

Annexure No.	57 I
SCAA Dated	29.02.2008

**Bharathiar University : Coimbatore-46**  
**SCHOOL OF DISTANCE EDUCATION –(SDE)**  
**B.COM -Actuarial Science**  
**Non Semester Pattern – Scheme of Examinations**  
**(with effect from 2007-08 onwards)**

<b><u>List of Papers</u></b>	<b>Max.Marks</b>
<b><u>I-Year</u></b>	
1. Tamil	100
2. English	100
3. Principles of Insurance	100
4. Financial Accounting	100
5. Mathematics for Business	100
<b><u>II –Year</u></b>	
6. Principles of Life Insurance	100
7. Priciples of Marketing	100
8. Corporate Accounting	100
9. Statistics for Business	100
10. Business Economics	100
<b><u>III-Year</u></b>	
11. Cost &Management Accounting	100
12. Executive Communication	100
13. Priniciples of Reinsurance	100
14. Asset Liability Management	100
15. Life Office Management	100
<b><u>TOTAL MARKS</u></b>	<b>1500</b>
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**SCHOOL OF DISTANCE EDUCATION –(SDE)**  
**B.COM -Actuarial Science - Non Semester Pattern**  
**(with effect from 2007-08 onwards)**

**Paper 3 Principles of Insurance**

**Unit I**

The Concept of Risk Insurance - Kinds and Classification of Risks - Assesment-Transfer-The concept of Insurance - Classification of Insurance-Types of Life Insurance ,Pure and Terms-Types of General Insurance-Fire,Marine,Motor,Engineering,Aviation and Agricultural-Insurance of Property,Pecuniary interest, Liability and Person

**UNIT II**

Insurance- Professional and Intermediaries.

**UNIT III**

Legal Prinicipals of Insurance under the Indian Contract Act 1872- Essiencial elements of valid Contract –Insurable interest-Nomonation and Assignment – Utmost good faith- Internity – Surogation-Contribution – pronimate clause – Basic principles Interest- Material facts-Indemnity – Pronimate cause.

**UNIT IV**

Economic priniples of Insurance- Sharing-Subrogation-Contribution – Financial Priniciples-Premium funds-Investments – Reserves – Surblus- Valuation of Surplus – ReinsurancBasic concepts.

**UNIT V**

Theory of Rating – Actuarial Priniciples – Mortality table-Physical and Moral hazards – Representation – Warranties – Conditions.

**Books for Reference**

1. Insurance and Risk Management – Dr.P.K.Gupta
2. Introduction to Risk Management and Insurance – Mark.S.Dortman
3. Fundamentals of Risk Insurance – Emmett.J.Vaughan & Therese Vaughan.

## **Paper 4 Financial Accounting**

### **UNIT I**

Accounting Concept and Conventions – Journal – Ledger- Subsidiary Books – Bank Reconciliation Statement and Rectification of Errors – Trial balance – Final Accounts with Adjustments.

### **UNIT II**

Bills of Exchange (including Accommodation Bills) – Investment Accounting.

### **UNIT III**

Branch Accounting (Excluding Foreign Branches) Account current and Average Due Date.

### **UNIT IV**

Insurance Clamis – Loss of Stock and Loss of Profit.

### **UNIT V**

Deperaciation Accounting - Royalty (excluding sub lease)

### **Books for Reference:**

1. Advanced Accounting – Jain & Narang
2. Advanced Accounting – R.L.Gupta & Radhaswamy
3. Financial Accounting - Reddy and Moorthy

## **Paper 5 Mathematics for Business**

### **Unit I:**

Set theory – Arithmetic and Geometric series- Simple and Compound Interest – Effective Rate of Interest – Sinking fund – Annuities – Present value – Discounting of Bills – Trade Discount – Banker’s Gain.

### **Unit II:**

Matrix : Basic Concepts – Addition and Multiplication of matrices – Inverse of a matrix – Rank of a matrix – Solution of simultaneous linear equations – Input – Output analysis.

