S. No	Name of the Department	GE Course
1	B.Sc. Chemical Technology	Solar Processing Technologies
2	B.Sc. Agricultural Science and Rural Development	Principles of Organic farming
3	B.Sc. Computer Science and Engineering	PC Operating Systems
4	B.Com Honors	Taxation
5	B.Sc. Electronics and Communication Technology	Repair and Maintenance of Home Appliances
6	B.Sc. Computer Systems and Engineering	PC Hardware and Software Installation
7	B.Com Marketing	Marketing Management
8	B.Sc. Biotechnology, Genetics and Chemistry	Medical Lab Technology
9	B.Com Business Studies	Banking
10	B.A Mass Communication	Photography
		Film Appreciation
11	B.Sc. Food Technology and Management	Food Processing and Quality Control
12	B A Psychology, English Literature& Journalism	Communication Skills
		Career SkillS
		Psychology for Living
13	B.Sc. Mathematics, Statistics & Computer Science	Quantitative Aptitude
		Statistics-Data Analysis
14	B.Sc. Multimedia and Animation	Creative Arts
15	B.Com Computers	Accounting
16	Bachelor of Business Administration	Principles of Management
17	B.Sc. Computer Data Science & Data Analytics Engg.	Python programming

LIST OF GE COURSES IN ACADEMIC YEAR 2018-19

DEPARTMENT OF CHEMICAL TECHNOLOGY
SOLAR PROCESSING TECHNOLOGIES
(GE Inter-Departmental/Inter-Disciplinary)

Credits : 2 **Semester : III**
Subject Code : G18CT1T **No.of lecture hours: 30**

Objective: To impart knowledge regarding importance of saving conventional energy, benefits of solar energy, its applications.

Outcome: Students will be able to
- Identify different forms of energies, Describe transformation of energy
- Identify the need for energy conservation. Describe significance of solar energy
- Describe harnessing of solar energy
- Describe applications of solar energy
- Identify ISO standards for solar applications

UNIT-I **6Hrs**
- Definition of energy, Forms of energy (2)
- Transformations of energy, Energy conservation (4)

UNIT-II **6Hrs**
- Need for Non-conservational energy, Types of Non-conservational energy (4)
- Significance of solar energy, Concept of green energy (2)

UNIT-III **6Hrs**
- Energy from sun, harnessing solar energy (2)
- Flat plate collector; focusing type of collector, Applications of solar energy (4)

UNIT-IV **6Hrs**
- Solar water heating, solar lighting, solar cooking (4)
- Solar water treatment, Solar drying (2)

UNIT-V **6Hrs**
- Solar vehicles, solar applications in Agriculture & Horticulture (2)
- ISO standards for solar applications (4)

ESSENTIAL READING:

1. Rai G D. 2011. **Non-Conventional Sources of Energy**. 5th ed. New Delhi: Khanna Publishers.

SUGGESTED READING:

1. Giri N K. 2010. **Alternate Energy Sources and Applications**. 2nd ed. New Delhi: Khanna Publishers.
2. Rao S. and Parulekar. 2010. **Energy Technology - Non-Conventional, Renewable and Conventional.** 2nd ed. New Delhi: Khanna Publishers.
3. Rai G D. 2011. **Solar Energy Utilization**. 5th ed. New Delhi: Khanna Publishers.

SOLAR PROCESSING TECHNOLOGIES
(GE Inter-Departmental/Inter-Disciplinary)
PRACTICALS

Credits : 1 **Semester: III**
Subject Code : G18CT1P **No.of practical hours: 30**

Objective: To impart knowledge regarding importance of applications of solar energy in food drying, saving conventional energy, benefits of solar energy applications.

Outcome: Students will be able to do assembly of solar power plant, applications of solar drying.

List of Experiments:

1. A study of solar dryer. (2)

2. Solar drying of four samples. (4)

3. A comparative study of conventional dryer verses solar dryer. (2)

5. A study of characteristics of solar panel. (2)

6. Installation of solar power plant. (3)

7. Green House. (2)

DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT
PRINCIPLES OF ORGANIC FARMING

Credits : 2 **Semester: III**
Subject Code : G19AG1T **No. of lecture hours: 30**

Objective:-

- To impart knowledge on principles and practices of organic farming and its impact on indiscriminate usage of chemicals.

- To impart knowledge on preparation of bio fertilizers and botanical pesticides.

Outcome :-

- Students will be able to gain knowledge on importance and various concepts of organic farming.

Course outcomes:

- Analyse the need of Organic farming
- Understand the steps in Organic farming
- Understand the need of cultivation practices
- Classify the types of manures and fertilizers
- Illustrate the types of bio-fertilizers

UNIT-I [6 hrs]

- Introduction to Organic Farming- definition, principles

- Need of organic farming, difference between organic farming and modern chemical farming

- Detrimental effects of currently chemical dependent farming
- Demand for organic farming and health benefits of organic foods.
- Characteristics of modern and organic farming

UNIT-II [6 hrs]

- Types of organic farming
- Advantages and limitations of organic farming
- Basic steps in organic farming
- Components of organic farming

UNIT-III [6 hrs]

- Diverse crop rotation,
- Soil fertility management,
- Irrigation water management and Weed control
- Natural pests and disease control.

UNIT-IV [6 hrs]

- Plant nutrients, classification and their importance in crop production

- Sources of nutrients for organic agriculture – organic manures
- Differences between manures and fertilizers
- Preparation and application of FYM , Compost and Concentrated Manures.

UNIT-V [6 hrs]

- Animal waste and Vermicompost
- Green manures- definition, types and benefits and method of application
- Biofertilizers-definition, types, examples and benefits
- Application methods of Biofertilizer

SUGGESTED READING

1. Basics of organic farming. MamtaBansal, 2017, CBS Publishers & Distributors pvt Ltd.

2. Fundamental approaches in sustainable Agriculture. Jag Paul Sharma, 2006, Kalyani publishers.

3.This is organic agriculture, RajanyaJaisingh, 2005, Jain brothers.

4. Sustainable through organic farming. Mukund Joshi, T.K. Prabhakarasetty, 2006, kalyani publishes.

5.Farming systems and sustainable agriculture, S.R. Reddy, Kalyani publishers.

