Sant Gadge Baba Amravati University, Amravati FACULTY :
Scheme of Teaching, Learning, Examination & Evaluation leading to Two Years PG Degree Master of Commerce (Computer Management)(2025 - 2026)
(Two Years- Four Semesters Master's Degree Programme- NEPv23 with **Exit and Entry Option**
Programme Name : M.Com (CM)

PROGRAMME OBJECTIVES (POs) OF M.Com(CM)

The Programme Objectives of M.Com(CM) are:

PO1: Professional Competence
To equip students with advanced knowledge in commerce, computer applications, and management practices essential for professional roles in business and IT sectors.

PO2: Technical Proficiency
To develop technical expertise in areas such as programming, database management, system design, E-Commerce, and emerging digital technologies relevant to the business environment.

PO3: Communication and Teamwork
To enhance written and verbal communication, presentation, and collaborative skills, enabling effective teamwork and leadership in multidisciplinary settings.

PO4: Ethical and Legal Awareness
To develop awareness of ethical, legal, and social responsibilities in business and IT practices, including data protection and cybersecurity.

PO5: Research and Innovation
To encourage innovation, entrepreneurship, and research aptitude by engaging students in projects, and case studies.

PO6: Lifelong Learning and Employability
To instill a lifelong learning mindset and prepare students for employment, further education, certifications, or entrepreneurial ventures in the digital economy.

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(Two Years- Four Semesters Master's Degree Programme- NEPv23 with **Exit and Entry Option**

M.Com (CM) First Year Semester- I

S. N.	Subject	Type of Course	Subject Code	Teaching & Learning Scheme							Duration Of Exam Hours	Examination & Evaluation Scheme							
				Teaching Period Per Week				Credits				Maximum Marks					Minimum Passing		
												Theory		Practical		Total Marks			
				L	T	P	Total	L/T	Practical	Total		Theory Internal	Theory +MCQ External	Internal	External		Marks Internal	Marks External	Grade
1	Research Methodology and IPR	**Th-Major**	M.com (CM) NEP-101	**4**			**4**	**4**		**4**	**3**	**40**	**60**			**100**	**16**	**24**	**P**
2	DSC I - Python Programming	**Th-Major**	**Mcom (CM) NEP-102**	**3**			**3**	**3**		**3**	3		60			**60**		**24**	**p**
2	DSC I - Python Programming	**Th-Major Practical**	**Mcom (CM) NEP-102**			**3**	**3**		**3**	**3**	0			**20**	**20**	**40**	**16**		**p**
3	DSC II Software Project Management	**Th-Major**	**Mcom (CM) NEP-103**	**4**			**4**	**4**		**4**	**3**	**40**	**60**			**100**	**16**	**24**	**P**
4	DSC III Ecoomerce & M Commerce Tehnologies	**Th-Major**	**Mcom (CM) NEP-104**	**2**			**2**	**2**		**2**	3		60			**60**		**24**	**p**
4	DSC III Ecoomerce & M Commerce Tehnologies	**Th-Major Practical**	**Mcom (CM) NEP-104**			**2**	**2**		**2**	**2**	0			**20**	**20**	**40**	**16**		**p**
Any One of the Following (DSE)																			
5	DSE-I 1) Computer Fundamentals & Operating System	**Th-Major Elective**	**Mcom (CM) NEP-105 A**	**2**			**2**	**2**		**2**	3		60		**24**	**60**		**24**	**p**

5	DSE-I 1)Computer Fundamentals & Operating System	**Th-Major Elective Practical**	**Mcom (CM) NEP-105 A**			**2**	**2**		**2**	**2**	0			**20**	**20**	**40**	**16**		**p**
6	DSE-I 2)Data Communication & Networking	**Th-Major Elective**	**Mcom (CM) NEP-105 B**	**4**			**4**	**4**		**4**	**3**	**40**	**60**			**100**	**16**	**24**	**P**
7	# On Job Training, Internship/ Apprenticeship; Field projects **Related to Major @ during vacations cumulatively**	**Related to DSC**		**120 Hours cumulatively during vacations of Semester I and Semester II**						**4***									**P***
8	**Co-curricular Courses: Health and wellness, Yoga Education, Sports and Fitness, Cultural Activities, NSS/NCC, Fine/Applied/Visual/Performing Arts During Semester I, II, III and IV**	Generic **Optional**		**90 Hours Cumulatively From Sem I to Sem IV**															
	TOTAL			**15**		**7**	**22**	**22**		**22**						**500**			

L: Lecture, T: Tutorial, P: Practical/Practicum

Pre-requisite Course mandatory if applicable: **Prq**, Theory : **Th**, Practical/Practicum: **Pr**, Faculty Specific Core: **FSC**, Discipline Specific Core: **DSC**, Discipline Specific Elective: **DSE**, Laboratory: **Lab**, **OJT:** On Job Training: Internship/ Apprenticeship; Field projects: **FP**; **RM:** Research

Methodology; Research Project: **RP, Co-curricular Courses: CC**

Note : # On Job Training, Internship/ Apprenticeship; Field projects Related to Major (During vacations of Semester I and Semester II) for duration of 120 hours mandatory to all the students, to be completed during vacations of Semester I and/or II. This will carry 4 Credits for learning of 120 hours. Its credits and grades will be reflected in Semester II credit grade report.

Note: **Co-curricular Courses:** In addition to the above, CC also include but not limited to Academic activities like paper presentations in conferences, Aavishkar, start-ups, Hackathon, Quiz competitions, Article published, Participation in Summer school/ Winter School / Short term course, Scientific Surveys, Societal Surveys, Field Visits, Study tours, Industrial Visits, online/offline Courses on Yoga (Yoga for IQ development, Yoga for Ego development, Yoga for Anger Management, Yoga for Eyesight Improvement, Yoga for Physical Stamina, Yoga for Stress Management, etc.). These can be completed cumulatively during **Semester I, II, III and IV. Its credits and grades will be reflected in semester IV credit grade report.**

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(Two Years- Four Semesters Master's Degree Programme- NEPv23 with **Exit and Entry Option**

M.Com (CM) First Year Semester- II

S. N.	Subject	Type of Course	Subject Code	Teaching & Learning Scheme							Duration Of Exam Hours	Examination & Evaluation Scheme							
				Teaching Period Per Week				Credits				Maximum Marks					Minimum Passing		
												Theory		Practical		Total Marks			
				L	T	P	Total	L/T	Practical	Total		Theory Internal	Theory +MCQ External	Internal	External		Marks Internal	Marks External	Grade
1	DSC-I Principles of Management	**Th-Major**	M.com (CM) NEP-201	**4**			**4**	**4**		**4**	**3**	**40**	**60**			**100**	**16**	**24**	**P**
2	DSC-II Clent Server Computing	**Th-Major**	Mcom (CM) NEP-202	**2**			**2**	**2**		**2**	3		60			**60**		**24**	**p**
2	DSC-II Client Server Computing	**Th-Major Practical**	Mcom (CM) NEP-202			**3**	**3**		**3**	**3**	0			**20**	**20**	**40**	**16**		**p**
3	DSC-III Database Management Technology	**Th-Major**	Mcom (CM) NEP-203	**2**			**2**	**2**		**2**	3		60			**60**		**24**	**p**
3	DSC-III Database Management Technology	**Th-Major Practical**	Mcom (CM) NEP-203			**3**	**3**		**3**	**3**	0			**20**	**20**	**40**	**16**		**p**
Any One of the Following (DSE)																			
4	DSE - I Communication Skills	**Th-Major Elective**	**Mcom (CM) NEP-204 A**	**4**			**4**	**4**		**4**	**3**	**40**	**60**			**100**	**16**	**24**	**P**
5	DSE-II Digital Accounting	**Th-Major Elective**	**Mcom (CM) NEP-204 B**	**2**			**2**	**2**		**2**	**3**		**60**			**60**		**24**	**P**
5	DSE-II Digital Accounting	**Th-Major Practical Elective**	**Mcom (CM) NEP-204 B**			**2**	**2**		**2**	**2**	0			**20**	**20**	**40**	**16**		**p**

