

GURU NANAK COLLEGE (AUTONOMOUS)

A Sikh Minority Institution | Unit of Guru Nanak Educational Society (Regd.)

Affiliated to University of Madras | Approved by AICTE

Accredited at A++ Grade by NAAC (CGPA 3.68/4)

Guru Nanak Salai, Velachery, Chennai - 600042



SCHOOL OF COMMERCE

B.Com. Computer Applications

(Semester pattern with Choice Based Credit System)

Syllabus

(For the UG Batch of 2026 - 29 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 was 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 Applications** 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 market- place.

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 are incredibly promising. It is possible to enter top IT companies and earn lucrative salaries

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)

PEO1: Core Competence:

Graduates will demonstrate comprehensive knowledge of commerce, accounting, finance, and business practices, enabling them to pursue successful careers in corporate, entrepreneurial, and public sectors.

PEO2: Problem Solving Skills:

Graduates will apply problem solving and decision-making skills to address complex business and economic challenges in a dynamic global environment.

PEO3: Ethics and Social Responsibility:

Graduates will uphold ethical standards, integrity, and social responsibility in professional and personal contexts, contributing positively to sustainable development and societal wellbeing.

PEO4: Communication and Leadership:

Graduates will exhibit effective communication, teamwork, and leadership abilities, preparing them to manage diverse organizational settings and collaborate across disciplines.

PEO5: Lifelong Learning and Adaptability:

Graduates will engage in continuous learning, research, and professional development, adapting to emerging technologies, global trends, and evolving business practices.

5. PROGRAMME OUTCOMES (POs)

PO 1: Knowledge Management: Integrate theoretical concepts with practical applications to Manage business operations effectively.

PO 2: Problem Solving: Identify, analyse, and solve complex business and financial problems using appropriate quantitative and qualitative techniques.

PO 3: Critical Thinking: Develop critical insights into business environments by assessing risks, opportunities, and ethical implications.

PO 4: Individual and Team Work: Exhibit leadership, coordination, and responsibility while functioning effectively as a team member or leader.

PO 5: Communication and Lifelong Learning: Adapt to changing business environments Through continuous learning, skill development, and professional growth.

6. PROGRAMME SPECIFIC OUTCOMES (PSOs)

PSO 1: Integrated Commerce and Computer Science Expertise

Apply integrated knowledge of commerce and computer applications to develop specialized domain expertise.

PSO 2: Experiential Digital Learning and Application

Utilize experiential learning and modern digital tools to solve real world business problems effectively.

PSO 3: Research Based Investigation and Problem Solving

Analyze and investigate business issues using research driven, sustainable, and adaptive approaches.

PSO 4: Professional Employability and Ethical Skills

Demonstrate employability, technical competence, and professional skills for career advancement.

PSO 5: Multidisciplinary Integration for Decision Making

Integrate multidisciplinary knowledge for effective decision making and problem solving.

7. PEO – PO MAPPING

PEOs	PO1	PO2	PO3	PO4	PO5
PEO1	3	2	2	1	1
PEO2	2	3	3	2	1
PEO3	1	2	3	2	2
PEO4	1	1	2	3	3
PEO5	2	2	2	1	3

8. PEO – PSO MAPPING

PEOs / PSOs	PSO1	PSO2	PSO3	PSO4	PSO5
PEO1	3	2	2	3	2
PEO2	2	3	3	2	3
PEO3	1	2	2	3	2
PEO4	1	2	2	3	2
PEO5	2	3	3	2	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) Core Courses (*Including Project*) (b) Allied Courses (c) Elective Courses related to the main subject of study.

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 (State Board) or Tamil up to X Standard (CBSE and other boards) and opted for 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 & V Semesters) Value Education (I Semester)

Self-Study (Compulsory) Course (III Semester) Indian Knowledge System (IKS) (IV Semester)

Summer Internship (After IV Semester) Environmental Studies (V 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.

10. COURSE STRUCTURE

The B. Com. Computer Applications programme consists of 19 Core courses with 4 credits each, 4 Allied courses with 5 credits each, 3 elective courses with 4 credits each, 4 Ability Enhancement Skill courses with two credits each, 2 Non-Major Elective courses with two credits each, 2 Life Skill courses (Value Education and EVS) with two credits each, 1 Self-study course with 2 credits and a domain specific IKS course with one credit. Internship is a compulsory component with 2 credits and Project/Institutional Training is a compulsory core course with 4 credits for all the UG & PG programmes. Extension activity is a compulsory component with 1 credit.

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	12
Part IV	NME	2	4
	Ability Enhancement skills	4	8
	EVS	1	2
	Value Education	1	2
	IKS	1	1
	Internship	1	2
	Self-study course	1	2
Part V	Extension activity	1	1
Total		42	142

Credit Distribution for Each Semester

Semester I		Subject	Credit	Hrs/ Week	Marks		Total
Course Component					Internal	External	
Part I	Language	Tamil I/ Hindi I/ Sanskrit I/ French I	3	6	50	50	100
Part II	English	English- I	3	4	50	50	100
Part III	Core – I	Financial Accounting (Common to B. Com (GEN), B. Com (A&F), B. Com (ISM), B. Com (CA), B. Com (MM) & BBA)	4	5	50	50	100
	Core-II	Basics of Computing and Technology	4	4	50	50	100
	Allied-I	Business Mathematics and Statistics-I	5	5	50	50	100
Part IV	Non-Major Elective-I	Basic Tamil-I/ Advanced Tamil-I/ Basics of Retail Marketing	2	2	50	50	100
	Life Skills - I	Value Education	2	2	50	50	100
	Ability Enhancement Skills-I	Communication skills and Personality Development skills	2	2	50	50	100
	Total		25	30			
Semester II		Subject	Credit	Hrs/ Week	Marks		Total
Course Component					Internal	External	
Part I	Language	Tamil II/Hindi II/Sanskrit II/French II	3	6	50	50	100
Part II	English	English–II	3	4	50	50	100
Part III	Core –III	Advanced Financial Accounting (Common to B. Com (GEN), B. Com (A&F), B. Com (CA))	4	5	50	50	100
	Core-IV	Office Automation and Data Visualization Lab	4	5	50	50	100
	Allied-II	Business Mathematics and Statistics-II	5	6	50	50	100
Part IV	Non-Major Elective-II	Basic Tamil II/ Advanced Tamil II /Practical E- Commerce	2	2	50	50	100
	Ability Enhancement Skills -II	FinTech for Business Applications (Common to B.COM (CA), B.COM (ISM))	2	2	50	50	100
Total			23	30			

Semester III		Subject	Credit	Hrs/ Week	Marks		Total
Course Component					Internal	External	
Part III	Core – V	Introduction to Corporate Accounting	4	6	50	50	100
	Core-VI	Principles and Practices of Management	4	6	50	50	100
	Core – VII	Programming with C and C++	4	6	50	50	100
	Core-VIII	Programming in C Lab	4	4	50	50	100
	Allied-III	Economics for Managerial Decision Making	5	6	50	50	100
Part IV	Ability Enhancement Skills – III	Foundations of Quantitative Aptitude	2	2	50	50	100
	Self- Study (Compulsory) Course	Indian Heritage and Knowledge Systems/ Contemporary World and Sustainable Development	2	-	-	100	100
Total			25	30			
Semester IV		Subject	Credit	Hrs/ Week	Marks		Total
Course Component					Internal	External	
Part III	Core -IX	Advanced Accounting for companies	4	6	50	50	100
	Core – X	Business and Corporate Laws	4	6	50	50	100
	Core –XI	AI Web Development	4	5	50	50	100
	Core-XII	Web Technology Lab	4	4	50	50	100
	Allied-IV	Marketing Principles	5	6	50	50	100
Part IV	Indian Knowledge Systems	Indian Knowledge System (IKS) with an Accounting Perspective (Common to B. Com (General), B. Com (A&F), B. Com (CS), B. Com (CA), B. Com (ISM), B. Com (PA), B. Com (Honors))	1	1	100		100
	Ability Enhancement Skills – IV	Resume writing and Interview skills	2	2	50	50	100
Total			24	30			

Semester V		Subject	Credit	Hrs/ Week	Marks		Total
Course Component					Internals	Externals	
Part III	Core –XIII	Income Tax Law and Practice-I (Common to B. Com (GEN), B. Com (A&F), B. Com (CS), B. Com (ISM) & B. Com (CA))	4	6	50	50	100
	Core-XIV	Introduction to Cost and Management Accounting	4	6	50	50	100
	Core -XV	Operating System	4	5	50	50	100
	Core XVI	Python Programming-Theory & Practical	4	2+4	50	50	100
	Elective-I IDE (Inter Disciplinary Elective)	Production and Supply Chain Management	4	5	50	50	100
Part IV	Life Skills – II	Environmental Studies	2	2	50	50	100
	Internship	Internship	2	-	-	-	-
Total			24	30			
Semester VI		Subject	Credit	Hrs/ Week	Marks		Total
Course Component					Internals	Externals	
Part III	Core XVII	Income Tax Law and Practice – II (Common to B. Com (GEN), B. Com (A&F), B. Com (CS), B. Com (ISM) & B. Com (CA))	4	6	50	50	100
	Core XVIII	Human Capital Management	4	6	50	50	100
	Core XIX	Innovative Business Project	4	6	50	50	100
	Elective- II	Software Engineering	4	6	50	50	100
	Elective-III	Software Testing Lab using Selenium - Theory & Practical	4	3+3	50	50	100
Part V	Extension Activity	Participation in NSS/NCC etc.	1	-	-	-	-
Total			21	30			
Grand Total			142	180			
*** Programmes can choose one extra core course (optional) if they give four credits to allied courses							

11. EXAMINATION

Continuous Internal Assessment (CIA) will be for 50 percent and End Semester Examination (ESE) will be for 50 percent. The CIA marks for the two credit courses (NME, EVS, Value Education and Ability Enhancement skill courses) and one credit course on Indian Knowledge System coming under Part IV, shall be awarded based on the nature of the course or at the course instructor's discretion. (Assignment/project/presentation). The mode of examination for IKS will be conducted through CIA with 5 out of 10 questions carrying 20 marks each.

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 85 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	50%
Model Examination	After 85 working days of the Semester	100%

Components for the CIA (Theory & Practical) are as follows:

Continuous Internal Assessment - Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment			5
Workbook /record book / notebook			5
Class activity 1			5
Class activity 2			5
Class activity 3			5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

The Mode of Evaluation for class activity can be based on the following parameters (these are suggestions, the faculty can add more if needed)

- 1) Quiz with MCQ
- 2) Case-Study analysis
- 3) Debate
- 4) Seminar/ Presentation
- 5) Peer/Self-Assessment
- 6) Role play
- 7) Scrap book
- 8) Monograph
- 9) Puzzle
- 10) Group Discussion
- 11) Group activity
- 12) Surprise class tests

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 of 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
65-74	3
<65	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 Practical's will be notified by the Controller of Examinations in consultation with the Dean (Academics).

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		100 Marks

Method of Assessment

Remembering (K1)	- 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. - Suggested Keywords: Choose, Define, Find, How, Label, List, Match, Name, Omit, Recall, Relate, Select, Show, Spell, Tell, What, When, Where, Which, Who, Why
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Understanding (K2)	• 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 combine at altogether • Suggested Keywords: Classify, Compare, Contrast, Demonstrate, Explain, Extend, Illustrate, Infer, Interpret, Outline, Relate, Rephrase, Show, Summarize, Translate
Application (K3)	• 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)	• Analyzing the question is one that asks the students to break down 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)	• Evaluation requires an individual to make a 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)	• 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: 2026-2029
PART: III	COURSE COMPONENT: CORE I
COURSE NAME: FINANCIAL ACCOUNTING	COURSE CODE: 26UCOM301
SEMESTER: I	MARKS:100
CREDITS:4	TOTAL: HOURS: 75
THEORY AND PROBLEMS	

Common to B. Com (GEN), B. Com (AF), B. Com (ISM) B. Com (CA), B. Com (MM), & BBA

COURSE OBJECTIVE

Introduction to basic concepts of Single-entry system, Depreciation, Insurance and Departmental accounting

COURSE OUTCOMES:

After successful learning of this course the student will be able to:

1. Evaluate the basic accounting concepts in the preparation of final accounts.
2. Appraise the procedures followed under the single-entry system.
3. Compare the various methods of charging depreciation and their effects on financial statements.
4. Investigate the process involved in preparing insurance claims, average due date and account current.
5. Break down the concept of departmental accounts into its components.

UNIT I

(17 Hours)

Meaning and Scope of Accounting - Branches of Accounting – Objectives of Accounting - Brief outline on Indian Accounting Standards - Preparation of Final Accounts – Trading Account-Profit & Loss Account - Balance Sheet – Adjusting Entries – Closing Stock, Outstanding Expenses, Prepaid Expenses, Depreciation, Accrued Income, Income received in Advance, bad debts, Provision for Bad Debts doubtful debts, Provision for Bad and doubtful debts, Interest on Capital and Interest on Drawings.

(17 Hours)

UNIT II

Accounts from incomplete records (Single Entry System) – Meaning, Features, Defects, Differences between Single entry and Double entry system- Net worth method – Conversion method.

(15 Hours)

UNIT III

Depreciation-Meaning–Causes–Difference among Depreciation, Amortization and Depletion - Concept of Depreciation–Different Methods of Depreciation-providing Depreciation as per Indian Accounting Standard–Straight Line Method and Written Down Value Method (Change in method excluded)

(14 Hours)

UNIT IV

Insurance claims, claim for loss of stock destroyed including Average Clause- Average due date and Account current.

UNIT V**(12 Hours)**

Departmental Accounting needs, features, Basis of Apportionment of Expenses, treatment of Inter-Departmental Transfers at cost or Selling Price -Treatment of Expenses that cannot be apportioned– Preparation of Departmental profit and loss account.

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

1. Gupta. R. L & Gupta V. K, 2005, Financial Accounting, Sultan Chand & Sons, New Delhi, 6th edition.
2. Reddy T. S & Murthy. A, 2007, Financial Accounting, Margham Publications, Chennai, 5th edition.
3. Dr. S. Manikandan, Financial Accounting, Scitech Publications, Chennai.
4. Financial Accounting, G. Ramesh, Kavin Publications, Coimbatore, Revised Edition 2024

REFERENCE BOOKS

1. Goel, D. K. & Shelly Goel (2018), *Financial Accounting*, Arya Publications, 2nd Edition.
2. Jain, S. P. & Narang, K. (1999), *Financial Accounting*, Kalyani Publishers, Ludhiana, 4th Edition.
3. Rakesh Shankar, R. & Manikandan, S., *Financial Accounting*, Scitech Publications, 3rd Edition.
4. Shukla & Grewal (2002), *Advanced Accounting*, Sultan Chand & Sons, New Delhi, 15th Edition.
5. Tulsian, P. C. (2006), *Financial Accounting*, Pearson Education.