6. Organic farming-principles, prospects and problems, Suresh N. Deshmukh, 2012, Agrobios publishers.

PRINCIPLES OF ORGANIC FARMING (GE)
PRACTICAL

Credits : 1 **Semester: III**
Subject Code : G19AG1P **No. of lecture hours: 30**

- Identification of manures and bio-fertilizers
- Preparation of FYM
- Preparation of Compost
- Preparation of Vermicompost
- Application of Biofertilizers
- Preparation of Jeevamrutham and its application
- Plant protection in organic farming - botanical pesticides-
- preparation of Beejamrutham
- Preparation of Panchagavya and its application
- Preparation of Neemastram and its application
- Preparation of Brahmastram and its application
- Organic cultivation of crops – Cereals, Millets, Pulses and Vegetables.
- Cost of organic cultivation of crops
- Certification of organic produce- need of certification, procedure, quality standards.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PC OPERATING SYSTEMS

(GE Inter-Disciplinary)

Credits : 2 **Semester: III**
Subject Code : G20CS1T **No. of Lecture Hours: 30**
Objectives:

- Install, configure, and maintain the Windows and Ubuntu operating system
- To perform basic file management operations
- To work with Virtual Box

Outcome: An introduction to personal computer operating systems including installation, configuration, file management, memory and storage management, control of peripheral devices, and use of utilities

UNIT- I **6 Hrs**

1. Introduce Windows 10, 1
2. Use Backup and Recovery Tools and Discover Windows Apps 1
3. Advanced File Management and Advanced Searching, 2
4. Introduction of Viruses and Spyware,Windows Defender,Discuss Protecting a Computer by Using Windows Firewall, Discuss Windows Update and Privacy Settings 2

UNIT- II **6 Hrs**

1. Monitoring and Tracking System Performance 2
2. Create a System Diagnostics Report 1
3. Manage Services by Using the Services Console 1
4. Install Windows 10 , Manage Windows 10 memory and storage 2

UNIT- III **6 Hrs**

1. Introduction to Ubuntu, and History 2
2. Flavours of Ubuntu 1
3. System Requirements, Downloading Ubuntu, Installing Ubuntu 2
4. The MenuBar, Task Bar,System Setting 1

UNIT-IV **6 Hrs**

1. Installing Software, RemovingSoftware, Installing Updates 2
2. Creating Users, Enabling User Accounts, Managing User Permissions and Groups 2
3. Invoking the Command Line, DirectoryListing, Command Help 1
4. Creating and finding Files,whoami,present Working Directory, 1

UNIT- V **6 Hrs**

1. Networking in Ubuntu,Assinging an IP address 1
2. Introduction to Virtual Box 1
3. Installation of Windows in Virtual Box 1
4. Installation of Ubuntu in Virtual Box 1
5. Install Ubuntu in Cloud Environment 2

ESSENTIAL READING

1. Gaskin & Vargas,GO! with Microsoft Windows 10 Introductory,Pearson Publication

2. https://www.tutorialspoint.com/ubuntu/index.html

PC OPERATING SYSTEMS LAB

(GE Inter-Disciplinary)

Credits : 1 **Semester: III**
Subject Code :G20CS1P **No. of Lecture Hours:30**

Objective:

- To learn the basics of Operating Systems, installations of operating systems, and learn the Utilities

No. of Hours Topics

1. Installation of Virtual Box
2. Installation of Windows Operating System.
3. Installation of Ubuntu Operating System
4. Exploring Windows Environmment
5. Installing and Removing application
6. Creating and Managing Users in Windows
7. Manage Services by Using the Services Console
8. Diagnosis of Windows
9. Networking in Ubuntu
10. Creating and Managing Users inUbuntu
11. Basic Commands of Ubuntu
12. Install Ubuntu in Cloud Environment

DEPARTMENT OF B.Com (HONORS)
TAXATION
(GE Inter-Departmental/Inter-Disciplinary)

Credits : 2 **Semester: III**
Subject code : G18CH1T **No. of lecture hours: 30**

Objective: To enable the students understand the taxation system (for the working class) in India.

Course Outcome:
CO1.To understand various basic concepts and requirements of salary assessment.
CO2. To enable students in understanding tax allowances and adjustments.
CO3. To enable students in undersatanding perquisites for caluculating salary income.
CO4. To educate students about tax deductions applicable in computation of tax liability.
CO5. To describe different retirement benefits and leave encashment techniques for calculating tax liability.

UNIT-I
Introduction **6Hrs**
- Concepts of Income-person-assessee-assessment year-previous year-casual income (1)
- Total income-PAN-residential status of individual - Indian income and foreign Income (2)
- Incomes exempt from tax (Only theory). (1)
- Agricultural income and its assessment (Theory only) (2)

UNIT –II
Income from salary-Allowances **6Hrs**
- Income from salary –meaning –allowances-allowances fully taxable (2)
- Allowances partly taxable (2)
- Allowances not taxable (Theory only) (2)

UNIT –III
Income from salary – Perquisites **6Hrs**
- Perquisites –meaning –taxable in all cases (2)
- Perquisites taxable in case of specified employees (2)
- Tax free perquisites (Theory only) (2)

UNIT –IV
Income from salary – profits in lieu of salary **6Hrs**
- Profits in lieu of salary – meaning- provident fund and its treatment (2)
- Deductions from salary u/s 16 (2)
- Entertainment allowance and professional tax (theory only) (2)

UNIT-V
Income from salary –leaves and retirement benefits **6Hrs**
- Gratuity- commutation of pension (2)

- Casual leaves-leave encashment (2)
- Proforma of gross total income (Theory only) (2)

SUGGESTED READING:

1. Dr. Singhania Vinod, K. and Dr. Singhania, Kapil.2017-18.**Direct Taxes Law and Practice.** 48th edition. New Delhi: Taxman Publishers.
2. Raja Prem, H. 2012. **Systematic Study of Income Tax.** 27th edition. New Delhi: Sri Hamsrala Publications.
3. Gaur, V.P., Narang, D.B. and Ghai Puja. 2011. **Elements of Income Tax.** 26th revised edition. : New Delhi: Kalyani Publishers.
4. Dr. Ahuja Girish and Dr. Gupta Ravi. 2012. **Systematic Approach to Income Tax.** 27th edition. New Delhi: Bharat Publications.
5. Dr. BangarYogendra, BangarVandana and SodhaniVineet, C.A. 2012. **Students Guide to Direct Taxes.** 16th edition. Jaipur: AadhyaPrakashan Publications.

TAXATION
(GE Inter-Departmental/Inter-Disciplinary)

PRACTICALS

Credits : 1 **Semester: III**
Subject code : G18CH1P **No. of practical hours: 30**

Objective: To equip the students with the knowledge of partfiling of returns(Up to form 16) of individuals.

Course Outcome: Students will gain knowledge of partfiling of returns(Up to form 16) of individuals.

1. Requirement for PAN – form No. 49A (1)
2. Statement of perquisites –Form No. 12BA (1)
3. Certificate of TDS – form no. 16 (1)
4. Simple problems on residential status of an assesse (individual) (2)
5. Simple problems on allowances (2)
6. Simple problems on perquisites (2)
7. Simple problems on profits in lieu of salary (2)
8. Simple problems on computation of salary income-gross and net (3)
   Form –ITNS 280 challan (1)

DEPARTMENT OF COMPUTER SYSTEMS AND ENGINEERING

PC HARDWARE AND SOFTWARE INSTALLATION
(GE Inter-disciplinary)
(NEW SYLLABUS)

Credits : 2 **Semester: III**
Course Code : G20CE1T **No. of Lecture Hours: 30**

Objectives:

- To learn the fundamentals of personal computing and basic networking concepts.
- To learn basics of hardware, operating systems, and application software.