### **Unit III:**

Variables, Constants and Functions – Limits of Algebraic functions – Simple Differentiation of Algebraic functions – Meaning of Derivations – Evaluation of first and second order Derivatives – Maxima and Minima – Applications to Business Problems.

### **Unit IV:**

Elementary Integral Calculus – Determining indefinite and definite integrals of Simple functions – Integation by parts.

### **Unit V:**

Linear programming : Problem – Formation – Solution by Graphical Method – Solution by Simplex Method.

### **Books for reference:**

1. Business Mathematics and statistics – Dr. P.R.Vittal
2. Business Mathematics – Dharmapadam
3. Business Mathematics & Statistics – P.A.Navaneetham.

## Paper 6 Principles of Life Insurance

### Unit I:

**Life Insurance Organisation:** Important Activities – Indian Context – Internal Organisation – The Distribution Systems – Appointment of Agent – Functions of Agents Remuneration to Agent – Trends in Disribution channels.

**Plans of insurance:** Need level – Basic elements – Some Popular Plans – Limited Payment Plans – Participating Policies – Convertible Plans – Joint Life Policies – Children’s Plans – educational Annuity Plans – Riders for the Handicapped – Miscellaneous.

### Unit II:

**Annuities:** Nature of Annuities – Types

**Group Insurance:** Nature of Group Insurance – Types – Group Gratuity Schemes – Ways of meeting Gratuity Liablility – Group Super Annuation Schemes – Other Group Schemes – Social Security Schemes.

### Unit III:

**Other Special Need Plans:** Industrial Life Insurance – Salary Savings Schemes – Additional Benefits – Married Women’s Property Act.

Application and Acceptance: Principal of Utmost Good Faith – Insurable Interest – prospectus – Proposal form and Other related Documents – Medical Examination – Age proof - Special Reports.

### Unit IV:

Policy Document – Need and Format - Policy Preamble – Schedule – Attestation – Conditions and Privileges – Alteration – Duplicate Policy Premium Payment, Lapse and Renewal Premium – Surrender Values – Non – Forfeiture – Options – Revial

### Unit V:

Assigment Nomiatio Loans – Surrenders – Foreclosure:

**Policy Claims:** Maturity Claims – Survival Benefits – Death Claims – Claim Concession – Presumption of Death – Accident Benefit and Disablitiy Benefit – Post – Maturity Options – Settlement Options – Valuation and Surplus.

### **Books for reference:**

1. Insurance and Risk Management - Dr.P.K.Gupta
2. Introduction to Risk Management and Insurance - Mark.S.Dortman
3. Fundamentals of Risk Insurance - Emmett.J.Vaughan & Therese Vaughan.

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## **Paper 7 Principles of Risk Management**

### **Unit I:**

Risk and Uncertainty – Subjective Risk – Attitudes to Risk – Acceptable Risks Versus Unacceptable risk – classification of risk – the cost of risk – Handling Risks.

### **Unit II:**

The scope and objective of Risk Management in Corporate Bodies Nationalised Industris, Local Government and Public utilities Personal Risk Management. Risk Management Process and Administration.

### **Unit III:**

Techniques of Risk Management – Risk Identification – Risk Evaluation – Statistical Methods and Probality Concepts, Decision taking under conditions of Risk and Uncertainty – Risk Avodiance – Risk Reduction and Loss Control – The Factories Act 1948 – Role of Insruance Surveyors in Loss Prevention – Mutual Aid Schemes.

### **Unit IV:**

Risk Financing – Risk Retention – Risk Transfer, Insruance – Benefits and Limitations – Partial Insruance – Captive Insruance Companies.

### **Unit V:**

Risk Management and Corporate Objectives – Risk Management Policy – Risk Management and Fucntional Management.

### **Books for reference:**

1. Insurance and Risk Management - P.K.Gupta
2. Fundamendals of Risk and Insurance - Emmett Jvaughan and Therese Vaughan.

