



KANCHRAPARA COLLEGE

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All Semester II, II and III students are advised to go through the list below and consider the syllabus before choosing their preferred MDS course.

LIST OF MDC SUBJECTS AND SYLLABUS

MDC Subjects	Subject Codes	Codes in Question Papers
COMPUTER SCIENCE (Digital System Design & Computer Science for Beginners)	CSBMDC	CS-MU-T-1(for sem 1) CS-MU-T-2 (for sem 2) CS-MU-T-3 (for sem 3)
COMMERCE (Basic Accounting)	BACMDC	UG-BCOM-MDC-T-01B UG-BCOM-MDC-T-02B UG-BCOM-MDC-T-03B
COMMERCE (Business Entrepreneurship)		UG-BCOM-MDC-T-01A UG-BCOM-MDC-T-02A UG-BCOM-MDC-T-03A
FOOD AND NUTRITION (Concepts of Digestion & Nutrient Utilisation)	FNTMDC	FNT-MDC-T-1 FNT-MDC-T-2 FNT-MDC-T-3
POLITICAL SCIENCE (Local Self Government)	LOCMDC	POL-MDC-T-01 POL-MDC-T-02 POL-MDC-T-03
SANSKRIT (History of Scientific and Technical Literature in Sanskrit)	HSTLMDC	SANS-MDC-T-01 SANS-MDC-T-02 SANS-MDC-T-03
GEOGRAPHY (Disaster Management)	DSMMDC	GEOG-MU-T-1 GEOG-MU-T-2 GEOG-MU-T-3
ECONOMICS (Basic Economics)	BAEMDC	ECO-MDC-T-1 ECO-MDC-T-2 ECO-MDC-T-3
LIBRARY and INFORMATION SCIENCE (Academic Libraries in Digital Environment)	ALDMDC	LIS-MDC-T-1 LIS-MDC-T-2 LIS-MDC-T-3

CS-MU-T-1	Computer Science for Beginners	Multidisciplinary Theory		Evaluation 35 + 10 (Internal)
Course Objectives				
To introduce students to the fundamental concepts of computers, including their history, hardware and software components, number systems, Boolean algebra, problem-solving techniques, programming languages, database systems, internet technologies, and information technology laws, enabling them to develop a foundational understanding necessary for further study in computer science and applications.				
Syllabus				
	Generation of Computers A brief history of generations of computers, Super, Mainframe, Mini and Personal Computer.			
	Introduction to Computer Hardware and Software Components of modern computers: CPU, Primary and Secondary storage, I/O devices Software: Systems and Application.			
	Number Systems A brief history of different number systems. Number representations and conversion rules in different number systems such as binary, octal, hexadecimal and decimal.			
	Boolean Algebra Fundamentals of Boolean Algebra, Switches and Inverters, Functionally Complete Gates (AND, OR, NOT), NAND, NOR. Switching function and Boolean function. De Morgan's theorem, Minterm and Maxterm, Truth table and minimization of switching function up to four variables, Algebraic and K- map method of logic circuit synthesis: Two level and Multi level.			
	Problem Solving Flow Charts, Decision Tables and Pseudo codes.			
	Programming Languages A brief history of Programming languages: Machine Language, Assembly Language, High Level Language.			
	Introduction to Database Management Systems What is DBMS? Difference between DBMS and File structure, Architectures of DBMS. Different Types of DBMS.			

	Internet History of the internet and different internet enabled services used in our daily life. Different internet service providers. Cloud services and service providers.	
	Information Technology Laws Information Technology laws provided to electronic commerce – electronic signatures, data protection, cyber security; penalties & offences under the IT Act, dispute resolution, and other contemporary issues.	
Recommended Books and resources		
	1. P. K. Sinha & Priti Sinha , —Computer FundamentalsII, BPB Publications, 2007. 2. Dr. Anita Goel, Computer Fundamentals, Pearson Education, 2010. 3. V. Rajaraman, Neeharika Adabala,- Fundamentals of Computers, PHI 4. IT Act 2000(INDIA).	
Outcome		
	After completing this course, students are expected to demonstrate the following knowledge, skills, and abilities: · Remember – Recall the generations of computers, types of hardware, software, and number systems. · Understand – Explain Boolean algebra concepts, problem-solving methods, and programming language classifications. · Apply – Perform number system conversions, Boolean simplification, and design basic logic circuits. · Analyze – Differentiate between DBMS and file systems, and compare internet-enabled services and cloud models. · Evaluate – Assess the importance of IT laws in securing digital transactions and protecting data. · Create – Develop basic algorithms and represent them using flowcharts, decision tables, and pseudocode.	