6	# On Job Training, Internship/ Apprenticeship; Field projects **Related to Major @ during vacations cumulatively**	**Related to DSC**		**120 Hours cumulatively during vacations of Semester I and Semester II**					**4***									**P***
7	**Co-curricular Courses: Health and wellness, Yoga Education, Sports and Fitness, Cultural Activities, NSS/NCC, Fine/Applied/Visual/Performing Arts During Semester I, II, III and IV**	Generic **Optional**		**90 Hours Cumulatively From Sem I to Sem IV**														
	TOTAL			**10**		**8**		**18**		**18+4***						**400**			

L: Lecture, T: Tutorial, P: Practical/Practicum

Pre-requisite Course mandatory if applicable: **Prq**, Theory : **Th**, Practical/Practicum: **Pr**, Faculty Specific Core: **FSC**, Discipline Specific Core: **DSC**, Discipline Specific Elective: **DSE**, Laboratory: **Lab**, **OJT:** On Job Training: Internship/ Methodology; Research Project: **RP, Co-curricular Courses: CC**

Note: **Co-curricular Courses:** In addition to the above, CC also include but not limited to Academic activities like paper presentations in conferences, Aavishkar, start-ups, Hackathon, Quiz competitions, Article published, Participation in Summer

Table: Comprehensive Credits distribution amongst the type of Courses over Two Yea
Faculty ----------Major]

Sr. No.	Type of Course	
1	**MAJOR**	
	i. DSC	**56**
	ii. DSE	**16**
		TOTAL
2	**Research Methodology and IPR (FSC/DSC: Major)**	**04**
2	On Job Training, Internship/ Apprenticeship; Field projects **Related to Major**	**04**
3	**Research Project**	**10**
	OPTIONAL	
4	**Co-Curricular Courses (offline and/or online as applicable): Co-curricular Courses: Health and wellness, Yoga Education, Sports and Fitness, Cultural Activities, NSS/NCC, Fine/Applied/Visual/Performing Arts,** CC also include but not limited to Academic activities like paper presentations in conferences, Aavishkar, start-ups, Hackathon, Quiz competitions, Article published, Participation in Summer school/ Winter School / Short term course, Scientific Surveys, Societal Surveys, Field Visits, Study tours, Industrial Visits, online/offline Courses on Yoga (Yoga for IQ development, Yoga for Ego development, Yoga for Anger Management, Yoga for Eyesight Improvement, Yoga for Physical Stamina, Yoga for Stress Management, etc.).	
	TOTAL	
	TOTAL	

rs (Four Semesters) PG Programme and

Total Credits Offered	Teaching & Learning Scheme
	56
	16
72	72
04	04
04 for 120 Hours OJT/FP cum.	02 (Minimum 60 Hours OJT/FP is mandatory)
10	10
Limited to Maximum 03 only (For 90 Hours of CC cumulatively)	00
93	88

Minimum Credits to be earned for PG Degree [Master in

Table A: Comprehensive Credit Distribution for CC

S. N.	Activities (offline/online as applicable)	Credits at Levels			
		College	University	State	Zone if exist
1	Health and wellness, Yoga* Competitions *If a Course (online/offline) on Yoga is completed for 60 Hours, 2 credits will be awarded to the student (1 Credit = 30 Hours)	1	2	3	4
2	Unnat Bharat Abhiyan [UBA]	1	2	3	4
3	Sports and fitness activities (see separate **Table B**)	1	1 / 2	2 / 3	3 / 4
4	Cultural activities, Fine/Applied/Visual/Performing Arts	1	2	3	4
5	N.S.S. activities Camps	1	2	3	4
6	Academic activities like Research Paper/Article/Poster presentations, Aavishkar, start-up, Hackathon, Quiz competitions, other curricular, co-curricular activities, students exchange programme etc. Research Paper/Article published	1 --	2 1	3 2	4 -
7	Participation in Summer school/ Winter School / Short term course (not less than 30 hours 1 or 2 weeks duration) (not less than 60 hours 2 or 3 weeks duration) Scientific Surveys, Societal Surveys Field Visits, Study tours, Industrial Visits,	2 Credits 4 Credits 2 Credits 1 Credit			
8	NCC Activities	As given in **Table C**			

		Letter Grade
National	International if exist	
5	6	P (Pass)
5	6	P (Pass)
4 / 5	5 / 6	P (Pass)
5	6	P (Pass)
5	6	P (Pass)
5 4	6 6	P (Pass) P (Pass)
		P (Pass) P (Pass) P (Pass) P (Pass)

Table B: Credit Distribution for Sports and Fitness

Sr. No.	Particulars of Sports Status (Individual/ Team)	Credits	Letter Grade
1	College Level Participation	1	P (Pass)
2	University Level Participation	1	P (Pass)
3	University Level Rank 1, 2, 3	2	P (Pass)
4	State Level Participation	2	P (Pass)
5	State Level Rank 1, 2, 3	3	P (Pass)
6	Zonal Level Participation	3	P (Pass)
7	Zonal Level Rank 1, 2, 3	4	P (Pass)
8	National Level Participation	4	P (Pass)
9	National Level Rank 1, 2, 3	5	P (Pass)
10	International Level Participation	5	P (Pass)
11	International Level 1,2,3	6	P (Pass)

Table C: Credit Distribution for NCC activities

Sr. No.	Particulars of NCC Activities	Credits	Letter Grade
1	Participation in NCC activities	1	P (Pass)
2	'B' Certificate obtained	2	P (Pass)
3	'C' Certificate obtained	3	P (Pass)
4	State Level Participation	4	P (Pass)
5	National level Participation	5	P (Pass)
6	International Level Participation	6	P (Pass)

Part-A

Syllabus Prescribed for 2 years post Graduate Programme (NEP)

Programme: Master of Commerce (Computer Management) -I Year Semester I-NEP

Code of the Course	Title of the Course	Total Number of Periods
M.Com (CM)-NEP-101	Research Methodology and IPR	60

Course Outcomes:

After going through the syllabus of "**Research Methodology and IPR**", the students will be able to:

1. Give an overview of the research methodology and explain the technique of defining a research problem.
2. Explain various research designs and their characteristics.
3. Explain the details of sampling designs, measurement and scaling techniques and also different methods of data collections.
4. Explain several parametric tests of hypotheses and Chi-square test.
5. Explain the art of interpretation and the art of writing research reports.
6. Understand the fundamental concepts and importance of various forms of Intellectual Property Rights (IPRs) such as patents, trademarks, copyrights, and designs.