E-LEARNING RESOURCES:

1. <https://www.accountingtools.com/articles/2017/5/15/basic-accounting-principles>
2. https://en.wikipedia.org/wiki/Single-entry_bookkeeping_system
3. <https://www.profitbooks.net/what-is-depreciation/>
4. <https://books.google.co.in/books?isbn=8126909935>
5. <https://books.google.co.in/books?isbn=9966254455>
6. <https://books.google.co.in/books?isbn=0470635290>

GUIDELINESTOTHEQUESTIONPAPERSETTERS
QUESTION PAPER PATTERN

Section	Question Component	Numbers	Marks	Total
A	Answer any 10 out of 12 questions	1-12	3	30
B	Answer any 5 out of 7 questions	13-19	6	30
C	Answer any 2 out of 4 questions	20-23	20	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	2	1	1	1	-	1
II	1	1	-	1	-	1
III	1	1	-	1	-	1
IV	2	1	1	1	-	-
V	1	1	-	1	-	1
TOTAL	7	5	2	5	-	4
SECTION A-12			SECTION B-7		SECTION C-4	

PO-CO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	3	3	2	3
CO 2	3	3	3	3	3
CO 3	3	3	3	2	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3.00	3.00	3.00	2.60	3.00

PSO-CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	2	3	3	3
CO 2	3	2	3	3	3
CO 3	3	2	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3.00	2.40	3.00	3.00	3.00

PO-PSO-CO-Question Paper Mapping

CO No	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Evaluate the basic accounting concepts in the preparation of final accounts.	PO1, PO2, PO3	PSO1, PSO4	K1, K2, K3, K4, K5
CO2	Appraise the procedures followed under the single-entry system.	PO1, PO2, PO3	PSO1, PSO3	K1, K2, K3, K4, K5
CO3	Compare the various methods of charging depreciation and their effects on financial statements.	PO1, PO2, PO3	PSO1, PSO5	K1, K2, K3, K4, K5
CO4	Investigate the process involved in preparing insurance claims, average due date and account current.	PO1, PO2, PO3	PSO1, PSO3, PSO5	K1, K2, K3, K4

CO No	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO5	Break down the concept of departmental accounts into its components.	PO1, PO2, PO3, PO4	PSO1, PSO4	K1, K2, K3, K4, K5

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

FINANCIAL ACCOUNTING

Continuous Internal Assessment – Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment	Content -3, Presentation - 2	5	5
Workbook/record book/ Notebook	Completeness - 3, Accuracy - 2	5	5
Class activity 1	Quiz with MCQ (Correct Answers - 3, Speed - 2) / Rapid Fire (Quick Response - 3, Accuracy - 2) / Formula Drill Game (Correct Formula Recall - 3, Application - 2) / Others	5	5
Class activity 2	Problem Solving (Correct Answer - 3, Proper Steps - 2) / Error Detection Activity (Identification of Errors - 3, Reasoning - 2) / Scrap Book (Relevance of Content - 3, Creativity and Presentation - 2) / Others	5	5
Class activity 3	Real-Life Application Task (Understanding of Concept - 3, Application of Real Situation - 2) / Real-Life Billing Activity (Preparation - 3, Presentation - 2) / Peer Quiz Creation (Quality of Questions - 3, Relevance to Topic - 2) / Others	5	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH: 2026-2029
PART: III	COURSE COMPONENT: CORE II
COURSE NAME: BASICS OF COMPUTING AND TECHNOLOGY	COURSE CODE: 26UCCA302
SEMESTER: I	MARKS:100
CREDITS:4	TOTAL HOURS:60
THEORY	

COURSE OBJECTIVE:

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

COURSE OUTCOMES:

After successful learning of this course the student will be able to:

1. Build knowledge of Computer Fundamentals, Computer History, and Types of Computers
2. Describe the functions of various input, output, storage, processing devices, and their roles in a computer system
3. Distinguish between system software, application software, and their functions with examples
4. Develop algorithms and flowcharts to solve basic computational problems
5. Explain fundamental concepts of excel, data structures to create, store, and update simple data files.

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 Hexa- decimal.

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)

Excel Databases: Structure of a data table -Internet features– E-mail-Recent trends in technology

PRESCRIBED 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

PO-CO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	3	1	1	2	2
CO 2	3	2	2	2	2
CO 3	3	2	2	2	2
CO 4	2	3	3	2	2
CO 5	3	3	2	2	2
Avg.	2.8	2.2	2	2	2

PSO-CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	2	2	2	2
CO 2	3	2	1	2	2
CO 3	3	2	2	2	2
CO 4	3	3	3	2	3
CO 5	3	3	3	3	3
Avg.	3	2.4	2.2	2.2	2.4

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO 1	Build knowledge of Computer Fundamentals, Computer History, and Types of Computers	PO1, PO5	PSO1, PSO5	K1, K2
CO 2	Describe the functions of various input, output, storage, processing devices, and their roles in a computer system	PO1, PO2	PSO1, PSO2	K1, K2, K3
CO 3	Distinguish between system software, application software, and their functions with examples	PO1, PO2, PO3	PSO1, PSO4	K2, K3, K4
CO 4	Develop algorithms and flowcharts to solve basic computational problems	PO2, PO3, PO4	PSO2, PSO3, PSO5	K3, K4, K5
CO 5	Explain fundamental concepts of data structures to create, store, and update simple data files.	PO1, PO2, PO5	PSO1, PSO2, PSO5	K2, K3, K4

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

BASICS OF COMPUTING AND TECHNOLOGY

Continuous Internal Assessment -Components

Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ Notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH: 2026 - 29
PART: III	COURSE COMPONENT: ALLIED-I
COURSE NAME: BUSINESS MATHEMATICS AND STATISTICS - I	COURSE CODE: 26UCCA3A1
SEMESTER: I	MARKS:100
CREDITS: 5	TOTAL HOURS: 75
THEORY AND PROBLEMS	

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:

After successful learning of this course the student will be able to:

1. Develop the basic concepts of set theory, indices, interest, diagrammatic representation, measures of central tendency.
2. Construct the 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, Ogive, pie chart dispersion.
5. Evaluate exponents and logarithms permutation and combination, frequency distribution, relative measures of dispersion.

UNIT I

(15 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

(15 Hours)

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

Part one: Chapter 2,3.

UNIT III

(15 Hours)

Annuity: Annuities – Banker's Discount –Discount on bills. Part one: Chapter 10,11.

UNIT IV

(15 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

(15 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

PRESCRIBED BOOK:

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. NPTEL: Management - NOC: Business Statistics
4. <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	-	1
II	2	1	-	1	-	1
III	1	1	1	1	-	1
IV	1	1	-	1	-	-
V	2	1	-	1	-	1
TOTAL	7	5	2	5	-	4
	SECTION A – 12		SECTION B - 7		SECTION C - 4	

PO – CO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	2	3	3	3
CO 2	2	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
Average	2.8	2.8	3.0	3.0	3.0

PSO – CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	2	3	2	3
CO 2	2	3	3	3	3
CO 3	3	2	3	3	3
CO 4	3	3	2	3	3
CO 5	3	3	3	3	2
Average	2.8	2.6	2.8	2.8	2.8

PO-PSO-CO-Question Paper Mapping

CO NO.	COURSE OUTCOME	POS ADDRESSED	PSOS ADDRESSED	COGNITIVE LEVEL (K1 TO K6)
CO1	Develop the basic concepts of set theory, indices, interest, diagrammatic representation, measures of central tendency.	PO1, PO2, PO3, PO4, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K1, K2, K3, K4, K5
CO2	Construct the sets, exponents and logarithms, annuities, graphical representation, dispersion.	PO1, PO2, PO3, PO4, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K1, K2, K3, K4, K5
CO3	Apply operations on set theory, using logarithmic properties to solve problems, simple interest and compound interest, frequency distribution, mean, median, mode.	PO1, PO2, PO3, PO4, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K1, K2, K3, K4, K5
CO4	Analyze the permutation and combination, discount, histogram, O-give, pie-chart dispersion.	PO1, PO2, PO3, PO4, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K1, K2, K3, K4, K5
CO5	Evaluate exponents and logarithms permutation and combination, frequency distribution, relative measures of dispersion.	PO1, PO2, PO3, PO4, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K1, K2, K3, K4, K5

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

BUSINESS MATHEMATICS AND STATISTICS - I

Continuous Internal Assessment - Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment	Content -3, Presentation - 2	5	5
Workbook/record book/ Notebook	Neatness & Presentation - 3, Regularity – 2	5	5
Class activity 1	Quiz with MCQ (Correct Answers - 3, Speed - 2) / Rapid Fire (Quick Response - 3, Accuracy - 2) / Concept Mapping (Understanding of Concept - 3, Logical Connections - 2) / Others	5	5
Class activity 2	Group Discussion (Subject Knowledge - 3, Communication Skills - 2) / Case Study (Application of Concepts - 3, Problem Solving Ability - 2) Discussion/Debate (Content Knowledge - 3, Argument Strength - 2) / Others	5	5
Class activity 3	Learn about any one country of your choice. Scrap book (Idea Generation - 3, Sharing with Class - 2) / Role Play (Creativity and Expression - 3, Team Coordination - 2) / Puzzle (Logical Thinking - 3, Speed - 2) / Others	5	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: IV	COURSE COMPONENT: NON-MAJOR ELECTIVE –I
COURSE NAME: BASICS OF RETAIL MARKETING	COURSE CODE: 26UNME4A040
SEMESTER: I	MARKS:100
CREDITS:2	TOTAL HOURS:30
THEORY	

COURSE OBJECTIVES:

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:

After successful learning of this course the student will be able to:

1. Identify growth patterns and emerging trends in the retail sector by interpreting case studies and industry reports
2. Apply fundamental and specialized retail management techniques to solve case-based problems
3. Design a feasible small-scale retail business plan for a local market
4. Differentiate labeling and franchising concepts by examining real world examples
5. Evaluate 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.

PRESCRIBED 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>

CO-PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	3	2	3	1	2
CO 2	3	3	2	2	2
CO 3	3	3	3	3	2
CO 4	2	2	2	1	2
CO 5	2	2	3	2	3
Ave.	2.6	2.4	2.6	2	2.2

PSO-CO MAPPING

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

PO-PSO-CO-Question Paper Mapping

CO No	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K5)
CO1	Identify growth patterns and emerging trends in the retail sector by interpreting case studies and industry reports.	PO1, PO2, PO3	PSO2, PSO3, PSO5	K2, K3, K4
CO2	Apply fundamental and specialized retail management techniques to solve case-based problems.	PO1, PO2, PO3	PSO1, PSO2, PSO3	K3, K4, K5
CO3	Design a feasible small-scale retail business plan for a local market	PO1, PO2, PO4	PSO1, PSO2, PSO4, PSO5	K4, K5, K6
CO4	Differentiate labeling and franchising concepts by examining real world examples	PO1, PO3	PSO1, PSO3, PSO5	K2, K3, K4
CO5	Evaluate various communication tools used in retailing.	PO2, PO3, PO5	PSO2, PSO4, PSO5	K4, K5

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

BASICS OF RETAIL MARKETING

Continuous Internal Assessment –Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ Notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

QUESTION PAPER PATTERN MCQS

PROGRAMME: ALL UG	BATCH: 2026 – 2029
PART: IV	COURSE COMPONENT: LIFE SKILLS- I
COURSE NAME: VALUE EDUCATION	COURSE CODE: 26UVED401
SEMESTER: I	MARKS:100
CREDITS: 2	TOTAL HOURS: 30
THEORY	

COURSE OBJECTIVE

To inculcate human values, ethical principles, social responsibility, and awareness of responsible technology use for holistic personal and societal development.

COURSE OUTCOMES:

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

1. Recall core value systems and their relevance to real-life situations and ethical decision-making in personal and social contexts.
2. Describe the role of culture and civilization in shaping individual and collective identities.
3. List salient values for life such as forgiveness, sacrifice, self-esteem, teamwork, and creative thinking.
4. Describe the role of human rights, social values, and ethical use of Artificial Intelligence in addressing contemporary social issues.
5. Recall the teachings of Guru Nanak Dev Ji and describe their connection to values and sustainable living.

UNIT I: EDUCATION AND VALUES

6 Hours

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

UNIT II: VALUE EDUCATION AND PERSONAL DEVELOPMENT

6 Hours

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: HUMAN RIGHTS AND MARGINALIZED PEOPLE

6 Hours

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 public domain –secular civil society

UNIT IV: VALUE EDUCATION TOWARDS NATIONAL AND GLOBAL DEVELOPMENT

6 Hours

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 values for espousing peace in society.

Conflict of cross-cultural influences, cross-border education.

Emerging Technologies and Human Values: (Ethical and responsible use of Artificial Intelligence, digital citizenship, privacy, academic integrity and technology for social good).

UNIT V:

6 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, New York, 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)
5. <http://www.ncert.nic.in/rightside/links/pdf/framework/english/nf2005.pdf>
6. Saptarsi Goswami, Amit Kumar Das and Amlan Chakrabarti, AI for Everyone: A Beginner's Handbook for Artificial Intelligence (AI), Pearson India Education Services Pvt. Ltd., First Edition, 2024. ISBN: 978-9361590832.

QUESTION PAPER PATTERN: MCQ

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH: 2026-2029
PART: IV	COURSE COMPONENT: ABILITY ENHANCEMENT SKILLS-I
COURSE NAME: COMMUNICATION SKILLS AND PERSONALITY DEVELOPMENT SKILLS	COURSE CODE: 26USKL401
SEMESTER: I	MARKS: 100
CREDITS: 2	TOTAL HOURS: 30

COURSE OBJECTIVE:

To build communication skills for personal and professional development.

COURSE OUTCOMES:

After successful learning of this course the student will be able to:

1. 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. Articulate thoughts, ideas, and information clearly and concisely, using appropriate language and structure to convey messages effectively in both written and verbal communication
3. 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. Demonstrate 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. 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 III 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	7	6	4
SECTION A - 12		SECTION B - 6	SECTION C - 4

SEMESTER - II

PROGRAMME: B.COM (COMPTER APPLICATIONS)	BATCH: 2026-2029
PART: III	COURSE COMPONENT: CORE -III
COURSE NAME: ADVANCED FINANCIAL ACCOUNTING	COURSE CODE: 26UCOM303
SEMESTER: II	MARKS:100
CREDITS:4	TOTAL HOURS: 75
THEORY AND PROBLEMS	

(Common to B. Com (GEN), B. Com (A&F), B. Com CA)

COURSE OBJECTIVE:

To analyze various accounting procedures for different firms.

COURSE OUTCOMES:

After successful learning of this course the student will be able to:

1. Evaluate the accounting procedure for Branch Accounts under Debtors System and Stock & debtors System.
2. Appraise the concept of Non-Profit Organizations
3. Apply the accounting procedure for the treatment of goodwill and admission of a partner.
4. Execute the accounting treatment of retirement of a partner and death of a partner.
5. Examine the procedures for accounting treatment of normal dissolution, Garner vs. Murray, and piecemeal distribution.

UNIT I

(15 Hours)

Branch Accounts – Dependent Branches – Debtors System - Goods invoiced at cost and Invoice price
- Stock & Debtors System – Goods invoiced at cost and Invoice price.

