



**III YEAR V SEMESTER BSc MPCs SYLLABUS**

**SRI RAMAKRISHNA DEGREE COLLEGE (AUTONOMOUS)**

**NANDYAL**

# SRI RAMAKRISHNA DEGREE (A) COLLEGE::NANDYAL

B.Com.(A&F) (THREE YEARS) Degree Examinations,

(Semester System:: Under CBCS)

**3<sup>rd</sup>** YEAR FIFTH SEMESTER END EXAMINATIONS

Domain Subject: **COMMERCE** ::(2020-21 Regulations)

**Paper –18A: MANAGEMENT ACCOUNTING AND PRACTICE:- Syllabus**

**Hrs./Week: 5**

**Marks: Theory 100+Project Work 50**

## **LEARNING OUTCOMES**

Upon successful completion of the course the student will be able to

1. Understand the nature and scope of management accounting and differentiate management accounting, financial accounting, and cost accounting.
2. Compute ratios and draw inferences
3. Analyze the performance of the organization by preparing funds flow statement and cash flow statements
4. Prepare cash budget, fixed budget, and flexible budget.

## **SYLLABUS:**

### **UNIT I: Introduction**

Nature & Scope of Management Accounting – Management Accounting Principles – Significance of Management Accounting - Difference between management accounting, financial accounting and Cost accounting – Limitations of Management Accounting – Installation of Management Accounting – Toolsof Management Accounting.

### **UNIT 2: Ratio Analysis**

Meaning - Advantages and Limitation of Ratio Analysis – Types of Ratios –Profitability Ratios- Gross Profit Ratio (GPR) – Net Profit Ratio (NPR) – Operating Ratio –Solvency Ratios- CurrentRatio – Liquidity Ratio – Debt-Equity Ratio-Turnover Ratios-Fixed Assets Turnover Ratio – Working Capital Turnover Ratio – Debtors Turnover Ratio – Creditors Turnover Ratio - Stock Turn Over Ratio - Return on Investment (ROI)-Calculation and interpretation.

### **UNIT 3: Fund Flow and Cash Flow Analysis as per AS3**

Meaning and Concept of Working Capital (Fund) – Fund Flow Statement –Meaning and Uses of Funds Flow Statement – Preparation of Funds Flow Statement. Cash Flow Statement – Meaning and Uses of Cash Flow Statement – Preparation of Cash Flow Statement – Difference between Cash Flow Statementand Funds flow Statement.

### **UNIT 4: Budgeting and Budgetary Control**

Meaning of Budget – Forecast and Budget - Elements of Budget – Features – objectives and budget procedure – Classification of Budgets - Meaning of Control – Meaning of Budgetary

control – objectives of Budgetary control system – Advantages and Limitations of Budgetary control system. Prepare cash budget, fixed budget, and flexible budget.

### **UNIT 5: Management Reporting:**

Reports - Meaning — Modes of Reporting – Requisites of a good report — Kinds of Reports – General formats of Reports - Need for Management Reporting- financial reporting Vs. Management Reporting -Strategies for Writing Effective Reporting.

### **REFERENCES:**

1. Management Accounting and financial control S.N. Maheswari, Sultan Chand and Sons.
2. Principles of Management Accounting by Manmohan & Goyal, Publisher: PHI Learning
3. Cost and Management Accounting by SP Jain and KL Narang
4. Introduction to Management Accounting – Horn green and Sundlem Publisher: PHI Learning
5. Cost and Management Accounting by M.N. Arora, Vikas Publishing House PVT ltd.,
6. Management Accounting: Text, Problems & Cases by Khan & Jain, Tata McGraw Hill (TMH)
7. Web Sources: Web sources suggested by the concerned teacher and college librarian including reading material.