GEOGRAPHY

Type: Multidisciplinary Course

PAPER: I (Theory) COURSE CODE: GEOG-MU-T-1

COURSE TITLE: DISASTER MANAGEMENT

Total Marks: 45 Credits: 3 Course

Evaluation: Semester End Examination (35 Marks) and Internal Assessment (10 Marks)

Course Objectives:

- To acquire knowledge about basic concepts of disaster management
- To study the major natural and manmade disasters in India
- To learn disaster management strategies

Course Learning Outcomes:

After the completion of course, the learners will have ability to:

- learn the basic concepts in disaster management.
- understand the nature of natural and manmade disasters in India
- develop strategies for disaster management to sustain social development

Professional Skill Development Opportunities of the Course: This course will help the learners in developing problem solving skills and observational skills. The acquired knowledge from this course will help the learners to develop effective strategies for management of disasters.

Course Content:

1. Definition and Concepts: Hazards, Disasters; Risk and Vulnerability; Classification of hazards
2. Flood, drought, landslide: causes, impact and distribution in India
3. Earthquake: causes, effects and seismic zones of India; Tsunami: causes and effects
4. Tropical Cyclone: structure, formation and impact with reference to India
5. Manmade disasters in India: soil erosion and accidental release of toxic chemicals – causes and impact
6. Disasters - response and mitigation measures: Institutional set up - NDMA and NIDM; Indigenous knowledge and community-based Disaster Management; Do's and Don'ts during and post disasters

Suggested Readings:

- Alexander, D., (1993). Natural Disasters, ULC Press Ltd., London.
- Collins, L.R., and Schneid, T.D., (2000). Disaster Management and Preparedness, Taylor and Francis, Florida.
- Edwards, B., (2005). Natural Hazards, Cambridge University Press, Cambridge.
- Gupta, H.K., (2010). Disaster Management, Universities Press India, Hyderabad.

- Kapur, A., (2010). Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
- Modh, S., (2010). Managing Natural Disaster: Hydrological, Marine and Geological Disasters. Macmillan, New Delhi.
- Singh, J., (2007). Disaster Management, Future Challenges and Opportunities, I.K. International Pvt. Ltd., New Delhi.
- Singh, R.B., (2005). Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi.
- Singh, R.B., (2006). Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, Jaipur.
- Sinha, A., (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi
- Smith, K., (2011). Natural Hazards, Routledge, London
- Stoltman, J.P. et al., (2004). International Perspectives on Natural Disasters, Kluwer Academic Publications, Dordrecht.

POLITICAL SCIENCE

MULTIDISCIPLINARY COURSE (MDC)

POL-MU-T-1

Local-self Government in India

Multidisciplinary course

Credit-3

Full Marks-45

Course Description:

The course has been framed in such a way that Students are to be acquainted with grassroots levels of administrative functioning in a decentralized Government system. The course is easily graspable for other interdisciplinary students also.

Course Objectives:

To give an overall understanding of local self-governance in India. Students will be aware about decentralization and how Indian governance has been divided into three tier governance.

To make students acquainted with local Administration and functionaries both in Rural and Urban areas.

Course Outcome:

Students shall gain-

- An understanding of the importance of local self-governance and how its proper functioning can shape a greater social interest of local people.
- Understanding Prospects and Consequences of choosing right Local Representatives in grass root politics.
- It will create more interest by learning both theoretically and practically as grassroots level governance is the closest to people.

Course Content:

Unit 1: Evolution of Local Self Government in India and its Importance.

Unit 2: The 73rd and 74th Constitutional Amendment of India.

Unit 3: Formation, Tenure, Powers and Functions of local self-government: Urban(Municipality and Municipal Corporation), Rural(Gram Panchayat, Panchayat Samiti and Zilla Parishad) .

Unit 4: Compositions and Functions of Grass Root Level Institutions - Gram Sabha, Gram Sansad, Ward Committee, Borough Committee.

Unit 5: Role of Administrative Staff Related to Local Self Bodies in India: BDO, SDO and DM.

Unit 6: Panchayati Raj in West Bengal: An Overview.

Suggested Readings:

1. R.N. Prasad, Urban Local self-Govt. in India, Mittal Publications, New Delhi.
2. S.R. Maheswari, Local Government in India, Lakshmi Narain Agarwal, Agra, 2010. Page 11 of 47
3. R.P. Joshi and G.S. Narwani, Panchayati Raj in India, Rawat Publication, Jaipur, 2002.
4. M.P. Dube and M. Padalia (ed.), Democratic Decentralization and Panchayati Raj in India, Anamika Publishers.
5. M.P. Sharma, Local Self Government.