UNIT II

(15 Hours)

Non-Profit Organizations: Meaning – Preparation of Receipts and Payments Account – Income and Expenditure Account and Balance Sheet – Preparation of Receipts and Payment Account from Income and Expenditure Account.

UNIT III

(15 Hours)

Partnership Accounts – Admission of a Partner- Adjustment in the profit-sharing ratio – Adjustment for Goodwill – Application of Accounting Standard (AS)10 –Revaluation of assets & Liabilities– Adjustment of capitals.

UNIT IV

(15 Hours)

Retirement of a Partner – Profit sharing ratio –Treatment of goodwill on retirement / death of a partner
- Death of a Partner – mode of payment, Joint Life Policy.

UNIT V

(15 Hours)

Dissolution of partnership – Insolvency of a partner (application of Indian Partnership Act, 1932) –
Insolvency of all partners – gradual realization of asset and piece meal distribution.

THEORY: 20% PROBLEMS: 80%

RECOMMENDED TEXT BOOKS

1. Financial Accounting - R.L. Gupta & M. Radhaswamy – Sultan Chand & sons.
2. Financial Accounting - T.S. Reddy & A. Murthy – Margham Publications

REFERENCE BOOKS:

1. Principles and practice of Accounting - R.L. Gupta & V.K. Gupta– sultan chand & sons.
2. Financial Accounting–S.P. Jain & K.L. Narang – Kalyani Publishers.

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**

Section	Question Component	Numbers	Marks	Total
A	Answer any 10 out of 12 questions	1-12	3	30
B	Answer any 5 out of 7 questions	13-19	6	30
C	Answer any 2 out of 4 questions	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	1	1	-	1	-	1
II	1	1	1	1	-	-
III	2	1	1	1	-	1
IV	2	1	-	1	-	1
V	1	1	-	1	-	1
TOTAL	7	5	2	5	-	4
SECTION A - 12			SECTION B - 7		SECTION C - 4	

PO – CO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	2	3
CO 4	3	3	3	2	3
CO 5	3	3	3	2	3
Ave.	3.00	3.00	3.00	2.40	3.00

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.	3.00	3.00	3.00	3.00	3.00

PO-PSO-CO-Question Paper Mapping

CO No	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Evaluate the accounting procedure for Branch Accounts under Debtors System and Stock & debtors System.	PO1, PO2, PO3	PSO 1,2,3,4 & 5	K1, K2, K3, K4, K5
CO2	Apprise the concept of Non-Profit Organisations.	PO1, PO2, PO3	PSO 1,2,4 & 5	K1, K2, K3, K4
CO3	Construct the accounting procedure for the treatment of goodwill and admission of a partner.	PO1, PO2, PO3	PSO 1,2,3,4 & 5	K1, K2, K3, K4
CO4	Execute the accounting treatment of retirement of a partner and death of a partner.	PO1, PO2, PO3, PO4	PSO 1,2,3,4 & 5	K1, K2, K3, K4
CO5	Examine the procedures for accounting treatment of normal dissolution, Garner vs. Murray, and piecemeal distribution.	PO1, PO2, PO3	PSO 1,2,3,4 & 5	K1, K2, K3, K4

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

ADVANCED FINANCIAL ACCOUNTING

Continuous Internal Assessment – Components

Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment	Content -3, Presentation - 2	5	5
Workbook/record book/notebook	Completeness - 3, Accuracy – 2	5	5
Class activity 1	Quiz with MCQ (Correct Answers - 3, Speed - 2) / Rapid Fire (Quick Response -3, Accuracy - 2) / Formula Drill Game (Correct Formula Recall - 3, Application -2) / Others	5	5
Class activity 2	Problem Solving (Correct Answer - 3, Proper Steps - 2) / Error Detection Activity (Identification of Errors - 3, Reasoning - 2) / Scrap Book (Relevance of Content - 3, Creativity and Presentation - 2) / Others	5	5
Class activity 3	Real-Life Application Task (Understanding of Concept - 3, Application of Real Situation - 2) / Real-Life Billing Activity (Preparation - 3, Presentation - 2) / Peer Quiz Creation (Quality of Questions - 3, Relevance to Topic - 2) / Others	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE IV
COURSE NAME: OFFICE AUTOMATION AND DATA VISUALIZATION LAB	COURSE CODE: 26UCCA304P
SEMESTER: II	MARKS:100
CREDITS:5	TOTAL HOURS: 75
PRACTICALS	

COURSE OBJECTIVES:

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

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Apply Windows operating system and MS Word tools to create structured and formatted documents
2. Generate solutions using MS Excel functions and tools through hands-on exercises
3. Prepare MS PowerPoint Presentations and Train on Internet deployment
4. Develop Business Correspondence skills in the Computerized Platform
5. Create data visualizations using Power BI tools

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

PRESCRIBED BOOK:

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>

CO - PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	3	2	1	2	3
CO 2	3	3	2	2	2
CO 3	2	2	2	2	3
CO 4	2	2	2	2	3
CO 5	3	3	3	2	2
Ave.	2.6	2.4	2	2	2.6

PSO – CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	3	1	2	2
CO 2	3	3	2	2	3
CO 3	2	3	2	3	2
CO 4	2	2	2	3	2
CO 5	3	3	3	3	3
Ave.	2.6	2.8	2	2.6	2.4

PO-PSO-CO-Question Paper Mapping

CO NO.	COURSE OUTCOME	POS ADDRESSED	PSOS ADDRESSED	COGNITIVE LEVEL (K1 TO K6)
CO1	Apply Windows operating system and MS Word tools to create structured and formatted documents.	PO1, PO2, PO5	PSO1, PSO2, PSO4	K1, K2, K3
CO2	Generate solutions using MS Excel functions and tools through hands-on exercises.	PO1, PO2, PO3, PO5	PSO1, PSO2, PSO3, PSO4	K2, K3, K4
CO3	Prepare MS PowerPoint presentations and train on internet deployment.	PO1, PO4, PO5	PSO1, PSO2, PSO4, PSO5	K2, K3, K5
CO4	Develop business correspondence skills in the computerized platform.	PO1, PO2, PO4, PO5	PSO1, PSO2, PSO4, PSO5	K2, K3, K4
CO5	Create data visualizations using Power BI tools.	PO1, PO2, PO3, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K3, K4, K5, K6

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

OFFICE AUTOMATION AND DATA VISUALIZATION LAB

Continuous Internal Assessment -Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ Notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective Course	5	5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH: 2026 – 29
PART: III	COURSE COMPONENT: ALLIED-II
COURSE NAME: BUSINESS MATHEMATICS AND STATISTICS-II	COURSE CODE: 26UCCA3A2
SEMESTER: II	MARKS:100
CREDITS: 5	TOTAL HOURS: 90
THEORY AND PROBLEMS	

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.

COURSE OUTCOMES:

After successful learning of this course the student will be able to:

1. Develop the basic concept of arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.
2. Apply the concept of arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.
3. Use 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	

PO – CO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	2	3	3	3
CO 2	2	3	3	3	2
CO 3	2	3	2	2	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	2.6	2.8	2.8	2.8	2.8

PSO-CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	2	3	2	3
CO 2	2	3	3	3	3
CO 3	3	h3	3	3	3
CO 4	3	3	2	3	2
CO 5	3	3	3	3	2
Ave.	2.8	2.8	2.8	2.8	2.6

PO-PSO-CO-Question Paper Mapping

CO NO.	COURSE OUTCOMES	PO'S ADDRESSED	PSO's ADDRESSED	COGNITIVE LEVEL (K1 TO K6)
CO1	Develop the basic concept of arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.	PO1, PO2, PO5	PSO1, PSO2, PSO3, PSO5	K1, K2
CO2	Apply the concept of arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.	PO1, PO2, PO3, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K2, K3
CO3	Use the concept of arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.	PO1, PO2, PO3, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K2, K3, K4
CO4	Analyze arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.	PO1, PO2, PO3, PO4, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K3, K4
CO5	Evaluate arithmetic and geometric progression, first and second order derivatives, probability, correlation, regression and time series analysis.	PO1, PO2, PO3, PO4, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K3, K4, K5

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

BUSINESSS MATHEMATICS & STATISTICS II

Continuous Internal Assessment – Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment	Content -3, Presentation - 2	5	5
Workbook/record book/ notebook	Neatness & Presentation - 3, Regularity – 2	5	5
Class activity 1	Quiz with MCQ (Correct Answers - 3, Speed - 2) / Rapid Fire (Quick Response - 3, Accuracy - 2) / Concept Mapping (Understanding of Concept - 3, Logical Connections - 2) / Others	5	5
Class activity 2	Group Discussion (Subject Knowledge - 3, Communication Skills - 2) / Case Study (Application of Concepts - 3, Problem Solving Ability - 2) Discussion/Debate (Content Knowledge - 3, Argument Strength - 2) / Others	5	5
Class activity 3	Learn about any one country of your choice. Scrap book (Idea Generation - 3, Sharing with Class - 2) / Role Play (Creativity and Expression - 3, Team Coordination - 2) / Puzzle (Logical Thinking - 3, Speed - 2) / Others	5	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: IV	COURSE COMPONENT: NON-MAJOR ELECTIVE - II
COURSE NAME: E-COMMERCE LAB	COURSE CODE: 26UNME4B040
SEMESTER: II	MARKS:100
CREDITS:2	TOTAL HOURS:30
PRACTICALS	

COURSE OBJECTIVES:

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:

After successful learning of this course the student will be able to:

1. Choose appropriate tools and HTML tags to develop basic web pages with E-Commerce context
2. Assess the applicability of Big Data and Digital Dashboards.
3. Create a CSS sheet in HTML web page
4. Implement theoretical concepts to design functional web pages.
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 through ASP
11. PROJECT- Develop an E-Commerce Web 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>

CO - PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	3	2	2	1	2
CO 2	3	3	3	1	2
CO 3	3	2	2	1	2
CO 4	3	3	3	2	2
CO 5	2	2	2	2	3
Ave.	2.8	2.4	2.4	1.4	2.2

PSO – CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	3	1	2	2
CO 2	3	3	3	2	3
CO 3	3	3	2	2	2
CO 4	3	3	2	3	3
CO 5	2	2	2	3	3
Ave.	2.8	2.8	2	2.4	2.6

PO-PSO-CO-Question Paper Mapping

CO NO.	COURSE OUTCOMES	POS ADDRESSED	PSOS ADDRESSED	COGNITIVE LEVEL (K1 TO K6)
CO1	Choose appropriate tools and HTML tags to develop basic web pages with E-Commerce context.	PO1, PO2, PO5	PSO1, PSO2, PSO4	K1, K2, K3
CO2	Assess the applicability of Big Data and Digital Dashboards.	PO1, PO2, PO3, PO5	PSO1, PSO2, PSO3, PSO5	K2, K4, K5
CO3	Create a CSS sheet in HTML web page.	PO1, PO2, PO5	PSO1, PSO2, PSO4	K3, K6
CO4	Implement theoretical concepts to design functional web pages.	PO1, PO2, PO3, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K3, K4, K5
CO5	Outline skills to map inter-dependence of technology in day-to-day life.	PO1, PO3, PO4, PO5	PSO1, PSO2, PSO3, PSO5	K2, K3, K4

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

E-COMMERCE LAB

Continuous Internal Assessment -Components			
Assessment Type	Nature	Maxi- mum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

PROGRAMME: BCOM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: IV	COURSE COMPONENT: ABILITY ENHANCEMENT SKILLS – II
COURSE NAME: FINTECH FOR BUSINESS APPLICATIONS	COURSE CODE: 26USKL404
SEMESTER: II	MARKS: 100
CREDITS: 2	TOTAL HOURS: 30
THEORY	

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

COURSE OBJECTIVE

To provide students with comprehensive knowledge and practical understanding of FinTech tools and digital financial systems for effective application in business operations and decision-making.

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Define the concept, scope, and evolution of FinTech in the business environment.
2. Identify various FinTech tools and platforms used in banking, payments, and financial services.
3. List financial tools for business transactions and financial decision-making.
4. Recognize the impact of FinTech innovations such as blockchain and digital payments on business operations.
5. State the role of FinTech in improving efficiency, transparency, and financial inclusion in the economy.

UNIT I

(6 Hours)

Introduction to FinTech: Meaning, scope, and evolution of FinTech - Traditional vs Digital Financial Systems - Key drivers of FinTech growth - Overview of FinTech ecosystem (startups, banks, regulators) - Role of FinTech in the digital economy.

UNIT II

(6 Hours)

Digital Payments and Banking Technologies: Digital payment systems: UPI, mobile wallets, internet banking - Payment gateways and processing systems - Basics of digital banking and neo-bank - Security issues in digital transactions - Regulatory framework in India (overview)

UNIT III

(6 Hours)

FinTech Tools and Applications: FinTech tools for business transactions – Personal finance and business finance apps - Introduction to robo-advisory and automated financial services - Use of FinTech in accounting and financial management - Case studies of FinTech applications in business

UNIT IV

(6 Hours)

Emerging Technologies in FinTech: Introduction to blockchain technology – Crypto currencies and digital assets (concept only) - Artificial Intelligence and Machine Learning in finance - Big Data analytics in financial services - Insurtech and Regtech overview.

UNIT V

(6 Hours)

FinTech Trends, Challenges, and Future: Recent trends in FinTech – Financial Inclusion and digital divide - Risks, challenges, and ethical issues in FinTech – Cybersecurity and data privacy concerns.

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/>

QUESTIONS PAPER PATTERN - MCQS

SEMESTER-III

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE V
COURSE NAME: INTRODUCTION TO CORPORATE ACCOUNTING	COURSE CODE: 26UCCA305
SEMESTER: III	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY AND PROBLEM	

COURSE OBJECTIVE:

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

COURSE OUTCOMES:

After successful learning of this course the student will be able to:

1. Explain accounting procedures for issue, forfeiture, re-issue, and redemption of shares, and compute underwriter's liabilities
2. Outline accounting treatment for issue and redemption of debentures and calculate profit prior to incorporation
3. Analyze methods of valuation of shares and goodwill and perform related accounting treatments
4. Demonstrate thorough knowledge in preparation of financial statements of companies
5. Outline the Insurance companies accounting.

UNIT I

(18 Hours)

Shares – Meaning and Types – Issue of Shares at Par and Premium – Oversubscription and Pro-rata Allotment – Calls in Arrears and Calls in Advance-Forfeiture of Shares – Meaning and Accounting Treatment – Re-issue of Forfeited Shares – Share Forfeiture Account.