### **CO-CURRICULAR ACTIVITIES:**

#### **A. Mandatory:**

1. **Teachers:** Teacher shall provide students with financial data relating to business organizations and train them (using actual field material) to present such data in a more meaningful manner to facilitate managerial decision making, preparation of various budgets, forecast, analyze, interpret, and present such information in different reporting forms.
2. **Student:** Students shall visit any local company and collect their financial data or from web sources. Differentiate management accounting, financial accounting, and cost accounting. Extract the Financial data of any company and Compute Ratios and draw inferences, prepare Cash budgets, Fixed and flexible budgets and submit a brief report after analyzing such data.
3. Max marks for Project work Report: 50.
4. Suggested Format for Project work (not less than 50 pages): Title page, student details, contents, objective, stepwise work done, findings, conclusions, and acknowledgements.
5. Unit tests (IE).

#### **B. Suggested Co-Curricular Activities**

1. Organize short term training on specific technical skills in collaboration with Computer Department or skill training institution (Government or Non-Government Organization).
2. Seminars/Conference/ Workshops on management accountant profession, skills required for Management accountant Professional Development, integration of technical and analytical skills for effective job performance, Ethical behavior of management accountant.
3. On job work with ICMA professional duration of work be decided based on feasibility and opportunity.
4. Interaction with Area Specific Experts.

## **MODEL QUESTION PAPER**

### **Course 18A: MANAGEMENT ACCOUNTING AND PRACTICE**

**Time: 3 Hrs.**

**Max. Marks: 70**

#### **SECTION-A (20 Marks)**

**Answer any FIVE questions. Each question carries 4 Marks. (5x4=20 Marks)**

1. Content of Unit I
2. Content of Unit II
3. Content of Unit III
4. Content of Unit IV
5. Content of Unit V
6. Content of any Unit
7. Content of any Unit
8. Content of any Unit

#### **SECTION-B (50 Marks)**

**Answer all questions. Each question carries TEN Marks. (5x10=50 Marks)**

9. a). Content of Unit I (Theory)  
(or)  
b). Content of Unit I (Problem)
10. a). Content of Unit II (Theory)  
(or)  
b). Content of Unit II (Problem)
11. a). Content of Unit III (Theory)

(or)

b). Content of Unit III (Problem)

12. a). Content of Unit IV (Theory)  
(or)

b). Content of Unit IV (Problem)

13. a). Content of Unit V (Theory)  
(or)

b). Content of Unit V (Problem)

**SRI RAMAKRISHNA DEGREE (A) COLLEGE::NANDYAL**

**B.Com.(A&F) (THREE YEARS) Degree Examinations,**

**(Semester System:: Under CBCS)**

**3<sup>rd</sup> YEAR FIFTH SEMESTER END EXAMINATIONS**

**Domain Subject: COMMERCE ::(2020-21 Regulations)**

**Paper –:19A: COST CONTROL TECHNIQUES - Syllabus**

**Hrs/Week: 5**

**Marks: Theory 100+Project**

**Work 50 LEARNING OUTCOMES**

Up on completion of the course the student will be able to

1. Differentiate cost control, cost reduction concepts, and identify effective techniques.
2. Allocate overheads based on Activity Based Costing.
3. Evaluate techniques of cost audit and rules for cost record.
4. Appraise the application of marginal costing techniques to evaluate performances, fix selling price, make or buy decisions.

**SYLLABUS:**

**Unit 1: Introduction-Nature and Scope**

Introduction: Meaning of Cost Control – Cost Control Techniques – Requisites of effective Cost Control System – Cost Reduction – meaning – essentials for an effective cost Reduction Program

– Scope of cost reduction - Difference between Cost Control and Cost Reduction – Meaning of cost audit – Types of Cost Audit – Auditing techniques.