Course Outcome:

CO1: Identify the basic components of computers
CO2: Differentiate between internal and external connectors
CO3: Identify and troubleshoot the power supply of computer
CO4: Choose RAM and Hard disk drives for a computer
CO5: Develop skill to Assembly and Disassembly a system

UNIT –I	**6Hrs**
1. Introduction to Computers, History, classification, Block diagram of Computer	2
2. Hardware and Software, Input and Output Devices	1
3. Data and information and Computer memory Units	1
4. Computer Ports and Characteristics of Ports.	2

UNIT -II	**6Hrs**
1. System Unit: Motherboard Form Factor (ATX, BTX)	1
2. **Internal Connectors**: Power Supply Connectors, PCI, ISA, IDE, AGP, PCI Express, SATA, DIMM.	1
3. **External Connectors**: Serial Port, Parallel Port, Game Port, USB, RJ-45, VGA or Monitor, PS/2, Din, Sound Card	1
4. Motherboard ROM BIOS, Upgrading BIOS	3

UNIT-III	**6Hrs**
1. Chipsets: Northbridge and Southbridge.	1
2. Power Supply: Introduction of SMPS	2
3. troubleshooting of SMPS	1
4. Memory: RAM and ROM; Types of RAM: DRAM, SDRAM, DDR, DDR2 and DDR3	2

UNIT-IV	**6Hrs**
1. Storage Devices : HDD vs SDD	1
2. Types of hard disk drives and its controllers: IDE, SATA, USB, SCSI	1
3. Working of Hard Disk Drive and file systems	2
4. Recovery of Data from storage device	2

UNIT-V	**6Hrs**
1. System Assembly and Disassembly	2
2. System startup, installing OS, Troubleshooting New installations	2
3. PC Diagnostics-The POST, Hardware BOOT Process	2

ESSENTIAL READING

1. Mueller Scott, M. 2015. **Upgrading and Repairing PCs**. 22nd Edition. New Delhi : Pearson Education

PC HARDWARE AND SOFTWARE INSTALLATION
(GE Inter-disciplinary)
(NEW SYLLABUS)

Credits : 1 **Semester: III**
Course Code : G20CE1P **No. of Practical Hours: 30**

Objectives:

- To identify various components of PC.
- To learn installation of windows and Linux operating system.
- To learn the installation and configuration of networking

Outcome: Students will be able to assemble the PC and install operating systems and application software.

No. of Hours	**Topics**

1. Processor Types, Expansion Buses, connectors and cables
2. Identification of Mother Boards, Chipsets, Memory and Types.
3. Storage Devices: Hard Disk, Optical Storage and USB
4. Exploring CMOS BIOS Setup utility.
5. Identify and Assembling of PC.
6. Installation of Windows 7.0 Operating System.
7. Installation of Linux Operating System
8. Recovery of data from storage device
9. Study of different types of network cables
10. practically implement the cross-wired cable and straight through cable using clamping tool
11. study of network Devices in Detail
12. Study of Network IP
13. Connect the computer in Local Area Network
14. Study of basic network command and network configuration commands
15. Study of latest devices in Market

DEPARTMENT OF B.COM MARKETING
MARKETING MANAGEMENT

Credits: 2 **Semester: III**
Subject Code: G18CP1 (T) **No. of lecture hours: 30**

Objectives:

- To provide an exposure to the students pertaining to the nature and Scope of marketing, which they are expected to possess when they enter the industry as practitioners.
- To give them an understanding of the basic philosophies and tools of marketing management.

Outcome: Students will be able to integrate various elements of marketing in developing marketing plans for specific marketing activities.

COURSE OUTCOMES:

CO1. Explain the concept of marketing and sketches the marketing environment.
CO2. Classify the market and identifies the various market segments
CO3. Point out the marketing mix with reference to product and price
CO4. Analyze the promotion mix and the channels of distribution.
CO5. Explain service marketing mix and points out the importance of direct and online marketing.

UNIT-I **6 Hrs**

Introduction

Concept of marketing-evolution-definitions-nature-scope-significance of marketing	2
Marketing concept Vs selling concept-role of marketing in developing economy	2
Marketing environment-meaning-micro environment-macro environment	2

UNIT-II **6 Hrs**

Market Segmentation and Targeting

Identification of market segments-segmenting consumer markets	2
Segmentation basis-selecting target markets	2
Developing and communicating a positioning strategy	2

UNIT-III **6 Hrs**

Product & Price

Product-definition-levels of product-classification of products-branding	2
New product development–stages-product life cycle-stages involved	2
Price-concept-importance of pricing- factors influencing pricing decisions	2

UNIT-IV **6 Hrs**

Place & Promotion

Channels of Distribution-number of channel levels-channel design	2
Promotion mix variables-the communication process	2
Advertising – designing effective advertising programs	2

UNIT-V **6 Hrs**

Consumer Behavior & Services Marketing

Consumer behavior- definition-factors influencing consumer behavior	2
Consumer buying roles-stages in buyer decision process	2
Service marketing-concept-reasons for growth of services-role of services in economy	2

SUGGESTED READING

1. Kotler Philip, Gary and Armstrong. **Principles of Management.** 13th Edition. New Delhi: Ehsan Ul Haque Publications.
2. Kotler Philip. 2007. **MarketingManagement.** New Delhi: Pearson Publications.
3. Sherlekar, S.A. 2011. **Marketing Management.** 13th Revised Enlarged Edition. Mumbai: Himalaya Publications.
4. Karunakaran, K. **Marketing Management.** 3rd Revised and Enlarged Edition.

DEPARTMENT OF BIO TECHNOLOGY

MEDICAL LAB TECHNOLOGY

(GE -Inter -Departmental/Inter -Disciplinary)

Credits: 2 **Semester: III**

Subject Code: G18BT1T **No. of Lecture Hours: 30**

Objectives:

- To demonstrate scientific inquiry in course and lab assignments.
- To demonstrate effective verbal and written communication skills appropriate to the scientific community.
- To demonstrate critical thinking skills in examining issues in the biological world.
- To demonstrate effective analysis of biological issues through the use of case studies, laboratory and field research work.
- To be academically prepared for professional training.

Outcome: Student will gain knowledge on the essence of metabolites and its concentrations to retain a homeostatic condition in the body.

Unit Specific Outcomes :

- Explain the biochemical parameters investigated
- Understand about Human Physiology
- Explain about Blood and its constituents
- Understand the concepts of urine composition and Renal calculi
- Identify different types of Blood group

UNIT - I

6Hrs Reception,

Registration And Biochemical Parameters Investigated

- What is MLT? 1
- Its importance and scope 1
- Reception and Registration 1
- Contents of Laboratory request form 1
- Biochemical parameters investigated 2

UNIT-II **6Hrs**

Introduction to Human Physiology

- What is Physiology
- Definitions of Cell, tissue, organ, system, organism and metabolism. 2
- Different systems of the body – Haemopoietic system, Reticuloendothelial system 2
- Lymphatic system, Skeletal system, Muscular system, Circulatory system, Respiratory system, Digestive system, Excretory system, Endocrine system, Reproductive system Nervous system and Special senses.(Elementary level) 2

UNIT - III 6Hrs

Blood

- Collection of Blood **1**
- Anticoagulants **1**
- Blood and its constituents. **1**
- Studies on Blood sugar-Diabetes Mellitus **2**
- Types of Diabetes. **1**

UNIT- IV **6Hrs**

Urine Studies

- Collection and preservation of Urine **2**
- Composition of Urine **2**
- Abnormal constituents of Urine. **1**
- Renal Calculi **1**

UNIT -V **6Hrs**

Blood

- Principles of Blood groups **2**
- Antigen- Antibody reactions **2**
- BO-RH blood groups **2**

SUGGESTED READING:

1. Lehninger A.L. Nelson D.L. and Cox M.M. 1993. **Principles of Biochemistry.** II Edition. Kalyani Publishers.
2. Voet O, Voet G. 1994. **Biochemistry.** John Willey and Sons.
3. Stryer L. 1994 **Biochemistry** IV Edition
4. Zubay G,William C.Brown. 1997. **Biochemistry.** New York.