## **Paper 8 Corporate Accounting**

### **Unit I:**

Issue of Shares and Debentures – Forfeiture and Re-issue of Shares – Surrender of Shares – Rights Issue.

### **Unit II:**

Preparation and Presentation of Final Accounts.

### **Unit III:**

Accounts of Banking Companies (New Format)

### **Unit IV:**

Insurance Companies Accounts (New Format)

### **Unit V:**

Accounts of Holding Companies

### **Books for Reference:**

1. Advanced Accountancy – R.L.Gupta & Radhaswamy
2. Advanced Accountancy – Jain and Narang
3. Corporate Accountancy - M.A Arulanandam & K.S.Raman

## **Paper 9 - Statistics for Business**

### **UNIT I**

Meaning and Scope of Statistics- Sources of data- Collection of data – Primary and Secondary – Methods of Primary data collection -Editing Secondary data - Classification and Tabulation – Presentation of data by Diagrams – Bar Diagram and Pie Diagram – Graphic representation – Frequency Distribution.

### **UNIT II**

Averages – Simple and Weighted,Mean,Median,Mode,Geometric Mean and Harmonic Mean - computation – Properties and Uses,Standard Deviation and Co-efficient of Variation.

### **UNIT III**

Skewness-Meaning-Bowley's and Pearson's co-efficient of Skewness-Correlation-Meaning and Definition –Scatter diagram - Pearson's Correlation Co-efficient- Computation and Interpretation - Rank Correlation – Regression - Meaning of Regression and Linear prediction - Regression in two variables -Uses of Regression.

### **UNIT IV**

Interpolation – Newton, Lagrange and Binominal methods-Index numbers-Meaning – Uses-Methods of construction-Aggregative and Relative types- Tests of an Index number-Wholesale and Cost of living Index - Price data in India.

### **UNIT V**

Time series – Meaning – Components-Models-Business Forecasting-Methods of Estimating trend - Graphic,Semi Average,Moving Average and Least Square Method- Seasonal Variation-Method of Simple Average- Interpretation of Statistics- Precautions- Errors – Methods of Sampling – Sampling and Non-Sampling Errors.

**NOTE:** Marks shall be distributed equally between theory and problems.

### **Books for Reference**

- |                                    |                              |
|------------------------------------|------------------------------|
| 1.Research Methodology             | - C.R.Kothari                |
| 2.Statistical Methods              | - S.P.Guptha                 |
| 3.Statistics for Commerce Students | - Gupta S.P                  |
| 4.Statistics                       | - R.S.N.Pillai & V.Bagavathi |

## **Paper 10 Business Economics**

### **Unit I:**

Introduction to Economics: Scope - Resources – Scarcity – Allocation – Opportunity cost – Economic Systems.

**Supply and Demad:** Supply and Demand Curve – Control on Markets – Price Controls – Taxes and Subsidies – Quotas – Elasticity – Demand Supply.

Consumer Choice: Introduction – Consumer Prefereces – Budget Constraints, Income and Substitution effects – Giffen Goods.

### **Unit II:**

**Utility and Risk Aversion:** Expected Utility Principle – Insruance – Utility Function of the Insurer- Problems for Insurance Companies.

Thoery of the Firm: Introduction – Cost, Revenue and Profit Maximisation – Cost – Output – Factors of Production – Production function – Short Run and Long Run – Returns to Scale- Economies of Scale – Diseconomies of Scale.

**Market Structure:** Introduction – Perfect Competition – Monopoly – Monopolistic Competition – Price Discrimination – Oligopoly – Market failures.

### **Unit III:**

Macro Economies: National Income – Methods of Measurement – Circular Flow of Income.

**Keynesian Models:** A simple Keynesian models of the Economy – Consumption and Investment Fucntions – Multiplier – Accelerator.Measures of Inflation – Price Index – Earning Index.