**Unit 2: Activity Based Costing**

Concept of ABC – Characteristics of ABC – Categories of ABC – Allocation of Overheads under ABC – Cost Reduction under ABC – advantages of implementing ABC – Application on overhead allocation based on ABC-

**Unit 3: Cost Volume Profit Analysis (CVP Analysis)**

Applications of Marginal Costing – profit planning – Evaluation of Performance-fixing selling price – Key Factor – Make or Buy decision – Accept or Reject - closing or suspending activities –

**Unit 4: Standard Costing and Variance Analysis**

Concept of Standard Cost and Standard Costing – Advantages and limitations – analysis of variances-importance of Variance Analysis - computation and application of variances relating to material and labour.

### **Unit 5: Application of Modern Techniques**

Kaizen Costing – Introduction – objectives – scope – Principles – 5 S (Sort, Set in Order, Shine, Standardize, and Sustain) in Kaizen Costing– Advantages and Disadvantages of Kaizen Costing. Learning Curve Analysis-concept and Application.

### **REFERENCES:**

1. Cost and Management Accounting by SP Jain and KL Narang.
2. Cost Accounting by M.C. Shukla, T. S. Grewal & Dr M. P. Gupta, S. Chand and Company Private Limited, New Delhi
3. Cost Accounting: Principles & Practice Book by M. N. Arora, Vikas Publishing House Private Limited.
4. Advanced Cost Accounting: JK Mitra, New Age International
5. Advanced Cost Accounting: SN Maheswari, S. Chand and Company Private Limited, New Delhi.

### **CO-CURRICULAR ACTIVITIES:**

#### **A. Mandatory**

1. **For Teachers:** Teacher should train students (using actual field material) in classroom/field for not less than 15 hours on techniques relating to determine fixed Costs, variable costs based on the data of concerned firm, to identify and analyze of cost variances and to prepare budgeting reports of business/industry houses.
2. **Students:** Students should develop skills by adopting techniques on differences between cost controls and cost reduction, allocation of overheads based on Activity Based Costing. Should visit any business and learn the methods and techniques of ascertaining costs of various products using with same material, machine, and money under same management (For example, Dairy, Sweet, Leather products etc.) and identify the reasons for variances in estimated and actual cost and submit a report in the given format not less than 50 pages to the teacher
3. Max marks for Project work Report: 50.
4. Suggested Format for Project work (not less than 50 pages): Title page, student details, contents, objective, stepwise work done, findings, conclusions, and acknowledgements.
5. Unit tests (IA).

#### **B. Suggested Co-Curricular Activities**

1. Organize short term training on specific technical skills in collaboration with Computer Department or skill training institution (Government or Non-Government Organization). Like Zoho, Fresh book, MS Excel....
2. Seminars/Conference/ Workshops on Cost accountant profession, skills required for cost accountant Professional Development, integration of technical and analytical skills for effective job performance, Ethical behavior of management accountant.
3. Real time work experience with ICMA professional duration of work be decided based on feasibility and opportunity.
4. Arrange for Interaction with Area Specific Experts.

## **MODEL QUESTION PAPER**

### **Course 19A: COST CONTROL TECHNIQUES**

**Time: 3 Hrs.**

**Max. Marks: 70**

#### **SECTION-A (20 Marks)**

**Answer any FIVE questions. Each question carries 4 Marks.  
Marks)**

**(5x4=20**

1. Content of Unit I
2. Content of Unit II
3. Content of Unit III
4. Content of Unit IV
5. Content of Unit V
6. Content of any Unit
7. Content of any Unit
8. Content of any Unit

#### **SECTION-B (50 Marks)**

**Answer all questions. Each question carries TEN Marks.  
Marks)**

**(5x10=50**

9. a). Content of Unit I (Theory)  
(or)  
b). Content of Unit I (Problem)
10. a). Content of Unit II (Theory)  
(or)  
b). Content of Unit II (Problem)
11. a). Content of Unit III (Theory)



(or)

b). Content of Unit III (Problem)

12. a). Content of Unit IV (Theory)  
(or)

b). Content of Unit IV (Problem)

13. a). Content of Unit V (Theory)  
(or)

b). Content of Unit V (Problem)

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**3<sup>rd</sup> YEAR FIFTH SEMESTER END EXAMINATIONS**