ECONOMICS

MDC (Multidisciplinary Course): Basic Economics - 3 credits

Course Objectives: This course provides a foundational understanding of both microeconomic and macroeconomic concepts, including market mechanisms, production decisions, national income accounting, and monetary economics. It aims to equip students with basic economic principles applicable to realworld scenarios.

Course Outcomes (COs): Students will be able to:

1. Explain fundamental economic problems, including scarcity, opportunity cost, and the central problems of an economy.
2. Analyze demand and supply dynamics, price determination, and consumer behaviour.
3. Describe production and cost functions, market structures, and firm decision-making processes.
4. Evaluate key macroeconomic aggregates, methods of national income estimation, and the role of monetary policy.
5. Assess inflation, unemployment, and their interrelationship, along with strategies to combat economic fluctuations.

COURSE CONTENT:

Unit 1: Introduction to Micro and Macro Economics (2 Lecture Hours)

- 1.1` Problem of scarcity and choice: scarcity, choice and opportunity cost
- 1.2 Meaning of microeconomics and macroeconomics; positive and normative economics
- 1.3. What is an economy? Central problems of an economy - what, how, and for whom to produce.

Unit 2: Utility, Demand and Supply: How Markets Work. (10 Lecture Hours)

- 2.1 Meaning of Utility, Marginal Utility, Law of Diminishing Marginal Utility
- 2.2. Elementary theory of demand: determinants of household demand, market demand, and shifts in the market demand curve
- 2.3. Elementary theory of supply: factors influencing supply, derivation of the supply curve, and shifts in the supply curve
- 2.4. The elementary theory of market price: determination of equilibrium price in a competitive market;

Unit 3: Producer Behaviour and Supply (6 Lecture Hours)

- 3.1. Meaning of Production Function – Short-Run and Long-Run Total Product, Average Product and Marginal Product - meaning and their relationships. Returns to a Factor
- 3.2. Meaning of Cost function – Short run costs - Total Cost, Total Fixed Cost, Total Variable Cost; Average Cost; Average Fixed Cost, Average Variable Cost and Marginal Cost - meaning and their relationships.

Unit 4: Analysis of Market (5 Lecture Hours)

4.1. Revenue – Total Revenue, Average Revenue and Marginal Revenue - meaning and their relationship.

4.2: Definition, Classification based on Nature of Competition, Features of the Market, Role of strategic behaviour

Unit 5: National Income and Related Aggregates (10 Lecture Hours)

5.1. Circular flow of income (two-sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method.

5.2. Aggregates related to National Income: Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP) and Net Domestic Product (NDP) - at market price, at factor cost; Real and Nominal GDP, GDP Deflator, GDP and Welfare

5.3. Concept of Equilibrium and Multiplier in Simple Keynesian Model

Unit 6: Money and Banking (6 Lecture Hours)

6.1. Money – Different definitions of Money

6.2. Commercial Bank and its function

6.3. Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit through Bank Rate, Cash Reserve Ratio (CRR), Statutory Liquidity Ratio (SLR), Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

Unit 7: Inflation and Unemployment (6 Lecture Hours)

7.1. Concept of inflation; Types of inflation; Reasons of Inflation, Methods of combating Inflation

7.2 Concept of Unemployment, different types of unemployment, Relation between inflation and unemployment

Suggested readings:

1. Karl E. Case and Ray C. Fair, Principles of Economics, Pearson Education Inc., 8th Edition, 2007.
2. N. Gregory Mankiw, Economics, Principles and Applications, Indian imprint of South Western Cengage India, Cengage Learning India Private Limited, 4th Edition, 2007
3. Samuelson and Nordhaus, Economics, McGraw-Hill, 19th edition, 2010.
4. Soumyen Sikdar, Principles of Macroeconomics, Oxford University Press, 3rd Edition, 2020.
5. L. M. Bhole and J. Mahukud, Financial Institutions and Markets, Tata McGraw-Hill, 5th edition, 2011.
6. Suraj. B. Gupta - Monetary Economics, Institution, Theory and Policy, S. Chand Publishers, 2010

SANSKRIT

Multidisciplinary Course – MDC 01 (Evaluation shall be carried out by the college)