### **Unit IV:**

**Foreign Trade:** Balance of Payments – Exchange Rates – Financial Markets.  
Public Sector Finances: Government Expenditure – Government Revenue – Taxation – Direct and Indirect Taxes - Progressive and Regressive Taxes.

### **Unit V:**

**Money Market and Money Supply:** Supply of Money – Demand for Money – Keynes three reasons for holding money – Interest Rates – Factors Affecting Interest Rate IS-LM model.

### **Books for Reference:**

1. Varshney & Sundaram – Business Economics
2. Dwivedi – Principles of Business Economics

## **Paper 11 Cost & Management Accounting**

### **UNIT I**

Cost Accounting – Definition , Meaning and Scope – Relationship Cost Accounting with Financial Accounting and Management Accounting – Methods of Cost –Cost Analysis – Concept and Classifications Management Accounting – Meaning, Objectives and Scope – Need and Significance of Management Accounting in Organisation

### **UNIT II**

Perparation of Cost Sheet – Materials – Purchasing of Materials , Procedure and Documentations involved in Purchasing – Requisitioningfor Stones – Methods of valuing Material Issues – Maximum , Minimum & Reordering levels – EOQ – Perpectual Inventory – Control over wastage , Scrap & Spoilage.

### **UNIT III**

Analysis and Interpretation of Financial Statement and their Importance – Ratio Analysis – Significance of Ratios and Long term financial position – Profitability – Uses and Limitation of Ratios.

### **UNIT IV**

Cost – Volume – Profit Analysis – Marginal costing and Break even Analysis ,Managerial applications of Marginal costing – Significance and Limitations of Marginal costing.

### **UNIT V**

Budgeting and Budgetary control – Definition, Importance, Essentials and Classifications of Budgets, Master Budget, Operation of Different Budgets – Steps in Budgetary control – Zero Based Budgeting.

### **BOOKS for Reference**

- |                          |   |                            |
|--------------------------|---|----------------------------|
| 1. Cost Accounting       | - | Jain & Narang              |
| 2. Cost Accounting       | - | R.S.N Pillai and Bagavathi |
| 3. Management Accounting | - | S.N. Maheswari             |
| 4. Management Accounting | - | Khan                       |

**Note:** (Theory 40 %, Problem 60%)

## **Paper 12 Executive Communication**

### **UNIT I**

Meaning of Communication – Objectives – Barriers – Composition of Sentences – Avoidance of Jargon , Correct Grammer , Spelling and Punctuation – Effective business letter Enquiries and Relies.

### **UNIT II**

Reporting – Priniciples governing Preparation of Reports – Qualities and Functions of a Good Report- Surveyor's Report.

### **UNIT III**

Doucmentation Preparation of Cover Note,Policies ,Clamies and Drafting of a letter,Report memo , E-mail Slide or Visual Presentation – Rewriting or Correcting a Poor draft and Actuarial correspondence.

### **UNIT IV**

Management Information System – Concepts – Importance – Usefulness of Reports Computers –Importance Usefulness to Industry and Business.

### **UNIT V**

Preparing a Report , Targeting a Particular Audience , Pertaining to a Practical Situation in Commerce , Trade , Industry and Business.

### **Books for Reference:**

- 1.Business Communication - Urmila Rai & S.M.Rai
- 2.Effective Communication - M.Sundarajan
3. Business Communication - L.N.Aggarwal

## **Paper 13 Principles of Re-insurance**

### **UNIT I**

Introduction – Brief Historical Background – Nature of Reinsurance – Function of Reinsurance – Methods of Reinsurance – Major Forms – Facultative Reinsurance – Treaty Reinsurance.

### **UNIT II**

Reinsurance – Special factors pertaining to Property, Accident / Liability, Marine and Aviation, Basics of Life Reinsurance, Reinsurance Programs – Designing and Arranging – Setting Retentions – Program Design – Analysis Reinsurance Needs – Negotiation and Placement of Reinsurance.