**Domain Subject: COMMERCE ::(2020-21 Regulations)**

**Paper –:20 B: LIFE INSURANCE WITH PRACTICE - Syllabus**

**Hrs/Week: 5**

**Marks: Theory 100+Project Work 50**

**COURSE LEARNING OUTCOMES**

After completing the course, the student shall be able to:

1. Understand the Features of Life Insurance, schemes and policies and insurance companies in India
2. Analyze various schemes and policies related to Life Insurance sector
3. Choose suitable insurance policy for given situation and respective persons
4. Acquire Insurance Agency skills and other administrative skills
5. Acquire skill of settlement of claims under various circumstances

**SYLLABUS:** Total 90 hrs. (Teaching 60, Project Work 15, Others 15 including IE etc.)

**Unit-I: Introduction of Life insurance contract**

Life Insurance- Features- Advantages - Group Insurance – Group Gratuity Schemes - Group Superannuation Schemes, Social Security Schemes- Life Insurance companies in India.

**Unit-II: Plans of Life Insurance**

Types of Plans: Basic - Popular Plans – Term Plans-Whole Life-Endowment-Money Back-Savings- Retirement-Convertible - Joint Life Policies - Children's Plans - Educational Annuity Plans - Variable Insurance Plans – Riders

**Unit-III: Principles of Life Insurance**

Utmost Good Faith- Insurable Interest- Medical Examination - Age proof, Special reports - Premium payment - Lapse and revival – Premium, Surrender Value, Non-Forfeiture Option - Assignment of Nomination- Loans – Surrenders – Foreclosure.

**Unit-IV: Policy Claims**

Maturity claims, Survival Benefits, Death Claims, Claim concession - Procedures - Problems in claim settlement - Consumer Protection Act relating to life insurance and insurance claims.

**Unit-V: Regulatory Framework and Middlemen**

Role of IRDAI & other Agencies - Regulatory Framework - Mediators in Life Insurance –  
Agency services – Development Officers and other Officials.

## REFERENCES

1. G. S. Pande, Insurance – Principles and Practices of Insurance, Himalaya Publishing.
2. C. Gopalkrishna, Insurance – Principles and Practices, Sterling Publishers Private Ltd.
3. G. R. Desai, Life Insurance in India, MacMillan India.
4. M. N. Mishra, Insurance Principles and Practices, Chand & Co, New Delhi.
5. M.N.Mishra, Modern Concepts of Insurance, S.Chand& Co.
6. P.S. Palandi, Insurance in India, Response Books – Sagar Publications.
7. Taxman, Insurance Law Manual.
8. <https://www.irdai.gov.in>
9. <https://www.policybazaar.com>

## CO-CURRICULAR ACTIVITIES

### A. Mandatory (Project Work)

1. **For Teachers:** Guiding of students by teacher (using actual field material) in classroom/field for not less than 15 hours on techniques/skills of life insurance sector from opening of insurance policies to settlement of claims.
  - Working with websites to ascertain various LIC Companies and their schemes in Life Insurance sector (Ref. unit 1)
  - Working with websites to ascertain various policies in Life Insurance sector (Ref. unit 2)
  - Working with websites like policy bazaar.com for Calculation of Premium for Specified policies and ascertain various options under policy (ref. unit 3)
  - Preparation of statements for claims under various policies working with specified Life Insurance Company for settlement of Claims under different circumstances (Ref. Unit 4)
  - Prepare the students to choose the Life Insurance field and show the opportunities in public and private insurance companies. (ref. Unit.5)
2. **For Students:** Students shall take up individual Project work and make observations on the procedures followed in the life insurance activities including identifying customers, filling applications, calculation of premium and settlement of insurance claims. Working with Insurance Agents and Life Insurance companies maybe done if possible. Each student shall submit a hand-written Fieldwork/Project work Report on his/her observations in the given format to teacher.
3. Max marks for Project work Report:50
4. Suggested Format for Fieldwork/Project work (not less than 50 pages): Title page, student details, contents, objective, stepwise work done, findings, conclusions and acknowledgements.
5. Unit tests (IE).

