objectives of interview-Characteristic features of job interviews

UNIT II Types of Interview

(6 Hours)

Traditional one on one job interview- Panel interview- Behavioral interview-Group interview- Phone Interview- Preliminary Interview-Patterned Interview Depth Interview, Stress Interview, Exit Interview- Interview through tele and video conferencing

UNIT III Interviews: Techniques and Strategies

(6 Hours)

Preparing for the Interview Process- Before the interview-During the interview-After the interview -Tips to ace an interview -Commonly asked questions in interview -Do's and Don'ts of interview - Reasons for rejections

UNIT IV Preparing Biodata/CV/Resume

(6 Hours)

Essential characteristics of a job Application-Difference between Biodata- CV-Resume- covering letter-Tips to draft an application

UNIT V Leveraging Employability Skills

(6 Hours)

Personality Development-Organizational skills-Time Management–Stress Management-Effective Communication Skills -Reasoning Ability-Verbal Ability- Group Discussion- Technical skills -Presentation skills

RECOMMENDED TEXTBOOKS:

1. Monipally, Matthukutty M. (2017) Business Communication: From Principles to Practice
2. Peter, Francis. (2012) Soft Skills and Professional Communication. New Delhi: Tata McGraw Hill.

REFERENCE BOOKS

1. Higgins, Jessica JD (2018) 10 Skills for Effective Business Communication: Practical Strategies from the World's Greatest Leaders
2. Nicholas, Sonji (2023) Interviewing: Preparation, Types, Techniques, and Questions, Pressbooks
3. Storey, James (2016) The Art of The Interview: The Perfect Answers to Every Interview Question

E-LEARNING RESOURCES

1. <https://careermobilityoffice.cs.ny.gov/cmo/documents/Resume%20&%20Interviewing%20Handout.pdf>
2. <https://edu.gcfglobal.org/en/interviewingskills/interview-etiquette/1/>
3. <https://findjobhub.com/en/types-of-interviews>
4. <https://egyankosh.ac.in/bitstream/123456789/23411/1/Unit-2.pdf>
5. https://bharatskills.gov.in/pdf/E_Books/CTS/ES/English/ES_Part_1_62%20hour_English.pdf
6. https://bharatskills.gov.in/pdf/E_Books/CTS/ES/English/ES_Part2_58hour_English.pdf

GUIDELINES TO THE QUESTION PAPER SETTERS QUESTION PAPER PATTERN

Section	Question Component	Numbers	Marks	Total
A	Answer any 5 out of 7 questions (answer in 50 words)	1-7	2	10
B	Answer any 4 out of 6 questions (answer in 300 words)	8-13	5	20
C	Answer any two (Internal (Choice))	14-15	10	20
	Internal & Viva Voce		50	50

BREAK UP OF QUESTIONS

UNITS	SECTION A	SECTION B	SECTION C
I	2	2	----
II	2	1	1
III	1	1	1
IV	1	1	1
V	1	1	1
TOTAL			
	SECTION A - 7	SECTION B - 6	SECTION C - 4

SEMESTER-III

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE V
COURSE NAME: CORPORATE ACCOUNTING – I	COURSE CODE:
SEMESTER: III	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY AND PROBLEM	

COURSE OBJECTIVE:

Introduction to Corporate Accounting and preparation of financial statement for companies.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Prepare the journal entries of issue of shares, forfeiture, re-issue of shares and redemption of shares and compute underwriter's liabilities.
2. Demonstrate thorough knowledge of relevant accounting treatment of Issue and redemption of Debentures and the ability to find the profit prior to incorporation of companies.
3. Select the appropriate methods of valuation of shares and goodwill and perform the accounting treatment of the company.
4. Demonstrate thorough knowledge in preparation of financial statements of companies
5. Prepare Insurance companies accounting.

Unit –I

(18 Hours)

Issue of shares- Forfeiture and re-issue of shares. Redemption of shares- Underwriting of shares- Determination of the liability of underwriters- Complete Underwriting-Partial Underwriting- Firm Underwriting.

Unit-II

(18 Hours)

Debentures - Issue of Debentures – Redemption of Debentures- Profit prior to Incorporation. (Simple Problems)

Unit-III

(18 Hours)

Valuation of Goodwill and shares-Methods of Valuation of Goodwill- Average profits method- Super profit method-Capitalization Method- Methods of Valuation of shares- Net assets method- Yield Method-Fair value method (Simple Problems only)

Unit-IV

(18 Hours)

Final Accounts - Managerial Remuneration. Preparation of Profit & Loss account and Balance sheet (Simple Problems)

Unit-V**(18 Hours)**

Accounting for Life Insurance Companies – Life Insurance revenue account- Balance-Determination of amount due to policy holders. (Simple Problems only).

THEORY: 20% PROBLEMS: 80%

RECOMMENDED TEXT BOOKS:

1. Corporate Accounting-T.S. Reddy & A.Murthy- Margham publishers.
2. Corporate Accounting - Dr S N Maheshwari, Dr S K Maheshwari

REFERENCE BOOKS:

1. Corporate Accounting-R.L.Gupta&Radhaswamy-Sultan chand &sons.New Delhi.
2. Advanced Accounting-M.C.Shukla&T.S.Grewal.
3. Advanced Accounting-S.P.Jain &K.L.Narang.Kalyani publishers.

E-LEARNING RESOURCES:

1. https://www.youtube.com/channel/UCaXP40Q7n9vACnOZ-zT_GUQ

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Number s	Marks	Total
A	Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Answer any 2 out of 4 questions (each in 1200 words)	20-23	20	40
TOTAL MARKS				100

Break up of questions for theory and problem

UNITS	SECTION A		SECTION B		SECTION C	
	THEORY	PROBLEM	THEORY	PROBLEM	THEORY	PROBLEM
I	2	1	1	1	1	1
II	1	1	-	1	-	-
III	1	1	-	1	-	1
IV	2	1	1	1	-	-
V	1	1	-	1	-	1
TOTAL	7	5	2	5	1	3
SECTION A - 12			SECTION B - 7		SECTION C - 4	

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Prepare the journal entries of issue of shares, forfeiture, re-issue of shares and redemption of shares and compute underwriter's liabilities.	PSO- 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO2	Demonstrate thorough knowledge of relevant accounting treatment of Issue and redemption of Debentures and the ability to find the profit prior to incorporation of companies.	PSO- 1,2,3,4 & 5	K1,K2,K3,K4
CO3	Select the appropriate methods of valuation of shares and goodwill and perform the accounting treatment of the company.	PSO- 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO4	Demonstrate thorough knowledge in preparation of financial statements of companies	PSO- 1,2,3,4 & 5	K1,K2,K3,K4
CO5	Prepare Insurance companies accounting.	PSO- 1,2,3,4 & 5	K1,K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyses, K5= Evaluate, K6= Create

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE VI
COURSE NAME: PRINCIPLES OF MANAGEMENT	COURSE CODE:
SEMESTER: III	MARKS:100
CREDITS:4	TOTAL HOURS:75
THEORY	

COURSE OBJECTIVE:

An Introduction towards the basic principles and functions of management.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Have clear understanding of managerial functions like planning, and have basic knowledge on international aspect of management.
2. Understand the planning process in the organization.
3. Understand the concept of organization.
4. Demonstrate the ability to Directing, Recruitment and Training.
5. Analysis isolate issues and formulate best control methods and Co-ordination.

UNIT – I

(15 Hours)

Management: Importance – Definition- Nature and Scope of Management Process – Role and Functions of a Manager – Levels of Management – Evolution of Management thoughts: Scientific Management – F.W.Taylor, Administrative Management – Henry Fayol, The Human Relationship Management School – Hawthorne Experiment .

UNIT – II

(15 Hours)

Planning: Nature – Importance – Forms – Types – Steps in Planning – Objectives Policies – Procedures and Methods – Natures and Types of Policies – Decision-making Process of Decision-making – Types of Decision.

UNIT- III

(15 Hours)

Organization: Types of Organizations – Organization Structure – Span of Control and Committees – Departmentalization – Informal Organization.

UNIT- IV

(15 Hours)

Authority – Delegation – Decentralization –Difference between Authority and Power – Responsibility – Recruitment – Sources, Selection, Training – Direction – Nature and purpose.

UNIT- V

(15 Hours)

Co-ordination - Need, Type and Techniques and requisites for excellent Co- ordination – Controlling – Meaning and Importance – Control Process.

RECOMMENDED TEXT BOOKS:

1. J.Jayasankar, Principles of Management-Margham publications, Chennai

2. C.B.Gupta, Management Theory & Practice -Sultan Chand & Sons - New Delhi.

REFERENCE BOOKS:

1. L.M.Prasad, Principles & Practice of Management - Sultan Chand & Sons - New Delhi.
2. P.C. Tripathi & P.N Reddy, Principles of Managements - Tata Mc.Graw Hill - New Delhi.
3. Weihrich and Koontz, Management – A Global Perspective.
4. N.Premavathy, Principles of Management - Sri Vishnu Publication - Chennai.

E-LEARNING RESOURCES

1. <https://books.google.co.in/books?isbn=0070220883>
2. <https://books.google.co.in/books?isbn=0754619842>
3. <https://books.google.co.in/books?isbn=05471484>

GUIDELINES TO THE QUESTION PAPER SETTERS

QUESTION PAPER PATTERN:

Max. Marks: 100

Section	Question Component	Numbers	Marks	Total
A	Definition/Principle Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Short Answer Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Essay Answer any 4 out of 6 questions (each in 600 words)	20-25	10	40
TOTAL MARKS				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	2	1	1
III	2	2	2
IV	2	1	1
V	3	1	1
TOTAL	12	7	6
SECTION A -12		SECTION B -7	SECTION C -6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Have clear understanding of managerial functions like planning, and have basic knowledge on international aspect of management.	PSO- 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO2	Understand the planning process in the organization.	PSO- 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO3	Understand the concept of organization.	PSO- 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO4	Demonstrate the ability to Directing, Recruitment and Training.	PSO- 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO5	Analysis isolate issues and formulate best control methods and Co-ordination.	PSO- 1,2,3,4 & 5	K1,K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE VII
COURSE NAME: PROGRAMMING IN C	COURSE CODE:
SEMESTER: III	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY	

COURSE OBJECTIVE:

This course introduces to learn the basic concepts of C programming and it is designed to expand the knowledge of C Programs.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. To understand the Fundamentals of C Programming and a basic Knowledge about Computers
2. To Understand the basic terminology used in Computer programs and Operators.
3. To give exposure on Functions and Storage classes
4. Analyze the different types of arrays and employ them in program coding
5. Analyze user defined functions, Pointers and files

UNIT I

(18 Hours)

Introduction to computer - Fundamental Character set - Identifier and keywords - data types - constants - Variables - Declarations - Expressions - Statements - Arithmetic, Unary, Relational and logical, Assignment and Conditional Operators - Library functions.

UNIT II

(18 Hours)

Data input output functions - Simple C programs - Flow of control - if, if-else, while, do-while, for loop, Nested control structures - Switch, break and continue, go to statements - Comma operator.

UNIT III

(18 Hours)

Functions –Definition - proto-types - Passing arguments – Recursions- Storage Classes - Automatic, External, Static, Register Variables – Multi-file programs.

UNIT IV

(18 Hours)

Arrays - Defining and Processing - Passing arrays to functions – Multi-dimension arrays - Arrays and String. Structures - User defined data types - Passing structures to functions - Self-referential structures – Unions - Bit wise operations.

UNIT V

(18 Hours)

Pointers-Declarations- Passing pointers to Functions - Operation in Pointers - Pointer and Arrays - Arrays of Pointers - Structures and Pointers – Files- Creating, Processing, Opening and Closing a data file.

RECOMMENDED TEXT BOOKS:

1. "C Programming: A Modern Approach" by K.N. King
2. "The C Programming Language" by Brian W. Kernighan and Dennis M. Ritchie
3. "Programming in C" by Stephen G. Kochan
4. E.Balaguruswamy, 1995, Programming in ANSI C, TMH Publishing Company Ltd.

REFERENCE BOOKS:

1. "C Programming Absolute Beginner's Guide" by Greg Perry and Dean Miller
2. "Head First C" by David Griffiths and Dawn Griffiths

E-LEARNING RESOURCES:

1. <https://www.coursera.org/learn/c-programming>
2. <https://www.edx.org/course/c-programming-basics>
3. <https://www.khanacademy.org/computing/computer-programming>
4. <https://www.coursera.org/specializations/advanced-c-programming>
5. <https://www.edx.org/course/c-programming-in-depth>
6. https://youtu.be/_zbXB09tZhE?si=VHElAH7-r7olgT8d

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Numbers	Marks	Total
A	Definition/Principle Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Short Answer Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Essay Answer any 4 out of 6 questions (each in 600 words)	20-25	10	40
TOTAL MARKS				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	2	1	1
III	2	2	2
IV	2	1	1
V	3	1	1
TOTAL	12	7	6
	SECTIONA-12	SECTIONB-7	SECTIONC-6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	To understand the Fundamentals of C Programming and a basic Knowledge about Computers	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5	K1, K2,K3,K4
CO2	To Understand the basic terminology used in Computer programs and Operators.	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5	K1, K2,K3,K4
CO3	To give exposure on Functions and Storage classes	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5	K1, K2,K3,K4
CO4	Analyze the different types of arrays and employ them in program coding	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5	K1, K2,K3,K4
CO5	Analyze user defined functions, Pointers and files	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5	K1, K2,K3,K4

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE VIII
COURSE NAME: PROGRAMMING IN C LAB	COURSE CODE:
SEMESTER: III	MARKS:100
CREDITS:4	TOTAL HOURS:75
PRACTICAL	

COURSE OBJECTIVE:

This course gives exposure to hands on training in C programming To Read, understand, develop and trace the execution of programs written in C language.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. This course gives exposure to hands on training in C programming
2. To familiarize the student with basic concepts of computer programming and developer tools.
3. To present the syntax and semantics of the “C” language as well as data types offered by the language.
4. To allow the student to write their own programs using standard language infrastructure regardless of the hardware or software platform.
5. To understand the role of functions involving the idea of modularity.

Programs

1. Write a program to add, subtract, multiply and divide two numbers using menu driven program. (Arithmetic operation)
2. Write a program to check if a number is even or odd(if-else)
3. Write a program to find the largest of three numbers. (using if-else, logical and)
4. Write a program to find the maximum and minimum of numbers (using for- statement)
5. Write a program to check for prime number (do while loop)
6. Write a program to check for Armstrong number (while loop)
7. Write a program to accept day number and print the day of the week. (switch)
8. Write a program for counting the number of vowels, consonants, words, white spaces in a line of text (switch)
9. Write a program to arrange a set of numbers in ascending order. (1D Array)
10. Write a program to implement linear search. (1D Array)
11. Write a program to implement binary search. (1D Array).
12. Write a program to add two matrices (2D Arrays)
13. Write a program to check whether a string is a palindrome or not. (String)
14. Write a program to print Fibonacci series using function.
15. Write a program to find factorial of a number using recursive function.