Unit	Contents	No. of periods
1	**Research Methodology**: Meaning of research, Objectives of research, Motivation in Research, types of research, significance of Research, Research and scientific Method, Research process, Criteria of Good research. **Defining the Research Problem**: what is research Problem? Selecting the Problem, Necessity of Defining the problem, Technique involved in defining a Problem	12
II	**Research Design**: Meaning of Research Design, Need for Research Design, Features of Good Design, Important Concepts Relating to Research Design, Basic Principles of Experimental Designs **Methods of Data Collection**: Collection of Primary Data, observation Method, Interview Method, Collection of data through Questionnaires, Collection of secondary Data, selection of appropriate method for Data Collection	12
III	**Sampling Design**: Census and Sample survey, Steps in Sampling Design, Characteristics of a Good sample Design, Different Types of Sample Design, Complex random Sampling Design. **Measurement and Scaling Techniques**: Measurement in Research, Measurement Scales, Sources of error in Measurement, Technique of developing Measurement Tools,	12

	Meaning of Scaling, Scale Classification Bases, important Scaling Techniques.	
IV	**Testing of Hypothesis**: What is Hypothesis, Basic Concepts concerning Testing of hypotheses, Procedure for Hypothesis Testing, Hypothesis Testing of Means, hypothesis Testing for Difference between Means, Hypothesis Testing of Proportions, Hypothesis Testing for Difference between proportions, Hypothesis Testing for Comparing two variances, Limitation of the Tests of Hypotheses. **Chi -Square Test**: Chi-Square as a test for comparing Variance, Conditions for the Application of chi-Square Test, Important Characteristics of chi-square Test, Caution in using Chi-Square test.	12
V	**Interpretation and Report Writing**: Meaning of Interpretation, why interpretation? Technique of Interpretation, Precaution in Interpretation, Significance of Report Writing, Different Steps in Writing Report, Layout of the Research Report, Types of Reports, Oral Presentation, Mechanics of Writing a Research Report, Precautions for Writing Research Reports. **Intellectual Property**: The Concept, Intellectual Property System in India, Development of TRIPS Complied Regime in India, Patents Act, 1970, Trade Mark Act, 1999, The Designs Act, 2000, The Geographical Indications of Goods (Registration and Protection) Act1999, Copyright Act,1957, The Protection of Plant Varieties and Farmers' Rights Act, 2001 (relating to Commerce and Industry)	12

Text Book:

1. Research Methodology: Methods and Techniques, C.R. Kothari, Gaurav Garg New Age International 4th Edition, 2018

Reference Books:

1. Research Methodology MCQs, Dr. Sonal Chandak, Dr. Jayant Kumar Gupta, Balaji Prakashan, Nagpur.
2. Research Methodology a step-by-step guide for beginners. (For the topic Reviewing the literature under module 2) Ranjit Kumar SAGE Publications Ltd 3rd Edition, 2011
3. Research Methods: the concise knowledge base, Trochim, Atomic Dog Publishing 2005
4. Conducting Research Literature Reviews: From the Internet to Paper Fink A Sage Publications 2009
5. Research Methodology, Dr. Ashish Mohata, Rohit D. Akolkar and Anita Vishwakarma, Apex Publication
6. Study Material (For the topic Intellectual Property under module 5) Professional Programme Intellectual Property Rights, Law and Practice, The Institute of Company Secretaries of India, Statutory Body Under an Act of Parliament, September 2013
7. P. Narayanan – *Intellectual Property Law*
8. N.S. Gopalakrishnan & T.G. Agitha – *Principles of Intellectual Property*

PART A

Syllabus Prescribed for 2 Year Post Graduate Programme (NEP)
Programme: Master of Commerce (Computer Management) I Year Semester I-NEP

Code of the Course	Title of the Course	Total Number of Periods
M.Com (CM)-NEP-102(DSC)	Python Programing	60

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

1. Understand and apply Python syntax, data types, and control structures for basic program development.
2. The ability to understand and apply core programming concepts such as variables, data types (integers, floats, strings, lists, tuples, dictionaries), operators, conditional statements (if-else), and looping constructs (for, while).
3. The capability to design, write and debug Python programs to solve computational problems, including structuring programs using functions and modules for reusability and organization.
4. Proficiency in handling various data structures like lists, tuples, and dictionaries, and the ability to perform operations such as indexing, slicing, and manipulation of data within these structures. This also extends to reading from and writing to files.
5. Understanding and implementing OOP principles in Python, including classes, objects, inheritance, and encapsulation, to create modular and reusable code.
6. The capacity to analyze problems, develop algorithms, and translate those algorithms into efficient Python code.
7. The ability to identify and correct syntax and logical errors in Python programs and implement exception handling for robust application development.

Unit	Contents	No. of Periods
I	Fundamentals of Python, Understanding Python variables Python basic Operators, understanding python blocks, Python Data Types, using Numeric data types: int, float, using string data type and string operations, Python Program Flow Control, Conditional blocks using if, else and elseif, Use of while loops in python, for loop using ranges, Loop manipulation using pass, continue, break and else Programming using Python conditional and loops block	12
II	Python Functions, Modules and Packages, organizing python codes using functions, Organizing python projects into modules, Importing own module as well as external modules Understanding Packages, Powerful Lamda function in python, Programming using functions, modules and external packages, Python Strings, Using List, Tuple, Sets and Dictionary objects, understanding string methods, List manipulation using in built methods, Dictionary manipulation, Programming using string, list and dictionary in build functions Python Built-in modules – math, random, datetime etc.	12
III	Python Object Oriented Programming – Oops, Concept of class, object and instances, Constructor, class attributes and destructors, Real time	12

	use of class in live projects, Inheritance , overlapping and overloading operators, Adding and retrieving dynamic attributes of classes, Programming using Oops support, Python Exception Handline, Avoiding code break using exception handling, Safe guarding file operation using exception handling, Handling and helping developer with error code, Programming using Exception handling	
IV	Python File Operation, reading config files in python, writing log files in python, Understanding read functions, read (), readline () and readlines (), Understanding writes functions, write () and writelines (), Manipulating file pointer using seek, Programming using file operations, Python Regular Expression, Powerful pattern matching and searching, Power of pattern searching using regex in python, Real time parsing of networking or system data using regex, Password, email, url validation using regular expression, Pattern finding programs using regular expression	12
V	Python Database Interaction, SQL Database connection using python, Creating and searching tables, Reading and storing config information on database, Programming using database connections, Python Multithreading, understanding threads, forking threads, Synchronizing the threads, Programming using multithreading, Contacting User Through Emails Using Python, installing smtp python module for Sending email, reading from file and sending emails to all users addressing them	12

Textbook References:

- ***Core Python Programming*** by R. Nageswara Rao
- ***Python Programming*** by Sachin Malhotra and Saurabh Choudhary
- ***Introduction to Python Programming*** by S. Gowrishankar and A. Veena

Code of the Course	Title of the Course	Total Number of Periods
M.Com (CM)-NEP-102(DSC)	Python Programming (Practical)	40

List of Practical's

1) Write a python program to check whether given number is odd or even.
2) Write a python program to find the largest of three numbers using if-else.
3) Write a python program to print the series 5,55,555, 5555,.n
4) Write a python program to print the multiplication table of a number.
5) Write a python program to print factorial of number using function.
6) Write a python program to check whether given number is prime or not using function.
7) Write a menu driven program to find areas of different shapes using user defined module.
8) Write a python program to print first n lines from given file.
9) Write a python program to check whether string is palindrome or not.
10) Write a python program to count number of negative, positive and zero numbers in list.
11) Write a python program to print intersection of two sets.
12) Write a python program to check whether set A is superset of set B.
13) Write a class driven python program including methods and constructors.
14) Write a python program to demonstrate inheritance.
15) Write a python program to display the various Date Time formats –
    a) Current date and time

b) Current year
c) Month of year in words
d) Week number of the year
e) Weekday of year

16) Write a python program to search the string to see if it starts with ‘the’ and ends with ‘Spain’
    a) Original string is txt=” The rain in Spain”
17) Write a python program to demonstrate use of Exception Handling.
18) Write a python program to create a database in MySql
19) Write a python program which displays all the records from MySql database.
20) Write a python program to demonstrate Multi Threading.