### B. Suggested Co-Curricular Activities

- Training of students by a related field expert.
- Assignments including technical assignments like Working with any insurance Company for observation of various policies, premiums, claims, loans and other activities.
- Seminars, Conferences, discussions by inviting concerned institutions
- Field Visit
- Invited lectures and presentations on related topics

**MODEL QUESTION PAPER**

**Course 20 B: LIFE INSURANCE WITH PRACTICE**

**Time: 3 Hrs.**

**Max. Marks: 70**

**SECTION-A (20 Marks)**

**Answer any FIVE questions. Each question carries 4 Marks.**

**(5x4=20 Marks)**

1. Content of Unit I
2. Content of Unit II
3. Content of Unit III
4. Content of Unit IV
5. Content of Unit V
6. Content of any Unit
7. Content of any Unit
8. Content of any Unit

**SECTION-B (50 Marks)**

**Answer all questions. Each question carries TEN Marks.**

**(5x10=50 Marks)**

9. a). Content of Unit I  
(or)  
b). Content of Unit I
10. a). Content of Unit II  
(or)  
b). Content of Unit II
11. a). Content of Unit III  
(or)  
b). Content of Unit III
12. a). Content of Unit IV  
(or)  
b). Content of Unit IV
13. a). Content of Unit V  
(or)  
b). Content of Unit V



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**Domain Subject: COMMERCE ::(2020-21 Regulations)**

**Paper –:21 B: GENERAL INSURANCE PROCEDURE AND PRACTICE  
- Syllabus**

**Hrs/Week: 5**

**Marks: Theory 100+Project Work 50**

**COURSE LEARNING OUTCOMES**

After completing the course, the student shall be able to:

1. Understand the Features of General Insurance and Insurance Companies in India
2. Analyze various schemes and policies related to General Insurance sector
3. Choose suitable insurance policy under Health, Fire, Motor, and Marine Insurances
4. Acquire General Insurance Agency skills and administrative skills
5. Apply skill for settlement of claims under various circumstances

**SYLLABUS:**

**Unit-I: Introduction**

General Insurance Corporation Act - General Insurance Companies in India - Areas of General Insurance- Regulatory Framework of Insurance- IRDA - Objectives -Powers and Functions - Role of IRDA- Insurance Advisory Committee.

**Unit-II: Motor Insurance**

Motor Vehicles Act 1988 - Requirements for compulsory third party insurance – Policy Documentation & Premium- Certificate of insurance – Liability without fault – Compensation onstructure formula basis -Hit and Run Accidents.

**Unit-III: Fire & Marine Insurance**

Kinds of policies – Policy conditions –Documentation- Calculation of premium- Calculation of Loss-Payment of claims.

**Unit-IV: Agriculture Insurance**

Types of agricultural insurances - Crop insurance - Problems of crop insurance - Crop Insurance VsAgricultural relief - Considerations in Crop insurance - Livestock Insurance.

## Unit-V: Health & Medical Insurance

Types of Policies-Calculation of Premium- Riders- Comprehensive Plans-Payment of Claims.

### REFERENCES

1. M. N. Mishra, Insurance Principles and Practices, Chand & Co, New Delhi.
2. M.N.Mishra, Modern Concepts of Insurance, S.Chand& Co.
3. P.S. Palandi, Insurance in India, Response Books – Sagar Publications.
4. C. Gopalkrishna, Insurance – Principles and Practices, Sterling Publishers Private Ltd.
5. G. R. Desai, Life Insurance in India, MacMillan India.
6. <https://www.irdai.gov.in>
7. <https://www.policybazaar.com>