RECOMMENDED TEXTBOOKS:

1. "C Programming: A Modern Approach" by K.N. King
2. "The C Programming Language" by Brian W. Kernighan and Dennis M. Ritchie
3. "Programming in C" by Stephen G. Kochan

REFERENCE BOOKS:

1. "C Programming Absolute Beginner's Guide" by Greg Perry and Dean Miller
2. "Head First C" by David Griffiths and Dawn Griffiths

E-LEARNING RESOURCES:

1. <https://www.coursera.org/learn/c-programming>
2. <https://www.edx.org/course/c-programming-basics>
3. <https://www.khanacademy.org/computing/computer-programming>
4. <https://www.coursera.org/specializations/advanced-c-programming>
5. <https://www.edx.org/course/c-programming-in-depth>
6. https://youtu.be/_zbXB09tZhE?si=VHEIAH7-r7olgT8d

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	This course gives exposure to hands on training in C programming	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5	K2, K5,K6
CO2	To familiarize the student with basic concepts of computer programming and developer tools.	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5	K2, K5,K6
CO3	To present the syntax and semantics of the "C" language as well as data types offered by the language.	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5	K2, K5,K6
CO4	To allow the student to write their own programs using standard language infrastructure regardless of the hardware or software platform.	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5	K2, K5,K6
CO5	To understand the role of functions involving the idea of modularity	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5	K2, K5,K6

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: ALLIED III
COURSE NAME: ECONOMICS FOR BUSINESS DECISION	COURSE CODE:
SEMESTER: III	MARKS:100
CREDITS:5	TOTAL HOURS: 90
THEORY	

(Common to B. Com (GEN), B. Com (CA))

COURSE OBJECTIVE:

An Introduction to the basic concepts and theories of Business Economics.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Understand the importance and Role of Business Economics.
2. Perceive the knowledge about Economics at Micro level and various economic concepts such as Demand Function and Law of Demand and Supply.
3. Understand the Consumer Behaviour Theories
4. Learn the production theories
5. Perceive the knowledge about different market structure and various pricing techniques.

UNIT – I

(18 Hours)

Definition- Nature, Scope and importance of Business Economics – Role of Business Economist – Positive and Normative Economics.

UNIT – II

(18 Hours)

Meaning of demand – Distinctions of demand – Law of Demand – Elasticity of demand – Supply concepts.

UNIT – III

(19 Hours)

Consumer Behaviour Theories- Law of Diminishing Marginal Utility - Equi-Marginal Utility- Indifference Curve- Properties

UNIT – IV

(19 Hours)

Production – Factors of Production - Production theories - Law of Variable Proportion, Law of Returns to Scale. - Iso Quants

UNIT - V

(16 Hours)

Pricing – Objectives – Factors influencing pricing – Classification of Pricing – Break Even Analysis.

RECOMMENDED TEXT BOOKS:

1. S.Shankaran , Business Economics – Margham publications Ch -17
2. Managerial Economics - Maheshwari K. L., Varshney R.L. - Sultan Chand & Sons

REFERENCE BOOKS:

1. Business Economics – E. Dharmaraj – Scitech publications
2. A.L. Ahuja , Business Economics – RBSA publishers Jaipur – 03
3. Aryasri and Murthy: Business Economics, Tata Mcgraw Hill.
4. Mithani: Fundamentals of Business Economics, Himalaya.

E-LEARNING RESOURCES:

1. <https://books.google.co.in/books?isbn=0470021128>
2. <https://books.google.co.in/books?isbn=1451602391>
3. <https://books.google.com/books?isbn=0333961110>

GUIDELINES TO THE QUESTION PAPER SETTERS

QUESTION PAPER PATTERN:

Max. Marks: 100

Section	Question Component	Numbers	Marks	Total
A	Definition/Principle Answer any 10 out of 12 questions (Each in 50 words)	1-12	3	30
B	Short Answer Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Essay Answer any 4 out of 6 questions (each in 600 words)	20-25	10	40
TOTAL MARKS				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	2	1	1
III	2	2	2
IV	2	1	1
V	3	1	1
TOTAL	12	7	6
	SECTIONA-12	SECTIONB-7	SECTIONC-6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Understand the importance and Role of Business Economics.	PSO 1, 2, 3, 4, 5	K1,K2,K3,K4,K5
CO2	Perceive the knowledge about Economics at Micro level and various economic concepts such as Demand Function and Law of Demand and Supply.	SO 1, 2, 3, 4, 5	K1,K2,K3,K4
CO3	Understand the Consumer Behaviour Theories	SO 1, 2, 3, 4, 5	K1,K2,K3,K4,K5
CO4	Learn the production theories	SO 1, 2, 3, 4, 5	K1,K2,K3,K4
CO5	Perceive the knowledge about different market structure and various pricing techniques.	SO 1, 2, 3, 4, 5	K1,K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: COMMON TO ALL IT STUDENTS	BATCH:2024-27
PART: IV	COURSE COMPONENT: SOFT SKILL-III
COURSE NAME: ADOBE UX FOUNDATION	COURSE CODE:
SEMESTER: III	MARKS:100
CREDITS:2	TOTALHOURS:30
PRACTICAL	

(Common to B.Sc. CS, BCA, B.Sc. IT, B.Sc. DA, B.Com.ISM, B.Com. CA)

COURSE OBJECTIVE:

Adobe UX Foundation involves outlining the key skills and knowledge that participants should acquire by the end of the course.

COURSE OUTCOMES:

After successful completion of this course, the students will be able to:

1. Define and explain the core concepts and principles of user experience.
2. Understand the key features and functionalities of AdobeXD for designing and prototyping.
3. Apply user-centered design principles to create interfaces that prioritize use need sand preferences.
4. Implementinteractiveanddynamicprototypestosimulateuserinteractions.
5. Explore collaboration tools with in AdobeXD to work efficiently in a team environment.

UNIT I

(6 HOURS)

Introduction to User Experience Design: Define User Experience -User Experience Process– Seven Components of user Experience (UX) – Definition of a Good User Experience Design- Usability Heuristics-Examples of Good User Experience Design – Practical Activity.

UNIT II

(6 HOURS)

User Experience Research: What is User Experience Research – Designing Adobe XD: User Research & Testing – What is CompetitorUser Experience Research – User Experience Personas&UserProfiles– OthertypesofUserExperienceResearch–Qualitative and Quantitative User Experience Research – Running Interviews and Observations for User Experience –Understanding User – Practical Activity

UNIT III

(6 HOURS)

Visual Design: Definition- Introduction toAtomic Design – Elements of any Visual design:Color& Shape – Imagery – Typography -Buttons – Composition of Visual Design Elements: structure & Grid – Hierarchy of Content – States.

UNIT IV

(6 HOURS)

User Experience Design Strategy: An Introductory guide to information architecture – Techniques & Best practice for developing an information architecture: Software Process – ExamplesofInformationArchitecture–Sitemap–Sitemapforwebsite–Examples–Navigation &Hierarchy: Taxonomy & metadata – Examples- Practical Activity

UNIT V

(6 HOURS)

Mock up: Different types of Design Mock –Ups – User Persona, Scenarios & stories – Design Ideation & Sketching – Storyboarding User Experiences – Design Wireframes – Design prototyping & types of prototypes – Practical Activity.

RECOMMENDED TEXT BOOKS

1. The Design of Everyday Things by Don Norman, The revised and expanded edition, 2013.
2. Lean UX: Designing Great Products with Agile Teams by Jeff Gothelf and Josh Seiden, 2013.

REFERENCE BOOKS

1. Don't Make Me Think by Steve Krug, 3rd edition, 2014
2. The Elements of User Experience by Jesse James Garrett, 2nd edition, 2010
3. Information Architecture: For the Web and Beyond" by Louis Rosenfeld, Peter Morville, and Jorge Arango, 4th edition, 2015.
4. Sketching User Experiences: Getting the Design Right and the Right Design" by Bill Buxton, 1st edition, 2007.
5. About Face: The Essentials of Interaction Design "by Alan Cooper, Robert Reimann, and David Cronin, 4th edition, 2015.

E-LEARNING RESOURCES:

1. <https://learn.futureskillsprime.in/journey/adobe-ux-foundation-learning-journey-this-free-of-cost>.
2. <https://userresearch.google.com/>
3. <https://www.interaction-design.org/literature/topics/visual-design>
4. <https://www.nngroup.com/articles/ux-strategy/>
5. <https://www.mockupworld.co/>

PSO–CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	3	3	2	3	2
CO2	3	3	2	2	2
CO3	2	3	3	2	3
CO4	3	2	2	3	2
CO5	2	2	2	2	2

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 toK6)
CO1	Define and explain the core concept sand Principles of user experience.	PSO 1, 2, 3, 4, 5	K1
CO2	Illustrate the key features and functionalities of AdobeXD for designing and prototyping.	PSO 1, 2, 3, 4, 5	K2
CO3	Apply user-centered design principles to create interfaces that prioritize user needs and preferences.	PSO 1, 2, 3, 4, 5	K3
CO4	Implement interactive and dynamic prototypes to simulate user interactions.	PSO 1, 2, 3, 4, 5	K4
CO5	Explore collaboration tools within AdobeXD To work efficiently in a team environment.	PSO 1, 2, 3, 4, 5	K5

K1=Remember, K2=Understand, K3=Apply, K4=Analyse, K5=Evaluate, K6=Create

**SELF-STUDY COURSE
(COMPULSORY)**

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: IV	COURSE COMPONENT: Self-study Course
COURSE NAME: 1. Indian Heritage and Knowledge System Or 2. Contemporary World and Sustainable Development	COURSE CODE:
SEMESTER: III	MARKS:100
CREDITS: 2	TOTAL HOURS: Nil
QUESTION PAPER PATTERN: MCQ	
THEORY	

1. Indian Heritage and Knowledge System

COURSE OBJECTIVE:

Delving into Indian Heritage, this course focuses on South Indian cultures and ancient knowledgelike Yoga, Ayurveda, and Siddha, shaping the Nation's identity.

COURSE OUTCOMES:

1. To develop a comprehensive understanding among students of Indian heritage, its richness and diversity, and its role in shaping the nation's cultural identity.
2. Students will gain an enhanced insight into the artistic, architectural, and literary achievements of South India and other regions, fostering a sense of pride in Indian cultural heritage.
3. To enhance students' cultural literacy by gaining insights into traditional practices preservedthrough folklore across India.
4. To acquire knowledge among students of ancient Indian sciences for holistic well-being, promoting physical, mental, and spiritual health.
5. Students will develop a deeper understanding of the disconnectedness of spiritual, medicinal,and artistic dimensions within Indian Heritage systems.

Unit I: Introduction to Indian Heritage

- **Concept of Heritage:** Definition, the importance of studying heritage, and its diverse forms.
- **Cultural Landscape of India:** Overview of major cultural zones in India, with a focus on South India.

Key Concepts: Cultural heritage, diversity, tangible heritage (e.g., monuments), intangible heritage (e.g., traditions, practices).

Unit II: Cultural Tapestry of South India

- **Literature:** The classical Tamil literature of *Sangam poetry*, the epic Kannada works like the "*Kuvempu Ramayana*," the Telugu compositions of *Annamacharya*, and the poetic Malayalam works of Kerala's rich literary tradition.
- **Painting:** The intricate gold leaf work of *Tanjore* painting, the intricate patterns of *Mysore* painting, hand-painting or block-printing of *Kalamkari*.
- **Theatre:** The ancient art form of *Koothu* and the elaborate dance-dramas of *Bhagavata Mela* in Tamil Nadu, and the colourful folk theatre of *Yakshagana* in Karnataka.
- **UNESCO Indian Heritage Sites:** *Great Living Chola Temples* artistry, *Hampi-Virupaksha Temple* and the *Vijaya Vittala Temple, Mahabalipuram*- a treasure trove of Pallava art, *Mysore Palace*-Indo-Saracenic architecture, *Periyar National Park*- Western Ghats, *Kanchipuram*-City of Thousand Temples.

Unit III: Tamil Nadu Folklores

- **Origins and Significance:** Historical background of Tamil Nadu folklore and its cultural significance.
- **Folk Dances:** Exploration of traditional Tamil folk dances like *Karakattam*, *Kolattam*, and *Kummi*.
- **Folk Music:** Overview of folk music traditions in Tamil Nadu, including *Parai Attam* and *Villu Paatu*.
- **Rituals and Festivals:** Understanding the role of folklore in Tamil Nadu's rituals and festivals- *Pongal* and *Jallikattu*.

Key Concepts: Karakattam, Kolattam, Parai Attam, Villu Paatu, Tamil folk tales, cultural rituals.

Unit IV: Unveiling the Knowledge Systems

- **Cultural Landscape of India:** Overview of major cultural zones in India, with a focus on South India.
- **Yoga:** Exploring the various aspects of Yoga - its philosophy, Eight Limbs, practices (e.g., Asanas, Pranayama), and benefits for physical and mental well-being.
- **Ayurveda:** Understanding the core principles of Ayurveda - its focus on holistic

health, diagnosis, and treatment methods.

Key Concepts: Yoga philosophy, Asanas, Pranayama, Tridosha theory (Ayurveda), Doshas (Vata, Pitta, Kapha), Panchakarma, herbal medicine, Ayurvedic lifestyle.

Unit V: Siddha Tradition and Other Knowledge Systems

- **Siddha Tradition:** Origins, philosophy, medicinal practices, and spiritual aspects.
- **Other Important Knowledge Systems:** Jyotish Shastra (Indian astrology), Natya Shastra (Treatise on performing arts).

Key Concepts: Siddha literature, alchemy, and spirituality in Siddha tradition. Pancha Boothas (Siddha), herbal remedies, Planetary influences, elements of classical Indian dance and music, and aesthetics in Natya Shastra.

2. Contemporary World and Sustainable Development

COURSE OBJECTIVE:

Delving into global dynamics, this course highlights Asia and India's pivotal role in achieving global sustainability objectives.

COURSE OUTCOMES:

1. Students will gain a comprehensive understanding of the key actors, institutions, and dynamics shaping the contemporary world order.
2. Students will acquire the ability to analyze the political, economic, and security challenges within major Asian regions, fostering informed perspectives on these critical issues.
3. Through the study of recent wars, students will develop critical thinking skills to assess the root causes, human costs, and potential solutions to contemporary conflicts.
4. Students will gain a deeper understanding of the principles and challenges of sustainable development, empowering them to advocate for responsible solutions at local, national, and international levels.
5. Students will be equipped to critically evaluate India's contributions to the SDGs, particularly through specific programs implemented in Tamil Nadu, and assess their effectiveness in achieving sustainable development goals.