UNIT II

(18 Hours)

Underwriting of shares- Determination of the liability of underwriters- Complete Under- writing- Partial Underwriting- Firm Underwriting. - 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)

As per Schedule III 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- Margam publishers.
2. Corporate Accounting - Dr S N Maheshwari, Dr S K Maheshwari

REFERENCE BOOKS:

1. Corporate Accounting - R. L. Gupta & Radha Swamy -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://youtube.com/@aksamazingaccountancy>
2. 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	

PO – CO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	3	2	1	2
CO 2	3	3	2	1	2
CO 3	3	3	3	1	2
CO 4	3	3	3	2	2
CO 5	3	2	2	1	2
Ave.	3	2.8	2.4	1.2	2

PSO – CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	2	2	3	3
CO 2	3	2	2	3	3
CO 3	3	3	3	3	3
CO 4	3	3	2	3	3
CO 5	3	2	2	3	2
Ave.	3	2.4	2.2	3	2.8

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Explain accounting procedures for issue, forfeiture, re-issue, and redemption of shares, and compute underwriter's liabilities	PO1, PO2	PSO1, PSO2, PSO5	K2, K3, K4
CO2	Outline accounting treatment for issue and redemption of debentures and calculate profit prior to incorporation	PO1, PO2	PSO1, PSO2, PSO5	K2, K3, K4
CO3	Analyze methods of valuation of shares and goodwill and perform related accounting treatments	PO1, PO2, PO3	PSO1, PSO3, PSO5	K3, K4, K5
CO4	Demonstrate thorough knowledge in preparation of financial statements of companies	PO1, PO2, PO3, PO4	PSO1, PSO2, PSO4, PSO5	K3, K4, K5
CO5	Outline the Insurance companies accounting.	PO1, PO2	PSO1, PSO2	K2, K3, K4

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

INTRODUCTION TO CORPORATE ACCOUNTING

Continuous Internal Assessment – Components

Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment	Content -3, Presentation - 2	5	5
Workbook/record book/ notebook	Completeness - 3, Accuracy – 2	5	5
Class activity 1	Quiz with MCQ (Correct Answers - 3, Speed - 2) / Rapid Fire (Quick Response -3, Accuracy - 2) / Formula Drill Game (Correct Formula Recall - 3, Application -2) / Others	5	5
Class activity 2	Problem Solving (Correct Answer - 3, Proper Steps - 2) / Error Detection Activity (Identification of Errors - 3, Reasoning - 2) / Scrap Book (Relevance of Content - 3, Creativity and Presentation - 2) / Others	5	5
Class activity 3	Real-Life Application Task (Understanding of Concept - 3, Application of Real Situation - 2) / Real-Life Billing Activity (Preparation - 3, Presentation - 2) / Peer Quiz Creation (Quality of Questions - 3, Relevance to Topic - 2) / Others	5	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE VI
COURSENAME: PRINCIPLES AND PRACTICES OF MANAGEMENT	COURSE CODE: 26UCCA306
SEMESTER: III	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY	

COURSE OBJECTIVES:

An Introduction towards the basic principles and functions of management.

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Classify managerial functions such as planning and international aspects of management
2. Explain the planning process in an organization
3. Describe the concept of organization
4. Evaluate directing, recruitment, and training functions in management
5. Analyze issues and formulate best control methods and Co-ordination.

UNIT – I

(18 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- Recent trends in management.

UNIT – II

(18 Hours)

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

UNIT- III

(18 Hours)

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

UNIT- IV

(18 Hours)

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

UNIT- V

(18 Hours)

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

PRESCRIBED TEXT BOOKS:

1. J. Jayasankar, Principles of Management-Maugham 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

CO PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	3	2	2	1	2
CO 2	3	2	2	1	2
CO 3	3	2	2	2	2
CO 4	3	3	3	3	3
CO 5	3	3	3	3	2
Ave.	3	2.4	2.4	2	2.2

PSO-CO MAPPING

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

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Classify managerial functions such as planning and international aspects of management	PO1, PO2	PSO1, PSO2	K2, K3
CO2	Explain the planning process in an organization	PO1, PO2, PO3	PSO2, PSO3	K2, K3, K4
CO3	Describe the concept of organization	PO1, PO4	PSO1, PSO4	K2, K3
CO4	Evaluate directing, recruitment, and training functions in management	PO2, PO3, PO4	PSO1, PSO4, PSO5	K3, K4, K5
CO5	Analyze issues and formulate best control methods and Co-ordination.	PO2, PO3, PO4, PO5	PSO2, PSO3, PSO4, PSO5	K4, K5, K6

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

PRINCIPLES AND PRACTICES OF MANAGEMENT

Continuous Internal Assessment -Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ notebook			
Class activity 1: Group activity	Usage of 14 Principles in any department of a company. Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), coverage of concept (1).	5	5
Class activity: Individual activity	OTBA Rubrics: concept clarity (1), Presentation (1), Consistency (1), Application Skills (1), Time frame (1).	5	5
Class activity: Individual activity	Online MCQ: Rubrics: concept clarity (1), Accuracy (1), Usage of keywords (1), coverage of concept (1), Time frame (1).	5	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE VII
COURSE NAME: PROGRAMMING WITH C AND C++	COURSE CODE: 26UCCA307
SEMESTER: III	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY	

COURSE OBJECTIVES

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

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Apply fundamental concepts of C programming and basic computer knowledge to write simple programs
2. Explain the basic terminology, data types, and operators used in C and C++ programming
3. Demonstrate the use of functions and storage classes in C programming through coding exercises
4. Analyze different types of arrays and implement them in program coding to solve problems
5. Evaluate user-defined functions, pointers, and file handling concepts by developing programs

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)

Oops Concepts - 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.

PRESCRIBED 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**

Secti On	Question Component	Numbe rs	Mark s	Tot al
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

CO PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	3	3	3	3
CO 2	3	3	2	2	2
CO 3	3	3	3	3	3
CO 4	3	3	3	2	3
CO 5	3	3	3	2	3
Ave.	3	3	2.8	2.4	2.8

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	2	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	2.8	3	3

CO-PO-PSO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Apply fundamental concepts of C programming and basic computer knowledge to write simple programs	PO1, PO2	PSO1, PSO2	K3
CO2	Explain the basic terminology, data types, and operators used in C and C++ programming	PO1, PO2	PSO1, PSO2	K2, K3
CO3	Demonstrate the use of functions and storage classes in C programming through coding exercises	PO1, PO2, PO4	PSO2, PSO4	K3, K4
CO4	Analyze different types of arrays and implement them in program coding to solve problems	PO2, PO3, PO4	PSO2, PSO3, PSO5	K4, K5
CO5	Evaluate user-defined functions, pointers, and file handling concepts by developing programs	PO2, PO3, PO4, PO5	PSO3, PSO4, PSO5	K5, K6

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

PROGRAMMING WITH C AND C++

Continuous Internal Assessment -Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE VIII
COURSE NAME: PROGRAMMING IN C LAB	COURSE CODE: 26UCCA308P
SEMESTER: III	MARKS:100
CREDITS:4	TOTAL HOURS:60
PRACTICALS	

COURSE OBJECTIVES:

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

After successful learning of this course the student will be able to:

1. Apply practical skills in C programming to develop basic programs
2. Explain fundamental concepts of computer programming and developer tools
3. Describe the syntax, semantics, and data types of the C programming language,
4. Develop programs using standard C language constructs independent of hardware or software platforms
5. Construct modular programs using functions to solve computational problems

Programs

1. Write a program to add, subtract, multiply and divide two numbers using a 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 numbers 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 a function.
15. Write a program to find the factorial of a number using a recursive function.

PRESCRIBED 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

CO PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	3	1	2	2
CO 2	3	2	1	1	2
CO 3	3	2	2	2	2
CO 4	3	3	3	2	2
CO 5	3	3	3	2	3
Ave.	3	2.8	2.0	1.8	2.2

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	1	2	2
CO 2	3	2	1	2	1
CO 3	3	3	2	3	2
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	2.8	2	2.6	2.2

CO–PO–PSO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1-K6)
CO1	Apply practical skills in C programming to develop basic programs	PO1, PO2	PSO1, PSO2	K3, K4
CO2	Explain fundamental concepts of computer programming and developer tools	PO1, PO5	PSO1, PSO4	K2, K3
CO3	Describe the syntax, semantics, and data types of the C programming language,	PO1, PO2	PSO1, PSO2	K2, K3
CO4	Develop programs using standard C language constructs independent of hardware or software platforms	PO2, PO3, PO4	PSO2, PSO3, PSO5	K3, K4, K5
CO5	Construct modular programs using functions to solve computational problems	PO2, PO3, PO4, PO5	PSO2, PSO3, PSO4, PSO5	K4, K5, K6

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

PROGRAMMING IN C LAB

Continuous Internal Assessment -Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1)	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1)	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: ALLIED-III
COURSE NAME: ECONOMICS FOR MANAGERIAL DECISION MAKING	COURSE CODE: 26UCCA3A3
SEMESTER: III	MARKS:100
CREDITS:5	TOTAL HOURS: 90
THEORY	

COURSE OBJECTIVE:

To understand about the economic forecasting of the business

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Explain the concepts, scope, and significance of managerial economics in business decision making.
2. Analysis of demand, supply, and elasticity using economic models and real-world data.
3. Evaluate consumer behavior using utility and indifference curve approaches.
4. Outline production and cost theories to optimize business operations.
5. Determine suitable pricing strategies for various market structures using economic analysis

UNIT – I

(18 Hours)

Introduction to Business Economics

Definition, Nature, Scope, and Importance of Business Economics - Role and Responsibilities of a Business Economist in the digital economy - Positive vs Normative Economics - Economic Forecasting: Meaning, Methods, and Importance - Introduction to Business Environment (Micro & Macro factors)

UNIT – II

(18 Hours)

Demand and Supply Analysis

Meaning and Types of Demand (individual, market, derived demand) - Demand Function and Determinants of Demand - Law of Demand and Exceptions - Elasticity of Demand (Price, Income, Cross elasticity) – Practical applications - Supply: Meaning, Determinants, Law of Supply - Introduction to Demand Forecasting Techniques – Risk and Types of risk.

UNIT – III

(19 Hours)

Consumer behavior Analysis

Utility Analysis: Law of Diminishing Marginal Utility - Law of Equi-Marginal Utility Indifference Curve Analysis – Properties and Consumer Equilibrium - Revealed Preference Theory (Introductory) - Behavioral Economics: Basic Concepts (bounded rationality, consumer bias)

UNIT – IV

(19 Hours)

Production and Cost Analysis

Production Function: Meaning and Types - Factors of Production in Modern Business Law of Variable Proportions - Law of Returns to Scale - Isoquants and Iso-cost Lines - Cost Concepts (Fixed, Variable, Marginal, Average Cost) - Short-run and Long-run Cost Analysis

UNIT – V

(16 Hours)

Market Structure and Pricing Strategies

Market Structures: Perfect Competition, Monopoly, Monopolistic Competition, - Oligopoly Price Determination under Different Markets - Pricing Objectives and Policies - Modern Pricing Strategies (penetration pricing, skimming, dynamic pricing, psychological pricing) Break-even Analysis and Profit Planning - Introduction to Digital Market Pricing (e-commerce perspective)

RECOMMENDED TEXT BOOKS

1. Managerial Economics: Analysis, Problems and Cases – P.L. Mehta, Sultan Chand & Sons, New Delhi.
2. Business Economics – S. Shankaran, Margham Publications, Chennai.
3. Managerial Economics – D.N. Dwivedi, Vikas Publishing House.

REFERENCE BOOKS

1. Business Environment – Himalaya Publishing House, Mumbai.
2. Economics for Business – Thomas Nelson Australia.
3. Managerial Economics: Principles and Worldwide Applications – Oxford University Press.
4. Principles of Economics – Cengage Learning.

E-LEARNING RESOURCES

1. Managerial Economics and Business Strategy
<https://books.google.co.in/books?isbn=0470021128>
2. Freakonomics <https://books.google.co.in/books?isbn=1451602391>
3. Microeconomics <https://books.google.co.in/books?isbn=0333961110>
4. NPTEL – Economics Courses (<https://nptel.ac.in>)
5. SWAYAM Online Courses (<https://swayam.gov.in>)

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

CO PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	2	2	1	2
CO 2	3	3	3	1	2
CO 3	3	3	3	1	2
CO 4	3	3	2	1	2
CO 5	3	3	3	2	2
Ave.	3	2.8	2.6	1.2	2

PSO – CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	2	2	2	2	3
CO 2	2	3	3	2	3
CO 3	2	2	3	2	3
CO 4	2	2	2	2	3
CO 5	2	3	3	3	3
Ave.	2	2.4	2.6	2.2	3

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Explain the concepts, scope, and significance of managerial economics in business decision-making.	PO1, PO2	PSO1, PSO5	K1, K2, K3
CO2	Analyse demand, supply, and elasticity using economic models and real-world data.	PO1, PO2, PO3	PSO1, PSO2, PSO3	K3, K4
CO3	Evaluate consumer behavior using utility and indifference curve approaches.	PO2, PO3	PSO3, PSO5	K4, K5
CO4	Outline production and cost theories to optimize business operations.	PO1, PO2, PO4	PSO1, PSO2, PSO5	K2, K3, K4
CO5	Determine suitable pricing strategies for various market structures using economic analysis	PO2, PO3, PO5	PSO2, PSO3, PSO4, PSO5	K4, K5, K6

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

ECONOMIC FOR MANAGERIAL DECISION MAKING

Continuous Internal Assessment -Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH: 2026-2029
PART: IV	COURSE COMPONENT: ABILITY ENHANCEMENT SKILLS-III
COURSE NAME: FOUNDATIONS OF QUANTITATIVE APTITUDE	COURSE CODE: 26USKL402
SEMESTER: III	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:

After successful learning of this course the student will be able to:

1. Apply the concepts of number systems, divisibility rules, and number series to solve numerical problems.
2. Compute HCF and LCM of numbers using prime factorization method.
3. Apply percentage concepts to solve problems involving profit, loss, cost price, and selling price.
4. Compare simple interest and compound interest to solve financial problems.
5. Interpret data from tables and graphs to draw meaningful conclusions.

UNIT I: Number system and Number series

(6 hours)

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

(6 hours)

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

(6 hours)

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

(6 hours)

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

(6 hours)

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

RECOMMENDED TEXTBOOK:

1. Quantitative Aptitude by R.S. Agarwal

REFERENCE BOOKS:

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

E - LEARNING RESOURCES:

<https://byjus.com/maths/numeral-system/> <https://byjus.com/maths/hcf-and-lcm/>

<https://byjus.com/maths/profit-loss-percentage/>

<https://www.vedantu.com/jee-main/maths-difference-between-simple-interest-and-compound-interest>

<https://sites.utexas.edu/sos/guided/descriptive/descriptivec/frequency/>

QUESTION PAPER PATTERN: MCQs**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

SELF-STUDY COURSE (COMPULSORY)

PROGRAMME: B. COM. (COMPUTER APPLICATIONS)	BATCH:2026-29
PART: IV	COURSE COMPONENT: SELF STUDY COURSE
COURSE NAME: 1. Indian Heritage and Knowledge System Or 2. Contemporary World and Sustainable Development	COURSE CODE: 26USSP401 / 26USSP402
SEMESTER: III	MARKS:100
CREDITS: 2	TOTAL HOURS: NIL
THEORY	

1. Indian Heritage and Knowledge System

COURSE OBJECTIVE:

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

COURSE OUTCOMES:

After successful learning of this course the student will be able to:

1. Recall the key features of Indian heritage and its role in shaping cultural identity. (K1)
2. Identify the artistic, architectural, and literary achievements of South India and other regions. (K1)
3. List traditional practices preserved through folklore across India. (K1)
4. Recall the principles of ancient Indian sciences related to physical, mental, and spiritual well-being. (K1)
5. Describe the connections between spiritual, medicinal, and artistic elements in Indian heritage. (K2)

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.