Division of Marks for Practical’s

Record Preparation	10 Marks
Practical Performance	10 Marks
Viva-Voce	10 Marks
Description	10 Marks
Practical Total	**40 Marks**

Part-A

Syllabus Prescribed for 2 years post Graduate Programme (NEP)

Programme: Master of Commerce (Computer Management)-I Year Semester I -NEP

Code of the Course	Title of the Course	Total Number of Periods
M.Com (CM)-NEP-103 (DSC)	Software Project Management	60

Course Outcome:

1. Students will be able to describe the phases of the software development life cycle for designing efficient software.
2. Define and apply key software project and product metrics to monitor and control project progress and quality.
3. It establishes the logical order of tasks, highlighting dependencies (which tasks must be completed before others can start). This ensures a smooth workflow and prevents bottlenecks.
3. Identify, assess, and prioritize risks associated with software projects. Develop and implement strategies for risk mitigation, monitoring, and control.
4. Understanding different design principles, architectural styles, and design patterns.
5. Students will be able to implement quality assurance metrics and multiple testing techniques to ensure software quality.

Unit	Content	No of periods
I	**Overview Of Software Development**: Software Characteristics, Software applications, software myths. **Model for System Development**: Linear Sequential Model, RAD Model, Evolutionary Software Model, W5HH Principle. Project Management Concepts: People, Product, Process, Project.	12
II	**Measures, Metrics and Indicators**: Metrics in Process and project domains, Software Measurement, Metrics for Software Quality, Integrating metrics within the software Engineering Process. **Software Project Planning:** Objectives, Scope, Resources, Software Project Estimation, Decomposition Techniques, Empirical Estimation model, Make-buy Decision tools.	12
III	**Project Scheduling**: Concept, Relationship between people and effort, defining a task set for the software Project, Selecting Software engineering tasks, Refinement of major tasks, defining task Network. **Software Risks**: software Risks, Risk Identification, Risk Projector, Risk Refinement, Safety risks and Hazards, RMMM Plan.	12

IV	**Design Concepts and Principle:** Design Principle, Design Concepts, Design Model, Effective Modularity, Software architecture. Designing Requirement mapping- Transform and transaction Mapping. **User Interface Design**: - Golden rules, User Interface Design, Task analysis & modeling, Interface Design Activities, Design Evaluation.	12
V	**Software Quality Management**: Definition, Quality Concepts, Software Quality Assurance, Software Reviews, Formal Technical reviews, Formal Approaches to SQA, Statistical Software Quality Assurance, Software reliability, Mistake-proofing for software, ISO 9000 Quality Standards SQA Plan. **Configuration Management**- Change Control, Version Control, Configuration Audit.	12

Text Book:

1. Roger S. Pressman, "Software Engineering" McGraw Hill, 5th Edition.

Reference Books:

2. James Peter, "Software Engineering an Engineering Approach", John Wiley.
3. Ian Somerville, "Software Engineering ", Pearson Education.
4. Software Project Management in Practice by Pankaj Jalote
5. Software Project Management A concise study by S A Kelkar

Part-A

Syllabus Prescribed for 2 Year Post Graduate Programme (NEP)

Programme: Master of Commerce (Computer Management)-I Year Semester I-NEP

Code of the Course	Title of the Course	Total Number of Periods
M.Com (CM)-NEP-104 (DSC)	E-Commerce and M-commerce Technologies	60

Course Outcomes:

1. Explain the fundamental concepts, types, business models, and technological infrastructure of E-Commerce and M-Commerce, including client-server architecture, SSL, and digital payment gateways.
2. Evaluate various electronic and mobile payment systems (UPI, wallets, cryptocurrencies), their security challenges, and the regulatory frameworks governing digital transactions.
3. Apply digital and mobile marketing strategies such as SEO, SEM, email, social media, push notifications, and web/mobile analytics to enhance online business visibility and engagement.
4. Describe logistics and supply chain practices in E-Commerce, including order fulfillment, inventory, dropshipping, and analyze the role of AI and automation in logistics.
5. Understand mobile platforms and applications, including PWAs, native apps, app stores, and examine real-world mobile commerce case studies.
6. Analyze legal, ethical, and security issues in E-Commerce and M-Commerce, and explore emerging trends like voice commerce, AR, IoT, mobile banking, and 5G integration.

Unit	Contents	No. of Periods
I	**E-Commerce Business Models:** Definition, scope, and evolution, Types of E-Commerce (B2B, B2C, C2C, C2B, B2G, G2C), Advantages and limitations of E-commerce, E-tailing and online retailing, Revenue models in E-commerce, Marketplaces vs. e-shops, Subscription, Freemium, and Advertising models **Technology Infrastructure:** Internet, Intranet, Extranet; Client-server architecture; Payment gateways and digital wallets; Secure Electronic Transactions (SET), Secure Socket Layer(SSL), HTTPS	12
II	**E-Payment Systems:** Types of electronic payment systems, Credit/debit cards, UPI, mobile payments, Cryptocurrencies and blockchain in E-commerce, Security threats in online transactions, Regulatory frameworks (PCI-DSS, GDPR, IT Act) **Digital Marketing & CRM:** Search Engine Optimization (SEO), Search Engine Marketing (SEM), Social Media Marketing (SMM), Email and content marketing, Web analytics tools (e.g., Google Analytics), Affiliate marketing and influencer marketing; Customer Relationship Management (CRM) in E-commerce	12

III	**E-Commerce Logistics and Supply Chain:** Order fulfillment and delivery, Reverse logistics and returns management, Inventory management and dropshipping, Role of AI and automation in logistics Case study: Amazon Prime logistics **Mobile Platforms and Applications:** Mobile operating systems (Android, iOS): Mobile application development basics, Progressive Web Apps (PWAs) and native apps, Mobile app stores and distribution channels, Case studies of successful mobile apps	12
IV	**Mobile Payment Systems:** Overview of mobile payment technologies, UPI, mobile wallets (e.g., Paytm, Google Pay), Near Field Communication (NFC) and QR codes, Security in mobile transactions Regulatory environment for mobile payments **Mobile Marketing and Advertising:** SMS and push notification marketing, Location-based marketing, Mobile SEO and mobile-friendly websites, In-app advertising and monetization models, Campaign tracking and mobile analytics	12
V	**Security and Legal Aspects:** Security threats in M-Commerce (malware, phishing), Mobile device management (MDM), Legal and ethical issues, Data protection and privacy in mobile apps, Compliance standards and regulations **Emerging Trends in M-Commerce:** Mobile banking and financial services, Voice commerce and AI assistants, Augmented Reality (AR) in mobile shopping, IoT and mobile integration, 5G and its impact on M-Commerce	12