Unit 1: Global Governance and Institutions

- **State & Non-State Actors:** Definition, types (nation-states, failed states), functions.
Key Actors: International states, Intergovernmental organizations (IGOs), nongovernmental organizations (NGOs), multinational corporations (MNCs).
- **United Nations (UN):** Structure, key organs (General Assembly, Security Council), functions, WB, & others.
Key Concepts: United Nations General Assembly, United Nations Security Council.
- **Regional Organizations:** European Union (EU), African Union (AU), North Atlantic Treaty Organization (NATO)
Key Concepts: European Union Commission, African Union Commission, North Atlantic Treaty Organization.
- **International Law and Treaties:** Significance, role in addressing global challenges.
Key Concepts: International Court of Justice, International Criminal Court, Geneva Conventions.

Unit 2: Contemporary Asia

Major Geographical Regions

- **Middle East:** Characterized by rich oil reserves, Complex political dynamics, and ongoing conflicts.
Key countries: Iran, Iraq, Israel, Saudi Arabia, Syria, Turkey
- **Southeast Asia:** Rapid economic growth, Challenges- maritime security and environmental degradation.
Key countries: Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam
- **Far East:** Major economic powerhouses and Potential flashpoints.
Key countries: China, Japan, North Korea, South Korea
- **Rise of China:** Political-South China Sea, Territorial disputes and Competition for Resources. Economic- China's Belt and Road Initiative (BRI)
- **Major Economic Centers:** **Singapore-** Global financial hub, **Hong Kong-** Special Administrative Region of China, **United Arab Emirates (UAE)-** Diversified economy driven by oil and gas, tourism, and trade.

Regional Organizations:

- Association of Southeast Asian Nations (ASEAN)
- South Asian Association for Regional Cooperation (SAARC)
- Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)
- Asia-Pacific Economic Cooperation (APEC)
- Shanghai Cooperation Organization (SCO)

Unit 3: Recent Wars of the World

- **Syrian Civil War (2011-present):** Bashar al-Assad regime, Syrian opposition groups, ISIS.
Key Concepts: Origins of the conflict, humanitarian crisis, foreign intervention, refugee crisis.
- **Yemeni Civil War (2015-present):** Houthi rebels, Yemeni government, Saudi-led coalition.
Key Concepts: Proxy war dynamics, humanitarian crisis, role of Iran and Saudi Arabia, UN peace efforts.
- **Ukraine Conflict (2014-present):** Ukrainian government, Russian-backed separatists, Russia.
Key Concepts: Annexation of Crimea, Donbas region conflict, Minsk agreements, NATO-Russia tensions.
- **Ethiopia Civil War (2020-present):** Ethiopian government, Tigray People's Liberation Front (TPLF), Eritrean forces.
Key Concepts: Tigray conflict, humanitarian crisis, regional implications, efforts for ceasefire and peace talks.

- **Nagorno-Karabakh War (2020):** Armenia, Azerbaijan, Russia.
Key Concepts: Conflict over Nagorno-Karabakh region, ceasefire agreement, role of Turkey, peace negotiations.
- **Myanmar Civil War (2021-present):** Myanmar military (Tatmadaw), ethnic armed groups, and Civilian resistance.
Key Concepts: Coup aftermath, Rohingya crisis, ethnic conflicts, ASEAN mediation efforts.

Unit 4: Sustainable Development Goals

- **Definition of Sustainable Development:** Balancing economic, social, and environmental needs.
Key Concepts: United Nations Development Programme (UNDP), World Wildlife Fund (WWF), Sustainable Development Solutions Network (SDSN).
- **UN Sustainable Development Goals (SDGs):** Overview, targets.
Key Concepts: United Nations, national governments, NGOs, private sector.
- **Challenges and Opportunities:** Achieving sustainability, global cooperation.
Key Concepts: United Nations, national governments, civil society organizations, multinational corporations.

Unit 5: India's Role in Achieving Sustainable Development Goals (SDGs) with Tamil Nadu Initiatives

Addressing Basic Needs:

- **Goal 1: No Poverty**
 - National Rural Employment Guarantee Act (NREGA)
 - Kalaignar Kanchi Thalaiyalar Scheme
 - Ungal Thozhil Udhayanam (UTOY)
- **Goal 2: Zero Hunger**
 - National Food Security Act (NFSA)
 - Nutritious Noon Meal Programme
 - Annadhanam Scheme
 - Amma Unavagam
- **Goal 3: Good Health and Well-being**
 - National Health Mission (NHM)
 - Health Insurance of Tamil Nadu
 - Chief Minister's Comprehensive Health Insurance Scheme
 - Maruthuva Mitri
 - Amma Mini Clinics

Ensuring Essential Services:

- **Goal 4: Quality Education**
 - Sarva Shiksha Abhiyan (SSA)
 - Rashtriya Madhyamik Shiksha Abhiyan (RMSA)
 - Namakkal District Library Scheme
 - Pudhumai Penn Scheme under Higher Education Assurance Scheme (HEAS)
 - Free Coaching for Competitive Exams
- **Goal 6: Clean Water and Sanitation**
 - Swachh Bharat Mission (Clean India Mission)
 - National Rural Drinking Water Programme (NRDWP)
 - Jal Jeevan Mission Tamil Nadu
 - Namakku Naathey Scheme
 - Kudimaramathu Scheme
- **Goal 7: Affordable and Clean Energy**
 - National Solar Mission
 - Tamil Nadu Solar Energy Policy
 - Green House Scheme

Building Sustainable Communities:

- **Goal 11: Sustainable Cities and Communities**
 - Smart Cities Mission
 - Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
 - Adi Dravidar Housing Scheme
- **Goal 13: Climate Action**
 - National Action Plan on Climate Change (NAPCC)
 - International Solar Alliance
 - Tamil Nadu Wind Energy Policy 2019
- **Goal 17: Partnerships for the Goals**
 - Development Assistance Programmes (DAPs)
 - International Development Cooperation (IDC)

Question paper pattern-MCQs

SEMESTER - IV

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE IX
COURSE NAME: CORPORATE ACCOUNTING – II	COURSE CODE:
SEMESTER: IV	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY AND PROBLEM	

COURSE OBJECTIVE:

Introduction to advance concepts and accounting treatment for Companies and Banks

COURSE OUTCOMES:

On completion of the course the students will be able to

1. Learn the concepts of various procedures in alteration of share capital and accounting treatment in respect of internal reconstruction of a company.
2. Analyze the accounting procedure of amalgamation of companies, absorption & external reconstruction of companies.
3. Prepare the liquidator's final statement of accounts at the time of winding up of the companies.
4. Prepare the final statement of Holding companies and Subsidiary companies.
5. Demonstrate a thorough knowledge of related accounting treatment and apply them to solve banking company's financial statement and understand the concept of NPA.

UNIT I: (18 Hours)

Meaning - Alteration of share capital and Internal Reconstruction – Accounting Procedures.

UNIT II: (18 Hours)

Amalgamation, Absorption and External reconstruction- Computation of purchase consideration- Pooling of interest method-Purchase Method-Accounting treatment- Journal Entries-Preparation of Balance sheet. (Simple Problems)

UNIT-III: (18 Hours)

Liquidation - Calculation of Liquidator Remuneration-Preparation of Liquidator's Final Statement of Accounts.

UNIT IV: (18 Hours)

Consolidated final statement of Holding companies and Subsidiary companies (Intercompany holdings excluded)

UNIT-V: (18 Hours)

Bank accounts - Preparation of Profit and Loss Account - Preparation of Balance Sheet.

Theory: 20% Problems: 80%

RECOMMENDED TEXTBOOKS:

1. Corporate Accounting-T.S. Reddy & A.Murthy- Margham publishers.
2. Corporate Accounting- S. N. Maheshwari, Suneel K. Maheshwari, Sharad K. Maheshwari

REFERENCE BOOKS:

1. Corporate Accounting-R.L.Gupta&Radhaswamy-Sultan chand &sons.New Delhi.
2. Advanced Accounting-M.C.Shukla&T.S.Grewal
3. Advanced Accounting-S.P.Jain &K.L.Narang.Kalyani publishers.

E-LEARNING RESOURCES:

1. <https://books.google.co.in/books?isbn=8131754510>
2. https://www.youtube.com/channel/UCaXP40Q7n9vACnOZ-zT_GU

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Numbers	Marks	Total
A	Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Answer any 2 out of 4 questions (each in 1200 words)	20-23	20	40
TOTAL MARKS				100

Break up of questions for theory and problem

UNITS	SECTION A		SECTION B		SECTION C	
	THEORY	PROBLEM	THEORY	PROBLEM	THEORY	PROBLEM
I	2	1	1	1	-	1
II	1	1	-	1	-	-
III	1	1	-	1	-	-
IV	2	1	1	1	1	1
V	1	1	-	1	-	1
TOTAL	7	5	2	5	1	3
SECTION A - 12			SECTION B - 7		SECTION C - 4	

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Learn the concepts of various procedures in alteration of share capital and accounting treatment in respect of internal reconstruction of a company.	PSO - 1,2,3, 4 & 5	K1, K2, K3, K4, K5
CO2	Analyze the accounting procedure of amalgamation of companies, absorption& external reconstruction of companies.	PSO - 1,2,3, 4 & 5	K1, K2, K3, K4
CO3	Prepare the liquidator's final statement of accounts at the time of winding up of the companies.	PSO - 1,2,3, 4 & 5	K1, K2, K3, K4, K5
CO4	Prepare the final statement of Holding companies and Subsidiary companies.	PSO - 1,2,3, 4 & 5	K1, K2, K3, K4,
CO5	Demonstrate a thorough knowledge of related accounting treatment and apply them to solve banking company's financial statement and understand the concept of NPA.	PSO - 1,2,3, 4 & 5	K1, K2, K3, K4, K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: IV	COURSE COMPONENT: CORE X
COURSE NAME: BUSINESS LAWS	COURSE CODE:
SEMESTER: IV	MARKS:100
CREDITS:4	TOTAL HOURS:75
THEORY	

COURSE OBJECTIVE:

Introduction to the provisions of General Contract and Special Contracts related to Business.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Inherit the knowledge on the legal aspects involved in Indian Contract Act.
2. Understand the concept of Offer, Acceptance and Consideration.
3. Impart the performance of contract as per Indian Contract Act, 1872.
4. Create and demonstrate the knowledge about sale of goods Act1930.
5. Understand the Contemporary Issues in Business Law such as Right to Information Act, 2005, Information Technology Act and IPR.

UNIT-I:

(15 Hours)

Indian Contract Act -Formation-Nature and Elements of Contract – Classification of Contracts -Contract Vs Agreement- Essentials of a valid contract.

UNIT-II:

(15 Hours)

Offer – Definition – Forms of offer – Requirements of a Valid Offer. Acceptance – Meaning - Legal rules as to a Valid Acceptance. Consideration – Definition – Types - Essentials. Capacity of Parties – Definition – Persons Competent to contract. Free consent – Coercion – Undue Influence – Fraud – Misrepresentation - Mistake. Legality of object - Void agreements Unlawful Agreements.

UNIT-III:

(15 Hours)

Performance of Contracts – Actual Performance – Attempted Performance, Discharge – Remedies for breach of contract – Quasi contract.

UNIT-IV:

(15 Hours)

Sale of Goods Act- Formation of contract of sale- The Price- Stipulation as to time – Passing of property in goods- Sale by non-owners - Performance of contract of sale- Rights of Unpaid Seller.

UNIT-V:

(15 Hours)

Contemporary Issues in Business Law- Right to Information Act, 2005 - Meaning of 'Information', Right to Information-Need for Right to Information. Public Information - Request for obtaining information. Information Technology Act - Purpose and significance. Cyber Crimes - Types of crimes, nature and punishment & Penalty- Intellectual Property Law - Patent, trademark, copyright-Registration/ Infringement

RECOMMENDED **TEXT** BOOKS:

1. Business Laws- N.D. Kapoor , Sultan Chand and Sons
2. Business Laws – M.R. Sreenivasan , Margam Publications

REFERENCE BOOKS:

1. Business Laws – M.V. Dhandapani, Sultan Chand ad Sons
2. Mercantile Law – S. Badre Alam and P. Saravanavel
3. Business Law – R.S.N. Pillai – S. Chand
4. Mercantile Law – Gogna, S. Chand.

E-LEARNING RESOURCES:

1. <https://books.google.co.in/books?isbn=0764142402>
2. <https://books.google.co.in/books?isbn=0748766472>
3. <https://books.google.co.in/books?isbn=0748766774>

GUIDELINES TO THE QUESTION PAPER SETTERS

QUESTION PAPER PATTERN:

Max. Marks: 100

Section	Question Component	Numbers	Marks	Total
A	Definition/Principle Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Short Answer Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Essay Answer any 4 out of 6 questions (each in 600 words)	20-25	10	40
TOTAL MARKS				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	2	1	1
III	2	2	2
IV	2	1	1
V	3	1	1
TOTAL	12	7	6
	SECTIONA-12	SECTIONB-7	SECTIONC-6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Inherit the knowledge on the legal aspects involved in Indian Contract Act.	PSO - 1,2,3,4, & 5	K1,K2,K3,K4,K5
CO2	Understand the concept of Offer, Acceptance and Consideration.	PSO - 1,2,3,4,	K1,K2,K3,K4,K5
CO3	Impart the performance of contract as per Indian Contract Act, 1872.	PSO - 1,2,3,4,& 5	K1,K2,K3,K4,K5
CO4	Create and demonstrate the knowledge about sale of goods Act1930.	PSO - 1,2,3,4,	K1,K2,K3,K4
CO5	Understand the Contemporary Issues in Business Law such as Right to Information Act, 2005, Information Technology Act and IPR.	PSO - 1,2,3,4,& 5	K1,K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE XI
COURSE NAME: WEB PROGRAMMING WITH PHP AND MYSQL	COURSE CODE:
SEMESTER: IV	MARKS:100
CREDITS:4	TOTAL HOURS:75
THEORY	

COURSE OBJECTIVE:

1. Creating, Reading and writing cookies, sessions and Learn different ways of connecting to MySQL through PHP, and how to create tables, enter data, select data, change data, and delete data. Connect to SQL Server and other data sources.

COURSE OUTCOMES:

On completion of the course, the students will be able to

1. Demonstrate the way arrays are handled in PHP
2. Create user defined functions with PHP
3. Explain sessions and cookies
4. Identify My SQL tools
5. Connect My SQL with PHP, process result set queries

UNIT I

Introduction:

(15 Hours)

Introduction- open source – PHP — history- features –variables- statements- operators – conditional statements – if – switch – nesting conditions – merging forms with conditional statements – loops – while –do – for loop iteration with break and continue.