Question paper pattern-MCQs

(Or)

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.

1. Identify the key actors and institutions that shape the contemporary world order. (K1)
2. Describe the political, economic, and security challenges in major Asian regions. (K2)
3. Recall the causes and human impact of recent wars and conflicts. (K1)
4. Describe the principles of sustainable development and their relevance at local, national, and global levels. (K2)
5. Identify India's contributions to the SDGs through Tamil Nadu's programs. (K1)

UNIT I: 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.: *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 II: 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., *Philippines, Singapore, Thailand, Vietnam*
- **Far East:** Major economic powerhouses and Potential flashpoints., *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 III: Recent Wars of the World

- **Syrian Civil War (2011-present):** Bashar al-Assad regime, Syrian opposition groups, ISIS.

conflict, humanitarian crisis, foreign intervention, refugee crisis.

- **Yemeni Civil War (2015-present):** Houthi rebels, Yemeni government, Saudi led coalition.

, humanitarian crisis, role of Iran and Saudi Arabia, UN peace efforts.

- **Ukraine Conflict (2014-present):** Ukrainian government, Russian-backed separatists, Russia.

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. *Rohingya crisis, ethnic conflicts, ASEAN mediation efforts.*

UNIT IV: 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. 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 V: 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)
 - Kalaigiar 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:2026-2029
PART: III	COURSE COMPONENT: CORE IX
COURSE NAME: ADVANCED ACCOUNTING FOR COMPANIES	COURSE CODE: 26UCCA309
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

After successful learning of this course the student will be able to:

1. Evaluate procedures related to alteration of share capital and internal reconstruction of a company
2. Analyze accounting procedures of amalgamation, absorption, and external reconstruction of companies
3. Prepare the liquidator's final statement of accounts during the winding up of companies
4. Summarize the preparation of final statements of holding and subsidiary companies
5. Apply accounting treatments to prepare banking company financial statements and interpret the concept of Non-Performing Assets (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 (Inter- company 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 & Radha swamy-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://youtube.com/@aksamazingaccountancy>
2. <https://books.google.co.in/books?isbn=8131754510>
3. 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	

PO – CO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	3	3	1	2
CO 2	3	3	3	1	2
CO 3	3	3	2	1	2
CO 4	3	3	2	1	2
CO 5	3	3	3	2	2
Ave.	3	3	2.6	1.2	2

PSO – CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	2	2	3	3
CO 2	3	2	3	3	3
CO 3	3	2	2	3	3
CO 4	3	2	2	3	3
CO 5	3	3	3	3	3
Ave.	3	2.2	2.4	3	3

PO- PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOME	POs ADDRESS ED	PSOs ADDRESS ED	COGNITIVE LEVEL (K1 to K6)
CO1	Evaluate procedures related to alteration of share capital and internal reconstruction of a company	PO1, PO2, PO3	PSO1, PSO3, PSO5	K3, K4, K5
CO2	Analyze accounting procedures of amalgamation, absorption, and external reconstruction of companies	PO1, PO2, PO3	PSO1, PSO3, PSO5	K3, K4, K5
CO3	Prepare the liquidator's final statement of accounts during the winding up of companies	PO1, PO2, PO4	PSO1, PSO2, PSO4	K3, K4, K5
CO4	Summarize the preparation of final statements of holding and subsidiary companies	PO1, PO2	PSO1, PSO2, PSO5	K2, K3, K4
CO5	Apply accounting treatments to prepare banking company financial statements and interpret the concept of Non-Performing Assets (NPA)	PO1, PO2, PO3, PO4	PSO1, PSO2, PSO3, PSO4, PSO5	K3, K4, K5

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

ADVANCED ACCOUNTING FOR COMPANIES

Continuous Internal Assessment – Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment	Content -3, Presentation – 2	5	5
Workbook/record book/notebook	Completeness - 3, Accuracy – 2	5	5
Class activity 1	Quiz with MCQ (Correct Answers - 3, Speed - 2) / Rapid Fire (Quick Response -3, Accuracy - 2) / Formula Drill Game (Correct Formula Recall - 3, Application -2) / Others	5	5
Class activity 2	Problem Solving (Correct Answer - 3, Proper Steps - 2) / Error Detection Activity (Identification of Errors - 3, Reasoning - 2) / Scrap Book (Relevance of Content - 3, Creativity and Presentation - 2) / Others	5	5
Class activity 3	Real-Life Application Task (Understanding of Concept - 3, Application of Real Situation - 2) / Real-Life Billing Activity (Preparation - 3, Presentation - 2) / Peer Quiz Creation (Quality of Questions - 3, Relevance to Topic - 2) / Others	5	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE X
COURSE NAME: BUSINESS AND CORPORATE LAWS	COURSE CODE: 26UCCA310
SEMESTER: IV	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY	

COURSE OBJECTIVES:

To introduce and explain the provisions of general and special contracts and their application in business transactions.

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Explain the legal framework and essentials of contracts under the Indian Contract Act.
2. Apply the principles of offer, acceptance, and consideration in business situations.
3. Analyze the performance, discharge, and remedies of contracts.
4. Examine corporate and consumer protection laws relevant to business practices.
5. Evaluate contemporary legal issues including RTI, IT Act, and Intellectual Property Rights.

UNIT I

(18 Hours)

Indian Contract Act, 1872 – Basics – Formation, Nature and Elements of Contract – Classification of Contracts – Contract vs Agreement – Essentials of a Valid Contract.

UNIT II

(18 Hours)

Indian Contract Act, 1872 – Elements of Valid Contract – Offer: Meaning, Forms, Valid Offer – Acceptance: Meaning and Legal Rules – Consideration: Meaning, Types, Essentials – Capacity of Parties – Free Consent: Coercion, Undue Influence, Fraud, Misrepresentation, Mistake – Legality of Object – Void and Unlawful Agreements.

UNIT III

(18 Hours)

Indian Contract Act, 1872 – Performance and Discharge of Contract – Performance: Actual and Attempted – Discharge of Contract – Remedies for Breach of Contract – Quasi Contracts.

UNIT IV

(18 Hours)

Consumer Protection Act, 2019 – Objectives – Rights of Consumers – Consumer Redressal Agencies – E-commerce and Consumer Protection- Companies Act, 2013 – Types of Companies – Incorporation of Company – Duties of Directors.

UNIT V

(18 Hours)

Right to Information Act, 2005 – Objectives and Significance Information Technology Act, 2000 – Purpose and Significance – Cyber Crimes: Types, Nature and Penalties- DPDP act 2023- Intellectual Property Rights – Patent Act, 1970 – Trade Marks Act, 1999 – Copyright Act, 1957 – Registration and Infringement.

RECOMMENDED BOOKS

1. Murugesan s Dr., Dr. T. K. Avvai Kothai, Dr. G. Ravi and Dr. E. Viswanathan, Business Laws, Himalaya Publishing House.
2. M.R. Sreenivasan, Business Laws, Margham Publications, Chennai.

REFERENCE BOOKS

1. Murugesan s Dr., Dr. T. K. Avvai Kothai, Dr. G. Ravi and Dr. E. Viswanathan, Business Laws, Himalaya Publishing House.
2. M.R. Sreenivasan, Business Laws, Margham Publications, Chennai.
3. P.C. Tulasian, Business Laws, Tata Mc Graw Hill, 2nd Edition.
4. S.S. Gulshan and G.K. Kapoor, Business Laws including Company Law, 12th Edition, New Age International (P) Ltd. Publishers.
5. Saravanel p. and S. Sumathi, Legal Systems in Business, Himalaya Publishing House.

E-LEARNING RESOURCES

1. Business Law <https://books.google.co.in/books?isbn=0764142402>
2. Business Law <https://books.google.co.in/books?isbn=0748766472>
3. NPTEL – Business Law Courses (<https://nptel.ac.in>)
4. SWAYAM – Legal Studies Courses (<https://swayam.gov.in>)
5. Ministry of Corporate Affairs (<https://www.mca.gov.in>)
6. <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
	SECTION A-12	SECTION B-7	SECTION C-6

PO CO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	3	2	2	2	2
CO 2	3	3	2	2	2
CO 3	3	3	3	2	2
CO 4	3	2	3	2	2
CO 5	3	3	3	2	3
Ave.	3	2.6	2.6	2	2.2

PSO-CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	2	1	2	2	2
CO 2	2	2	2	2	3
CO 3	2	2	3	2	3
CO 4	2	2	3	3	3
CO 5	3	3	3	3	3
Ave.	2.2	2	2.6	2.4	2.8

PO-PSO-CO-Question Paper Mapping

CO NO.	COURSE OUTCOME	POS ADDRESSED	PSOS ADDRESSED	COGNITIVE LEVEL (K1 TO K6)
CO1	Explain the legal framework and essentials of contracts under the Indian Contract Act.	PO1, PO3, PO5	PSO1, PSO3, PSO4	K1, K2
CO2	Apply the principles of offer, acceptance, and consideration in business situations.	PO1, PO2, PO3, PO5	PSO1, PSO2, PSO3, PSO4	K2, K3
CO3	Analyze the performance, discharge, and remedies of contracts.	PO1, PO2, PO3, PO5	PSO1, PSO3, PSO4, PSO5	K3, K4
CO4	Examine corporate and consumer protection laws relevant to business practices.	PO1, PO2, PO3, PO4, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K3, K4, K5
CO5	Evaluate contemporary legal issues including RTI, IT Act, and Intellectual Property Rights.	PO1, PO2, PO3, PO4, PO5	PSO1, PSO2, PSO3, PSO4, PSO5	K4, K5

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

BUSINESS AND CORPORATE LAWS

Continuous Internal Assessment -Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ Notebook			
Class activity 1: Group activity	Case study related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity: Individual activity	OTBA Rubrics: concept clarity (1), Presentation (1), Usage of key-words (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE XI
COURSE NAME: AI WEB DEVELOPMENT	COURSE CODE: 26UCCA311
SEMESTER: IV	MARKS:100
CREDITS:4	TOTAL HOURS:75
THEORY	

COURSE OBJECTIVES:

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

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Demonstrate the handling of arrays and executing programs
2. Create user-defined functions to solve programming problems
3. Explain the concepts of sessions, cookies and their applications in web development
4. Identify various MySQL tools and their functionalities
5. Connect AI Tools to execute and process result set queries

UNIT I

(15 Hours)

Introduction

Introduction - open source - 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

(15 Hours)

Arrays and Functions:

Arrays: Creating an array- modifying array – processing array – grouping form with arrays – using array functions – creating user defined functions – using files – 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.

UNIT IV

(15 Hours)

My SQL:

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

UNIT V

(15 Hours)

Prompt Engineering

Introduction to Artificial Intelligence and Prompt Engineering- Meaning and Concepts of Artificial Intelligence- Introduction to Generative AI- Meaning and Importance of Prompt Engineering-Types of AI Tools- Applications of AI in Business and Commerce -Advantages and Limitations of AI

PRESCRIBED BOOKS:

1. VIKRAMVASWANI, —PHP and MySQL, Tata McGraw-Hill, 2007
2. BENFORTA, —M MySQL Crash course 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 Data base Systems, Pearson Education, 7th Edition, 2015
5. James Phonex and Mike Taylor- Prompt Engineering for generative AI, July 2024.

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.
4. Dr. R. Agusthiyar, Hemanth M – Generative AI LLM, 2025

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.w3schools.com/prompt_engineering

WEBSITES FOR ONLINE COURSES:

1. <https://www.edureka.co/php-mysql-self-paced>
2. https://www.coursesforsuccess.com/products/introduction-to-php-and-mysql-onlin_course
3. <https://courseera.org>

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
	SECTION A-12	SECTION B-7	SECTION C-6

CO PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	2	2	1	2
CO 2	3	3	2	1	2
CO 3	3	3	3	1	2
CO 4	3	2	3	2	2
CO 5	3	3	3	2	3
Ave.	3	2.6	2.6	1.4	2.2

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	2	1	2	2	2
CO 2	2	2	2	2	3
CO 3	2	2	3	2	3
CO 4	2	2	3	3	3
CO 5	3	3	3	3	3
Ave.	2.2	2	2.6	2.4	2.8

PO- PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESS ED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K5)
CO1	Demonstrate the handling of arrays in PHP by writing and executing programs	PO1, PO2	PSO1, PSO2	K2, K3, K4
CO2	Create user-defined functions in PHP to solve programming problems	PO2, PO3	PSO2, PSO3, PSO5	K3, K4, K5
CO3	Explain the concepts of sessions and cookies in PHP and their applications in web development	PO1, PO2, PO3	PSO1, PSO2	K2, K3, K4
CO4	Identify various MySQL tools and their functionalities	PO1, PO5	PSO1, PSO4	K1, K2, K3
CO5	Connect PHP with MySQL to execute and process result set queries	PO2, PO3, PO5	PSO2, PSO3, PSO4, PSO5	K3, K4, K5

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

AI WEB DEVELOPMENT

Continuous Internal Assessment –Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 Minutes	100	10
Assignment		5*2	10
Workbook/record book/ notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of key-words (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE XII
COURSE NAME: WEB TECHNOLOGY LAB	COURSE CODE: 26UCCA312P
SEMESTER: IV	MARKS:100
CREDITS:4	TOTAL HOURS:60
PRACTICALS	

COURSE OBJECTIVES:

To understand and apply basic web development concepts using HTML, CSS, JavaScript, forms with validation, and simple MySQL operations for building interactive web applications.

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Create simple web pages using HTML and CSS.
2. Develop basic interactive web pages using JavaScript.
3. Apply simple form validation techniques.
4. Perform basic database operations using MySQL.
5. Demonstrate basic concepts of web application development.

PROGRAMS

UNIT I – WEB PAGE DESIGNING (20 Hours)

1. Creating simple web pages using HTML
2. Formatting web pages using CSS
3. Creating tables, lists, and hyperlinks
4. Designing web forms
5. Creating responsive web page layouts

UNIT II – JAVASCRIPT APPLICATIONS (20 Hours)

6. Use of variables and operators in JavaScript
7. Use of conditional and looping statements
8. Creating functions and arrays
9. Form validation using JavaScript
10. Event handling in web pages

UNIT III – DATABASE OPERATIONS USING MYSQL (20 Hours)

11. Creating tables with constraints
12. Insertion, updating, and deletion of records
13. Searching and sorting data
14. Usage of aggregate functions
15. Demonstration of joining tables
16. Basic database connectivity concepts

RECOMMENDED TEXTBOOKS

1. Jon Duckett, *HTML and CSS: Design and Build Websites*, Wiley India, 2017.
2. Jon Duckett, *JavaScript and JQuery*, Wiley India, 2015.
3. Ben Forta, *MySQL Crash Course*, Pearson Education, 2nd Edition, 2021.
4. Ramesh Elmasri and Shamkant B. Navathe, *Fundamentals of Database Systems*, Pearson Education, 7th Edition, 2017.