	Name of the Paper	Credits
MDC	History of Scientific and Technical Literature	03 Credits Marks 45 (35 + 10)
	Unit - I Āyurveda Literature Introduction to Āyurveda, History of Indian Medicine in the Pre-Caraka Period, Two Schools of Āyurveda, Dhanvantari & Punarvasu, Main Ācārya's of Āyurveda – Caraka and Suśruta) Unit - II Music (Saṃgīta-śāstra) Introduction to <i>Saṃgīta-śāstra</i>, Saṃgītaratnākara of Śārṅgadeva, and Saṃgītadāmodara of Śubhaṃkara Unit - III Political Science (Rājanīti-śāstra) Introduction to <i>Rājanīti</i> and <i>Daṇḍanīti</i>, <i>Arthaśāstra</i> of Kauṭilya, <i>Kāmandakīyanītisāra</i>, <i>Śukranītisāra</i> Unit - IV Mathematics (Gaṇita-śāstra) Introduction to <i>Gaṇita-śāstra</i>, Vedic Śūlvasūtra, Barāhamihita, Āryabhaṭṭā, Bhāskarācārya, Brahmagupta, Śrīdharācārya, Līlāvati, Decipherment of Mathematical Chronogram	

**FOOD AND NUTRITION
MULTIDISCIPLINARY COURSE (MDC)**

Total Credit: 3 FM: 45 [Theory: 35 (Term End) + 10 (Internal)] No. of Lectures: 45

Basic Concept Of Cell & Tissues:

1. Structure and Functions of Cell with Special Reference to Different Cellular Organelles (Outline of Pro and Eukaryotic Cell and Elementary Idea of Different Organelles, Detail Structure and Functions are Not Required)

Brief Overview of Different Physiological Systems:

1. Blood-Composition and Functions, Circulatory System: Structure of Heart and Heart Valves
2. Digestive System: Structure and Functions of G.I. Tract, Process of Digestion and Absorption of Food, Functions of Liver, Gallbladder and Pancreas.

Basics of Nutrition:

1. Growth, Development, Nutrition, Malnutrition and Health, Scope of Nutrition, Elementary Concept of Nutrients-Macro, Micro Nutrients and Their Functions, Dietary Fibres. Elementary Concept of Carbohydrate, Protein and Fat and Their Sources, Concept of Digestion and Metabolism.

Basics of Food Science:

1. Food, Food Groups, Food Pyramid, Functions of food. Nutrient and Nutritive value, Concept of Balanced Diet.

Reference Books (Latest Edition):

1. Essentials of Medical Physiology by A B S Mahapatra And G S Mahapatra (Current Books International)
2. Essentials of Medical Physiology by K Sembulingam, P Sembulingam (Jaypee Brothers Medical Publishers)
3. C.C.Chatterjees Human Physiology by Chatterjee C.C (CBS Publishers)
4. Guyton and Hall Textbook of Medical Physiology (Guyton Physiology) by John E. Hall (Elsevier Health Science)
5. Ganong's Review of Medical Physiology by Kim E. Barrett (McGraw Hill/India)
6. The Cell: A Molecular Approach by Geoffrey M. Cooper, Robert E. Hausman (Sinauer Associates Inc)
7. Karp's Cell Biology by Gerald Karp, Janet Iwasa, Wallace Marshall (Wiley)
8. Food Science by B Srilakshmi (New Age International Publishers)
9. Food Science and Nutrition by Sunetra Roday (Oxford University Press)
10. Textbook of Food Science and Technology by Sharma A (CBS Publishers)

LIBRARY and INFORMATION SCIENCE

Course Title: Academic Libraries in Digital Environment

Nature of the Course: Multidisciplinary Courses (MDC) for UG Programme

Total Credit: 3 (Theoretical = 2 & Practical/Tutorial=1 or Theoretical=3, Duration= 45 Hrs

Objectives of Course:

- To understand the academic library system & services
- To acquire knowledge about various library resources like Print, Digital/E-resources
- To enhance the Information Search Skill/Information Literacy Skill and to make students efficient enough to identify information resources for their regular study and research
- To know the concept of library access system or information access system

Course Structure & Module of the MED for UG Programme

Module I : Topic and Content Academic Library Resources and Services (15 Hours):

Definition, aims, objectives, functions and services; Types of Libraries; Academic Library System. Sources of Information (Print & Digital including Open access): Meaning, Definition, Nature, Evolution, Characteristics, Functions of different types of reference sources and their Importance. Browsing & Search techniques of different printed sources of information. Digital Resources: e-books, e-journals, e-theses, databases bibliographic databases, fulltext databases, citation databases, NDLI, Digital Libraries of reputed organizations.

Module II : Digital Information Retrieval (10 Hours):

Searching Digital Sources including Open Educational Resources (OER); Searching information uses various strategies and filters: Internet using different Search Engines; WebOPAC; Databases, Meta Search Engines, Artificial Intelligence (AI) in information retrieval.