UNIT II

Arrays and Functions:

(15 Hours)

Arrays: Creating an array- modifying array – processing array – grouping form with arrays – using array functions – creating user defined functions – using files – PHP server variables – Working with Date and Time – Performing Mathematical Operations- Working with String Functions

UNIT III

(15 Hours)

Working with Forms: Introduction of Forms – Form Elements: Text box – Text Area – Password – Radio Button – Check box – The Combo Box – Hidden Field – Submit and Reset Buttons – Adding elements to a form – Uploading Files to the web server using PHP.

UNIT IV

(15 Hours)

Regular Expression: Regular Expression Functions- Sessions – cookies – executing external programs-creating sample applications using PHP. Linux and Unix.

My SQL:

Effectiveness of MYSQL – MYSQL Tools – Pre-requisites for MYSQL connection – Databases and tables – MYSQL data types

UNIT V

PHP with MYSQL:

(15 Hours)

Working MYSQL with PHP – Database Connectivity – usage of MYSQL with PHP commands, processing result sets of queries – handling errors – debugging and diagnostic functions – Validating user input through Database layer and Application layer – formatting query output with Character, Numeric, Date and Time – sample Database Application.

RECOMMENDED TEXT BOOKS:

1. VIKRAMVASWANI,—PHP and MySQL, Tata McGraw-Hill, 2007
2. BENFORTA , —MySQL Crashcourse SAMS, 2006, 2nd Edition
3. C.J.DATE, —An Introduction to Database Systems, Pearson, 8th Edition, 2003
4. Ramesh Elmasri and Shamkant B. Navathe, —fundamentals of Database Systems, Pearson Education, 7th Edition, 2015

REFERENCE BOOKS:

1. Tim Converse, Joyce Park and Clark Morgan, —PHP5 and MySQL, Wiley India, 2008.
2. Robert Sheldon, Geoff Moes,—Beginning MySQL, Wrox, 2005.
3. Steve Suehring, Tim Converse and Joyce Park, —PHP6 and MySQL, Wiley India, 2009.

E-LEARNING SOURCES:

1. <http://www.w3programmers.com/professional-web-development-with-php-mysql/>
2. <https://www.mysqltutorial.org/>
3. <https://www.tutorialspoint.com/mysql/index.htm>
4. <https://www.w3schools.com/php/>
5. <https://www.phptpoint.com/php-tutorial-pdf/>
6. <http://www.xmlsoftware.com/>

WEBSITES FOR ONLINE COURSES:

1. <https://www.edureka.co/php-mysql-self-paced>
2. <https://www.coursesforsuccess.com/products/introduction-to-php-and-mysql-online-course>

GUIDELINES TO THE QUESTION PAPER SETTERS

QUESTION PAPER PATTERN:

Max Marks: 100

Section	Question Component	Numbers	Marks	Total
A	Answer any 10 out of 12	1-12	3	30
B	Answer any 5 out of 7	13-19	6	30
C	Answer any 4 out of 6	20-25	10	40
TOTAL				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	2	1	1
III	2	2	2
IV	2	1	1
V	3	1	1
TOTAL	12	7	6
	SECTIONA-12	SECTIONB-7	SECTIONC-6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Demonstrate the way arrays are handled in PHP	PSO 1,2,3,4 & 5	K1, K2,K3,K4,K5
CO2	Create user defined functions with PHP	PSO 1,2,3,4 & 5	K1, K2,K3,K4
CO3	Explain sessions and cookies	PSO 1,2,3,4 & 5	K1, K2,K3,K4,K5
CO4	Identify My SQL tools	PSO 1,2,3,4 & 5	K1, K2,K3,K4,K5
CO5	Connect My SQL with PHP, process result set queries	PSO 1,2,3,4 & 5	K1, K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE XII
COURSE NAME: PRACTICAL - WEB TECHNOLOGY USING PHP	COURSE CODE:
SEMESTER: IV	MARKS:100
CREDITS:4	TOTAL HOURS:60
PRACTICAL	

COURSE OBJECTIVE:

Understand how server-side programming works on the web using PHP scripts

COURSE OUTCOMES:

On completion of the course the students will be able

1. Design simple web page using PHP (20 Hours)
2. Create Sessions and Cookies
3. Demonstrate simple application to Validate input
4. Use aggregate functions
5. Demonstrate connecting My-SQL with PHP
6. Creating simple webpage using PHP (20 Hours)
7. Use of conditional statements in PHP
8. Use of looping statements in PHP
9. Creating different types of arrays
10. File manipulation using PHP
11. Creation of sessions (20 Hours)
12. Creation of cookies
13. Creating simple applications using PHP with input validations
14. Creating simple table with constraints
15. Insertion, Updating and Deletion of rows in MYSQL
16. Searching of data by different criteria
17. Sorting of data
18. Demonstration of joining tables
19. Usage of aggregate functions
20. Database connectivity in PHP with MYSQL

RECOMMENDED TEXTBOOKS:

1. VIKRAMVASWANI,—PHP and MySQL, Tata McGraw-Hill, 2007
2. BENFORTA , —MySQL Crashcourse, SAMS, 2006, 2nd Edition
3. C.J.DATE, —An Introduction to Database Systems, Pearson, 8th Edition, 2003
4. Ramesh Elmasri and Shamkant B. Navathe, —fundamentals of Database Systems, Pearson Education, 7th Edition, 2015

REFERENCE BOOKS:

1. Tim Converse, Joyce Park and Clark Morgan, —PHP5 and MySQL, Wiley India, 2008.
2. Robert Sheldon, Geoff Moes,—Beginning MySQL, Wrox, 2005.
3. Steve Suehring, Tim Converse and Joyce Park, —PHP6 and MySQL, Wiley India, 2009.

E-LEARNING RESOURCES:

1. https://books.google.co.in/books?id=ldJ5DwAAQBAJ&source=gbs_navlinks_s
2. https://books.google.co.in/books?id=7DB1DwAAQBAJ&source=gbs_navlinks_s
3. https://books.google.co.in/books?id=1c7IDwAAQBAJ&source=gbs_navlinks_s

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Design simple web page using PHP	PSO - 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO2	Create Sessions and Cookies	PSO - 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO3	Demonstrate simple application to Validate input	PSO - 1,2,3,4 & 5	K1,K2,K3,K4
CO4	Use aggregate functions	PSO - 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO5	Demonstrate connecting My-SQL with PHP	PSO - 1,2,3,4 & 5	K1,K2,K3,K4

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: ALLIED - IV
COURSE NAME: MARKETING MANAGEMENT	COURSE CODE:21UCCA314
SEMESTER: IV	MARKS:100
CREDITS:5	TOTAL HOURS:90
THEORY	

COURSE OBJECTIVE:

An introduction and implementation of marketing concepts and strategies.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Demonstrate strong conceptual knowledge in the functional area of marketing management.
2. Learn about marketing process, Buyer Behavior Process and Market Segmentation.
3. Analyse various products, life cycle and New Product development process.
4. Understand working of marketing channels and communication process.
5. Illustrate the E-Marketing, Consumerism, Market Research, MIS and Marketing Regulations.

UNIT-I (18 hours)

Marketing- Introduction – Meanings – Definition – Functions – Role and importance – Kinds of Market – Marketing Managements – Marketing Process – Marketing Management orientation marketing Plan – Marketing Mix.

UNIT –II (18 hours)

Marketing Environment – Managing Marketing information – Consumer Markets – Consumer Buying Decision Process – Business Markets – Business Buyer Behaviour Process – Market Segmentation.

UNIT –III (18 hours)

Product – Types of Products – Product Mix – New Product Development – Product Life Cycle Strategy, Pricing – Pricing Objectives – Kinds of Pricing – Factors Affecting Pricing-Pricing Strategies.

UNIT – IV (18 hours)

Marketing Channels – Functions – Types – Event Management –Channel design management channel behaviour; Marketing Communication Mix – Communication Process-Steps in Developing Effective Marketing Communication – Setting Promotion Budget and Mix

UNIT – V (18 hours)

Competitor Analysis and Strategies –Digital Marketing - Marketing through Social Channels - Green Marketing –Social Responsibility and Ethics –Recent Trends in Marketing: A Basic understanding of E-Marketing, Consumerism, Market Research, MIS and Marketing-Regulations.

RECOMMENDED TEXT BOOKS:

1. Marketing Management by Sontakki C.N; Kalyani Publishers; 2009
2. R.S.N. Pillai and Bagavathi, Modern Marketing, S.Chand& Co, New Delhi.
3. Jayasankar, Marketing, Margham publications, Chennai.

REFERENCE BOOKS:

1. Philip Kotler, 2003, Marketing Management, 11th edition, Pearson Education (Singapore) Pt Ltd, NewDelhi.
2. Crrain field, Marketing Management, Palgrave Macmillan

E-LEARNING RESOURCES

1. <https://books.google.co.in/books?isbn=0764112775>
2. <https://books.google.co.in/books?isbn=0324591098>
3. <https://books.google.co.in/books?isbn=0415380804>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Numbers	Marks	Total
A	Definition/Principle Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Short Answer Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Essay Answer any 4 out of 6 questions (each in 600 words)	20-25	10	40
TOTAL MARKS				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	2	1	1
III	2	2	2
IV	2	1	1
V	3	1	1
TOTAL	12	7	6
	SECTIONA-12	SECTIONB-7	SECTIONC-6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Demonstrate strong conceptual knowledge in the functional area of marketing management.	PSO 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO2	Learn about marketing process, Buyer Behavior Process and Market Segmentation.	PSO 1,2,3,4 & 5	K1,K2,K3,K4
CO3	Analyse various products, life cycle and New Product development process.	PSO 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO4	Understand working of marketing channels and communication process.	PSO 1,2,3,4 & 5	K1,K2,K3,K4
CO5	Illustrate the E-Marketing, Consumerism, Market Research, MIS and Marketing Regulations.	PSO 1,2,3,4 & 5	K1,K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B.COM(COMPUTER APPLICATIONS)	BATCH: 2024 - 27
PART: IV	COURSE COMPONENT: SOFT SKILLS-IV
COURSE NAME: FOUNDATIONS OF QUANTITATIVE APTITUDE	COURSE CODE:
SEMESTER: IV	MARKS:100
CREDITS: 2	TOTAL HOURS: 30
THEORY AND PROBLEMS	

COURSE OBJECTIVE:

Develop learners' problem-solving skills and critical thinking abilities in the context of recruitment aptitude tests.

COURSE OUTCOMES:

1. The learner will be able to recognize, describe and represent patterns and relationships, as well as to solve problems using algebraic language and skills.
2. To learn about factors and multiples that numbers have in common with each other.
3. The student will analyse monthly profit and loss statements for a school store and calculate profit margin percentages.
4. Students learn what different types of interest are, where it occurs in real life and understand the concept of simple and compound interests.
5. The learner will draw, interpret and compare pie charts, bar charts and frequency diagrams.

UNIT I: Number system and Number series (6Hours)

Numbers: Numbers and their classification, test for divisibility of numbers, General properties of divisibility, division and remainder, remainder rules.

Number Series: Number series, three steps to solve a problem on series, two-line number series, sum rules on natural numbers.

UNIT II: HCF and LCM of Numbers (6Hours)

Factors, Multiples, Principal of Prime factorization, Highest Common Factor (HCF) and Least Common Multiple (LCM), Product of two numbers, Difference between HCF and LCM.

UNIT III: Percentage, Profit and Loss (6Hours)

Percentage: Introduction, fraction to rate percent, rate percent to fraction, rate percent of a number, express a given quantity as a percentage of another given quantity, convert a percentage into decimals and convert a decimal into percentage.

Profit and Loss: Gain/Loss and % gain and % loss, relation among Cost price, Sale price, Gain/Loss and % gain and % loss.

UNIT IV: Simple Interest and Compound Interest**(6Hours)****Simple Interest:** Definition, effect of change of P , R and T on Simple Interest, amount.**Compound Interest:** Introduction, conversion period, basic formula, to find the Principal/Rate/Time, Difference between Simple Interest and Compound Interest.**UNIT V: Data interpretation****(6Hours)**

Tabulation, Bar Graphs, Pie Charts, Line Graphs, average.

RECOMMENDED TEXTBOOK:

Quantitative Aptitude by R.S. Agarwal

REFERENCE BOOKS:

1. Quantitative Aptitude by Abhijit Guha, Fourth Edition.
2. Quantitative Aptitude by Ramandeep Singh.

E - LEARNING RESOURCES:

1. <https://byjus.com/maths/numeral-system/#:~:text=crore%20is%207.-,International%20Numeral%20System,8%20%E2%80%93%20Ones>
2. <https://byjus.com/maths/hcf-and-lcm/>
3. <https://byjus.com/maths/profit-loss-percentage/>
4. <https://www.vedantu.com/jee-main/maths-difference-between-simple-interest-and-compound-interest>
5. <https://sites.utexas.edu/sos/guided/descriptive/descriptive/frequency/>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN**

SECTION	QUESTION COMPONENT	NUMBERS	MARKS	TOTAL
A	Multiple Choice Questions: Answer 20 out of 20 questions (each question carries one mark)	1 - 20	20	20
B	Answer any 5 out of 7 questions (each question carries 6 marks)	21 - 27	6	30
TOTAL MARKS				50

BREAK UP OF QUESTIONS FOR THEORY AND PROBLEMS

UNITS	SECTION A	SECTION B
I	4	1
II	4	1
III	4	1
IV	4	1
V	4	1
Any Unit	-	2
TOTAL	20	7

PSO – CO mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-question paper mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	The learner will be able to recognize, describe and represent patterns and relationships, as well as to solve problems using algebraic language and skills.	PSO 1,2,3,4,5	K1,K2,K3,K4
CO2	To learn about factors and multiples that numbers have in common with each other.	PSO 1,2,3,4,5	K1,K2,K3,K4
CO3	The student will analyse monthly profit and loss statements for a school store and calculate profit margin percentages.	PSO 1,2,3,4,5	K1,K2,K3,K4
CO4	Students learn what different types of interest are, where it occurs in real life and understand the concept of simple and compound interests.	PSO 1,2,3,4,5	K1,K2,K3,K4
CO5	The learner will draw, interpret and compare pie charts, bar charts and frequency diagrams.	PSO 1,2,3,4,5	K1,K2,K3,K4

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: IV	COURSE COMPONENT: EVS
COURSE NAME: ENVIRONMENTAL STUDIES	COURSE CODE:
SEMESTER: IV	MARKS:100
CREDITS:2	TOTAL HOURS:30
THEORY	

COURSE OBJECTIVE:

This course introduces the concepts of Environmental Studies.