Reference Books:

- E-Commerce: Business, Technology, Society – Kenneth C. Laudon & Carol G. Traver
- Electronic Commerce – Gary Schneider
- Digital Marketing – Seema Gupta
- Mobile Commerce: Technology, Theory and Applications – Brian E. Mennecke
- M-Commerce: Technologies, Services, and Business Models – Norman Sadeh

Code of the Course	Title of the Course	Total Number of Periods
M.Com (CM)-NEP-104 (DSC)	E-Commerce and M-commerce Technologies (Practical)	40

List of Practical's:

1. Make a Poster or Brochure for an Online Store
   – Design a simple poster using Canva or MS Word.
   – Include your store name, product images, offers, and contact details.
2. Product Catalog Management
   – Create a product database in Excel or Google Sheets.
   – Include product name, ID, price, stock, and description.
3. Simulate a Product Purchase Process
   – Choose a product on any e-commerce website.
   – Take screenshots of the steps: add to cart → checkout → payment method (no actual purchase).
4. Create a Simple Web Page for a Shop
   – Design a basic HTML page showing product details like name, image, price, and description.
5. View and Compare E-Commerce Websites
   – Visit websites like Amazon, Flipkart, Nykaa and Meesho.
   – Compare features like design, product display, and payment options.
   – Analyze their business model, user experience, and success factors.
6. Digital Marketing Campaign Design
   – Design a mock marketing plan using Google Ads or Facebook Ads.
   – Include ad copies, targeting, and basic budget outline.
7. Cybersecurity in E-Commerce
   – Discuss common threats: phishing, MITM attacks, SQL injection.
8. Simulate Mobile Wallet Integration
   – Show how wallets like Google Pay or Paytm work during online checkout.
9. QR Code Payment Demo
   – Generate and scan QR codes for mock payments.
10. Study a Mobile Commerce App
    – Choose an app like Swiggy or Meesho and write a short case study on its features and success.

Division of Marks for Practical's

Record Preparation	10 Marks
Practical Performance	10 Marks
Viva-voce	10 Marks
Description	10 Marks
Practical Total	**40 Marks**

PART B

Syllabus Prescribed for 2 Year Post Graduate Programme (NEP)
Programme: Master of Commerce (Computer Management) I Year Semester I-NEP

Code of the Course	Title of the Course	Total Number of Periods
M.Com (CM)-NEP 105(DSE)	Computer Fundamentals and Operating System	60

Course outcomes

By the end of this course, students will be able to:

CO1: Understand and describe fundamental computer components, software types, and operating systems.
CO2: Execute Unix/Linux commands, manage files, directories, users, and write basic shell scripts.
CO3: Use MS Word efficiently for document creation, formatting, mail merge, and report preparation.
CO4: Design professional presentations using MS PowerPoint with transitions, animations, and data visuals.
CO5: Apply spreadsheet skills for formatting, referencing, and using basic functions in Excel.
CO6: Perform advanced data analysis using What-If tools, conditional logic, data validation, and lookup functions.
CO7: Create dynamic reports and dashboards using PivotTables, Charts, and Slicers in Excel.
CO8: Automate tasks and enhance productivity using Macros and introductory VBA scripting.

Unit	Contents	No. of Periods
I	Introduction, Basic functional units of Computer, Hardware, Types of memory, Input / Output devices. Software, Classification of software, Types of Operating system, Number system.	12
II	**Introduction to Unix: Features ,** Basic Unix commands, Unix files system ,Working with files and directories, Permissions, Using vi Editor. User management in Unix, mail and other commands, **Introduction to Linux,** Features, Basic Linux commands, Shell programming.	12
III	**Overview of Word Processor:** Introduction to MS-Word, Basics Format the Text document, Formatting Paragraphs and Lists Page settings and margins including header and footer, Mail Merge, Spelling and Grammatical checks, Table and its options, Working with Hyperlinks, Working with pictures. **Overview of Power-Point Presentation**: Introduction of MS-Power Point, Opening, Viewing, Creating and Printing slides, Applying auto layouts, adding custom animation, using slide transitions, graphically representing data: Charts & Graphs, Creating Professional Slide for Presentation	12
IV	Overview of Spreadsheet Introduction to MS Excel, Customizing Excel: - Customizing the Ribbon, Using and Customizing AutoCorrect, Changing Excel's Default Options **Formatting and Proofing:** -Currency Format, Format Painter, Formatting Dates, Formatting Cells with Number formats, Font formats, Alignment, Borders, etc, Basic conditional formatting, Absolute, Mixed and Relative Referencing	12

	Basic Functions :- Mathematical Functions, Text Functions, Date and Time Functions **Advanced Paste Special Techniques: -** Paste Formulas, Paste Formats, Paste Validations, Transpose Tables, Sorting and Filtering	
V	**Advanced Excel** **What If Analysis :-** Goal Seek, Scenario Analysis, Data Tables (PMT Function), Solver Tool, **Logical Functions :-** If Function, How to Fix Errors – if error, Nested If, Complex if and or functions, **Data Validation :-** Number, Date & Time Validation, Text and List Validation, Custom validations based on formula for a cell, Dynamic Dropdown List Creation using Data Validation – Dependency List, **Lookup Functions:-**Vlookup / HLookup, Creating Smooth User Interface Using Lookup Vlookup with Helper Column, Pivot Tables, Charts and slicers, Introduction to VBA	12

Textbook References:

- Introduction to Computers by Peter Norton Tata McGraw Hill Private Limited
- Introduction To Information Technology, by V.Rajaraman PHI Learning Private Limited,Delhi,2009
- Working in Microsoft office Ron Mansfield Tata Me Graw Mill (2008)

Code of the Course	**Title of the Course**	**Total Number of Periods**
M.Com(CM)-NEP-105(DSC)	Computer Fundamentals and Operating System (Practical)	40

List of Practical's

1. Create a document with a heading and using formatting features underline, boldface and change the font.
2. Enter a list of at least 10 things you have to do this week. Select the list and turn on Numbering. Select the list again and turn on Bullets.
3. Write letter to HR Managers of five different companies requesting them to allow you to do a summer project in their companies using Mail Merge.
4. Create a document that contains several paragraphs of text. Select the text and convert it into two columns. Balance the column length. Add a line between the columns; also add a title that spans both the columns.
5. Create a Table Student using Table Handling feature; include five columns and five rows taking your own data.
6. In above table find Maximum and Minimum marks in columns mark1, mark2, mark3, mark4 and total.
7. Create Graph
8. Use of different Functions in MS Excel
9. Use of Data Consolidation
10. Use of Pivote Table
11. Create a Presentation with 5 slides about various events that take place in of your college.
12. Create a presentation with at least 5 slides, change the color scheme and change the fill for a single scheme.
13. In a presentation – insert a sound file and replay.
14. In an existing presentation – select one or more slides – apply a new transition, change the speed of the transition.
15. In an existing presentation select one or more slides and apply preset animations from animation affects.