### CO-CURRICULAR ACTIVITIES

#### A. Mandatory: (Project Work)

1. **For Teachers:** Guiding of students by teacher (using actual field material) in classroom and field for not less than 15 hours on techniques/skills in aspects of General Insurance area including calculation of premium and claim settlements.
  - Ascertain the regulatory framework and functions of IRDA and Insurance Advisory Committee with respect to important cases in General Insurance Field (Ref. unit 1)
  - Working with specified GIC Company and analyze the documentation procedure and Premium payment with respect to Motor & Other insurances (ref. unit 2)
  - Working with specified GIC Company and analyze the documentation procedure for Policy agreement and payment of Claims of General Insurance (ref. unit 3)
  - Working with Banks and Cooperative Societies with respect to Crop Insurance and Claims Settlement (Ref. unit 4)
  - Working with specified Medical Insurance Companies to ascertain various policies under medical insurance and settlement of claims (ref. Unit.5)
2. **For Students:** Students shall individually undertake Fieldwork/Project work and make observations on the procedures and processes of various insurance policies and claims in real time situations. Working with Insurance Agents and General Insurance companies is preferred. Each student shall submit a hand-written Fieldwork/Project work Report on his/her observations in the given format to teacher.
3. Max marks for Project work Report: 50
4. Suggested Format for Project work (not less than 50 pages): Title page, student details, Contents, objective, stepwise work done, findings, conclusions, and acknowledgements.
5. Unit tests (IE)

#### B. Suggested Co-Curricular Activities

- Training of students by a related field expert.
- Assignments including technical assignments like Working with General Insurance companies for observation of policies and claims under certain policies.
- Seminars, Conferences, discussions by inviting concerned institutions
- Field Visit
- Invited lectures and presentations on related topics



MODEL QUESTION PAPER

**Course 21 B: GENERAL INSURANCE PROCEDURE AND PRACTICE**

**Time: 3 Hrs.**

**Max. Marks: 70**

**SECTION-A (20 Marks)**

**Answer any FIVE questions. Each question carries 4 Marks.**

**(5x4=20 Marks)**

1. Content of Unit I
2. Content of Unit II
3. Content of Unit III
4. Content of Unit IV
5. Content of Unit V
6. Content of any Unit
7. Content of any Unit
8. Content of any Unit

**SECTION-B (50 Marks)**

**Answer all questions. Each question carries TEN Marks.  
Marks)**

**(5x10=50**

9. a).  
Content  
of  
Unit I

(

- or)b).  
Content  
of  
Unit I

10. a). Content of Unit II

(

- or) b).  
Content  
of Unit  
II

11. a). Content of Unit III

(  
or) b).  
Content  
of Unit  
III

12. a). Content of Unit IV

(  
or) b).  
Content  
of Unit  
IV

13. a). Content of Unit V

(  
or) b).  
Content  
of Unit  
V

SRI RAMAKRISHNA  
DEGREE(A) COLLEGE, NANDYAL

Semesterwise Revised Syllabus under CBCS, 2019-20  
Subject: **Computer Applications for Arts/Commerce**  
Four year B.A./B.Com.(Hons) Semester-V (from 2022-23)

Course Code:

Max Marks: 100

**Course-6A: BIGDATA ANALYTICS USING R**  
(Skill Enhancement Course (Elective), 4 credits)

**I. Learning Outcomes:**

Upon successful completion of the course, a student will be able to:

1. Understand data and classification of digital data.
2. Understand Big Data Analytics.
3. Load data into R.
4. Organize data in the form of R objects and manipulate them as needed.
5. Perform analytics using R programming.

**II. Syllabus:** (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

**Unit- 1: Introduction to Bigdata**

(12 h)

Data, classification of Digital Data -- structured, unstructured, semi-structured data, characteristics of data, evaluation of big data, definition and challenges of big data, what is big data and why to use big data?, business intelligence Vs big data.

**Unit -2: Bigdata Analytics**

(10 h)

What is and isn't big data analytics? Why hype around big data analytics? Classification of analytics, top challenges facing big data, importance of big data analytics, technologies needed to meet challenges of big data.