COURSE OUTCOMES:

On completion of the course the students will be able to

1. Know the importance of environmental studies and methods of conservation of natural resources.
2. Describe the structure and function of an ecosystem.
3. Identify the values and conservation of bio-diversity.
4. Explain the causes, effects and control measures of various types of pollutions.
5. Select the appropriate methods for waste management.

Unit-1:

(6 Hours)

Multidisciplinary nature of environmental studies Definition, scope and importance.

Unit-2:

(6 Hours)

Natural Resources: Renewable and non-renewable resources: Natural resources and associated problems. - Forest resources: Use and over-exploitation, deforestation, case studies. - Timber extraction, mining, dams and their effects on forest and tribal people. - Water resources: Use and over- utilization of surface and ground water - floods, drought, conflicts over water, dams- benefits and problems. - Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies - Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. Energy resources: Growing energy needs, renewable and non- renewable energy sources, use of alternate energy sources. Case studies. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Role of an individual in conservation of natural resources. Equitable use of resources for sustainable life styles.

Unit-3:

(6 Hours)

Ecosystems - Concept of an ecosystem. -Structure and function of an ecosystem. - Producers, consumers and decomposers. - Energy flow in the ecosystem. - Ecological succession. - Food chains, food webs and ecological pyramids. - Introduction, types, characteristic features, structure and function of the following ecosystem:- . Forest

ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Unit-4:

(6 Hours)

Biodiversity and its conservation

Introduction – Definition: genetic, species and ecosystem diversity. – Bio geographical classification of India - Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic- and option values - Biodiversity at global, National and local levels. - India as a mega- diversity nation - Hot-spots of biodiversity.

Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.

Endangered and endemic species of India

Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

Unit-5:

(6 Hours)

Environmental Pollution

Definition

Cause, effects and control measures of :-

a. Air pollution b. Water pollution c. Soil pollution d. Marine pollution

e. Noise pollution f. Thermal pollution g. Nuclear hazards

- Solid waste Management: Causes, effects and control measures of urban and industrial wastes.

- Role of an individual in prevention of pollution

- .Pollution case studies.

- Disaster management: floods, earthquake, cyclone and landslides.

RECOMMENDED TEXT BOOKS:

1. Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.

REFERENCE BOOKS:

Cunningham, W.P.Cooper, T.H. Gorhani, E & Hepworth, M.T.2001, Environmental Encyclopedia, Jaico Publ. House, Mumbai, 1196p.

E-LEARNING RESOURCES:

1. <https://www.greenfacts.org/en/desertification/1-2/1-define-desertification.htm>
2. <https://www.texasdisposal.com/blog/ocean-pollution-causes-effects-and-prevention/>

Question paper pattern: MCQs

SEMESTER - V

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-2027
PART: III	COURSE COMPONENT: CORE - XIII
COURSE NAME: INCOME TAX LAW AND PRACTICE - I	COURSE CODE:
SEMESTER: V	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY AND PROBLEM	

COURSE OBJECTIVE:

An introduction to the basic concepts of Income Tax and to acquaint knowledge with provisions relating to Salary, House Property, Business or Professional Income and Filing of Returns.

COURSE OUTCOMES:

At the end of this course, the students will be able to

1. Understand the basic concepts & definitions under the Income Tax Act,1961.
2. Compute salary income under the head salaries.
3. Learn the concepts of Annual value associated deductions & the calculation of income from House property.
4. Compute the income from Business & Profession.
5. Ascertain the residential status of an assessee and its incidence of tax.

Unit-I

(18 Hours)

Meaning and features of income- Important definitions under the Income Tax Act- Residential Status – Scope of Total income – Incomes exempt from tax.

Unit-II

(18 Hours)

Heads of income – Salaries – Allowances – Perquisites and their valuations – Deductions from salary – Gratuity – Pension – Commutation of pension – Leave salary – Profits-in-lieu of salary – Provident funds – Deductions under section 80C.

Unit-III

(18 Hours)

Income from House property – Definition of Annual value – Computation of Income under different circumstances.

Unit-IV

(18 Hours)

Income from Business or Profession- Allowable and not allowable expenses – General deductions – Provisions relating to depreciation – Deemed business profits- Compulsory maintenance of books of accounts – Audit of accounts of certain persons – Special provision for computing incomes on estimated basis – computation of income from business or profession.

Unit-V

(18 Hours)

Tax Rates of Individual Assessee – Filing of Return – Various Return Forms – Permanent Account Number (PAN) – Advance payment of Tax – Meaning of Due date – Meaning of Deduction of Tax at Source.

Theory: 20% Problems: 80%

RECOMMENDED TEXT BOOKS:

1. Income Tax Theory, Law & Practice – T.S. Reddy and Y Hariprasad Reddy
Margham Publications.

REFERENCE BOOKS:

1. Students Guide to Income Tax – Dr. Vinod K. Singhanian, Taxman Publications Pvt. Ltd.
2. Income Tax Law & Accounts, Dr. Mehrotra & Goyal Sahitya Bhavan Publications.
3. Income Tax Law & Practice V.P. Gaur & D.B. Narang Kalyani Publishers.

E-LEARNING RESOURCES:

1. <https://books.google.com/books?isbn=1584773855>
2. <https://books.google.com/books?id=iiQKAAAAMAAJ>
3. <https://books.google.com/books?isbn=813172191>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Numbers	Marks	Total
A	Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Answer any 2 out of 4 questions (each in 1200 words)	20-23	20	40
TOTAL MARKS				100

Break up of questions for theory and problem

UNITS	SECTION A		SECTION B		SECTION C	
	THEORY	PROBLEM	THEORY	PROBLEM	THEORY	PROBLEM
I	2	1	1	1	-	-
II	1	1	-	1	-	1
III	1	1	-	1	-	1
IV	1	1	1	1	-	1
V	2	1	1	-	1	-
TOTAL	7	5	3	4	1	3
SECTION A - 12			SECTION B - 7		SECTION C - 4	

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Understand the basic concepts & definitions under the Income Tax Act,1961.	PSO 1,2 , 3 , 4 & 5	K1,K2,K3,K4,K5
CO2	Compute salary income under the head salaries.	PSO 1,2 , 3 , 4 & 5	K1,K2,K3,K4,K5
CO3	Learn the concepts of Annual value associated deductions & the calculation of income from House property.	PSO 1,2 , 3 , 4 & 5	K1,K2,K3,K4,K5
CO4	Compute the income from Business & Profession.	PSO 1,2 , 3 , 4 & 5	K1,K2,K3,K4,K5
CO5	Ascertain the residential status of an assessee and its incidence of tax	PSO 1,2 , 3 , 4 & 5	K1,K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE - XIV
COURSE NAME: COST AND MANAGEMENT ACCOUNTING	COURSE CODE:
SEMESTER: V	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY AND PROBLEM	

COURSE OBJECTIVE:

Introduction to the concepts of Cost and Management Accounting

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Discuss and describe the purpose of Cost and Management Accounting and to communicate the elements of Cost and preparation of Cost Sheet.
2. Assess the basic concepts and processes related to Stores, Inventory Control, Economic Ordering Quantity and the methods of Pricing Materials.
3. Explains the various components of Labour Cost, the needs to control labour Cost and analyze and compute the basic methods of Remuneration & the various Incentive Schemes.
4. Exposed to Budgetary Control.
5. Gain practical knowledge in Marginal Costing.

UNIT I

(18 Hours)

Cost Accounting: Definition, Meaning and objectives - Distinction between Cost and Financial Accounting - Elements of cost and preparation of cost sheets - Management Accounting – Definition and objectives – Distinction between management and financial accounting.

UNIT II

(18 Hours)

Stores Records - Purchase Order - Goods Received Note - Bin Card - Stores Ledger
- Purchase, Receipt and Inspection - Inventory Control - Economic Ordering Quantity
- Methods of Pricing Issued. (FIFO-LIFO-Weighted Average Method Only)

UNIT III

(18 Hours)

Labour Cost: Meaning – Types of Labour – objectives – Labour Turnover - Time Rate System – Piece Wage system – Taylor’s differential Piece Rate System – Premium and Bonus Plans – The Halsey Premium Plan – Rowan Plan. (Simple problems only)

UNIT IV

(18 Hours)

Budgetary Control: Meaning – Definition – Advantages and Limitations – Essentials of a good budgetary control system - Classification of Budgets – Problems on sales Budget, Production Budget, Cash budget, Fixed budget and Flexible Budget only.

UNIT V

(18 Hours)

Marginal Costing: The Concept - Break Even Analysis - Break - Even Chart - Importance and assumptions - Application of Profit Volumes Ratio - Different types of simple problems only.

Theory: 20% Problems: 80%

RECOMMENDED **TEXTBOOKS:**

1. Jain S.P. and Narang K.L., Advanced Cost Accounting.
2. Maheswari S.N., Principles of Management Accounting.
3. Prasad N.K., Cost Accounting : Principles and Problems.

REFERENCE BOOKS:

1. Wheldon A.J., Cost Accounting and Costing Methods.
2. Iyengar S.P., Cost Accounting : Principles and Practice.
3. Bhar B.K., Cost Accounting : Methods and problems.
4. Bigg W.W., Cost Accounts.
5. Agarwal M., Theory and Practices of Cost Accounting
6. Robert Anthony : Management Accounting : Text and cases.

E-LEARNING RESOURCES:

1. <https://books.google.co.in/books?isbn=0070402248>
2. <https://books.google.co.in/books?isbn=8189781502>
3. <https://books.google.co.in/books?isbn=9380901666>

GUIDELINES TO THE QUESTION PAPER SETTERS

QUESTION PAPER PATTERN:

Max. Marks: 100

Section	Question Component	Numbers	Marks	Total
A	Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Answer any 2 out of 4 questions (each in 1200 words)	20-23	20	40
TOTAL MARKS				100

Break up of questions for 20% theory and 80 % problem

UNITS	SECTION A		SECTION B		SECTION C	
	THEORY	PROBLEM	THEORY	PROBLEM	THEORY	PROBLEM
I	3	-	1	-	1	-
II	1	1	1	1	-	1
III	1	1	-	1	-	1
IV	2	1	1	1	-	1
V	1	1	-	1	-	-
TOTAL	8	4	3	4	1	3
SECTION A - 12			SECTION B - 7		SECTION C - 4	

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Discuss and describe the purpose of Cost and Management Accounting and to communicate the elements of Cost and preparation of Cost Sheet.	PSO 1,2,3, 4 & 5	K1,K2,K3,K4
CO2	Assess the basic concepts and processes related to Stores, Inventory Control, Economic Ordering Quantity and the methods of Pricing Materials.	PSO 1,2,3, 4 & 5	K1,K2,K3,K4,K5
CO3	Explains the various components of Labour Cost, the needs to control labour Cost and o analyze and compute the basic methods of Remuneration & the various Incentive Schemes.	PSO 1,2,3, 4 & 5	K1,K2,K3,K4,K5
CO4	Exposed to Budgetary Control.	PSO 1,2,3, 4 & 5	K1,K2,K3,K4,K5
CO5	Gain practical knowledge in Marginal Costing.	PSO 1,2,3, 4 & 5	K1,K2,K3,K4

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE - XV
COURSE NAME: OPERATING SYSTEM	COURSE CODE:
SEMESTER: V	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY	

COURSE OBJECTIVE:

- To have an in-depth understanding of process concepts, scheduling algorithms, deadlock and memory management.
- Students will familiarize on the general structure of an operating system and case study is also provided.

COURSE OUTCOMES:

On completion of the course the students will be able to

1. Demonstrate how operating system acts as user interface and various types of Operating systems
2. Identify components of operating system and their functions
3. Discuss various process management concepts like scheduling
4. Illustrate concurrent processing, mutual exclusion and synchronizations and Deadlock
5. Elucidate Memory management techniques like paging, segmentation, demand paging

UNIT I: (18 Hours)

Introduction: Views –Goals – OS Structure –Components – Services - System Design and Implementation. Process Management: Process - Process Scheduling – Cooperating Process – Threads – Inter process Communication.

UNIT II: (18 Hours)

CPU Scheduling: CPU Schedulers – Scheduling criteria – Scheduling Algorithms - Process Synchronization: Critical-Section problem - Synchronization Hardware – Semaphores – Classic Problems of Synchronization – Critical Region.

UNIT III: (18 Hours)

Deadlock: Characterization – Methods for handling Deadlocks – Prevention, Avoidance, and Detection of Deadlock - Recovery from deadlock. Secondary Storage Structures: Protection – Goals- Domain Access matrix.

UNIT IV: (18 Hours)

Memory Management: Address Binding – Dynamic Loading and Linking – Overlays – Logical and Physical Address Space - Contiguous Allocation – Internal & External Fragmentation. Non Contiguous Allocation: Paging and Segmentation schemes – Implementation – Sharing - Fragmentation.

UNIT V: (18 Hours)

Virtual Memory: Demand Paging – Page Replacement - Page Replacement Algorithms – Thrashing. – File System: Concepts – Access methods – Directory Structure –Protection Consistency Semantics – File System Structures – Allocation methods – Free Space Management.

RECOMMENDED TEXT BOOKS:

1. Silberschatz A., Galvin P.B., Gange.,2012, Operating System Principles, Tenth Edition, John Wiley & Sons.

REFERENCE BOOKS:

1. H.M. Deitel ,2004, An Introduction to Operating System,- Third Edition, Addison Wesley Pearson Publication

E-LEARNING RESOURCES:

1. <https://www.geeksforgeeks.org/types-of-operating-systems/>
2. https://www.tutorialspoint.com/operating_system/index.htm
3. <http://www.ics.uci.edu/~ics143/lectures.html>
4. <http://williamstallings.com/Extras/OS-Notes/notes.h>

WEBSITES FOR ONLINE COURSES:

1. <https://www.coursera.org/courses?query=operating%20system>
2. <https://alison.com/course/introduction-to-operating-systems>
3. Swayam & MOOC courses titled Operating system

QUESTION PAPER PATTERN:

Section	Question Component	Numbers	Marks	Total
A	Answer any 10 out of 12	1-12	3	30
B	Answer any 5 out of 7	13-19	6	30
C	Answer any 4 out of 6	20-25	10	40
TOTAL MARKS				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	2	1	1
III	2	2	2
IV	2	1	1
V	3	1	1
TOTAL	12	7	6
	SECTIONA-12	SECTIONB-7	SECTIONC-6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Demonstrate how operating system acts as user interface and various types of Operating systems	PSO-1,2,3,4,5	K1, K2,K3,K4
CO2	Identify components of operating system and their functions	PSO-1,2,3,4,5	K1, K2,K3,K4
CO3	Discuss various process management concepts like scheduling	PSO-1,2,3,4,5	K1, K2,K3,K4
CO4	Illustrate concurrent processing, mutual exclusion and synchronizations and Deadlock	PSO-1,2,3,4,5	K1, K2,K3,K4
CO5	Elucidate Memory management techniques like paging, segmentation, demand paging	PSO-1,2,3,4,5	K1, K2,K3,K4

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE - XVI
COURSE NAME: PRACTICAL – PYTHON PROGRAMMING LAB	COURSE CODE:
SEMESTER: V	MARKS:100
CREDITS:4	TOTAL HOURS:90
PRACTICAL	

COURSE OBJECTIVE:

Introduction to design and program complex and numeric Python applications.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Develop basic Programs in Python
2. Write programs using different operators in Python.
3. Create dynamic programs using functions strings.
4. Understand the concepts of mathematical functions in Python.
5. Develop programs using Conditional and Looping Structure.