MEDICAL LAB TECHNOLOGY PRACTICALS (GENERAL ELECTIVE)

Credits: 1 **Semester: III**
Subject Code: G18BT1P **No. of Practical Hours: 30**

Objectives:

- To demonstrate scientific inquiry in course and lab assignments.
- To demonstrate effective verbal and written communication skills appropriate to the scientific community.
- To demonstrate critical thinking skills in examining issues in the biological world.
- To demonstrate effective analysis of biological issues through the use of case studies, laboratory and field research work.
- To be academically prepared for professional training.

Outcome: Student can analyze and interpret data to evaluate the various parameters involved in functions of a healthy human body.

1. Lab instruction for personal safety precaution.	1
2. Collection of clinical samples like blood and urine.	2
3. Qualitative analysis of sugars by Benedict's test.	1
4. Handling and care of Microscope.	2
5. Interpretation of a clinical lab report. .	2
6. Methods of disposal of Hospital waste	2
7. Uses, Care and Maintenance of Centrifuge, Autoclave, Hot air oven and Auto Analyzer in the laboratory.	3
8.Antibiotic sensitivity test	2

SUGGESTED READING:

1. Sawhney S.K, Randhir Singh. 1992**. Introductory Practical Biochemistry.**
2. Thimmaiah S.R. 1991. **Standard Methods of Biochemical Analysis.**
3. SadasivamS.Manickam A. **Biochemical Methods.** II Edition.

DEPARTMENT OF B.COM (BUSINESS STUDIES)

BANKING (G.E)

Credits: 2 **Semester: III**
Subject Code: G18CB1T **No. of lecture hours:30**

Objectives:

To introduce to the students Banking and its activities with an emphasis on financial instruments and various services rendered by the banks**.**

OUTCOME:

- **CO1.** To identify and illustrate the origin and growth of banking in India.
- **CO2**. To interpret the features of various types of negotiable instruments.
- **CO3**. To demonstrate and apply the steps involved in opening a bank account.

- **CO4**. To appraise and criticize the various types of collateral securities and point out the precautions to be taken by a banker while advancing loans against different types of securities.
- **CO5**. To understand the organizational structure and functions of Co-operative banks, NABARD and RBI.

UNIT-I **6Hrs**
Introduction to Banking

- Origin and growth of banking in India – Kinds of banks (2)
- Unit vs. branch , Banking function of commercial banks (1)
- Electronic Banking – traditional vs. E – banking – facets of E-banking, (1)
- E-banking transactions (2)

UNIT—II **6 Hrs**
Negotiable Instrument
Negotiable instrument—characteristics- types of negotiable instruments. Promissory notes (2)
Cheques- cross------- types of crossing, -----holder of due course privileges –endorsement
Bills of exchange (4)

UNIT-III **6 Hrs**
Banker and Customer
Definition of banker and customer – relationship between: banker
and customer Special feature of relationship (2)
Opening of accounts
Types of customer (2)
Minors, Married women and Companies (2)

UNIT-IV **6Hrs**
Loan and Advances
Loans & Advances (2)
Precautions to be taken while advancing loans against securities– goods (1)

Documents of title to goods (1)
Insurance Policies (2)

UNIT –V
Cooperative Banks: **6Hrs**
Cooperative Banks ---Districts cooperative Banks in India. (3)

Development bank. (1)
NABARD , RBI (2)
.

SUGGESTED READINGS:

1. Mithani D.M. Gordan E**.2012 Banking- theory and practices 3rd**edition Mumbai Himalaya publication
2. Dr Chary Rangandha A.V.& Dr Paul R.R. 2008, **Banking & Financial System 3rd** edition DehliKalyani Publication.
3. Varshney Sundharam 2005**, Banking theory and law**. 7th edition Delhi Sultan chand

& Sons. Refer latest edition of 2016

DEPARTMENT OF MASS COMMUNICATION

PHOTOGRAPHY

(GE Inter-Departmental/Inter-Disciplinary)

Credits : 2 **Semester : III**

Subject Code : G18MC1T **No. of Lecture hours : 30**

Objective: To help students fine tune their skills in composition and photography. Introduce them to basic photo editing techniques.

Outcome : Students will be able to create and fine tune their skills in composition and photography and introduces them to basic photo editing techniques.

- Students understand the evolution of photography and the basic terms involved in photography.
- Students analyze the functions of the parts of a camera and usage of different types of cameras.
- Students learn and apply the composition of shots and importance of lighting and it's techniques in photography.
- Students evaluate the editing software techniques and usage of apt storage devices.
- Students apply techniques involved in various forms of photography in the current market.

Outcome : It help students fine tune their skills in composition and photography. Introduce them to basic photo editing techniques.

UNIT – I	**6Hrs**
History of photography	2
Aperture, ISO, Shutter Speed	2
Shot Composing	2

UNIT – II	**6Hrs**
Types of cameras,TLR, SLR & Digital; Parts & Functions of Camera	2
Focal length, Types of Focus	2
Lens types, types of filters and camera accessories	2

UNIT – III	**6Hrs**
Lighting Techniques,Nature of Light, Characteristics of Light	2
Depth of field and focusing	2
Storage Media	2

UNIT – IV	**6Hrs**
File formats,Types of Digital Storage	2
Compressing & color correcting	2
Introduction to photo editing software	2

UNIT – V	**6Hrs**
Portrait photography, Landscape Photography	3
Food & Fashion and industrial photography	3

SUGGESTED READING:

1. Tom, Ang. 2008. **Fundamentals of Photography: The Essential Handbook for Both Digital and Film Cameras.** New York: Knopf.
2. Jones, Frances. 1983. **Hamlyn Basic Guide to Photography.** London: Hamlyn.
3. Wooters, David & Mulligan, Therese. 2005. **History of Photography**. Germany: Taschen.

PHOTOGRAPHY
(GE Inter-Departmental/Inter-Disciplinary)
PRACTICAL

Credits : 1 **Semester : III**
Subject Code: G18MC1P **No. of Practical hours : 30**

Objective : To help students fine tune their skills in composition and photography. Make them practically gain knowledge in framing and shot composition and various camera operations.

Outcome : It help students fine tune their skills in composition and photography. Make them practically gain knowledge in framing and shot composition and various camera operations.

Composition- Normal, Wide Tele

Nature - Landscape - wide, Close up

DEPARTMENT OF MASS COMMUNICATION

FILM APPRECIATION

(GE Inter-Departmental/Inter-Disciplinary)

Credits : 2 **Semester : III**

Subject Code : G18MC2T **No. of Lecture hours : 30**

Objective:

- To understand film as form of communication and to develop a technical approach to film.

Outcome: Students will be able to appreciate and understand film in a better manner.

- Students understand and describe the importance of films in the society and the evolution of cinema from the past.
- Students understand the rules of film and the art of making aesthetic cinema.
- Students analyze the techniques involved in making effective films.
- Students create films through these elements of film.

- Students understand about world-wide cinema and different genres of films.