REFERENCE BOOKS

1. Thomas Powell, *HTML and CSS: The Complete Reference*, McGraw Hill, 2017.
2. David Flanagan, *JavaScript: The Definitive Guide*, O'Reilly Media, 2020.
3. Robin Nixon, *Learning Web Design*, O'Reilly Media, 2018.

E-LEARNING RESOURCES

1. <https://www.w3schools.com/>
2. <https://developer.mozilla.org/en-US/>
3. <https://www.geeksforgeeks.org/web-technology/>
4. <https://www.javatpoint.com/>
5. https://www.tutorialspoint.com/web_development_tutorials.htm

PO – CO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	2	1	1	1
CO 2	3	3	2	1	1
CO 3	3	3	2	1	2
CO 4	2	3	3	2	2
CO 5	2	2	3	2	2
Ave.	2.6	2.6	2.2	1.4	1.6

PSO – CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	2	1	1	1
CO 2	3	3	2	2	1
CO 3	3	3	2	2	2
CO 4	2	3	3	2	2
CO 5	2	3	3	2	2
Ave.	2.6	2.8	2.2	1.8	1.6

PO- PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Design simple web pages using PHP by implementing basic scripting concepts	PO1, PO2	PSO1, PSO2	K2, K3, K4
CO2	Create sessions and cookies in PHP applications	PO1, PO2	PSO1, PSO2	K3, K4
CO3	Demonstrate input validation techniques in PHP through simple application development	PO2, PO3, PO4	PSO2, PSO3, PSO4	K3, K4, K5
CO4	Apply aggregate functions in database queries to process and analyze data	PO2, PO3	PSO2, PSO3, PSO5	K3, K4, K5
CO5	Demonstrate the process of connecting MySQL with PHP and executing database operations	PO2, PO3, PO5	PSO2, PSO3, PSO4, PSO5	K3, K4, K5

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

WEB TECHNOLOGY LAB

Continuous Internal Assessment -Components			
Assessment Type	Nature	Maxi- mum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 Minutes	100	10
Assignment		5*2	10
Workbook/record book/ notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of key- words (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: ALLIED - IV
COURSE NAME: MARKETING PRINCIPLES	COURSE CODE: 26UCCA3A4
SEMESTER: IV	MARKS:100
CREDITS:5	TOTAL HOURS:90
THEORY	

COURSE OBJECTIVES:

An introduction and implementation of marketing concepts and strategies.

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Demonstrate strong conceptual knowledge in the functional area of marketing management.
2. Explain the marketing environment, consumer behavior process, and market segmentation concepts.
3. Analyze various products, life cycle and New Product development process.
4. Examine the working of marketing channels and communication processes.
5. Describe E-Marketing, M-Marketing, Q-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 – Definition, Types, Benefits – Market Segmentation Definition, Types, Benefits - Consumer Buying behavior- Consumer buying decision process.

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 – Meaning, Functions and Types – Channel Design and Management – Channel Behavior – Event Management-Marketing Communication Mix – Communication Process – Steps in Developing Effective Marketing Communication – Promotion Budget – Promotion 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, M-Marketing and Q-Marketing - Consumerism, Market Research, MIS and Marketing-Regulations.

PRESCRIBED TEXT BOOKS:

1. Marketing Management by Soknacki 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, New Delhi.
2. Kotler, P., & Keller, K. L. (2022). *Marketing Management* (16th ed.). Pearson.
3. 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
	SECTION A-12	SECTION B-7	SECTION C-6

CO-PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	3	2	2	1	2
CO 2	3	2	3	1	2
CO 3	3	3	3	1	2
CO 4	3	2	3	2	3
CO 5	3	3	3	2	3
Avg.	3	2.4	2.8	1.4	2.4

PSO-CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	2	2	2	2	2
CO 2	2	2	2	2	3
CO 3	2	2	3	2	3
CO 4	2	3	2	3	3
CO 5	3	3	3	3	3
Avg.	2.2	2.4	2.4	2.4	2.8

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Demonstrate strong conceptual knowledge in the functional area of marketing management.	PO1, PO2	PSO1, PSO4	K1, K2, K3
CO2	Explain the marketing process, buyer behavior process, and market segmentation concepts	PO1, PO2, PO3	PSO1, PSO2, PSO5	K2, K3, K4
CO3	Analyse various products, life cycle and New Product development process.	PO2, PO3	PSO2, PSO3, PSO5	K3, K4, K5
CO4	Examine the working of marketing channels and communication processes.	PO3, PO4	PSO3, PSO4, PSO5	K3, K4
CO5	Describe E-Marketing, consumerism, market research, MIS, and marketing regulations	PO2, PO3, PO5	PSO2, PSO3, PSO4, PSO5	K2, K3, K4

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

MARKETING PRINCIPLES

Continuous Internal Assessment Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment			5
Workbook/record book/ notebook			5
Class activity 1: Group activity	Product launch Rubrics: Concept clarity, Flow of thoughts, Presentation, Usage of keywords, Analysis, Coverage of concepts.	15	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness, Clarity, Concept knowledge, Timeliness	15	5
Class activity: Individual activity	OTBA Rubrics: concept clarity, Presentation, Usage of keywords, coverage of concept., Time frame	15	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH: 2026-2029
PART: IV	COURSE COMPONENT: IKS
COURSE NAME: INDIAN KNOWLEDGE SYSTEM (IKS) WITH AN ACCOUNTING PERSPECTIVE	COURSE CODE: 26UIKS407
SEMESTER: IV	MARKS:100
CREDITS: 1	TOTAL HOURS: 15
THEORY	

(Common to B. Com (General), B. Com (A&F), B. Com (CS), B. Com (CA), B. Com (ISM), B. Com (PA), B. Com (Honours))

COURSE OUTCOMES:

1. Identify key concepts of the Indian Knowledge System (IKS) and describe the economic and accounting ideas of Arthashastra related to governance and financial management.
2. Recognize ancient Indian accounting and record-keeping practices followed in temples, trade guilds and state administration.
3. Distinguish ethical principles in accounting and the relevance of IKS in modern accounting

UNIT I: Foundations of Indian Knowledge System and Arthashastra (5 Hours)

1. Basics of Indian Knowledge System

- Meaning and importance of IKS
- Scope: Education, governance, trade, ethics
- Concept of *Artha* (economic thought)

2. Kautilya's Arthashastra

- Introduction and significance
- Revenue and expenditure system
- Treasury management
- Early concepts of accounting and audit

UNIT II: Ancient Indian Accounting Practices and Record Keeping (5 Hours)

1. Early Accounting Concepts

- Evolution of accounting in India
- Lekha (accounts) and Ganita (calculations)

2. Accounting Systems in Practice

- Temple accounting (donations, assets, expenses)

- Trade guilds (Shreni system, profit sharing)
- Revenue system in kingdoms
- Early fraud prevention methods

UNIT III: Modern Accounting Standards, Contemporary Relevance of IKS and Ethics (5 Hours)

1. Modern Accounting & Indian Knowledge System (IKS)

- Introduction to Accounting Standards (AS)
- Role of the Institute of Chartered Accountants of India (ICAI)
- Role of the Institute of Cost Accountants of India (ICMAI)
- Role of the Institute of Company Secretaries of India (ICSI)
- Corporate Social Responsibility (CSR) and Sustainability

2. Ethics in Accounting

- Dharma values: Satya, Asteya, fairness
- Professional ethics of accountants

REFERENCE BOOKS

1. Bhattacharya, A. K. (1989). *Modern accounting concepts in Kautilya's Arthashastra*. Motilal Banarsidass.
2. Ghosh, S. K. (1972). *The history of accounting in ancient India*. Firma KLM Private Ltd.
3. Balasubramanian, S. (2024). *Dharmanomics: An indigenous and sustainable economic model*. Bloomsbury India.
4. Maller, S. (2022). *Ind AS essentials: A pocket guide to Indian accounting standards*. Bloomsbury Professional India.
5. Olivelle, P. (Trans.). (2013). *King, governance, and law in ancient India: Kautilya's Arthashastra*. Oxford University Press. (Original work published ca. 3rd century BCE)

E-LEARNING RESOURCES

1. https://onlinecourses.swayam2.ac.in/ini26_ed10/preview
2. <https://iks.cdxonline.in/>
3. <https://learning.icai.org/committee/asb/lectures-on-indian-accounting-standards/>
4. <https://www.bharatvidya.in/course/arthashastra-online-course-82467>

PROGRAMME:	BATCH: 2026-2029
PART: IV	COURSE COMPONENT: ABILITY ENHANCEMENT SKILLS -IV
COURSE NAME: RESUME WRITING AND INTERVIEW SKILLS	COURSE CODE: 26USKL405
SEMESTER: IV	MARKS:100
CREDITS:2	TOTAL HOURS:30

COURSE OBJECTIVE:

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

COURSE OUTCOMES (COs)

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

CO1: Prepare professional resumes, CVs, biodata and covering letters suitable for job applications.

CO2: Apprise the fundamental concepts, purpose and characteristics of job interviews.

CO3: Identify various types of interviews and their expectations in recruitment processes.

CO4: Apply interview techniques and strategies to effectively handle different stages of the interview process.

CO5: Demonstrate employability skills such as communication, personality development, time management, and presentation skills for career readiness.

UNIT I: 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 II: Introduction to Interview Skills

(6 Hours)

Definition – Meaning – Concept of interview – Purpose – Objectives of interview – Characteristic features of job interviews.

UNIT III: Types of Interview

(6 Hours)

Traditional one-to-one job interview – Panel interview – Behavioural interview – Group interview – Phone interview – Preliminary interview – Patterned interview – Depth interview – Stress interview – Exit interview – Interview through tele and video conferencing.

UNIT IV: 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 interview questions – Do's and Don'ts – Reasons for rejection.

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 -V

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH: 2026-2029
PART: III	COURSE COMPONENT: CORE -XIII
COURSE NAME: INCOME TAX LAW AND PRACTICE– I	COURSE CODE: 26UCOM315
SEMESTER: V	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY & PROBLEMS	

(Common to B. Com (GEN), B. Com(A&F), B. Com (CS), B. Com (ISM) & B. Com (CA))

COURSE OBJECTIVE:

To impart knowledge about basic concepts of income tax and computation of income under various heads

COURSE OUTCOMES

After successful learning of this course the student will be able to

1. Explain the basic concepts of direct tax and residential status of individual assessee.
2. Evaluate the procedures of computing income under the head of salary.
3. Demonstrate the computation of income under the Head of House Property.
4. Apply the calculation of income under the head business and profession.
5. Analyse the basic concepts of income tax administration and authorities.

UNIT- I

(20 Hours)

Basic Concepts - Income Tax Act 1961 & relevance of Finance Act – Definition of important terms – Income, Person, Assessee, Assessment Year and Previous Year – Broad features of Income. Residential status, incidence of tax & basis of charge - Taxable entities – Classification of Residential Status of taxable entities - Residential Status – Individual, firm, AOP, HUF and Companies–Incidence of Tax. Exempted Incomes - Classification of exempted incomes – Incomes excluded from total income - Income forming part of total income but exempted from Tax.

UNIT-II

(20 Hours)

Income from Salaries- Different forms of salary–Provident Funds–Allowances–Perquisites – Other items included in Salary–Qualifying amount for deduction u/s 80(C).

UNIT-II

(20 Hours)

Income from house property- Computation of Income from House Property–Let-out house – Self occupied house – Deduction allowed from house property – Unrealized rent – Loss under the head house property.

UNIT-IV

(20 Hours)

Profits and Gains of Business and Profession - Introduction – Computation of profits and gains of business and profession – Admissible deductions – Specific Disallowances – Depreciation– Loss under the head business and profession.

UNIT- V**(10 Hours)**

Administration of Income Tax Act -Income tax authorities – procedure for assessment – PAN (Permanent Account Number) – Types of assessment.

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

1. Singhanian, V.K., (2018) Students Guide to Income Tax, Taxman. Publication, New Delhi.
2. Reddy T.S.Hari Prasad Y Reddy, Income Tax Theory Law and Practice, Margham Publication, Chennai.

REFERENCE BOOKS

1. Manoharan T.N & Hari. G.R, (2018) Students 'Hand Book on Taxation, Snow White Publications Pvt. Ltd.
2. Gaur V.P.,Narang D.B, Income Tax Law and Practice, Kalyani Publications.
3. Murthy A, Income Tax Law and Practice, Vijay Nicole Publishers
4. Lal B.B., Direct Taxes, Konark Publishers Pvt. Ltd, New Delhi.
5. Vinod K. Singhanian, Monica Singhanian, Direct Taxes, Taxmann publications Pvt Ltd, New Delhi.
6. Mehrotra H. C. Goyal.S.P, Income Tax Law and Practice, Sahitya Bhawan Publications, Agra.