Python Programming Lab

1. Write a menu driven program to convert the given temperature from Fahrenheit to Celsius and vice versa depending upon user's choice.
2. WAP to calculate total marks, percentage and grade of a student. Marks obtained in each of the three subjects are to be input by the user. Assign grades according to the following criteria:
 - Grade A: Percentage ≥ 80
 - Grade B: Percentage ≥ 70 and < 80
 - Grade C: Percentage ≥ 60 and < 70
 - Grade D: Percentage ≥ 40 and < 60
 - Grade E: Percentage < 40
3. Write a menu-driven program, using user-defined functions to find the area of rectangle, square, circle and triangle by accepting suitable input parameters from user.
4. WAP to find factorial of the given number.
5. WAP to find sum of the following series for n terms: $1 - 2/2! + 3/3! - \dots + n/n!$
6. Write a program that reads an integer value and prints —leap year! or —not a leap year!.
7. Write a program that takes a positive integer n and then produces n lines of output shown as follows.
For example enter a size: 5


```

*
**
***
****
*****

```
8. Write a function that takes an integer input and calculates the factorial of that number.
9. Write a function that takes a string input and checks if it's a palindrome or not.
10. Write a list function to convert a string into a list, as in list ('_abc') gives [a, b, c].
11. Write a program to generate Fibonacci series.
12. Write a program to check whether the input number is even or odd.
13. Write a program to compare three numbers and print the largest one.

RECOMMENDED TEXTBOOKS:

1. Python Crash Course: A Hands-On, Project-Based Introduction to Programming (2nd Edition) (Eric matthes)
2. Head-First Python: A Brain-Friendly Guide (2nd Edition) (oreilly)

REFERENCE BOOKS:

1. Learn Python the Hard Way: 3rd Edition (Zid A. Shaw)
2. Python Programming: An Introduction to Computer Science (3rd Edition) (John Zelle)
3. Python Cookbook: Recipes for Mastering Python 3 (3rd Edition) (oreilly)

E-LEARNING RESOURCES:

1. https://books.google.co.in/books?id=sARiDwAAQBAJ&source=gbs_navlinks_s
2. https://books.google.co.in/books?id=mirnBQAAQBAJ&source=gbs_navlinks_s
3. <https://youtu.be/x7wF49hVLUo>
4. https://youtu.be/j9xpIzh4_Tk
5. <https://youtu.be/cWuP5XMsk-g>
6. <https://youtu.be/zzwB2Dc1fSw>
7. <https://youtu.be/wgzjEaxltgM>
8. <https://youtu.be/XIHQIuquqiA>
9. <https://youtu.be/FYxBMDhHyOA>
10. <https://youtu.be/HvMrzSsSBVs>
11. <https://youtu.be/6AluFpdEDFU>
12. <https://youtu.be/Y29C32XqvP4>
13. <https://youtu.be/Zh9yt4FJY9E>
14. <https://youtu.be/Gut-cim2nUA>
15. <https://youtu.be/pHFzzaNLx54>
16. https://youtu.be/XLQbxH6H_fA
17. <https://youtu.be/NGtFhiXZZdw>
18. <https://youtu.be/jzkUH0fhuv0>
19. <https://youtu.be/wUEEow1X8NU>
20. <https://youtu.be/tq-qxSwYZdU>
21. <https://youtu.be/SHeIRq4iTRc>
22. <https://youtu.be/n6Cw4VNJAAY>

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	To develop basic Programs in Python	PSO 1,2,3,4,5	K1,K2,K3,K4
CO2	To write programs using different operators in Python.	PSO 1,2,3,4,5	K1,K2,K3,K4
CO3	To create dynamic programs using functions strings.	PSO 1,2,3,4,5	K1,K2,K3,K4
CO4	To understand the concepts of mathematical functions in Python.	PSO 1,2,3,4,5	K1,K2,K3,K4, K5
CO5	To develop programs using Conditional and Looping Structure	PSO 1,2,3,4,5	K1,K2,K3,K4, K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART:III	COURSE COMPONENT: ELECTIVE – I(IDE)
COURSE NAME: ENTREPRENEURIAL DEVELOPMENT	COURSE CODE:
SEMESTER: V	MARKS:100
CREDITS:5	TOTAL HOURS:75
THEORY	

COURSE OBJECTIVE:

An introduction to Entrepreneurship and inculcates values of entrepreneurship and develop entrepreneurial qualities to become successful entrepreneurs.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Discuss the concept of entrepreneurship and its importance.
2. Analyze the scope of various financial institutions for the enhancement of small entrepreneurs.
3. Understand the working of SSI.
4. Handling projects and Project Management.
5. Communicate the important values of EDPs and the Government role played in ED.

Unit- I

(15 Hours)

Concept of Entrepreneurship- Entrepreneurship – Meaning – Types – Qualities of an Entrepreneur – Classification of Entrepreneurs – Factors influencing Entrepreneurship – Functions of Entrepreneurs- Role of Entrepreneur in Economic development.

Unit -II

(15 Hours)

Entrepreneurial Development Agencies. Commercial Banks – District Industries Centre – National Small Industries Corporation – Small Industries Development Organization – Small Industries Service Institute. All India Financial Institutions – IDBI – IFCI – ICICI – IRDBI.

Unit -III

(15 Hours)

Small Scale Industries- SSI- Tiny industries, Ancillary Industries, Cottage industries- meaning- product range- capital investment- importance and role played by SSI in the development of Indian Economy- Problems faced by SSI's- Steps taken to solve the problems- policies governing SSI's.

Unit- IV

(15 Hours)

Project Management- Business idea generation techniques – Identification of Business opportunities – Feasibility study – Marketing, Finance, Technology & Legal Formalities -Preparation of Project Report – Tools of Appraisal.

Unit -V**(15 Hours)**

Entrepreneurial Development Programmes (EDP) – Role, relevance and achievements- Role of Government in organizing EDPs – Critical evaluation- Women entrepreneurship- problems – steps taken by government- participation of women in SSI sector.

RECOMMENDED TEXT BOOKS:

1. Srinivasan N.P. – Entrepreneurial Development
2. Saravanavel – Entrepreneurial Development
3. Dr. C.B. Gupta & Dr. S.S. Khanka – Entrepreneurship and Small Business.

REFERENCE BOOKS:

1. Jayashree Suresh – Entrepreneurial development
2. J.S. Saini & S.I. Dhameja – Entrepreneurship and small business.
3. Vasant Desai, Appannaiah, Reddy, Gopala Krishna-
4. Entrepreneurship Development programme- Himalaya Publication House.

E-LEARNING RESOURCES:

1. <https://books.google.co.in/books?isbn=8122414346>
2. <https://books.google.co.in/books?isbn=8170991153>
3. <https://books.google.co.in/books?isbn=8121918014>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Numbers	Marks	Total
A	Definition/Principle Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Short Answer Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Essay Answer any 4 out of 6 questions (each in 600 words)	20-25	10	40
TOTAL MARKS				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	2	1	1
III	2	2	2
IV	2	1	1
V	3	1	1
TOTAL	12	7	6
	SECTIONA-12	SECTIONB-7	SECTIONC-6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	To develop entrepreneurial awareness among students.	PSO-1,2,3,4,5	K1, K2,K3,K4
CO2	Identify the process of entrepreneurship and institutional supports available to entrepreneurs and to prepare their mind set for thinking entrepreneurship as career.	PSO-1,2,3,4,5	K1, K2,K3,K4
CO3	Examine the process of starting a new venture and create business plan.	PSO-1,2,3,4,5	K1, K2,K3,K4
CO4	Identify the role of government in organizing EDPs.	PSO-1,2,3,4,5	K1, K2,K3,K4
CO5	Identify the role of entrepreneur in economic growth analyse strategic approaches in business	PSO-1,2,3,4,5	K1, K2,K3,K4

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: ELECTIVE – I(IDE)
COURSE NAME: PRODUCTION AND SUPPLY CHAIN MANAGEMENT	COURSE CODE:
SEMESTER: V	MARKS:100
CREDITS:5	TOTAL HOURS:75
THEORY	

COURSE OBJECTIVE:

An Introduction about Production and Supply chain management (SCM) in managing the complete production and flow of goods or services to improve quality, delivery, customer experience and cost-efficiency.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Understand the importance of production management.
2. Analyze the differences between Production planning and Control.
3. Discuss in detail about Productivity and Quality control.
4. Explain about the functions of SCM.
5. Understand the difference between logistics management and SCM.

UNIT I PRODUCTION MANAGEMENT (15 Hours)

Introduction, objectives, importance of production management, meaning and types of Production System; plant location; factors affecting locations, plant layout; meaning, objectives, types.

UNIT II PRODUCTION PLANNING AND CONTROL (15 Hours)

Meaning, Objectives, Scope, Importance & Procedure of Production Planning, Routing scheduling, factors affecting scheduling, Dispatch & Follow up, Production Control- Meaning, objectives, Factors affecting Production Control.

UNIT III PRODUCTIVITY & MAINTENANCE (15 Hours)

Productivity Meaning, Importance, Factors affecting Productivity, Quality Control meaning, objectives, control charts (mean chart, range chart only) Maintenance- meaning, objectives, types.

UNIT IV SUPPLY CHAIN MANAGEMENT (15 Hours)

Meaning and definition- Objectives of SCM- components of SCM, SCM process, Factors driving the SCM –supply chain planning, push/pull strategy, bullwhip effect.

UNIT V LOGISTICS MANAGEMENT (15 Hours)

Meaning and definition – significant of logistics –concepts of logistics management – objectives of logistics management – elements of logistics management – logistics management v/s supply chain management.

RECOMMENDED TEXTBOOKS:

1. S.Shankaran, “ Managerial Economics”, Margham Economics, Chennai,2008.
2. R.Cauvery & Others – Managerial Economics. S. Chand And Company, New Delhi, 2015.

REFERENCE BOOKS:

1. S.Mukherjee, “Business And Managerial Economics in global Context”, New Central Bank Agency (P) Ltd, Kolkatta, 2009.
2. William F. Samuelson and Stephen G. Marks, “Managerial Economics”, Johny Wiley & Sons, Reprint – 2015

E- LEARNING RESOURCES:

1. <https://www.amazon.in/Business-Managerial-Economics-Global-Context/dp/8173811547>
2. <https://www.youtube.com/watch?v=Lpp9bHtPAN0>
3. https://www.youtube.com/watch?v=fmT_fQdbSU
4. https://www.youtube.com/watch?v=aSd8Hbg-tuY&list=PLLy_2iUCG87A-kHGx4YUY97ShTTqBfA6-

GUIDELINES TO THE QUESTION PAPER SETTERS QUESTION**PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Number s	Marks	Total
A	Definition/Principle Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Short Answer Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Essay Answer any 4 out of 6 questions (each in 600 words)	20-25	10	40
TOTAL MARKS				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	2	1	1
III	2	2	2
IV	2	1	1
V	3	1	1
TOTAL	12	7	6
	SECTIONA-12	SECTIONB-7	SECTIONC-6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Understand management the importance of production	PSO-1,2,3,4,5	K1,K2,K3,K4,K5
CO2	Analyze the differences between Production planning and Control.	PSO-1,2,3,4,5	K1,K2,K3,K4
CO3	Discuss in detail about Productivity and Quality control.	PSO-1,2,3,4,5	K1,K2,K3,K4,K5
CO4	Explain about the functions of SCM.	PSO-1,2,3,4,5	K1,K2,K3,K4,K5
CO5	Understand the difference between logistics management and SCM.	PSO-1,2,3,4,5	K1,K2,K3,K4

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: ELECTIVE – I(IDE)
COURSE NAME: BUSINESS INFORMATION SYSTEM	COURSE CODE:
SEMESTER: V	MARKS:100
CREDITS:5	TOTAL HOURS:75
THEORY	

COURSE OBJECTIVE:

An Introduction to computing for business and management, data warehousing, database languages, e-business software technologies, web and interactive media design.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Develop an understanding of fundamental concepts and key principles in the area of Management Information Systems.
2. Understand the Hardware, Software and Groupware.
3. The ability to use knowledge and skills related to digital technologies to enhance business administration and decision making.
4. Apply of information systems at the operational, tactical & strategic levels.
5. Learn the Role & Responsibility of IS professionals and ethical issues.

UNIT I Introduction to Information Systems (15 Hours)

Introduction to organization- decision levels- managerial roles- information needs of managements- information system- decision- features- systems concepts- framework for information systems- strategic uses of management information systems- future of IS in an organization – business process reengineering.

UNIT II Information System Components (15 Hours)

Hardware- input and output devices-n computer memory (primary, secondary& cache)-memory access time- file structures- network components. -software- operating system software application software- groupware- multiprogramming- multi tasking. Database- definition- data capture- data integrity- components of database management systems.

UNIT III Integration of Information Systems (15 Hours)

Distributed processing- centralized data processing – decentralized data processing distributed-database- client server computing- internet- intranet-electronic conferencing transaction processing systems- office automation systems- knowledge management systems decision support systems (features, components & tools)- group decision support systems expert systems (components & advantages) – case studies.

UNIT IV Application of Information Systems in Business Areas (15 Hours)

Application of information systems at the operational, tactical & strategic levels in the areas of accounting & finance, marketing, human resources and production.

UNIT V Management of Information Systems**(15 Hours)**

Information systems security- risks threats- protection of information systems. Role & responsibility of IS professionals- ethical issues.

RECOMMENDED TEXT BOOKS:

1. Robert Schulthesis, Mary Summer, "Management Information Systems- The Managers View", Tata Mc Graw hill Publication.
2. SystemsGeraI v Post David, L Anderson, "Management Information", Tata Mc Graw hill.

REFERENCE BOOKS:

1. Jaiswal. S, "Management Information Systems", Tata Mc Graw hill Publication.
2. Brien, "Management Information Systems", Tata Mc Graw hill.