### **UNIT III**

Reinsurance Clause, Common Clauses, Operative Clause, Commencement and Termination Clauses – Access to records Clause – Errors and Omissions Clause – Intermediary Clause – Currency Clause – Arbitration Clause – Insolvency Clause – Offset Clause – Claims Settlement Clause – Accounting Clause – Special Clause.

### **UNIT IV**

Reinsurance Markets – Special Characteristics of certain Important Reinsurance Market – Lloyd's – Reinsurance Exchange – Pools.

Reinsurer Financial Security – Importance – Managing Reinsurer Security – Selecting Reinsurers - Establishing Criteria for Evaluation of Security – Financial Strength Ratings – Major Rating Agencies.

### **UNIT V**

Alternative of Reinsurance – New forms of Reinsurance – Finite Risk / Financial Reinsurance Futures and Securitization of Reinsurance Contracts - New Markets – Impact of Captives and High Self – Retentions on the Reinsurance Mechanism – Emerging Trends in Global Reinsurance Market.

### **Books For Reference**

1. Asset Liability Management in Insurance - Verennee Briyel
2. Asset Liability Management -T.N.Ravi kumar

# Paper 14 Asset Liability Management

## UNIT I

Introduction – Importance of Asset Management for various Organisations. Risk and Return Relationship, Expected Rate of Return – Kinds of Risk – Trade-off between Risk and Return – Measures of Investment Risk, Investors Utility Function, Calculations using Risk Measures to compare Investment Opportunities and Distribution of Return (influence of Thickness of tails for Assessment of Risk).

## UNIT II

Components of Assets and Liabilities – ACM Definition – Objectives – Importance of Assets and Liability Management – Prerequisites for Operation of an Effective ACM System, Equity Valuation-Fundamental Analysis-Technical Analysis – Capitalizing Earnings – P/E Ratio.

## UNIT III

Efficient Market Hypothesis – Their forms and Consequences – Bond evaluation – Market Interest – Yield Spread – Yield to Maturity – Yield Curve – Interest Rates – Yield Spread – Yield to Maturity – Yield Curve – Interest rate Swaps and Bond Swaps – Spot and Forward rates – Interest Rate Risk – Option Prices, Pledging Techniques and Variation Methods.

## UNIT IV

Models of the Term structure of Interest rates – Characteristics – Interest Rate Structure as a Computational tool for Pricing of Zero Coupon Bonds and Interest Rate Derivatives for a general one – Factors Diffusion Model for the Risk free rate of interest – Limitations of one factor models and Tackling Issues.

## UNIT V

Techniques involved in asset – Liability management – Gap Analysis – Simulation – Duration Analysis – Linear and Other Mathematical Methods

### **Books for reference**

- 1.Assets liability management in insurance : Verenngg Briyel
- 2.Assets & liability management : T.N.Ravikumar
- 3.Asset liability Management : Frank j.Fabozzi Atsuo konishi

# Paper 15 Life Office Management

## UNIT I

Life Insurance-Meaning – Objectives –Principal terms Used – Features –  
Advantages and Limitations.

## UNIT II

Life Insurance Products –

- Needs of Consumer,
- Objectives of the insurer,
- Benefits,guarantees and options provided,
- Purpose of the products for the insurer,
- Purpose of the products for the insured

## UNIT III

Basic for issuing the insurance products:

- Single or Regular premium
- With or Without profits
- Unit linked or index – linked
- Single , Joint or group life basis
- With or Without conversion options.

## UNIT IV

Technique of Asset Shares – Meaning – Building of Asset Shares by Recursive  
formula – Uses of asset shares.

## UNIT V

Sources of risk to a life immence – Guarantees and options

- Competitions
- Actions of the Board of Directors
- Failure of appropriate management systems and control
- Counter parties under reinsurance arrangements
- Legal,Regular and Fiscal developments
- Fraud
- Aggregation and Concentration of risk including credit failure