Module III : Research Support Tools (15 Hours):

Research Writing, Referencing & Citation Style, Citation Management Tools, Plagiarism Tools, Research Profile Management Tools, Copyright Issues and IPR Continuous Evaluation (05 Hours) Banka 03108123 Secretary Faculty Council (UG) University of Kalyani Contd. Page-2

Course Outcomes:

- Enabling students to enrich their credibility of library use in the digital environment
- Ability enhancement in identifying and access the various sources of information
- Augmenting information literacy and digital literacy skills for access and application
- Ability to understand the basics of academic library activities in the digital scenario

Resource Person:

- Existing Full-time Librarian(s) in Colleges
- Librarian(s) will exchange faculty between MoU colleges under the Faculty exchange programme

COMMERCE **(Business Entrepreneurship)**

Course Title- Business Entrepreneurship

Nature of Course: Multidisciplinary Course Code: UG BCOM-MD-T-1A

Credit: 3, Full Marks: 45 (35+10)

Course Objective: The objective is to orient the learner toward entrepreneurship as a career option and creative thinking and behaviour.

Course Content:

- 1: Introduction Meaning and importance of Entrepreneurship and Creative Behaviour; Entrepreneurship and creative response to the society's problems. Functions of an Entrepreneur; Concept of Start-Up.
- 2: Types of Entities Sole Proprietorship, Partnership, Limited Liability Partnership, Co-operative Society, Society (under Society Registration Act), Companies (under Companies Act).
3. Mobilization of Finance o Mobilizing resources for Start-Up. Sources of Finance- Capital from Proprietor Capital from Partners, Personal Loan, Bank Loan, Issue of Shares, Issue Debentures, Government Grant, Crowd funding Etc.
4. Micro, Small and Medium Enterprises Meaning of MSME in the light of MSME Act; Advantages and disadvantages Role of MSMEs in economic development of India.

Suggested Readings:

- 1.Desai, V. (2009). Dynamics of Entrepreneurial Development and Management. Mumbai: Himalaya Publishing House.
- 2.Jyotsana, Shaifali & Poswal L. Entrepreneurship (Concepts & Fundamentals) Kitab Mahal Delhi
- 3.Mukherjee and Roy(2018). Entrepreneurship development and Business ethics. Oxford University Press.
- 4.Rao, T. V., & Kuratko, D. F. (2012). Entrepreneurship: A South Asian Perspective

COMMERCE **(Basic Accounting)**

Course Title- Basic Accounting

Nature of Course: Multidisciplinary Course Code: UG BCOM-MD-T-1B

Credit: 3 Full Marks: 45 (35+10)

Course Objective: The objective is

- to enable non-commerce students
- to give exposure to accounting knowledge and
- to develop skill to maintain Accounts.

Course Content:

1. Introduction to Accounting Accounting: Meaning, Importance and Objectives of Accounting, Concepts and Convention of Accounting. Accounting Information: Meaning, Users, Sources of

accounting information. Some Basic Terms- Transaction, Account, Asset, Liability, Capital, Expenditure, Income, Profit, Loss, Revenue, Capital, Debit, Credit, Accounting Year, Financial Year, Accounting equations- Simple Problems on Accounting Equation.

2. Recording of Transactions Features of recordable transactions and events, Recording of Transactions; Types of Accounts- Personal account, Real Account and Nominal Accounting; Golden Rules of Accounting- Rule for Debit and Credit; Double Entry System. Journalizing transactions (Simple Problems on Journal Entries of Sole Proprietorship Concern).

3. Preparation of Subsidiary Books Sales Book- Sales Returns Book- Purchase Book- Purchase Returns book- Cash Book- Petty Cash Book- Journal Proper. (Simple problems).

4. Preparation of Final Accounts (a) Preparation of Ledger Accounts and Trial Balance. (b) Preparation of Trading Account, Profit & Loss Account, and Balance Sheet (Simple Problems).

Suggested Readings:

1. Sehgal, D. (2014). Financial Accounting. New Delhi: Vikas Publishing House Pvt. Ltd.
2. Tulsian, P. C. (2007). Financial Accounting. New Delhi: Tata McGraw Hill Publishing Co. Ltd.
3. Mukharji, A., & Hanif, M. (2015). Financial Accounting. New Delhi: Tata McGraw Hill Publishing Co. Ltd.
4. Maheshwari, S. N., & Maheshwari, S. K. (2018). Financial Accounting. New Delhi: Vikas Publishing House Pvt. Ltd.

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