E-LEARNING RESOURCES:

1. <https://smitorissa.org/Documents/professional%20etics%20module%20-%201.NEW.pdf>
2. <https://ncert.nic.in/textbook/pdf/kebs106.pdf>
3. <https://jecrcfoundation.com/wpcontent/uploads/notes/btech/Information%20Technology/6th%20Semester/Distributed%20System/UNIT-1.pdf>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Numbers	Marks	Total
A	Definition/Principle Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Short Answer Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Essay Answer any 4 out of 6 questions (each in 600 words)	20-25	10	40
TOTAL MARKS				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	2	1	1
III	2	2	2
IV	2	1	1
V	3	1	1
TOTAL	12	7	6
	SECTIONA-12	SECTIONB-7	SECTIONC-6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Understand the importance of production management.	PSO-1,2,3,4,5	K1,K2,K3,K4,K5
CO2	Analyze the differences between Production planning and Control.	PSO-1,2,3,4,5	K1,K2,K3,K4
CO3	Discuss in detail about Productivity and Quality control.	PSO-1,2,3,4,5	K1,K2,K3,K4,K5
CO4	Explain about the functions of SCM.	PSO-1,2,3,4,5	K1,K2,K3,K4,K5
CO5	Understand the difference between logistics management and SCM.	PSO-1,2,3,4,5	K1,K2,K3,K4

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: IV	COURSE COMPONENT: VALUE EDUCATION
COURSE NAME: VALUE EDUCATION	COURSE CODE:
SEMESTER: V	MARKS:100
CREDITS: 2	TOTAL HOURS: 15
THEORY	

COURSE OBJECTIVE:

- To teach and inculcate the importance of value-based living
- To give students a deeper understanding about the purpose of life.

COURSE OUTCOMES:

On completion of the course the students will be able:

1. To inculcate the value system in their real-life scenarios.
2. To implement the role of culture and civilization, roles and responsibilities in the society.
3. To effectively follow Salient values for life such as forgiveness, ability to sacrifice, self - esteem, teamwork and creative thinking.
4. To reflect the human rights, social values and welfare of the citizen.
5. To consider the relation between values and personal behavior affecting the achievement of a sustainable future.

UNIT I

3 Hours

Education and Values

Definition, Concept, Classification, Theory, Criteria and Sources of values Aims and objectives of value education Role and Need for value education in contemporary society, Role of education in the transformation of values in society Role of parents, teachers, society, peer groups and mass media in fostering values

UNIT II

3 Hours

Value Education and Personal Development

Human Values: Truthfulness, Sacrifice, Sincerity, Self-Control, Altruism, Scientific Vision, relevancy of human values to good life. Character Formation towards Positive Personality Modern challenges of adolescents: emotions and behavior Self-analysis and introspection: sensitization towards gender equality, differently abled, Respect for - age, experience, maturity, family members, neighbors, strangers, etc.

UNIT III

3 Hours

Human Rights and Marginalized People

Concept of Human Rights – Principles of human rights – human rights and Indian constitution – Rights of Women and children – violence against women – Rights of marginalized People – like women, children, minorities, transgender, differently abled etc..,

Social Issues and Communal Harmony Social issues – causes and magnitude - alcoholism, drug addiction, poverty, unemployment – communal harmony –concept –religion and its place in the public domain – secular civil society.

UNIT IV

3 Hours

Value Education towards National and Global Development

Constitutional Values:(Sovereign, Democracy, Socialism, Secularism, Equality, Justice, Liberty, Freedom, Fraternity) Social Values: (Pity and Probity, Self-Control, Universal Brotherhood).

Professional Values:(Knowledge Thirst, Sincerity in Profession, Regularity, Punctuality, Faith). Religious and Moral Values: (Tolerance, Wisdom, character).

Aesthetic Values: (Love and Appreciation of literature, fine arts) Environmental Ethical Values

National Integration and international understanding.

Need for Humanistic value for espousing peace in society. Conflict of cross-cultural influences, cross-border education.

UNIT V

3 Hours

Guru Nanak Devji's Teachings

Relevance of Guru Nanak Devji's teachings' relevance to Modern Society

The Guru Granth sahib

The five Ks Values and beliefs

Rights and freedom (Right of equality, Right to Education, Right to Justice, Rights of women, Freedom of religion, Freedom of culture, Freedom of assembly, Freedom of speech) Empowerment of women

Concept of Langar Eminent

Sikh personalities

REFERENCE BOOKS

1. Dr.Abdul Kalam. My Journey-Transforming Dreams into Actions. Rupa Publications, 2013.
2. Steven R Covey, 8th Habit of Effective People (From Effectiveness to Greatness), Free Press, NewYork, 2005.
3. Prem Singh, G.J. (2004). 'Towards Value Based Education', University News. Vol. 42 (45): P.11- 12.
4. V.R. Krishna Iyer. Dialectics & Dynamics of Human Rights in India (Tagore Law Lectures) The Yesterday, Today and Tomorrow, Eastern Law House (1999, Reprint 2018).

E-LEARNING RESOURCES

1. <http://www.ncert.nic.in/rightside/links/pdf/framework/english/nf2005.pdf>

QUESTION PAPER PATTERN: MCQs

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: IV	COURSE COMPONENT: INTERNSHIP
COURSE NAME: INTERNSHIP	COURSE CODE:
SEMESTER: V	MARKS: 100
CREDITS: 2	TOTAL HOURS:
PRACTICAL	

COURSE OBJECTIVE

To obtain hands on experience and practical knowledge/skill facilitating better employment opportunities.

COURSE OUTCOMES:

On the completion of internship, the students will be able to:

1. Apply theoretical concepts learnt in the Business world.
2. Experience real time work environment and challenges
3. Build network useful for future career
4. Understand the job/skill requirement required in Accounting related fields
5. Develop report writing and Presentation Skills

An internship is a unique learning experience that integrates studies with practical work. Students will be sent for Summer Internship (Audit firm/Accounting firm/any other institution) of their choice for a period of 30 days after the completion of IV semester. Students will be informed to submit Log book on the work carried out by them during the period of internship. Students need to submit internship report for about 15 pages on the internship carried out by them. Students need to obtain Letter of Acceptance initially and letter of completion It shall serve to clarify the internship educational purpose and ensure an understanding of the total learning experience.

Students shall submit a Internship Report at the end of 5th Semester before the commencement of the End Semester Examination.

SEMESTER - VI

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE - XVII
COURSE NAME: INCOME TAX LAW AND PRACTICE - II	COURSE CODE:
SEMESTER: VI	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY AND PROBLEM	

COURSE OBJECTIVE:

An introduction to the provisions relating to Capital gains, Income from Other Sources, Deductions, Assessment of Individuals and Powers of Income Tax Authorities.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Compute Income from “Capital Gain” under section 45 to 55, and to analyze the various exemptions under the capital gains
2. Analyze the various provisions contained under section 56 to 59 of the Income tax Act, 1961 under the heads “Income from Other Sources”
3. Outline the various provisions relating to “Aggregation of income” and “Set-Off and Carry Forward of Losses”
4. Prepare gross total income and to analyze the provisions under section 80 C to 80U relating to individuals
5. Understand about Income Tax Authorities and their Powers.

UNIT- I

(18 Hours)

Income under Capital Gains – Short term, Long term Capital gains – Certain transactions not included as transfer – Cost of Improvement – Indexation of Cost – Exempted Capital Gains- Computation of Capital Gains.

UNIT-II

(18 Hours)

Income from other sources – Grossing up – Deductions in computing income under the head Income from other sources.

UNIT-III

(18 Hours)

Clubbing of income – Deemed incomes – Provisions of the Act relating to clubbing of income – Set off – Carry forward and set off of losses.

UNIT-IV

(18 Hours)

Permissible deductions from gross total income – Sec. 80C, 80CCC, 80CCD, 80D, 80DD, 80DDB, 80E, 80G, 80GGC, 80GGG, 80TTA, 80GGA, 80QQB, 80RRB, 80U, – Assessment of individual- Computation of Tax.

UNIT-V**(18 Hours)**

Income Tax Authorities – Powers of the Central Board of Direct Taxes (CBDT), Commissioners of Income Tax and Income Tax Officers – Self Assessment – Best Judgement Assessment – Income Escaping Assessment (Re assessment).

Proportion of theory and problems: 20% and 80%

RECOMMENDED TEXT BOOKS:

1. Income Tax Theory, Law & Practice – T.S. Reddy and Y Hariprasad Reddy Margham Publications.

REFERENCE BOOKS:

1. Students Guide to Income Tax – Dr. Vinod K. Singhania, Taxman Publications Pvt. Ltd.
2. Income Tax Law & Accounts, Dr. Mehrotra & Goyal Sahitya Bhavan Publications.
3. Income Tax Law & Practice V.P. Gaur & D.B. Narang Kalyani Publishers.

E-LEARNING RESOURCES:

1. <https://books.google.com/books?isbn=1584773855>
2. <https://books.google.com/books?id=iiQKAAAAMAAJ>
3. <https://books.google.com/books?isbn=8131721914>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Number	Marks	Total
A	Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Answer any 2 out of 4 questions (each in 1200 words)	20-23	20	40
TOTAL MARKS				100

Break up of questions for theory and problem

UNITS	SECTION A		SECTION B		SECTION C	
	THEORY	PROBLEM	THEORY	PROBLEM	THEORY	PROBLEM
I	2	1	1	1	-	-
II	1	1	-	1	-	1
III	2	1	-	1	-	1
IV	1	1	1	1	1	-
V	2	-	1	-	1	-
TOTAL	8	4	3	4	2	2
SECTION A - 12			SECTION B - 7		SECTION C - 4	

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Compute Income from “Capital Gain” under section 45 to 55, and to analyze the various exemptions under the capital gains	PSO 1,2,3,4 & 5	K1,K2,K3,K4, K5
CO2	Analyze the various provisions contained under section 56 to 59 of the Income tax Act,1961 under the heads “Income from Other Sources”	PSO 1,2,3,4 & 5	K1,K2,K3,K4, K5
CO3	Outline the various provisions relating to “Aggregation of income” and “Set-Off and Carry Forward of Losses”	PSO 1,2,3,4 & 5	K1,K2,K3,K4, K5
CO4	Prepare gross total income and to analyze the provisions under section 80 C to 80U relating to individuals	PSO 1,2,3,4 & 5	K1,K2,K3,K4, K5
CO5	Understand about Income Tax Authorities and their Powers.	PSO 1,2,3,4 & 5	K1,K2,K3,K4,K 5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE - XVIII
COURSE NAME: HUMAN RESOURCE MANAGEMENT	COURSE CODE:
SEMESTER: VI	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY	

COURSE OBJECTIVE:

An Introduction about managing human resources and exposure on human resources practices in organizations.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Explain the importance of Human Resource Management and its Processes concerned with various management activities and to run an effective organization.
2. Outline different methods and techniques of Training and Performance Appraisal that are used in an organization.
3. Assess the different methods and techniques relating to administration and to retain the human resources.
4. Discuss the various mechanisms in Labour Relations.
5. Predict the different faces of executives and preparing policies and practices based on it and Human Resource audit

UNIT- I

(18 Hours)

Nature and scope of Human Resources Management – Differences between personnel management and HRM – Environment of HRM – Human resource planning – Recruitment – Selection – Methods of Selection – Uses of various tests – interview techniques in selection and placement.

UNIT- II

(18 Hours)

Induction – Training – Methods – Techniques – Identification of the training needs – Training and Development – Performance appraisal – Transfer – Promotion and termination of services – Career development.

UNIT- III

(18 Hours)

Remuneration – Components of remuneration – Incentives – Benefits – Motivation – Welfare and social security measures.

UNIT- IV

(18 Hours)

Labour Relation – Functions of Trade Unions – Forms of collective bargaining- Workers’ participation in management – Types and effectiveness – Industrial Disputes and Settlements (laws excluded)

UNIT- V

(18 Hours)

Human Resource Audit – Nature – Benefits – Scope – Approaches- Human Resource Information System (HRIS)- Need- Benefits- Designing of HRIS- Computerized HRIS.

RECOMMENDED TEXT BOOKS:

1. Human Resource Management – C.B.Gupta
2. Human Resource Management – L M Prasad

REFERENCE BOOKS:

1. Human Resource Management – V S P Rao
2. Human Resource Management – Ashwathappa
3. Human Resource Management – Tripathi.
4. Human Resource Management- S.S.Khanka

E-LEARNING RESOURCES:

1. <https://books.google.co.in/books?isbn=0749446315>
2. <https://books.google.co.in/books?isbn=1285974859>
3. <https://books.google.co.in/books?isbn=813175426X>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN:****Max. Marks:100**

Section	Question Component	Numbers	Marks	Total
A	Definition/Principle Answer any 10 out of 12 questions (Each in 50 words)	1-12	3	30
B	Short Answer Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Essay Answer any 4 out of 6 questions (each in 600 words)	20-25	10	40
TOTAL MARKS				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	2	1	1
III	2	2	2
IV	2	1	1
V	3	1	1
TOTAL	12	7	6
	SECTIONA-12	SECTIONB-7	SECTIONC-6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Explain the importance of Human Resource Management and its Processes concerned with various management activities and to run an effective organization.	PSO 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO2	Outline different methods and techniques of Training and Performance Appraisal that are used in an organization.	PSO 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO3	Assess the different methods and techniques relating to administration and to retain the human resources.	PSO 1,2,3,4 & 5	K1,K2,K3,K4
CO4	Discuss the various mechanisms in Labour Relations.	PSO 1,2,3,4 & 5	K1,K2,K3,K4
CO5	Predict the different faces of executives and preparing policies and practices based on it and Human Resource audit	PSO 1,2,3,4 & 5	K1,K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: CORE - XIX
COURSE NAME: SOFTWARE ENGINEERING	COURSE CODE:
SEMESTER: VI	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY	

COURSE OBJECTIVE:

An Introduction to software engineering to understand the key information's on Software Engineering and its associated knowledge with Real time Implementation Issues.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Apply and formulate the principles and practices of software engineering and development
2. Create and categories efficient, reliable and cost-effective software solutions
3. Compile and manage the use of software process modules and Design Techniques effectively
4. Integrate and demonstrate implementation issues in Software Engineering
5. Plan and construct Quality software using tools and its maintainability

UNIT I:

(18 Hours)

Introduction to Software Engineering Some definition – Some size factors – Quality and productivity factors – Managerial issue. Planning a Software Project: Defining the problem – Developing a solution strategy – planning the development process – planning an organization structure – other planning activities.

UNIT II:

(18Hours)

Software Cost Estimation: Software – Cost factors – Software cost estimation techniques – specification techniques – level estimation – estimating software maintenance costs. The software requirements specification – formal specification techniques - languages and processors for requirements specification.