Division of Marks for Practical's

Record Preparation	10 Marks
Practical Performance	10 Marks
Viva-Voce	10 Marks
Description	10 Marks
Practical Total	**40 Marks**

Part-B

Syllabus Prescribed for 2 Year Post Graduate Programme (NEP)

Programme: Master of Commerce (Computer Management)-I Year Semester I-NEP

Code of the Course	Title of the Course	Total Number of Periods
M.Com (CM)-NEP-105 (DSE)	Data Communication and Networking	60

Course Outcomes:

1. Understand the fundamental concepts of data communication, network components, and Analyze various types of transmission media and signal encoding methods used in modern communication systems.
2. Explain networking models such as OSI and TCP/IP and their respective layer functionalities and design and evaluate network topologies.
3. Critically assess security threats in data communication and recommend cryptographic and authentication solutions.
4. Develop awareness of ethical, legal, and societal issues related to network security, data privacy, and global connectivity.
5. Understand Wireless and mobile networks with emerging wireless technologies.
6. Conduct research or case studies on emerging trends and technologies in networking such as Software Defined Networking (SDN), Internet of Things (IoT), or 5G communication.

Unit	Contents	No. of Periods
I	**Introduction to Data Communication:** Fundamentals of data communication, Components: Message, sender, receiver, transmission medium, protocol; Data representation: Text, numbers, images, audio, video; Data flow: Simplex, half-duplex, full-duplex, Analog and digital signals. **Transmission Media:** Guided Media: Twisted pair, coaxial cable, fiber-optic cable; Unguided Media: Radio waves, microwaves, infrared; Transmission impairments: Attenuation, distortion, noise; Data Encoding and Modulation: Digital-to-digital and analog-to-digital encoding techniques; Modulation techniques: ASK, FSK, PSK, QAM, Multiplexing: FDM, TDM, WDM	12
II	**OSI and TCP/IP Models:** OSI 7-layer model: Functions of each layer, TCP/IP protocol suite, Encapsulation and decapsulation; IP Addressing and Routing: IPv4 and IPv6 addressing, Subnetting and supernetting, Static and dynamic routing; Routing protocols: RIP, OSPF, BGP **Networking Devices and Topologies: N**etwork Topologies: Star, bus, ring, mesh, hybrid; Networking devices: Repeater, hub, switch, router, gateway, bridge; Network types: LAN, MAN, WAN, PAN, NAT, DHCP	12

III	**Network Security and Cryptography:** Introduction to network security, Types of threats and attacks, Firewall, antivirus, IDS/IPS **Network Security Tools and Technologies:** VPN (Virtual Private Network), Proxy Servers and Reverse Proxies, SIEM (Security Information and Event Management), **Cryptography basics**: Symmetric and asymmetric encryption; Security protocols: SSL/TLS, IPSec **Advanced Cryptography:** Digital Signatures, Public Key Infrastructure (PKI), Certificates and Certificate Authorities (CA), Blockchain and Cryptography	12
IV	**Wireless and Mobile Networks:** Wireless LANs and IEEE 802.11 standards, Bluetooth, Wi-Fi, WiMAX, Cellular networks: 3G, 4G, 5G, Mobile IP and mobility management, Ad-hoc and sensor networks **Emerging Wireless Technologies:** Li-Fi (Light Fidelity), Visible Light Communication (VLC), Terahertz Communication, Quantum Wireless Communication	12
V	**Emerging Trends and Advanced Concepts:** Software-Defined Networking (SDN): Architecture and use cases, Network Function Virtualization (NFV) and its role in modern networks, 5G and beyond: Network slicing, Zero Trust Architecture in enterprise networks, Cloud networking and hybrid cloud infrastructure.	12

Reference Books:

- **Data and Computer Communications**, William Stallings, Pearson Education, 10th Edition or latest
- **Data Communications and Networking**, Behrouz A. Forouzan, McGraw-Hill Education, 5th Edition or latest
- **A Top-Down Approach Computer Networking**:, James F. Kurose & Keith W. Ross, Pearson, 8th Edition or latest
- **Computer Networks,** Andrew S. Tanenbaum, David J. Wetherall, Pearson Education, 5th Edition or latest
- **Cryptography and Network Security: Principles and Practice,** William Stallings, Pearson, 7th Edition or latest
- **Network Security Essentials: Applications and Standards,** William Stallings, Pearson, 6th Edition

Part-A

Syllabus Prescribed for 2 Year Post Graduate Programme (NEP)

Programme: Master of Commerce (Computer Management)-I Year Semester II-NEP

Code of the Course	Title of the Course	Total Number of Periods
M.Com(CM)-NEP-201(DSC)	Principles of Management	60

Course Outcomes:

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

1. CO1: Understand Fundamental Concepts of Management

Students will comprehend the basic principles, functions, and evolution of management and its relevance in modern organizations.

2. CO2: Apply Planning and Decision-Making Techniques

Students will learn to formulate organizational plans and make effective managerial decisions using logical and analytical thinking.

3. CO3: Analyze Organizational Structures and Roles

Students will understand different organizational structures, authority-responsibility relationships, and departmentalization.

4. CO4: Demonstrate Leadership and Motivation Techniques

Students will explore leadership styles and motivation theories applicable to managing teams and achieving organizational goals.

5. CO5: Develop Skills in Coordination and Control

Students will understand how to implement effective coordination and control mechanisms for achieving efficiency and productivity.

6. CO6: Apply Management Principles in IT and Business Contexts

Students will be able to relate and apply management principles to real-world situations in IT project management and computer-based business environments.

Unit	Contents	No.of Periods
I	**Introduction to Management** • Meaning, Nature, and Importance of Management • Principles of Management • Levels of Management • Roles and Skills of Manager	12

	• Evolution of Management Thought (By Taylor, Fayol)	
II	**Planning & Decision Making -** • Meaning and Importance of Planning • Steps in Planning Process • Types of Plans (Objectives, Strategies, Policies) • Decision Making – Meaning, Process, and Types • Limitations of Planning	12
III	**Organizing & Delegation of Authority-** • Meaning and Importance of Organizing • Principles of Organization • Types of Organizational Structure (Line, Functional, Matrix) • Delegation of Authority and Responsibility • Centralization vs. Decentralization	12
IV	**Staffing, Directing and Motivation** • Meaning and Importance of Staffing • Recruitment, Selection, and Training • Meaning and Principles of Directing • Leadership – Styles and Qualities of a Leader • Motivation – Concepts and Theory (Maslow), Types of Motivation	12
V	**Controlling, Coordination & Co-operation** • Meaning and Importance of Control • Process of Controlling • Coordination & Co-operation – Meaning, Importance and Difference	12

Textbook and References:

- P.C. Tripathi, P. N. Reddy "Principles of Management"
- K. Gupta, J. K. Sharma " Management of Systems"
- Lallan Prasad, S. S. Gulshan "Management Principles and Practices"

PART-A

Syllabus Prescribed for 2 Year Post Graduate Programme (NEP)

Programme : Master of Commerce(Computer Management)-I Year Semester II-NEP

Code of the Course	Title of the Course	Total Number of Periods
M.Com(CM)-NEP-202(DSC)	Client Server Computing	60

Course Outcomes:

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

1. Understand the syntax, semantics, and structure of Java programming language.
2. Apply object-oriented programming concepts using Java.
3. Implement robust and error-free programs using exception handling mechanisms.
4. Develop multi-threaded and file-handling applications.
5. Build GUI-based applications using Java AWT/Swing and handle events effectively.
6. Integrate Java programs with databases using JDBC
7. Create Web Applications using Servlets.