UNIT – I	**6 Hrs**
Film as an experience, entertainment commodity and a medium of communication	4
A brief overview of film Industry: Indian Cinema and Tollywood	2
UNIT – II	**6 Hrs**
Film Aesthetics, Morality and Ethics	6
UNIT – III	**6 Hrs**
Technical Aspects of Film	4
Camera and its Functioning	2
UNIT – IV	**6 Hrs**
Shot- characteristics, types and meaning, Scene and Sequence	2
Camera: angles and movements	2
Mis-en-scene: Composition, sets, props, actors, costumes and lighting	2
UNIT – V	**6 Hrs**
Film Genres	2
Film Auteurs: Hollywood, European, Russian, Japanese, Iranian and Indian	4

SUGGESTED READING:

1. Barnouw and Krishnaswamy S. 1990. Indian Film. New York: OUP.
2. James Monaco. 2000. How to read a film. New Delhi: Macmillan.

FILM APPRECIATION
(GE Inter-Disciplinary)
PRACTICAL

Credits : 1 **Semester : III**
Subject Code : G18MC2P **No. of Practical hours : 30**

Objective: To understand film as form of communication and to develop a technical approach to film.

Outcome: Students will understand film as form of communication and to develop a technical approach to film.

Film as an experience, entertainment commodity and a medium of communication

A brief overview of film Industry: Indian Cinema and Tollywood

Film Aesthetics, Morality and Ethics

Technical Aspects of Film

Camera and its Functioning

Shot- characteristics, types and meaning, Scene and Sequence

Camera: angles and movements

Mis-en-scene: Composition, sets, props, actors, costumes and lighting

Film Genres

Film Auteurs: Hollywood, European, Russian, Japanese, Iranian and Indian

DEPARTMENT OF FOOD TECHNOLOGY AND MANAGEMENT
FOOD PROCESSING AND QUALITY CONTROL
(GE Inter-disciplinary)

Credits : 2 **Semester : III**
Subject Code: G18FT1T **No of lecture hours: 30**

Objective: To impart the knowledge of processing and preservation**.**

Course Outcomes:
CO1: Create knowledge on various principle in food preservation
CO2: Explain about the various processing methods of fruits and vegetables
CO3: Explain about the various processing steps involved in chocolate manufacturing
CO4: Prepare the various dairy products
CO5: Analyze the different foods by using food laws and regulations

UNIT – I **6 Hrs**
- Fruit juices- Squashes and cordials – preparation and preservation. 2
- Principles of preservation 4
  Straining, Filtration, Clarification, Preservation by addition of sugars
  Preservation by drying, Preservation by carbonation,
  Preservation by Preservatives and other methods.

UNIT – II **6 Hrs**
- Fruits and vegetables-principles of preservation 2
- Process operations- washing, peeling, pitting, blanching 4
- Containers for packing
- Commercial canning
- Canning of fruits and vegetables
- Spoilage in canned foods.

UNIT – III **6 Hrs**
Hard-boiled sweets: Ingredients, Product types. Cocoa beans, cocoa fruit, pulp, 2
Cocoa chocolate and related products: 4
- Sequence of processes
- Chocolate recipes, cocoa powder
- Mixing, refining and conching.
- Tempering of chocolates.

UNIT- IV **6 Hrs**
- Milk: Definition, Source as food composition and Nutritive Value.
- Physical and chemical properties of Milk.
- Types of Milk. 2
- Processing of Milk: Receiving of milk, platform tests, Filtration and clarification. 2
- Dairy Products: Khoa, Ice cream, Kheer, Paneer, Dahi etc. 2

UNIT – V **6 Hrs**

- Hazard Analysis Critical Control Point (HACCP) and its implementation. 2
- Quality Assurance: Theoretical and practical considerations, 1
- Description of different systems: GAP, GMP, TQM, ISO. 1
- FSSAI Standards 1
- Worldwide food safety issues. 1

SUGGESTED READING

1. Potter, N.H. 1998. **Food Science**. New Delhi: CBS Publication.
2. Ramaswamy, H. and Marcotte, M. 2009. **Food Processing Principles and Applications**. United States: CRC Press.
3. Manay, N.S. and Shadaksharaswamy, M. 1987. **Food-Facts and Principles**. New Delhi: New Age International Pvt. Ltd.Publishers.

FOOD PROCESSING AND QUALITY CONTROL
PRACTICALS
(GE Inter-disciplinary)

Credits : 1 **Semester : III**
Subject code: G18FT1P **No. of Practical hours: 30**

Objective: To impart the knowledge of processing and preservation.

Course Outcome: Students will evaluate independently various food products and aquire processing skills.

1.	Evaluation (Sensory and chemical) of canned foods	1
2.	Evaluation (Sensory and chemical) of dairy products	1
3.	Evaluation (Sensory and chemical) of confectionery products	1
4.	Preparation of cakes and quality control	1
5.	Preparation and evaluation of, cookies, pastry and cake icing	1
6.	Detection of Adulterants and Preservatives in milk.	1
7.	Preparation of Ice cream.	1
8.	Analysis of sucrose, and analysis of confectionery products	1
9.	Determining Chemical constituents of fruits & Vegetable Products (Acidity, Salt Content, Preservatives, T.S.S, etc)	
10.	Preparation of syrups and brine solution	1
11.	Preparation and Preservation of Squashes, Cordial, Crush etc.	2
12.	Preparations and Preservation of Jams, Jellies, Marmalades, and Pickles	2
13.	Drying of fruits and vegetables. (Banana, Resins, Potatoes, Tomatoes, etc.)	2

SUGGESTED READING

1. Potter, N.H. 1998. **Food Science**. New Delhi: CBS Publication.
2. Ramaswamy, H. and Marcotte, M. 2009. **Food Processing Principles and Applications**. United States: CRC Press.
3. Manay, N.S. and Shadaksharaswamy, M. 1987. **Food-Facts and Principles**. New Delhi: New Age International Pvt Ltd. Publishers.

DEPARTMENT OF MSCS

Quantitative Aptitude

(GE–Inter–Departmental/ Inter-Disciplinary)

Credits:2 **Semester**: III

Subject Code:GE18MS1T **No. of Lecture hours**: 30

Objective: To demonstrate various principles involved in solving Mathematical problems and thereby reducing the time taken for performing job functions.

EHP[

CO1: Solve problems related linear equations, ratio and Proportion.
CO2: Analyze the difference between problems on percentages, profit loss and discount
CO3: Analyze the concepts of Simple interest and compound interest.
CO4: Learn the basic concepts of Time and work, Time and distance.
CO5: Create sequences and series in the form of arithmetic and geometric progressions.

UNIT –I **6**

Simple equations, Ratio, Proportion, Variation

Simple equations - Definition of Linear Equations - Formation of simple equations Problems on Ages - Ratio and proportion - Definition of Ratio - Properties of Ratios Comparison of Ratios - Problems on Ratios-Compound Ratio –Problems on Proportion

UNIT-II **6**

Averages–Percentages

Averages - Percentages– Introduction - Converting a percentage into decimals - Converting a Decimal into a percentage-Percentage equivalent of fractions Problems on percentages.

Profit and loss

Problems on Profit and Loss percentage-Relation between Cost Price and Selling price Discount and Marked Price-Two different articles sold at same Cost Price

Two different articles sold at same Selling Price - Gain% / Loss % on Selling Price.