UNIT III:

(18Hours)

Software Design: Fundamental Design concepts – Modules and modularizing Criteria – Design Notations – Design Techniques – Detailed Design Consideration – Real time and distributed system design – Test plan – Mile stoneswalk through and inspection.

UNIT IV:

(18 Hours)

Implementation issues: Structured Coding techniques – coding style – standards and guidelines – documentation guidelines – type checking – scoping rules – concurrency mechanisms.

UNIT V:**(18 Hours)**

Quality assurance – walk through and inspection - Static analysis – symbolic exception – Unit testing and Debugging – System testing – Formal verification: Enhancing maintainability during development – Managerial aspects of software maintenance – Configuration management – source code metrics – other maintenance tools and techniques.

RECOMMENDED TEXTBOOKS:

1. Richard E.Fairly - Software Engineering Concepts, 5th Edition - Tata McGraw-Hill book Company.

REFERENCE BOOKS:

1. Richard E.Fairley,Software Engineering Concepts,McGraw-Hill,1985
2. Ian Sommerville,Software Engineering-9th Edition,Darling Kindersley,2011
3. Roger S.Pressman,Software Engineering A Practitioner’s Approach-6th Edition, McGraw-Hill,2005
4. R.S.Pressman, 1997, Software Engineering – 1997 - Fourth Ed., McGraw Hill.
5. RajibMall ,2004,Fundamentals of Software Engineering,2nd Edition, PHI.

E-LEARNING RESOURCES:

1. <http://people.cs.missouri.edu/~duanye/cs4320/lectures.htm>
2. <http://iiscs.wssu.edu/drupal/node/4566>

GUIDELINES TO THE QUESTION PAPER SETTERS**QUESTION PAPER PATTERN:****Max. Marks: 100**

Section	Question Component	Numbers	Marks	Total
A	Definition/Principle Answer any 10 out of 12 questions (each in 50 words)	1-12	3	30
B	Short Answer Answer any 5 out of 7 questions (each in 300 words)	13-19	6	30
C	Essay Answer any 4 out of 6 questions (each in 600 words)	20-25	10	40
TOTAL MARKS				100

Break up of questions for theory

UNITS	SECTION A	SECTION B	SECTION C
I	3	2	1
II	3	2	2
III	2	1	1
IV	2	1	1
V	2	1	1
TOTAL	12	7	6
	SECTION A - 12	SECTION B - 7	SECTION C - 6

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Apply and formulate the principles and practices of software engineering and development	PSO 1,2,3,4 & 5	K1, K2, K3, K4, K5
CO2	Create and categories efficient, reliable and cost-effective software solutions	PSO 1,2,3,4 & 5	K K1, K2, K3, K4, K5
CO3	Compile and manage the use of software process modules and Design Techniques effectively	PSO 1,2,3,4 & 5	K1, K2, K3, K4, K5
CO4	Integrate and demonstrate implementation issues in Software Engineering	PSO 1,2,3,4 & 5	K1, K2, K3, K4, K5
CO5	Plan and construct Quality software using tools and its maintainability	PSO 1,2,3,4 & 5	K1, K2, K3, K4

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: ELECTIVE - II
COURSE NAME: PRACTICAL – SOFTWARE TESTING LAB USING SELENIUM	COURSE CODE:
SEMESTER: VI	MARKS:100
CREDITS:5	TOTAL HOURS:90
PRACTICAL	

COURSE OBJECTIVE:

1. To familiarize students with the usage of UML tool kit, to understand the requirements of the software and map them appropriately to subsequent phases of software development and to develop the ability to verify and validate designs.

COURSE OUTCOMES:

On completion of the course the students will be able to:

1. Analyze and design the problem at hand.
2. Use UML tools for designing software
3. Test the correctness and soundness of their software through testing tools.

1: UML Modeling

30 HOURS

Using UML tools, produce analysis and design models for the following systems:

a. Library Management System:

- Use Case Diagrams detailing different user interactions.
- Class Diagrams illustrating the key classes and their relationships.
- Sequence Diagrams showcasing the flow of actions during specific scenarios.

b. Automatic Teller Machine (ATM):

- State Diagrams representing different states of the ATM.
- Activity Diagrams outlining the flow of activities during a transaction.
- Collaboration Diagrams showing how different components collaborate.

c. Student Information Management:

30 HOURS

- Entity Relationship Diagrams capturing the relationships between entities.
- Component Diagrams representing different components and their interactions.
- Deployment Diagrams illustrating the deployment of the system.

d. Matrimony Service:

- Use Case Diagrams displaying user interactions and system responses.
- Class Diagrams modeling the key entities and their attributes.
- Communication Diagrams representing the communication between different objects.

e. Stock Management System:

- Class Diagrams illustrating the key classes and their associations.
- Object Diagrams showing instances of classes in a particular scenario.
- State Diagrams depicting different states of stock items.

Study of Open Source Testing Tools

30 HOURS

Selenium: Installation, configuration, and basic script creation for web automation.

WATIS (Web Application Testing in Simple): Overview and basic usage for web application testing.

Apache JMeter: Introduction to performance testing and creating basic performance test scenarios.

TestNG: Understanding TestNG for test case management and execution.

RECOMMENDED TEXTBOOKS:

1. Absolute Beginner Selenium WebDriver for Functional Automation Testing Your Beginners Guide

REFERENCE BOOKS:

1. Selenium Testing Tools Cookbook by Unmesh Gundecha - Publisher: Packt Publishing - ISBN: 978-1849515740

2. Mastering Selenium WebDriver 3.0 by Mark Collin - Publisher: Packt Publishing - ISBN: 978-1788999762

3. Foundations of Software Testing: ISTQB Certification by Dorothy Graham, Rex Black, and Erik van Veenendaal - Publisher: Cengage Learning - ISBN: 978-1844809899

4. Learning Selenium Testing Tools with Python by Unmesh Gundecha and Manish Kumar - Publisher: Packt Publishing - ISBN: 978-1784396497

5. The Art of Software Testing by Glenford J. Myers, Corey Sandler, and Tom Badgett - Publisher: John Wiley & Sons - ISBN: 978-1118031964

E-LEARNING RESOURCES:

1. https://books.google.co.in/books?id=FzPpBQAAQBAJ&source=gbs_navlinks_s
2. https://books.google.co.in/books?id=FzPpBQAAQBAJ&source=gbs_navlinks_s
3. https://books.google.co.in/books?id=Di1pDwAAQBAJ&source=gbs_navlinks_s
4. https://books.google.co.in/books?id=Di1pDwAAQBAJ&source=gbs_navlinks_s
5. https://books.google.co.in/books?id=pfQfAQAAIAAJ&source=gbs_navlinks_s
https://books.google.co.in/books?id=pfQfAQAAIAAJ&source=gbs_navlinks_s

PRACTICAL – SOFTWARE TESTING LAB USING SELENIUM

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	To use UML tools, produce analysis and design models for the following systems	PSO 1,2, 3, 4 & 5	K1,K2, K3,K4,K5
CO2	To familiarize students with the usage of UML tool kit.	PSO 1,2, 3, 4 & 5	K1,K2,K3,K4, K5
CO3	To understand the requirements of the software and map them appropriately to subsequent phases of software development.	PSO 1,2, 3, 4 & 5	K1,K2,K3,K4, K5
CO4	To develop the ability to verify and validate designs.	PSO 1,2, 3, 4 & 5	K1,K2,K3,K4, K5
CO5	To perform testing using open source testing Tools	PSO 1,2, 3, 4 & 5	K1,K2,K3,K4, K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: ELECTIVE - II
COURSE NAME: DATA SCIENCE LAB USING NUMPY AND PANDAS	COURSE CODE:
SEMESTER: VI	MARKS:100
CREDITS:5	TOTAL HOURS:90
PRACTICAL	

COURSE OBJECTIVE:

1. Analyzing data with NumPy and pandas, implementing coding concepts such as vectorized operations and Boolean indexing and Optimizing your data science workflow and building proficiency in data analysis

COURSE OUTCOMES:

On completion of the course the students will be able

1. To understand numpy basics
2. To import files in google colab
3. To implement programs using numpy and pandas
4. To Demonstrate data visualization using matplotlib

1. Creating NumPy Basics **30 HOURS**

2. Data Loading with Pandas
3. Data Filtering and Descriptive Statistics
4. Data Visualization with Matplotlib

5. Grouping and Aggregation with Pandas **30 HOURS**

6. Data Sorting and Indexing
7. Time Series Analysis using numpy
8. Data Merging and Concatenation

9. Data Transformation with Pandas **30 HOURS**

10. Linear Regression with Pandas
11. Calculate the coefficient of determination (R-squared).
12. Create a pivot table showing the average 'Price' for each 'Category'.

PRESCRIBED TEXTBOOKS:

1. Hands-On Data Analysis with Panda. Stefanie Molin, Ken Jee.
2. Python for Data Analysis. Wes McKinney McKendrick.

REFERENCE BOOKS:

1. Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython by Wes McKinney, Publisher: O'Reilly Media, ISBN: 978-1491957660
2. NumPy Cookbook by Ivan Idris, Publisher: Packt Publishing, ISBN: 978-1787125193
3. Pandas for Everyone: Python Data Analysis by Daniel Y. Chen, Publisher: Addison-Wesley Professional, ISBN: 978-0134546939
4. Python Data Science Handbook: Essential Tools for Working with Data by Jake VanderPlas, Publisher: O'Reilly Medi, ISBN: 978-1491912058

5. Matplotlib for Python Developers by Sandro Tosi, Publisher: Packt Publishing,
ISBN: 978-1847197900

E-LEARNING RESOURCES:

1. https://books.google.co.in/books?id=Rqs7DwAAQBAJ&source=gbs_navlinks_s
2. https://books.google.co.in/books?id=EZV0DwAAQBAJ&source=gbs_navlinks_s
3. https://books.google.co.in/books?id=krzyzQEACAAJ&source=gbs_navlinks_s
4. https://drive.google.com/file/d/1Ci6-CJIPtkWOcpL0wjnFmXby_hlgaitZ/view?usp=drivesdk
5. https://youtu.be/Arbi1FCacpk?si=COUun2JJsSozl_CZ
6. <https://youtu.be/Ug5rxXtxYKw>
7. <https://youtu.be/DJjV11KPhJ4>

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	To understand numpy basics of Python Library	PSO 1,2,3,4 & 5	K1,K2,K3,K4,K5
CO2	To import files in google colab using Numpy and Pandas	PSO 1,2,3,4 & 5	K1, K2, K3,K4
CO3	Analyzing data with NumPy and pandas'	PSO 1,2,3,4 & 5	K1,K2,K3,K4, K5
CO4	Implementing coding concepts such as vectorized operations and Boolean indexing	PSO 1,2,3,4 & 5	K1,K2,K3,K4
CO5	Optimizing your data science workflow and building proficiency in data analysis	PSO 1,2,3,4 & 5	K1,K2,K3,K4, K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

ROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: ELECTIVE - II
COURSE NAME: R-PROGRMMING LAB	COURSE CODE:
SEMESTER: VI	MARKS:100
CREDITS:5	TOTAL HOURS:90
PRACTICAL	

COURSE OBJECTIVE:

The Course is designed to provide basic knowledge of R programming

PROGRAMS

1. Programs on Data Types
2. Built-In Functions
3. Creating and Manipulating Vectors
4. Creating and Operations on Factors
5. Operations on Data Frame
6. Operations on Lists
7. Programs on Operators
8. Comparison of Matrices and Vectors
9. Programs on If-Else Statements
10. Programs on For Loops
11. Programs on While Loops
12. Customizing and Saving to Graphs
13. Plot function to customize graphs
14. 3D PLOT to customize graphs

RECOMMENDED TEXTBOOKS:

- 1.R in Action Written By – Robert L. Kabacoff
- 2.R for Data Science Written By – Hadley Wickham and Garrett Gorlemund

REFERENCE BOOKS:

- 1.The Art of R Programming – A Tour of Statistical Software Design Written By – Norman Matloff
- 2.R Graphics Cookbook: Practical Recipes for Visualizing Data Written By – Winston Chang

E-LEARNING RESOURCES:

1. <https://www.edx.org/learn/r-programming>
2. <https://www.datacamp.com/courses/free-introduction-to-r>
3. <https://www.r-project.org/about.html>

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	3	3	3	3

PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Identify situations where computational methods and computers would be useful.	PSO 1, 2, 3, 4, 5	K1,K2,K3,K4,k5,K6
CO2	Choose the right data representation formats based on the requirements of the problem.	PSO 1, 2, 3, 4,5	K1,K2,K3,K4,K5,K6
CO3	Use the comparisons and limitations of the various programming constructs and choose the right one for the task in hand.	PSO 1, 2, 3, 4,5	K1,K2,K3,K4,K5
CO4	Demonstrate the call by value and call by reference in functions.	PSO 1, 2, 3, 4,5	K1,K2,K3,K4,K5
CO5	Ability to work with array s of complex objects.	PSO 1, 2 3, 4, 5	K1,K2,K3,K4,K5

K1= Remember, K2= Understand, K3= Apply, K4=Analyse, K5= Evaluate, K6= Create

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH:2024-27
PART: III	COURSE COMPONENT: ELECTIVE III
COURSE NAME: MINI PROJECT	COURSE CODE:
SEMESTER: VI	MARKS:100
CREDITS: 5	TOTAL HOURS: 90
PRACTICAL	

COURSE OBJECTIVE

Students will analyse the financial statements/reports of the chosen companies and do a presentation based on the analysis done. Determine the specific goals you aim to achieve with your project.

Having clear objectives helps you stay focused and measure your progress effectively. In computer science it covers the following topics, Digital Logic Circuits, Digital Components, Data Representation. Technical skills such as data analysis and programming, and interpersonal skills, like problem-solving and leadership, are some of them. A degree in computer science can prepare you for careers in industries including communications, finance, software, health care, and government.

Analysis of Financial Statements – Techniques Comparative financial statements, Common Size Financial Statements, Ratio Analysis, Cash Flow Analysis, Trend Analysis. Students shall submit a Project Report at the end of 6th Semester before the commencement of the End Semester Examination. The Project marks shall consist of the following:

Viva Voce	50 Marks
Evaluation	50 Marks
Total	100 Marks

Break up details for Evaluation:

Methodology	15 Marks
Analysis	25 Marks
Summary	10 Marks
Total	50 Marks

The Project evaluation and Viva-voce examination shall be done internally by the Project Guide. Relevant topics will be selected and approved in consultation with the team set for the same.

It shall be supervised by external experts from institutions like ICAI, ICMAI, ICSI, Industry/Corporate experts /MCA, professors from other affiliated colleges.