Unit	Contents	No.of Periods
I	**Introduction to Java and Features** , JVM, JRE, JDK, Java program structure, Compilation and Execution,Data , Java Applets, Types, Variables, Operators, and Constant, **Control Structures** (if, switch, Loops:for,while,do-while),break and continue, **Arrays and Strings:** One-dimensional and multidimensional arrays, String class and StringBuffer class methods	12
II	**Classes and Objects:** Class and Object creation, Constructors and Overloading, **Inheritance and Polymorphism:**Types of inheritance, Method overriding, final, super, and this keywords , Abstract Class and Interfaces, **Access Specifiers:**Static,public, Private, protected,**Exception Handling:** try, catch, throw ,throws,finally	12
III	**Packages and Imports:** Creating and using packages, Accessing package members, **Multithreading:** Thread Class, Runnable interface, Thread Lifecycle, Synchronization, **File I/O:** FileReader and FileWriter, BufferedReader and BufferedWriter, Serialization basics, **Collections**	12

	Framework: List, Set, Map interfaces, ArrayList, HashSet, HashMap classes.	
IV	**AWT and Swing Components:** Introduction to AWT, JFrame, JButton, JLabel, JTextField, JCheckBox, JRadioButton, **Layout Managers:** FlowLayout, BorderLayout, GridLayout, **Event Handling:** Event Delegation Model, ActionListener, MouseListener, KeyListener, **Networking:** java.net package, InetAddress,Socket and ServerSocket, DatagramSocket, URL & URLConnection.	12
V	**Java Database Connectivity (JDBC) :** JDBC Architecture and Drivers, Connecting to Databases (MySQL/Oracle), Statements, PreparedStatement, Stored Procedure and CallableStatement, DatabaseMetaData, ResultSet and ResultSetMetaData **, Servlets:** Servlet API and lifecycle, HttpServlet class, doGet(), doPost(), Session Management using Cookies and HTTPSession, JDBC in Servlets.	12

Text Books :

- **Herbert Schildt**, Java: The Complete Reference, Seventh Edition McGraw Hill
- **Core Java Volume I – Fundamentals** Eighth Edition by Cay S. Horstmann, Gary Cornell ,Pearson Education

Reference Books:

- **E. Balagurusamy**, Programming with Java, McGraw-Hill
- **Core Java Volume I – Fundamentals** Eighth Edition by Cay S. Horstmann GUI & multithreading sections
- **Core Servlets and Java Server Pages Volume 1: Core Technologies** by Marty Hall and Larry Brown Prentice Hall
- **JDBC, Servlets, and JSP** by Ivan Bayross
- **Java 6 in Simple Steps**-DreamTech Press

Code of the Course	Title of the Course	Total Number of Periods
M.Com(CM)-NEP-202(DSC)	Client Server Computing (Practical)	40

List of Practical's

1. Write a Java program to check whether a number is even or odd.
2. Write a Java program to find the largest of three numbers using if-else.
3. Write a Java program to print the multiplication table of a number.
4. Write a Java program to generate Fibonacci series using loops.
5. Write a Java program to reverse an array of integers.
6. Write a Java program to sort numbers in Asce/Desc order.
7. Write a Java program to perform various operations on strings (length, concat, compare, substring).
8. Write a Java program to demonstrate constructors.
9. Write a Java program to overload methods..
10. Write a Java program to implement an interface.
11. Write a Java program to demonstrate try-catch-finally.
12. Create a package and access it in java program.
13. Create a multithreaded application that prints numbers using two threads.
14. Write a Java program to read and write text using FileReader and FileWriter.
15. Create a Java Swing application with login form using JLabel, JTextField, and JButton.
16. Demonstrate the use of different layout managers (FlowLayout, BorderLayout, GridLayout).
17. Write a Java program for client-server communication using TCP (Socket and ServerSocket).
18. Write a Java program to read content from a given URL using URLConnection.
19. Write a program to send and receive UDP datagrams.
20. Write a JDBC program to connect to MySQL database and insert a record.
21. Retrieve and display records from a database using ResultSet.
22. Update and delete records in a table using PreparedStatement.
23. Demonstrate the use of CallableStatement to call a stored procedure.
24. Create a servlet to accept form data (name, email) and display it.
25. Implement session tracking using Cookies and HttpSession.

Division of Marks for Practical's

Record Preparation	10 Marks
Practical Performance	10 Marks
Viva-Voce	10 Marks
Description	10 Marks
Practical Total	**40 Marks**

PART-A

Syllabus Prescribed for 2 Year Post Graduate Programme (NEP)

Programme: Master of Commerce (Computer Management)-I Year Semester -II-NEP

Code of the Course	Title of the Course	Total Number of Periods
M.Com (CM)-NEP-203(DSC)	Database Management Technology	60

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

- *Understand* the basic concepts and the applications of data base systems.
- *Master* the basics of SQL and construct queries using SQL.
- *Understand* the relational database design principles.
- *Familiar* with the basic issues of transaction processing and concurrency control.
- *Familiar* with database storage structures and access techniques.

Unit	Contents	No. of Periods
I	**Database Management System:** Introduction, Purpose of Database System, Database System Applications, View of Data, Database Languages, Database System Structure, Data Models, Database Design **ER-model:** Entity Relationship model, ER diagram (Entities, Attributes, Relationships, Constraints, keys), extend E-R features.	12
II	**SQL:** Characteristics and Advantages, SQL Data types and Literals. **Database Objects:** Table, Synonyms, Indexes, Views, Sequence, Cluster and Snapshots**,** Operators, Conditions, Commands, Functions, Joins, Unions, Subqueries. **PL/SQL:** Block, Architecture, Variables, Constants, Characters, Datatypes, Conditions, Loops, concept of Stored procedures, Functions, Packages, Cursors, Triggers, Error handling in PL/SQL.	12
III	**Schema Refinement and Normal Forms:** Introduction to schema refinement, function dependencies, Normal forms-1NF,2NF, 3NF BCNF, Properties of decompositions, Normalizations, Schema refinement in database design.	12
IV	**Database Transaction Management:** Introduction, Transaction States, ACID properties**.** **Serializability:** Conflict and View. **Concurrency Control:** Lock-Based, Time-Stamp based Deadlock handling, **Recovery methods**: Log Based recovery. .	12

V	**NOSQL Database:** Introduction to Distributed Database System, Advantage and Disadvantages.Introdution to NOSQL Database, Need, features, Types of NOSQL database. Introduction to MongoDB, syntax and usage, CRUD operations, Indexing	12

Text books:

- Data base Management Systems, Raghu Ramakrishnan, Johannes Gehrke, McGraw Hill Education
- Database System Concepts, A. Silberschatz, Henry.F. Korth, S. Sudarshan, McGraw Hill Education

Reference Books:

- Databasesystems,6th edition, RamezElmasri, Shamkant B. Navathe, Pearson Education.
- DatabaseSystemsDesign, Implementation, and Management, PeterRob&Carlos Coronel,7th Ed.
- Fundamentals of Database Systems, Elmasri Navrate, Pearson Education
- Introduction to Database Systems, C.J. Date, Pearson Education
- Database Development and Management, LeeChao, Auerbach publications, Taylor& Francis.G

Code of the Course	Title of the Course	Total Number of Periods
M.Com (CM)-NEP-203(DSC)	Database Management Technology (Practical)	40