**Unit - 3: Introduction to R and getting started with R**

(13h)

What is R? Why R? , advantages of R over other programming languages, Data types in R-logical, numeric, integer, character, double, complex, raw, coercion, ls() command, expressions, variables and functions, control structures, Array, Matrix, Vectors, R packages.

**Unit-4: Exploring data in R**

(13h)

Data frames-data frame access, ordering data frames, R functions for data frames dim(), nrow(), ncol(), str(), summary(), names(), head(), tail(), edit(). Load data frames—reading from .CSV files, sub setting data frames, reading from tab separated value files, reading from tables.

**Unit–5:Data Visualization using R** (12h)

**Reading and getting data into R (External Data):** XML files, Web Data, JSON files, Databases, Excel files.

**Working with R Charts and Graphs:** Histograms ,BarCharts, Line Graphs, Scatter plots, Pie Charts

**BOOKS**

1. Seema Acharya, Subhashini Chellappan---BigData And Analytics second edition, Wiley
2. Seema Acharya—Data Analytics using R, McGraw Hill education(India)Private Limited.
3. BigDataAnalytics,IntroductiontoHadoop,Spark,andMachine-Learning,Raj kamal, PreetiSaxena,McGrawHill,2018.
4. BigData,BigAnalytics:EmergingBusinessintelligenceandAnalyticstrends for Today's Business,Michael Minelli, Michelle Chambers ,and Am big a Dhiraj, John Wiley & Sons, 2013

**Reference Books:**

1. AnIntroductiontoR,NotesonR:AProgrammingEnvironmentforDataAnalysis and Graphics. W. N. Venables, D.M. Smith and the R Development Core Team

SRI RAMAKRISHNA  
DEGREE(A)COLLEGE,NANDYAL

Semester-wise Revised Syllabus under CBCS, 2019-20  
Four year B.Com.(CA)(Hons)  
Course Code Subject: **Computer Applications for Arts/Commerce**  
Four year /B.Com.(Hons) Semester-V (from 2022-23)

Max Marks: 100

**Course-7A: DATA SCIENCE USING PYTHON**  
(Skill Enhancement Course (Elective), 4 credits)

**Learning Outcomes:**

Up on successful completion of the course, a student will be able to:

1. Understand basic concepts of data science
2. Understand why python is a useful scripting language for developers.
3. Use standard programming constructs like selection and repetition.
4. Use aggregated data (list, tuple, and dictionary).
5. Implement functions and modules.

**II. Syllabus :** ( Total hours: 75 including Theory, Practical, Training, Unit tests etc.) **Unit**

**– 1: Introduction to data science (12h)**

Data science and its importance, advantages of data science, the process of data science, Responsibilities of a data scientist, qualifications of data scientists, would you be a good data scientist, why to use python for data science.

**Unit– 2: Introduction to python (14h)**

What is python , features of python, history of python, writing and executing the python program, basic syntax, variables, keywords, data types ,operators ,indentation, Conditional statements-if, if-else, nested if-else, looping statements-for, while, break, continue, pass

**Unit – 3: Control structures and strings (10h)**

**Strings**-definition, accessing, slicing and basic operations

**Lists**-introduction, accessing list, operations, functions and methods,

**Tuples**-introduction, accessing tuple

**Dictionaries**-introduction, accessing values in dictionaries

**Unit–4: Functions and modules (13h)**

**Functions**-defining a function, calling a function, types of functions, function arguments, local and global variables, lambda and recursive functions, Modules- math and random

**Unit-5:Classes&Objects****(11h)**

ClassesandObjects,Classmethodandself-argument,classvariablesandobjectvariables,public and private data members, private methods, built-in class attributes, static methods.

**ReferenceBooks:**

1. Stevencooper---DataSciencefromScratch,Kindle edition
2. Reemathareja—

PythonProgrammingusingproblemsolvingapproach,Oxford Publication