UNIT-III **6**

Simple interest and Compound interest

Simple Interest- Problems on interest and amount -Problems when rate of interest and time period are numerically equal-Compound Interest -Definition and formula for amount inCompoundinterest-Differencebetweensimpleinterestandcompoundinterestfor2yearsonthesame principle and time period.

Quadratic equations: General form of Quadratic equations-Finding the roots of Quadratic equations Nature of the roots -Relation between the roots

UNIT-IV **6**

Time and work: Basic concepts –examples

Time and Distance: Definition – Average speed – distance covered is same, different –stoppage time per hour for a train – time taken with two difference modes of transport problems on Trains-Boats and streams.

UNIT –V **6**

Arithmetic progression: nth term of A.P sum to n terms of an A.P
Geometric Progression.nth term of G.P sum to n terms of a G.P and in finite terms of G.P Problems on Number series –Permutations and Combinations-Probability

ESSENTIALREADING:
1. Dr.Agarwal RS. 2015. Quantitative Aptitude. New Delhi: S. Chand &Company.

SUGGESTED READING:
1. Abhijit Guha, 2005.Quantitative Aptitude for Competitive Examinations. 3rdedition.NewDelhi: Tata Mc-Graw Hill Co.

QUANTITATIVEAPTITUDE
(GE Inter-Departmental/Inter-Disciplinary)

Credits:1 **Semester:III**
Subject Code:G18MS1P **No. of practical hours: 30**

Objective: To demonstrate various principles involved in solving Mathematical problems and thereby reducing the time taken for performing job functions.

Outcome: Students will be able estimate and check answers to mathematical problems in order to determine reasonableness, identify alternatives, and select optimal results.

LIST OF PRACTICALS

1-3 Formation of simple equations-Problems on Ages Problems on Ratios -Problems on Proportion.

4. Percentages

5-8. Commercial Arithmetic-Profit and Loss –Simple interest-Compound Interest-Discount

9. Time and work
10. Time and Distance
11. Arithmetic progression: nth term of A.P sum to n terms of an A.P
12. Geometric Progression. Nth term of G.P sum to n terms of an G.P and in finite terms of G.P
13. Problems on Number series.
14. Permutations and Combinations.
15. Probability

STATISTICS (DATA ANALYSIS)

(GE Inter-Departmental/Inter-Disciplinary)

Credits : 2 **Semester: III**

Subject code : G18MS2T **No. of Lecture hours: 30**

Objective: To acquaint students with various statistical methods and their applications in Different fields.

Outcomes:

CO1: **Organize**, manage and present data and Analyze statistical data using measures of central tendency.

CO2: **Analyze** the statistical data using dispersion and location.

CO3: **Analyze** the concepts of quality control, chance and assignable causes of variation, control charts for variables and attributes.

CO4: **Use** the program for optimizing the cost involved in transportation problems.

CO5: Develop and solve transformation models and assignment models.

UNIT I **6 Hrs**

Descriptive Statistics I: Frequency Distribution and graphical presentation of data, measures of central tendency (mean, median, mode, geometric mean and harmonic mean, with simple applications

UNIT II **6 Hrs**

Descriptive Statistics II: Absolute and relative measures of dispersion(range, quartile deviation, mean deviation and standard deviation) with simple applications, Importance of moments, central and non- central moments and their interrelationships (excluding proof), Sheppard's Corrections for moments for grouped data, Measures of skewness based on quartiles and moments of skewness based on quartiles and moments and kurtosis based on moments with real life examples.(Applications only)

UNIT III STATISTICAL QUALITY CONTROL I : **6 Hrs**

Importance of SQC in industry. Statistical basis of Shewart control charts.
Construction of control charts for variables (mean, range, and standard deviation)
Construction of control charts for attributes (p, np, and c-charts with fixed and varying sample sizes) Interpretation of control charts.

UNIT-IV **6 Hrs**

Definition of transportation problem initial basic feasible solution by North West corner rule, Matrix Minima and VAM Methods.
Optimal Solution through Modi table for balanced and unbalanced transportation problem. Degeneracy in Transportation problem.
Transportation problems as a special case of linear Programming problem.

UNIT-V **6 Hrs**

Assignment Problem: Definition of Assignment Problem Assignment problem as a special case of T.P and L.P.P

Optimal solution using Hungarian Method for Balanced and Unbalanced problems Sequencing Problem –Introduction

Optimal sequence of n jobs on two machines and three machines without passing under appropriate conditions.

ESSENTIAL READING:

Gupta S.C. and Kapoor V.K.2000. **Fundamental of Mathematical Statistics.** New Delhi: S. Chand Company.

Gupta S.C. and Kapoor V.K.2000. **Fundamental of Applied Statistics.** Third Edition. New Delhi: S. Chand Company.

Sharma S.D. 2007 Operations Research. New Delhi: S. Chand & Co.

STATISTICS (DATA ANALYSIS)
(GE Inter-Departmental/Inter-Disciplinary)

Credits : 1 **Semester: III**

Subject Code : G18MS2P **No. of practical hours: 30**

Objective: To acquaint students with various statistical methods and their applications in Different fields.

Outcome: Students will be able to choose and apply an appropriate statistical analysis or modeling methods to solve problems arising in different research fields using Office automation.

LIST OF PRACTICALS

1. Graphical presentation of data (Histogram, Frequency polygon, ogives) using Office automation.
2. Computation of measures of central tendency, dispersion and coefficients of skewness, kurtosis using Office automation.
3. Fitting of Binomial distribution- Office automation - Direct method using.
4. Fitting of Poisson Distribution- Direct method using Office automation
5. Computation of Correlation coefficient, forming regression lines using Office automation.
6. Small sample tests for mean(s), Paired t-test and Correlation Coefficient using Office automation
7. Small Sample test for single and difference of variances using Office automation.
8. c^2 test for goodness of fit and independence of attribute using Office automation.
9. ANOVA for one way and two-way Classifieds using Office automation.
10. Construction of $\bar{X}$, R and s-charts
11. Construction of p and n p charts with fixed n using Office automation.
12. Construction of p and n p charts with varying n using Office automation.
13. Construction of C and U charts.

14. Construction of O C Curve for Single Sampling plan.

DEPARMENT OF MULTIMEDIA AND ANIMATION

CREATIVE ARTS

(GE Inter-Departmental/Inter-Disciplinary)

Credits : 2 **Semester : III**

Subject Code : G18AD1-T **No. of lecture hours : 30**

Objectives:

- To gain knowledge that will demonstrate a facility in design theory as the foundation for further growth in specific media.
- To use any media to communicate their interpretation of a subject through the concept of art.

Course Outcome:

CO1. Recognize the principles of Visual Design

CO2. Tell the importance of visual language in daily life.

CO3. Apply, organize, sketch& paint using the elements of visual language of Dots, Lines, and Shapes, Forms, Contour& texture.

CO4. Analyze, distinguish identify the figurative reading of picturesque relationship among elements like perception, verbalization& creativity.

CO5. Compare visual building by exaggeration, distortion, stylization & abstraction.