List of Practical's

1 Design a Database and create required tables. For e.g. Bank, College Database
2 Apply the constraints like Primary Key, Foreign key, NOT NULL to the tables.
3 Write a SQL statement for implementing ALTER, UPDATE and DELETE.
4 Write the queries to implement the joins.
5 Write the query for implementing the following functions: AX (), MIN (), AVG (), COUNT ().
6 Write the queries using following functions: -
1. Add Months 2. Last Day 3. Months Between 4. To_Char 5.To_date
2. 1.Concat 2. Replace 3.Substr 4. Length 5. Initcap
3. 1.Least 2.Count 3. Ceil 4.Floor 5.Mod
7 Create table 'STUDENT' having fields Rollno, Name, Class, Age, Category and giving the following constraints. Primary key, Unique, default, check, not null.
8 Create unique index on student table and insert one repeated record in it.
9 Create sequence on emp table and display it.
10 Write the query to implement the concept of Integrity constrains.
11 Write the query to create the views.
12 Write a program in PL/SQL to update one record in student table using trigger
13 Perform the following operation for demonstrating the insertion, updation and deletion using the referential integrity constraints.
14 Write the query for creating the users and their role.
15 Write a program in PL/SQL which will generate a Fibonacci series in the following manner on the output screen.
1 2 3 5 8. . . . .
16 Write a program in PL/SQL to print 1to 50 numbers in ascending order using for loop.

17 Write a PL/SQL code to implement Procedure.
18 Write a PL/SQL code to implement Functions.
19 Write a PL/SQL code to create a Package and implement it.
20 Write a PL/SQL block to handle Exception Handling.
21 Case Study on Database Transaction Management
22 Case Study on NOSQL

Division of Marks for Practical's

Record Preparation	10 Marks
Practical Performance	10 Marks
Viva-Voce	10 Marks
Description	10 Marks
Practical Total	**40 Marks**

PART-B

Syllabus Prescribed for 2 Year Post Graduate Programme (NEP)

Programme : Master of Commerce (Computer Management)-I Year Semester II-NEP

Code of the Course	Title of the Course	Total Number of Periods
M.Com(CM)-NEP-204(DSE)	Communication Skills	60

Course Outcomes:

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

1. CO1: Understand the Basics of Communication

Students will understand the nature, types, and barriers of communication, especially in professional and technical environments.

2. CO2: Improve Listening, Speaking, Reading, and Writing (LSRW) Skills

Students will develop core communication skills essential for academic, corporate, and IT-related interactions.

3. CO3: Communicate Effectively in Interviews and Group Discussions

Students will gain confidence and competence in public speaking, interviews, and group communication settings.

4. CO4: Draft Clear and Professional Written Communication

Students will be able to write resumes, emails, notices, reports, and other professional documents clearly and correctly.

5. CO5: Use Communication Tools and Technology Efficiently

Students will learn to use modern tools (email, video calls, collaboration platforms) to communicate effectively in digital workplaces.

6. CO6: Demonstrate Communication Etiquette and Soft Skills

Students will display professional behavior, positive body language, and appropriate etiquette in various business and managerial contexts.

Unit	Contents	No.of Periods
I	**Basics of Communication -** • Meaning and Importance of Communication • Process and Elements of Communication • Types of Communication (Verbal, Non-Verbal, Written, Visual) • Barriers to Communication and Overcoming Them	12

II	**Business Communication:** • Characteristics of Effective Business Communication • Formats of Business Letters (Enquiry, Order, Complaint, Sales, Circular) • Memorandums, Notices, and Circulars • Email Etiquette and Professional Writing	12
III	**Digital & Technical Communication:** • Role of Computers in Communication • Email Writing for Business • Report Writing and Presentation Skills • Basics of Social Media Communication in Business	12
IV	**Oral Communication Skills:** • Presentation Skills (Using PPT) • Group Discussions and Debates • Interview Techniques and Public Speaking • Telephone and Video Conferencing Etiquette	12
V	**Professional & Interpersonal Skills:** • Body Language and Non-Verbal Cues • Listening Skills and Feedback • Professional Ethics in Communication	12

Text Books and References:

1. Business Communication" by Meenakshi Raman and Prakash Singh Publisher: Oxford University Press
2. "Technical Communication: Principles and Practice" by Meenakshi Raman and Sangeeta Sharma Publisher: Oxford University Press

3. "Effective Technical Communication" by M. Ashraf Rizvi Publisher: Tata McGraw-Hill

4. "Developing Communication Skills" by Krishna Mohan & Meera Banerji Publisher: Macmillan India

PART-B

Syllabus Prescribed for 2 Year Post Graduate Programme (NEP)

Programme: Master of Commerce(Computer Management) I Year Semester II-NEP

Code of the Course	Title of the Course	Total Number of Periods
M.Com(CM)-NEP-204(DSE)	Digital Accounting	60

Course outcomes

Upon completion of "Digital Accounting ", Syllabus students will be able to

1. **Understand and explain** the fundamental concepts of accounting and the process of computerized accounting using software applications.
2. **Generate and interpret** key accounting statements including Trial Balance, Profit & Loss Statement, and Balance Sheet to analyze financial performance.
3. **Manage and record** various accounting transactions including cash/bank books, journal and ledger entries, and track receivables and payables.
4. **Configure and manage GST** in Tally including master setup, intrastate and interstate transactions, advance payments, and generating statutory reports.
5. **Analyze the impact of indirect taxation (GST, VAT, Excise)** on business transactions and reflect accurate tax liability and input tax credit in books of accounts.
6. **Apply the principles of tax deduction at source (TDS) and tax collection at source (TCS)** to real-world business cases within Tally for compliance.

Unit	Contents	No. of Periods
I	Introduction, Basic Accounting Concepts, Process of Accounting Software, Different Accounting Packages, Important Concepts under GST, Basics of Accounting, Advanced Accounting Features, Quick setup	12
II	Fundamentals of Tally, Company Creation, Gateway of Tally, Account Masters, Accounts Vouchers, Report, Cash/Bank Book, Journal Book, Ledger Book	12
III	Trial Balance, Profit & Loss Statement, Balance Sheet, Accounts Receivables & Payables, Banking, Cost Centers, Foreign Currency, Tally Administration	12

IV	Tax Deducted at Source (TDS), Value Added Tax (VAT), Excise Duty (ED), Tax Collected at source (TCS), Payroll Masters, Pay Voucher, Pay Reports	12
V	GST Introduction, GST Master Setup in Tally, GST - Intrastate Supply, GST - Interstate Supply, GST Advance Transaction & Reports	12

Textbook References:

- ***Tally Essentials*** by Tally Education Pvt. Ltd.
- ***Fundamentals of Accounting*** by C. Vishwanatha Reddy
- ***Introduction to Python Programming*** by S. Gowrishankar and A. Veena:

Code of the Course	Title of the Course	Total Number of Periods
M.Com(CM)-NEP-204(DSE)	Digital Accounting (Practical)	40

List of Practical's

1. Company Creation
2. Creating Account Masters
3. Creating different Accounting Vouchers
4. Payment Vouchers
5. GST Invoice
6. Tally Administration

Division of Marks for Practical's

Record Preparation	10 Marks
Practical Performance	10 Marks
Viva-Voce	10 Marks
Description	10 Marks
Practical Total	**40 Marks**