E-LEARNING RESOURCES

- 1) <https://lawtimesjournal.in/introduction-and-basic-concept-of-income-tax/>
- 2) <https://sol.du.ac.in/mod/book/view.php?id=1259&chapterid=924>
- 3) <http://incometaxmanagement.com/Pages/Gross-Total-Income/Salaries/SalariesContents.html>
- 4) <https://www.hrblock.in/guides/house-property-deductions>
- 5) <https://books.google.com/books?isbn=1584773855>
- 6) <https://books.google.com/books?id=iiQKAAAAMAAJ>
- 7) <https://books.google.com/books?isbn=813172191>

GUIDELINES TO THE QUESTION PAPER SETTERS**Question Paper Pattern**

Section	Question Component	Numbers	Marks	Total
A	Answer any 10 out of 12 questions	1-12	3	30
B	Answer any 5 out of 7 questions	13-19	6	40
C	Answer any 2 out of 4 questions	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	2	-	2	-	1
III	1	1	-	1	-	1
IV	1	1	-	1	-	1
V	2	-	1	-	-	-
TOTAL	7	5	2	5	-	4
SECTION A-12			SECTION B-7		SECTION C-4	

PO-CO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	3	2	2	2	2
CO 2	3	3	2	2	2
CO 3	3	3	2	2	2
CO 4	3	3	3	2	2
CO 5	2	2	3	2	3
Avg.	2.8	2.6	2.4	2	2.2

PSO-CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	2	2	2	1
CO 2	3	3	2	2	2
CO 3	3	3	2	2	2
CO 4	3	3	3	2	3
CO 5	2	2	3	3	2
Avg.	2.8	2.6	2.4	2.2	2

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1to K6)
CO1	Explain the basic concepts of direct tax and residential status of individual assesseees	PO1, PO5	PSO1, PSO5	K2
CO2	Evaluate the procedures of computing income under the head of salary	PO1, PO2	PSO2, PSO4	K4
CO3	Demonstrate the computation of income under the Head of House Property	PO1, PO2	PSO2, PSO5	K3
CO4	Apply the calculation of income under the head business and profession	PO2, PO3	PSO2, PSO3	K3
CO5	Analyse the basic concepts of income tax administration and authorities	PO3, PO5	PSO3, PSO4	K4

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

INCOME TAX LAW AND PRACTICE– I

Continuous Internal Assessment – Components

Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment	Content -3, Presentation - 2	5	5
Workbook/record book/ notebook	Completeness - 3, Accuracy - 2	5	5
Class activity 1	Quiz with MCQ (Correct Answers - 3, Speed - 2) / Rapid Fire (Quick Response - 3, Accuracy - 2) / Formula Drill Game (Correct Formula Recall - 3, Application - 2) / Others	5	5
Class activity 2	Problem Solving (Correct Answer - 3, Proper Steps - 2) / Error Detection Activity (Identification of Errors - 3, Reasoning - 2) / Scrap Book (Relevance of Content - 3, Creativity and Presentation - 2) / Others	5	5
Class activity 3	Real-Life Application Task (Understanding of Concept - 3, Application of Real Situation - 2) / Real-Life Billing Activity (Preparation - 3, Presentation - 2) / Peer Quiz Creation (Quality of Questions - 3, Relevance to Topic - 2) / Others	5	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE - XIV
COURSE NAME: INTRODUCTION TO COST AND MANAGEMENT ACCOUNTING	COURSE CODE: 26UCCA313
SEMESTER: V	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY AND PROBLEM	

COURSE OBJECTIVES:

Introduction to the concepts of Cost and Management Accounting

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Outline the basics of cost accounting, its concepts, classification, costing systems, and reconciliation of cost and financial accounts
2. Appraise the basic concepts and processes related to Stores, Inventory Control, Economic Ordering Quantity and the methods of Pricing Materials.
3. Analyze and compute labour cost, wage systems, payroll procedures, idle time, overtime, and labour turnover for effective labour cost control.
4. Explain the concept and process of budgetary control and its role in financial management
5. Demonstrate the 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

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)

UNIT IV

(18 Hours)

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

UNIT V

(18 Hours)

Marginal Costing: The Concept - Break Even Analysis - Break - Even point - Importance and assumptions - Application of Profit Volumes Ratio.

Theory: 20% Problems: 80%

RECOMMENDED BOOKS:

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	THE- ORY	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	

CO PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	3	2	2	2	2
CO 2	3	3	2	2	2
CO 3	3	3	3	2	2
CO 4	3	3	2	2	2
CO 5	3	3	3	2	2
Avg.	3	2.8	2.4	2	2

PSO-CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	2	2	3	3
CO 2	3	3	2	3	3
CO 3	3	3	3	3	3
CO 4	3	2	2	3	3
CO 5	3	3	3	3	3
Avg.	3	2.6	2.4	3	3

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Outline the basics of cost accounting, its concepts, classification, costing systems, and reconciliation of cost and financial accounts	PO1, PO2	PSO1, PSO5	K1, K2, K3
CO2	Appraise the basic concepts and processes related to Stores, Inventory Control, Economic Ordering Quantity and the methods of Pricing Materials.	PO2, PO3	PSO2, PSO3, PSO5	K3, K4, K5
CO3	Analyze and compute labour cost, wage systems, payroll procedures, idle time, overtime, and labour turnover for effective labour cost control.	PO2, PO3, PO4	PSO2, PSO3, PSO5	K3, K4, K5
CO4	Explain the concept and process of budgetary control and its role in financial management	PO1, PO2, PO4	PSO1, PSO2, PSO5	K2, K3, K4
CO5	Demonstrate the practical knowledge in Marginal Costing.	PO2, PO3, PO5	PSO2, PSO3, PSO4, PSO5	K3, K4, K5

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

INTRODUCTION TO COST AND MANAGEMENT ACCOUNTING

Continuous Internal Assessment Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 Minutes	100	10
Assignment		5*2	10
Workbook/record book/ notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of key-words (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE - XV
COURSE NAME: OPERATING SYSTEM	COURSE CODE: 26UCCA314
SEMESTER: V	MARKS:100
CREDITS:4	TOTAL HOURS:75
THEORY	

COURSE OBJECTIVES:

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

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Explain how an operating system functions as a user interface and classify various types of operating systems
2. Explain the components of an operating system and their functions
3. Analyze process management concepts such as scheduling and process control
4. Explain concepts of concurrent processing, mutual exclusion, synchronization, and deadlock with relevant examples
5. Evaluate memory management techniques including paging, segmentation, and demand paging

UNIT I:

(15 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:

(15 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:

(15 Hours)

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

UNIT IV:

(15 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:**(15 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.

PRESCRIBED 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

CO PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	2	2	1	2
CO 2	3	2	2	1	2
CO 3	3	3	3	1	2
CO 4	3	3	3	2	2
CO 5	3	3	3	1	2
Ave.	3	2.6	2.6	1.2	2

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	2	1	2	2
CO 2	3	2	1	2	2
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	2.6	2.2	2.6	2.6

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Explain how an operating system functions as a user interface and classify various types of operating systems	PO1, PO2	PSO1, PSO2	K1, K2, K3
CO2	Explain the components of an operating system and their functions	PO1, PO2	PSO1, PSO2	K1, K2, K3
CO3	Analyze process management concepts such as scheduling and process control	PO2, PO3, PO4	PSO2, PSO3, PSO5	K3, K4, K5
CO4	Explain concepts of concurrent processing, mutual exclusion, synchronization, and deadlock with relevant examples	PO2, PO3, PO4	PSO2, PSO3, PSO5	K2, K3, K4
CO5	Evaluate memory management techniques including paging, segmentation, and demand paging	PO2, PO3, PO5	PSO2, PSO3, PSO4, PSO5	K3, K4, K5

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

OPERATING SYSTEM

Continuous Internal Assessment Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of key-words (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE - XVI
COURSE NAME: PYTHON PROGRAMMING THEORY & PRACTICAL	COURSE CODE: 26UCCA316/ 26UCCA316P
SEMESTER: V	MARKS:100
CREDITS:4	TOTAL HOURS: 90
THEORY & PRACTICAL	

COURSE OBJECTIVES:

Introduction to design and program complex and numeric Python applications.

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Analyze different data structures including lists, tuples, sets, and dictionaries.
2. Examine file handling techniques and exception handling mechanisms.
3. Evaluate the use of Python libraries for various applications.
4. Compare Python with other programming languages in terms of features and usage.
5. Summarize problem-solving approaches using Python programming concepts.

Python Programming Lab

1. Write a menu driven program to convert the given temperature from Fahrenheit to Celsius and vice versa depending upon the 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 the user.
4. WAP to find the factorial of the given number.
5. WAP to find the 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.

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/XlHQIuquqiA>
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. [PYTHON COURSE BY HEMANTH M B.Com CA, MCA Gen AI \(CLICK HERE\)](#)

CO PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	2	2	1	2
CO 2	3	2	2	1	2
CO 3	3	3	3	1	2
CO 4	3	3	3	2	2
CO 5	3	3	3	1	2
Ave.	3	2.6	2.6	1.2	2

PSO – CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	2	1	2	2
CO 2	3	2	1	2	2
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
Ave.	3	2.6	2.2	2.6	2.6

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESS ED	PSOs ADDRES SED	COGNITIVE LEVEL (K1 to K6)
CO 1	Analyse different data structures including lists, tuples, sets, and dictionaries.	PO1, PO2, PO3	PSO1, PSO2, PSO5	K3, K4
CO 2	Examine file handling techniques and exception handling mechanisms.	PO2, PO3, PO4	PSO2, PSO3, PSO5	K3, K4, K5
CO 3	Evaluate the use of Python libraries for various applications.	PO2, PO3, PO5	PSO2, PSO3, PSO4, PSO5	K4, K5
CO 4	Compare Python with other programming languages in terms of features and usage.	PO1, PO3	PSO1, PSO3, PSO5	K2, K3, K4
CO 5	Summarize problem-solving approaches using Python programming concepts.	PO1, PO2, PO4	PSO1, PSO2, PSO4, PSO5	K2, K3, K4

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

PYTHON PROGRAMMING THEORY AND PRACTICAL

Continuous Internal Assessment –Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment			5
Workbook/record book/notebook			5
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity, Flow of thoughts, Presentation, Usage of key-words, Analysis.	15	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness, Clarity, Concept knowledge, Timeliness	15	5
Class activity 3: Individual activity	Peer/Self-Assessment: Rubrics: Correctness, Clarity, Concept knowledge, Timeliness	15	5
Attendance	Marks will be given based on the attendance percentage of respective Course		5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: ELECTIVE – IDE
COURSE NAME: PRODUCTION AND SUPPLY CHAIN MANAGEMENT	COURSE CODE: 26UCCA3E1
SEMESTER: V	MARKS:100
CREDITS: 4	TOTAL HOURS:75
THEORY	

COURSE OBJECTIVES:

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

After successful learning of this course the student will be able to:

1. Explain the importance of production management in organizational efficiency and decision-making
2. Analyze the differences between production planning and control with suitable examples
3. Appraise the concepts of productivity, quality control and their impact on organizational performance
4. Explain the functions of supply chain management (SCM) in coordinating business operations
5. Evaluate logistics management and supply chain management to understand their roles and interrelationships

UNIT I

(15 Hours)

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

UNIT II

(15 Hours)

PRODUCTION PLANNING AND CONTROL: 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

(15 Hours)

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

UNIT IV**(15 Hours)**

SUPPLY CHAIN MANAGEMENT: 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**(15 Hours)**

LOGISTICS MANAGEMENT: 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.

PRESCRIBED BOOKS:

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	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

CO PO Mapping

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	3	3	1	2
CO 2	3	3	3	1	2
CO 3	3	3	2	1	2
CO 4	3	2	3	1	2
CO 5	3	3	3	2	3
Ave.	3	2.8	2.8	1.2	2.2

PSO – CO Mapping

	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	3	3	2	2	2
CO 2	3	3	2	3	3
CO 3	3	3	3	3	3
CO 4	3	2	2	2	3
CO 5	3	3	3	3	3
Ave.	3	2.8	2.4	2.6	2.8

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Explain the importance of production management in organizational efficiency and decision-making	PO1, PO2	PSO1, PSO5	K1, K2, K3
CO2	Analyze the differences between production planning and control with suitable examples	PO2, PO3	PSO3, PSO5	K3, K4
CO3	Appraise concepts of productivity, quality control and their impact on organizational performance	PO2, PO3, PO4	PSO2, PSO3, PSO5	K3, K4, K5
CO4	Explain the functions of supply chain management (SCM) in coordinating business operations	PO1, PO2, PO4	PSO1, PSO2, PSO5	K2, K3, K4
CO5	Evaluate logistics management and supply chain management to understand their roles and interrelationships	PO2, PO3, PO5	PSO2, PSO3, PSO4, PSO5	K4, K5

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

PRODUCTION AND SUPPLY CHAIN MANAGEMENT

Continuous Internal Assessment -Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ Notebook			
Class activity 1: Group activity	Product launch Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1), Coverage of concepts (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity: Individual activity	OTBA Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH: 2026-2029
PART: IV	COURSE COMPONENT: LIFE SKILL -II
COURSE NAME: ENVIRONMENTAL STUDIES	COURSE CODE: 26UEVS401
SEMESTER: V	MARKS:100
CREDITS:2	TOTAL HOURS:30
THEORY	

COURSE OBJECTIVE:

The study of ecology and living creatures.

COURSE OUTCOMES

On completion of the course the students will be able:

1. Define the scope and importance of environmental studies and its relevance to sustainable development. (K1)
2. Identify different types of natural resources and classify them as renewable, non-renewable, and potentially renewable. (K1)
3. Describe the concept of biodiversity and list major conservation strategies. (K2)
4. Identify the causes and types of environmental pollution and recall common prevention measures. (K1)
5. List basic disaster management plans for common environmental hazards and recall preparedness measures at community level. (K1)

UNIT I (6 Hours)

MULTI DISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, scope and importance – Need for public awareness.

UNIT II (6 Hours)

NATURAL RESOURCES

Renewable and non-renewable resources: Natural resources and associated problems.

- a) **Forest resources:** Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people.
- b) **Water resources:** Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
- c) **Mineral resources:** Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
- d) **Food resources:** World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizer pesticide problems, water logging, salinity, case studies.
- e) **Energy resources:** Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Case studies.

f) 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 III

(6 Hours)

ECO SYSTEMS: Concept of an eco-system.

- Structure and function of an eco-system.
- Producers, consumers and decomposers.
- Energy flow in the eco system.
- Ecological succession.
- Food chains, food webs and ecological pyramids.
- Introduction, types, characteristic features, structure and function of the following eco-system:
 - a. Forest eco system
 - b. Grassland eco system
 - c. Desert eco system
 - d. Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries)

UNIT IV

(6 Hours)

- Introduction – Definition: genetic, species and ecosystem diversity.
- Biogeographical classification of India
- Value of bio diversity: consumptive use, productive use, social, ethical, aesthetic and option values
- Bio diversity at global, National and local levels.
- India as a mega – diversity nation, Hot-spots of bio diversity.
- Threats to bio diversity: habitat loss, poaching of wild life, man-wild life conflicts.
- Endangered and endemic species of India
- Conservation of bio diversity: In-situ and Ex-situ conservation of bio diversity.

UNIT V

(6 Hours)

ENVIRONMENTAL POLLUTION:

Definition: Cause, effects and control measures of: -

- Air pollution
- Water pollution
- Soil pollution
- Marine pollution
- Noise pollution
- Thermal pollution
- 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.**

PRESCRIBED BOOKS:

1. Environmental studies – St Joseph College Edition
2. Environmental studies - Dr.D.D.Mishra S.Chand

REFERENCE BOOKS:

1. Environmental studies – Dr. J.P. Sharma – University Science Press.
2. Introduction to Environmental Studies – Dr. Mahainta K. Kalita – Asiau Books.

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: IV	COURSE COMPONENT: INTERNSHIP
COURSE NAME: INTERNSHIP	COURSE CODE: 26UINT401
SEMESTER: V	MARKS:100
CREDITS:2	TOTAL HOURS: -
PRACTICALS	

COURSE OBJECTIVE

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

COURSE OUTCOMES

1. Apply academic knowledge
2. Develop professional skill/domain skill/multi-disciplinary skill
3. Gain industry/field exposure
4. Practice ethical and sustainable approaches.
5. Enhance career preparedness

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 21 days after the completion of 4th Semester. Students will be informed to submit a Log book on the work carried out by them during the period of internship. Students need to submit an internship report carried out by them for evaluation. Students need to obtain a 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 an Internship Report at the end of 5th Semester before the commencement of the End Semester Examination. The Internship credit will be awarded.

SEMESTER - VI

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH: 2026-2029
PART: III	COURSE COMPONENT: CORE – XVII
COURSE NAME: INCOME TAX LAW AND PRACTICE – II	COURSE CODE: 26UCOM318
SEMESTER: VI	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY & PROBLEMS	

(Common to B. Com (GEN), B. Com (A&F), B. Com (CS), B. Com (ISM) & B. Com (CA))

COURSE OBJECTIVE:

To Compile the procedure for computation of tax on income for assessment of individuals for the current assessment year under the Income Tax Act., 1961.