UNIT – I	**6 hrs**
Introduction to Art & What is Art application of art	2 hrs
Different media of arts	2 hrs
Relation between art and society	2 hrs

UNIT – II	**6 hrs**
Importance of visual language in daily life	2 hrs
Understanding of visual language	2 hrs
Art Works of Raja Ravi Varma, M.F Hussein, Picasso, Leonardo davinci	2 hrs

UNIT - III	**6 hrs**
Elements of Visual language	2 hrs
Importance of Dot, lines, shapes	2 hrs
Forms, contour, texture, Size & perspective drawing painting	2 hrs

UNIT – IV	**6 hrs**
Working with pencil, color pencils	2 hrs
Water color, poster colors, charcoal	2 hrs
Oil Pastels, Oil Paints, Acrylic Paints and Dry Pastels	2 hrs

UNIT –V	**6 hrs**
Painting idioms include Body painting, Illustration	2 hrs
Landscape, Portrait, Still life	2 hrs
Identifying works of art and the Style	2 hrs

SUGGESTED READING:

1. Asa Berger, Arthur. 2009. **Seeing is Believing**. California: Mayfield.
2. Vyas, H. Kumar. 2009. **Design and Environment**. Ahmadabad: National Institute of Design.

3. Gill, Robert W. 2011. **Rendering with Pen and Ink**. London: Thames & Hudson.

CREATIVE ARTS
PRACTICALS
(GE Inter-Departmental/Inter-Disciplinary)

Credits : 1 **Semester : III**
Subject Code : G18AD1-P **No. of practical hours : 30**

Objective: To understand the importance of art and learn the concept of layout, color theory, drawing, and painting along with composition imitating the real world.

Course Outcome: Students will be able to apply different methods to create, composition, sketching, painting, Nature study, still life and using different mediums.

STILL LIFE DRAWING	
Composition & Sketching	1 hr
Texture & Material	1 hr
Light, shadow and highlights	1 hr
Drawing pencils & Color pencils	1 hr
Glasses, books, vases, flowers, plants, and rocks	1 hr
NATURE STUDY	
Sketching & Shading	1 hr
Draw the shape of natural objects like trees, flowers.	1 hr
Composition and perspective	1 hr
Working with pencil, water color, charcoal, oil pastels and acrylic paints.	2 hrs
Draw the shape of natural objects like trees, flowers.	1 hr
MEMORY DRAWING	
Composition	1 hr
Imagination Drawing	1 hr
Illustration based on imaginary concepts	2 hrs
Experimenting with dot, lines, shapes, forms, contour, texture, size perspective	1 hr
STILL LIFE PAINTING	
Composition & Sketching	1 hr
Texture, material, Light, shadow and highlights	2 hrs
Drawing pencils & Color pencils	1 hr
Glasses, books, vases, flowers, plants, and rocks.	2 hrs
NATURE PAINTING	
Sketching & Shading	1 hr
Draw the shape of natural objects like trees, flowers.	1 hr
Composition and perspective	1 hr
Working with pencil, water color, charcoal, oil pastels and acrylic paints.	1 hr
MEMORY PAINTING	
Composition	1 hr
Imagination	1 hr
Illustration based on imaginary concepts	1 hr

Experimenting with dot, lines, shapes, forms, contour, texture, size perspective 1 hr

DEPARTMENT OF B.COM COMPUTER APPLICATIONS

ACCOUNTING

(GE Inter-Departmental/Inter-Disciplinary)

Credits: 2 **Semester: III**
Subject Code: G18CC1T **No. of lecture hours: 30**

Objective: To acquire conceptual knowledge of basics of accounting and preparation of final accounts of sole trader using Computerized Accounting.

Outcome: Students will be independently able to apply theoretical knowledge to practical accounting.

CO1. Describe the need and importance of accounting.
CO2. Explains about subdivision of journal
CO3. To understand the ledger posting and balancing
CO4. To explain the simple cash book transactions
CO5. Analyses the financial position of an organization

UNIT-I **6 Hrs**
Accounting Process
Introduction – Definition – Evolution, Functions (2)
Advantages and Limitations –Users of Accounting Information (2)
Branches of Accounting – Accounting Principles: Concepts and Conventions. (2)

UNIT-II **6 Hrs**
Accounting System
Introduction to Accounting System (2)
Types of Accounts (2)
Accounting Cycle- Journal (2)

UNIT-III **6 Hrs**
Ledger and Trial Balance
Introduction (2)
Preparation of ledgers (2)
Trail balances (2)

UNIT-IV **6 Hrs**
Cash Book
Introduction (2)
Cash Book-Single Column (2)
Petty Cash Book (2)

UNIT-V **6 Hrs**
Final Accounts
Meaning -Uses -Preparation of Manufacturing (2)
Trading and Profit & Loss Account (2)
Balance Sheet – Adjustments – Closing Entries (2)

SUGGESTED READING:

1. Haneef and Mukherjee. 2013. **Accountancy-I**. New Delhi: Tata McGraw Hill Publication
2. Gupta, R.L. and Gupta, V.K. **Principles & Practice of Accounting**. New Delhi: Sultan Chand & Sons.
3. S.P. Jain, S.P. and Narang, K.L. 2013. **Accountancy-I**. New Delhi: Kalyani Publishers.
4. Tulasian. 2013. **Accountancy–I**. New Delhi: Tata McGraw Hill Publication
5. Grewal, T.S. 2013. **Introduction to Accountancy.** New Delhi: Sultan Chand & Sons.

ACCOUNTING
(GE Inter-Departmental/Inter-Disciplinary)

PRACTICALS

Credits: 1 **Semester: III**
Subject Code: G18CC1P **No. of practical hours: 30**

Objectives: To develop the skills of recording financial transactions and preparation of reports using computers.

Outcome: Students will be independently able to apply theoretical knowledge to practical accounting.

1. Creation of company in Tally software
2. Creation of Groups and accounts
3. Creation of stock groups and stock items
4. Creation of units of measurement
5. Entering financial vouchers-types of vouchers
6. Voucher entry-editing and deleting of voucher numbering
7. Passing of transactions
8. Preparation of ledger and cash book
9. Preparation of trail balance
10. Preparation of Trading
11. Preparation of Profit& loss A/c
12. Preparation of Balance Sheet

DEPARTMENT OF BUSINESS ADMINISTRATION

PRINCIPLES OF MANAGEMENT

(GE Inter-Departmental/Inter-Disciplinary)

Credits: 2 **Semester: III**

Subject Code: G18BB1T **No. of lecture hours: 30**

Objective: To acquaint the students with the principles and practices of management.
Course Outcomes: Students will be able to examine management policies, functions, and practices in context of organization growth and development.