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Analyse the procedure related to capital gains tax, including any applicable exemptions.
2. Examine the income chargeable under the head, income from other sources.
3. Apply the provisions and procedures of clubbing and the setoff and carry forward of income.
4. Describe the provisions of agricultural income and applicable deductions from gross total income.
5. Apply knowledge about the procedure for computing tax liability and various forms pertaining to Income tax returns and e-filing.

UNIT- I

(20 Hours)

Capital Gains – Capital Assets – Meaning and Kinds – Procedure for computing Capital Gains – Cost of Acquisition – Exemption of Capital Gains – Loss under head Capital Gains.

UNIT-II

(15 Hours)

Income from other sources - Income chargeable to tax under the head Income from Other Sources – Dividends – Interest on Securities – Casual Income – Other Incomes – Deduction from Income from Other Sources – Loss under the head Other Sources.

UNIT-III

(20 Hours)

Aggregation of income - Provisions relating to income of other persons to be clubbed in Assessee Total Income – Income of minor Child – Deemed Incomes. Provisions relating to Set-off & Carry forward and Set-off of Losses.

UNIT-IV

(20 Hours)

Agricultural Income – Definition and kinds – Tax treatment of Agricultural Income – Integration of Agricultural Income. (Theory only) Deductions from Gross total income: Deductions in respect of certain payments – Deduction in respect of income (Deductions applicable to Individuals only) (Simple problems).

UNIT- V**(15 Hours)**

Assessment of Individuals – Tax rates – Computation of Tax liability of Individuals (Simple problems). Filing of returns, various forms of return and e- filing of return.

THEORY: 20% PROBLEMS: 80%

RECOMMENDED TEXT BOOKS

1. Income Tax Theory, law and practice - T.S. Reddy & Dr. Y. Hari Prasad Reddy – Margham publications.
2. Income Tax law and practice. –V. P. Gaur & D. B. Narang. Kalyani Publications.

REFERENCE BOOKS

1. Students Guide to Income tax –Dr. Vinod K. Sighania & Dr. Monica Sighania – Taxmann.
2. Income tax service tax &VAT–Dr. Girish Ahuja & Dr. Ravi Gupta –Bharat law house.

E-LEARNING RESOURCES

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

GUIDELINES TO THE QUESTION PAPER SETTERS**Question Paper Pattern**

Section	Question Component	Numbers	Marks	Total
A	Answer any 10 out of 12 questions	1-12	3	30
B	Answer any 5 out of 7 questions	13-19	6	30
C	Answer any 2 out of 4 questions	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	1	1	-	1	-	1
II	2	1	-	1	-	1
III	2	1	1	1	-	1
IV	1	1	-	1	-	1
V	1	1	1	1	-	-
TOTAL	7	5	2	5	-	4
SECTION A 12			SECTION B 7		SECTION C 4	

PO-CO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	3	3	3	2	2
CO 2	3	3	2	2	2
CO 3	3	3	3	2	2
CO 4	3	2	2	2	2
CO 5	3	3	3	2	3
Ave.	3	2.8	2.6	2	2.2

PSO-CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	2	3	2	2
CO 2	3	2	2	2	2
CO 3	3	3	3	2	3
CO 4	2	2	2	2	2
CO 5	3	3	3	3	3
Ave.	2.8	2.4	2.6	2.2	2.4

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Analyse the procedure related to capital gains tax, including any applicable exemptions.	PO1, PO2, PO3	PSO 1,3 4 & 5	K1, K2, K3, K4, K5
CO2	Examine the income chargeable under the head, income from other sources.	PO1, PO2, PO3	PSO 1,3 & 4	K1, K2, K3, K4, K5
CO3	Apply the provisions and procedures of clubbing and the setoff and carry forward of income.	PO1, PO2, PO3	PSO 1,2, 3, 4 & 5	K1, K2, K3, K4,K5
CO4	Describe the provisions of agricultural income and explain the applicable deductions from gross total income.	PO1,PO3, PO5	PSO 1,4 & 5	K1, K2, K3, K4,K5
CO5	Acquire knowledge about the procedure for computing tax liability and various forms pertaining to Income tax returns and e-filing.	PO1, PO2, PO3, PO5	PSO 1,2, 4 & 5	K1, K2, K3, K4,

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

INCOME TAX LAW AND PRACTICE - II

Continuous Internal Assessment Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment	Content -3, Presentation - 2	5	5
Workbook/record book/ notebook	Completeness - 3, Accuracy – 2	5	5
Class activity 1	Quiz with MCQ (Correct Answers - 3, Speed - 2) / Rapid Fire (Quick Response - 3, Accuracy - 2) / Formula Drill Game (Correct Formula Recall - 3, Application - 2) / Others	5	5
Class activity 2	Problem Solving (Correct Answer - 3, Proper Steps - 2) / Error Detection Activity (Identification of Errors - 3, Reasoning - 2) / Scrap Book (Relevance of Content - 3, Creativity and Presentation - 2) / Others	5	5
Class activity 3	Real-Life Application Task (Understanding of Concept - 3, Application of Real Situation - 2) / Real-Life Billing Activity (Preparation - 3, Presentation - 2) / Peer Quiz Creation (Quality of Questions - 3, Relevance to Topic - 2) / Others	5	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE - XVIII
COURSE NAME: HUMAN CAPITAL MANAGEMENT	COURSE CODE: 26UCCA317
SEMESTER: VI	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY	

COURSE OBJECTIVES:

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

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Explain the importance of Human Resource Management and its processes in managing organizational activities effectively
2. Outline training methods and motivation theory used in organizations towards career development.
3. Assess different administrative methods and techniques used for employee retention
4. Explain various mechanisms involved in labour relations and their role in maintaining industrial harmony
5. Evaluate different roles of executives and develop HR policies and practices.

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 identification- Needs- Methods –Training and Development – Performance appraisal – Transfer – Promotion – Career development and motivation theory Maslow, X and Y theory.

UNIT- III

(18 Hours)

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

UNIT- IV

(18 Hours)

Labour Relation and Issues – Functions of Trade Unions – Forms of collective bargaining- Workers' participation in management – Types and effectiveness – Industrial Disputes and Settlements

UNIT- V

(18 Hours)

Human Resource Audit – Nature – Benefits – Scope – Approaches- Human Resource Information System (HRIS)- Need- Benefits- Recent trends in HR recruitment.

E-COMMENDEED 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	Ma rk s	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

CO PO MAPPING

	PO1	PO2	PO3	PO4	PO5
CO 1	3	2	2	2	2
CO 2	3	2	2	3	3
CO 3	3	3	3	3	2
CO 4	3	2	3	3	2
CO 5	3	3	3	3	3
Ave.	3	2.4	2.6	2.8	2.4

PSO-CO MAPPING

	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	2	2	2	3	2
CO 2	2	2	2	3	2
CO 3	2	2	3	3	3
CO 4	2	2	3	3	3
CO 5	2	3	3	3	3
Ave.	2	2.2	2.6	3	2.6

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Explain the importance of Human Resource Management and its processes in managing organizational activities effectively	PO1, PO4	PSO1, PSO4, PSO5	K1, K2, K3
CO2	Outline various methods and techniques of training and performance appraisal used in organizations	PO1, PO2, PO4	PSO1, PSO4, PSO5	K2, K3, K4
CO3	Assess different administrative methods and techniques used for employee retention	PO2, PO3	PSO3, PSO4, PSO5	K3, K4, K5
CO4	Explain various mechanisms involved in labour relations and their role in maintaining industrial harmony	PO3, PO4	PSO3, PSO4, PSO5	K2, K3, K4
CO5	Evaluate different roles of executives and develop HR policies and practices, including human resource audit	PO2, PO3, PO4, PO5	PSO2, PSO3, PSO4, PSO5	K4, K5, K6

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

HUMAN CAPITAL MANAGEMENT

Continuous Internal Assessment –Components

Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ notebook			
Class activity 1: Group activity	Process of Selection, recruitment, training, induction, performance appraisal, HR audit related to any company of choice. Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1)	5	5
Class activity 2: Individual activity	Role play Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1)	5	5
Class activity: Individual activity	OTBA Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course		5
Total			50

PROGRAMME: B.COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: CORE XIX
COURSE NAME: INNOVATIVE BUSINESS PROJECT	COURSE CODE: 26UCCA319
SEMESTER: VI	MARKS:100
CREDITS: 4	TOTAL HOURS: 90
PRACTICALS	

COURSE OBJECTIVE

The course develops practical financial analysis and technical skills. It also enhances research ability, problem-solving, and communication skills.

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Describe research problems in commerce and computer applications by formulating the clear statements.
2. Apply financial analysis techniques to evaluate company performance using relevant data and tools.
3. Operate basic computing tools and data analysis techniques to process and manage data effectively
4. Evaluate data to derive meaningful conclusions for decision-making
5. Develop professional reports and present findings effectively using appropriate formats and tools

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

Breakup details for Evaluation:

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

The project evaluation and viva voce are conducted internally by the Project Guide and Department Committee, with topics approved in consultation with faculty. External experts from other colleges may also provide guidance when required. Students must submit a minimum of a 50 - 60-page hard copy project report before the End Semester Examination. A minimum of 40% is required to pass; otherwise, the report must be resubmitted and the viva voce repeated.

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: ELECTIVE-II
COURSE NAME: SOFTWARE ENGINEERING	COURSE CODE: 26UCCA3E2
SEMESTER: VI	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY	

COURSE OBJECTIVES:

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

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Apply principles and practices of software engineering to develop structured software solutions.
2. Create efficient, reliable, and cost-effective software solutions based on given requirements.
3. Manage software process models and design techniques effectively in software development activities.
4. Implement software engineering concepts to address real-world development issues.
5. Construct quality software using appropriate tools with emphasis on 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:

(18 Hours)

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:

(18 Hours)

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 stones walk 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.

PRESCRIBED BOOKS:

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. Rajib Mall, 2004, Fundamentals of Software Engineering, 2nd Edition, PHI.
- 6.

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

CO PO MAPPING

	PO1	PO2	PO3	PO4	PO5
CO 1	3	2	2	2	2
CO 2	3	2	2	3	3
CO 3	3	3	3	3	2
CO 4	3	2	3	3	2
CO 5	3	3	3	3	3
Ave.	3	2.4	2.6	2.8	2.4

PSO-CO MAPPING

	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	2	2	2	3	2
CO 2	2	2	2	3	2
CO 3	2	2	3	3	3
CO 4	2	2	3	3	3
CO 5	2	3	3	3	3
Ave.	2	2.2	2.6	3	2.6

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K5)
CO 1	Apply principles and practices of software engineering to develop structured software solutions.	PO1, PO2	PSO1, PSO2, PSO5	K3, K4
CO 2	Create efficient, reliable, and cost-effective software solutions based on given requirements.	PO2, PO3, PO5	PSO2, PSO3, PSO4, PSO5	K4, K5, K6
CO 3	Manage software process models and design techniques effectively in software development activities.	PO2, PO3, PO4	PSO2, PSO4, PSO5	K3, K4, K5
CO 4	Implement software engineering concepts to address real-world development issues.	PO2, PO3, PO4	PSO2, PSO3, PSO4, PSO5	K3, K4, K5
CO 5	Construct quality software using appropriate tools with emphasis on maintainability	PO2, PO3, PO5	PSO2, PSO3, PSO4, PSO5	K4, K5, K6

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

SOFTWARE ENGINEERING

Continuous Internal Assessment -Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ Notebook			
Class activity 1: Group activity	Seminar/Presentation related to syllabus Rubrics: Concept clarity (1), Flow of thoughts (1), Presentation (1), Usage of keywords (1), Analysis (1).	5	5
Class activity 2: Individual activity	Quiz with MCQ (Online through G form) Rubrics: Correctness (1), Clarity (1), Concept knowledge (1), Timeliness (1), Accuracy (1).	5	5
Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50

PROGRAMME: B. COM (COMPUTER APPLICATIONS)	BATCH:2026-2029
PART: III	COURSE COMPONENT: ELECTIVE – III
COURSE NAME: SOFTWARE TESTING LAB USING SELENIUM - THEORY & PRACTICAL	COURSE CODE: 26UCCA3E3/ 26UCCA3E3P
SEMESTER: VI	MARKS:100
CREDITS:4	TOTAL HOURS:90
THEORY & PRACTICAL	

COURSE OBJECTIVES:

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

COURSE OUTCOMES

After successful learning of this course the student will be able to:

1. Apply UML tools to design system models for software systems.
2. Explain the components and usage of the UML toolkit in software modeling.
3. Analyze software requirements and map them to appropriate phases of the software development lifecycle.
4. Evaluate software designs using verification and validation techniques to ensure quality and correctness.
5. Describe software testing using open-source testing tools to identify defects and ensure functionality

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=pfQfAQAAI-AAJ&source=gbs_navlinks_shttps://books.google.co.in/books?id=pfQfAQAAIAAJ&source=gbs_navlinks_s

CO PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO5
CO 1	3	3	2	1	2
CO 2	3	3	3	1	2
CO 3	3	3	3	2	2
CO 4	3	3	3	2	2
CO 5	3	3	3	2	3
Ave.	3	3	2.8	1.6	2.2

PSO – CO MAPPING

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

PO-PSO-CO-Question Paper Mapping

CO No:	COURSE OUTCOMES	POs ADDRESSED	PSOs ADDRESSED	COGNITIVE LEVEL (K1 to K6)
CO1	Apply UML tools to design system models for software systems.	PO1, PO2, PO4	PSO1, PSO2, PSO5	K3, K4
CO2	Explain the components and usage of the UML toolkit in software modeling.	PO1, PO2	PSO1, PSO2	K2, K3
CO3	Analyze software requirements and map them to appropriate phases of the software development lifecycle.	PO2, PO3	PSO2, PSO3, PSO5	K3, K4, K5
CO4	Evaluate software designs using verification and validation techniques to ensure quality and correctness.	PO2, PO3, PO5	PSO2, PSO3, PSO4, PSO5	K4, K5
CO5	Describe software testing using open-source testing tools to identify defects and ensure functionality	PO2, PO3, PO5	PSO2, PSO4, PSO5	K2, K3, K4

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

SOFTWARE TESTING LAB USING SELENIUM THEROY AND PRACTICAL

Continuous Internal Assessment -Components			
Assessment Type	Nature	Maximum Marks	Weightage
Mid-Semester Examination	Pen and Paper test for 90 minutes	50	10
Model Examination	Written examination for 180 minutes	100	10
Assignment		5*2	10
Workbook/record book/ notebook			
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Class activity 3: Individual activity	Peer/Self-Assessment Rubrics: concept clarity (1), Presentation (1), Usage of keywords (1), coverage of concept (1), Time frame (1)	5	5
Attendance	Marks will be given based on the attendance percentage of respective course	5	5
Total			50