CO1. Identify and interpret the various principles and importance of management
CO2. Explain and demonstrate the uses of planning and organizing
CO3. Classify and combine the various techniques of control and coordination.
CO4. Identify the essence of motivation and direction
CO5. Interrelate and understand the essence of leadership and the importance of communication

UNIT-I **6 Hrs**

Introduction

Management – meaning, definition, nature
Universality, Importance of management Principles & Functions of Management (2)
Schools of Management thought (2)
Scientific management, meaning, principles, objectives, criticisms of management (2)

UNIT-II **6 Hrs**

Planning & Organizing

Planning – definition – features, Importance, Steps in planning (2)
Types of plans, Limitations of planning (2)
Organizing– authority, power, sources of authority, responsibility & accountability (2)

UNIT-III **6 Hrs**

Coordination & Control

Coordination – essence, meaning, need, principles of coordination (2)
Techniques of controlling, span of supervision – factors determining span of supervision (2)
Control – definition, process – steps of control, requisites of good control system (2)

UNIT-IV **6 Hrs**

Direction & Motivation

Direction – meaning and importance, principles of directing, motivation theory (2)
Theories of motivation – Maslow, Mc Cleland & Hezberg (2)
Importance of motivation and motivational techniques (2)

UNIT-V **6 Hrs**

Leadership & Communication

Leadership – meaning – importance, styles, theories of leadership (2)
Communication – significance – process, types, barriers, techniques of building effective communication (2)
Morale – concept and nature, measurement of morale – morale & productivity, building high morale (2)

SUGGESTED READING:

1. Prasad, L.M. 2001. **Principles and Practice of Management.** 6th edition. New Delhi: Kalyani Pubishers.
2. Gupta R.S., Sharma B.D. and Bhalla N.S. 2012. **Principles and Practice of Management.** 8th revised and enlarged edition. New Delhi: Kalyani Publishers.
3. Sharma R.K. and Gupta Shashi K. 2012. **Business Organization and Management.** 3rd revised edition. New Delhi: Kalyani Publishers.
4. Koontz D'Donnel and Weilrich. **Essentials of Management.** 9th Edition. New Delhi: Tata McGraw Hill.

PRINCIPLES OF MANAGEMENT

(GE Inter-Departmental/Inter-Disciplinary)
PRACTICALS

Credits: 1 **Semester: III**
Subject Code: G18BB1P **No. of practical hours: 30**

Objective: To help students examine management policies, functions, and practices in context of organization growth and development.

Course Outcomes: Students will be able to examine management policies, functions, and practices in context of organization growth and development.

1. The students are expected to prepare organization structures of a few organizations and based on this knowledge, they should prepare an organization structure for a small unit (3)
2. The students are expected to know the functions of the employees at different positions (3)
3. Preparation of report on different scientific management techniques adopted in organizations (3)
4. The students are expected to know personal application of planning techniques (3)
5. Preparation of report on various organizing skills adopted in companies (3)
6. The students are expected to know the importance of coordination (activity-based) (3)
7. Preparation of report on popular motivation techniques used by corporates. (3)
8. Preparation of report on personal application of Maslow theory of motivation (3)
9. Preparation of report on different leadership skills observed in companies. (3)
10. The students are expected to know personal application of communication techniques (2)
11. Preparation of report on different communication process adopted in companies. (2)

DEPARTMENT OF B.Sc COMPUTER DATA SCIENCE AND DATA ANALYTICS ENGINEERING

PYTHON PROGRAMMING

(GE Inter-Disciplinary)

Credits: 2 **Semester: III**

Subject Code: G20DS1T **No. of Lecture Hours: 30**

Objective: To offer an easy syntax compared to Perl and the Unix/Linux "Shell Languages" and it is easier to learn and maintain.

Outcomes: Students will be able to

CO1: **Implement** the structure and components of a Python program.
CO2: **Express** how to write loops and decision statements in Python.
CO3: **Interpret** how to write functions and pass arguments in Python.
CO4: **Explain** how to build Python package modules for reusability.
CO5: **Create** files and GUI programs

UNIT –I **6hrs**

1. **Introduction to Python:**Python, Features of Python, Execution of a Python Program, ,Memory Management in Python, Comparisons between C and Python, Comparisons between Java and Python. 2
2. **Writing Our First Python Program:** Writing Our First Python Program, Executing a Python Program - Using Python's Command Line Window, and Using Python's IDLE Graphics Window. 1
3. **Data types in Python, Operators in python** 3

UNIT- II **6hrs**

1. **Control Statements**: The if Statement, A Word on Indentation, The if … else Statement, The if … elif … else Statement, The while Loop, The for Loop, Infinite Loops, Nested Loops, The else Suite, The break Statement, The continue Statement, The pass Statement, The assert Statement, The return Statement. **2**
2. **Lists and Tuples**: List, Creating Lists using range() Function, Updating the Elements of a List, Concatenation of Two Lists, Repetition of Lists, Membership in Lists, Aliasing and Cloning Lists, Methods to Process Lists, Finding Biggest and Smallest Elements in a List, Sorting the List Elements, Number of Occurrences of an Element in the List. **4**
   Tuples: Creating Tuples, Accessing the Tuple Elements, Basic Operations on Tuples, Functions to Process Tuples, Nested Tuples, Inserting Elements in a Tuple, Modifying Elements of a Tuple, Deleting Elements from a Tuple.
   Dictionaries: Operations on Dictionaries, Dictionary Methods, Using for Loop with Dictionaries, , Converting Lists into Dictionary, Converting Strings into Dictionary.

UNIT- III **6hrs**

1. **Strings** - Sequences, Strings, Strings and Operators, String-Only Operators, Built-in Functions, String Built-in Methods, Special Features of Strings **3**
2. **Functions**- Introduction, Calling Functions, Creating Functions, Passing Functions, Formal Arguments, Variable Length Arguments, Functional Programming, Variable **3**

Scope, Recursion, Generators

UNIT-IV **6hrs**

1. **Modules**- Modules, Namespaces, Importing Modules, Features of Module Import, Built-in Functions, Packages. **2**
2. **Exception**- Exceptions in Python, Detecting and Handling Exceptions, raise Statement, Assertions-assert statement, Standard Exceptions, Creating Exceptions. **4**

UNIT -V **6hrs**

1. **Files and Input/Output**- File Objects, File BIF and Methods, Built-in Attributes, Standard Files, Command Line Arguments. **3**
2. **Graphical User Interface:** GUI in python, using tkinter, sample programs using Tkinter **3**

ESSENTIAL READING

Rao, Dr. R. Nageswara. Core Python Proramming. 2nd Edition. Dreamtech Press.

SUGGESTED READING

Chun, Wesley J. **Core Python Programming.** 2nd Edition. USA: Pearson Education

PYTHON PROGRAMMING LAB
(GE Inter-Disciplinary)

Credit: 1 **Semester: III**

Subject Code: G20DS1P **No. of Practical Hours: 30**

Objective: To develop applications using object oriented concepts of Python.

Outcome: Students will be able to demonstrate object oriented concepts of Python.

1. Temperature conversion.
2. Display Fibonacci series up to a limit.
3. Find factorial of a number.
4. Sum and product of all the items in the list.
5. Print the multiplication table of a number.
6. Print largest and smallest of items in the list.
7. Remove duplicates from a list.
8. Add, subtract and multiply two matrices.
9. Transpose a matrix.
10. Second smallest and largest number in a list.
11. Count the number of elements in a list within a range.
12. Get the frequency of the elements in a list.
13. Illustrate functions.
14. Check whether a string is palindrome or not.
15. Demonstrate pass by reference and pass by value.
16. Demonstrate on functional programming.
17. Demonstrate on scope of variables.
18. Demonstrate on module
19. Read and write to a file.
20. Python program on exception.
21. Display Invalid Mark exception if mark is greater than 100.
22. Append data to a file.
23. Program on recursion.

24. Program to print roots of a quadratic equation.
25. Program on break and continue.