

## **BA (VS) INSURANCE MANAGEMENT**

### **Risk Management & Insurance**

#### **DSC- 1**

**(4 : credits: 3 + 1 tutorial)**

**Objective:** The course aims to provide basic understanding of the concept & classification of risk. The student will understand the process of risk management in detail and how insurance acts as a risk management tool. It covers the special features of insurance, insurance contracts, and the critical role of law of large numbers. This will also act as a stepping-stone for pursuing a higher professional qualification in the fields of risk management and insurance.

**Learning Outcomes:** After completion of the course, learners will be able to:

1. understand the concept of risk and uncertainty and classify risks, level of risk, and explain the behavioural aspect of risk and economics of insurance.
2. explain insurable and non-insurable risks.
3. analyse the role of risk management and insurance in economic development and as a social security tool.
4. evaluate the managerial functions of risk management and its process and also the working of insurance
5. evaluate the insurance contract as a risk management tool

#### **Course Contents:**

<b>Unit</b>	<b>Unit wise weightage of marks (in %)</b>	<b>C&amp;K*</b>	<b>A&amp;A**</b>
Unit 1: Risk & Uncertainty	25	√	√
Unit 2: Risk Management & its managerial aspects	25	√	√
Unit 3: Role of Insurance in managing risk	25	√	√
Unit 4: Insurance contract: An overview	25		

\*Concept & Knowledge \*\* Analysis & Application

#### **Unit 1: Risk and Uncertainty - 15 Hours**

Concepts, causes, degree, classification, and cost. Insurable risk. Risk and economic development. Psychology and attitude towards risk. Managing risk and uncertainty. Cash flow at risk, Value at risk.

#### **Unit 2. Risk management & its managerial aspects - 15 Hours**

Risk management-concept, evolution, purpose, scope, importance, and its future. Role of risk management in economic growth. Risk management function. Risk Manager. Managerial Aspects- goals, identification, evaluation, risk response, and plan administration, risk management in a global economy: future perspective

#### **Unit 3. Role of Insurance in managing risk - 15 Hours**

Nature, importance, purpose, functions, classification, limitations and production process of insurance. Insurance and Risk, Insurance & Economic development, Insurance as a social

security tool, Determinants of insurance market structure; Re-insurance: meaning, purpose, forms.

#### **Unit 4. Insurance contract: An overview - 15 Hours**

Nature & subject matter of insurance and insurance contracts; Salient Features - as per Contract Act, including special features, evidence and supporting documentation; Payment of premium; e-insurance policy; Insurance Repositories

#### **Exercises:**

#### **The learners are required to:**

1. Organise group discussions in class on risk management techniques (Unit1).
2. Conduct a small survey (physical or online mode) about the popularity and awareness of insurance products as a means of managing risk (Unit3).
3. Evaluate through group discussions the different types of insurance contracts through case studies (Unit4).

**Course Assessment:** Internal Assignments/projects/class tests/presentations – 25; Exam - 75

#### **Suggested Readings:**

1. Arunajatesan S. & T. R. Viswanathan, Risk Management and Insurance, (2009) Macmillan Publishers Ltd.
2. Dorfman S. Mark (2012, 1987) Introduction to Risk Management and Insurance, Eighth Ed, Prentice-Hall.
3. Hampton John J. (1993) Essentials of Risk Management and Insurance, (1993), American Management Association (Amacom).
4. Holyoake Julia & Weipers Bill Insurance, (2002), Institute of Financial Services, U. K. (AITBS Publishers & Distributors (Regd.), Delhi-51.
5. Patukale Kshitiz (2009) Insurance for Everyone, Macmillan India Ltd. Teaching Learning Process, Assessment Methods and Teaching
6. Rejda, G. E. & McNamara M. (2017) Principles of Risk Management and Insurance, Pearson Education.
7. Skipper D. Harold & Kwon W. Jean (2008) Risk Management & Insurance Blackwell Publishing, Wiley India
8. Vaughan E.T. & T. Vaughan (2015) Fundamentals of Risk Management and Insurance.

**Note: Students are advised to use the latest editions of textbooks**

# Statistics for Insurance

## DSC- 2

(4 credits: 3 + 1 practical)

**Objective:** The course aims to explain the basic concepts of statistics that are essential building blocks for application and analysis of data pertaining to the insurance industry. The course will explain the relationship between multiple variables and analysis of time series data. The student will be able to evaluate decision making under uncertainty in real life situations & to insurance industry in particular.

**Learning Outcomes:** After completion of the course, learners will be able to:

1. understand basic statistical concepts and apply them to finding objective solutions to problems in insurance business
2. analyse the relationship between multiple variables and their applications in business analytics, especially in the insurance industry
3. analyse trends with indexing and seasonality in a time series data.
4. Evaluate different statistical techniques and develop analytical thinking skills to solve business/real-life situations.
5. apply the theory of probability in decision making involving the insurance industry and evaluate the usefulness of existing insurance products

### Course Contents:

Unit	Unit wise weightage of marks (in %)	C&K*	A&A**
Unit 1: Review of Descriptive Statistics	20	√	√
Unit 2: Correlation & Regression	30	√	√
Unit 3: Time Series and Index numbers	25	√	√
Unit4: Probability and Probability Distribution	25	√	√

\*Concept & Knowledge \*\* Analysis & Application

### Unit-1 Review of Descriptive Statistics 12 Hours

Data: Types and Sources, quantitative and qualitative, big data and its utility in Business analytics; Measures of central tendency: Mean, Median, Mode; Measures of dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation, Variance, Coefficient of Variance, Moments, shape of the distribution- skewness and Kurtosis, estimation of insurable loss and risk measurement relevant in insurance.

### Unit 2 Correlation Analysis and Regression – 12 Hours

Correlation and causation, types of correlation - scatter diagram, Karl Pearson correlation, Spearman's Rank correlation; Simple and Multiple regression models, (problems on simple regression only); Standard error of estimate, Tests of significance; correlation and regression analyses with reference to the insurance industry

### Unit-3 Analyses of Time Series and Index numbers – 12 Hours

Analyses of Time series: meaning and significance, utility, components of time series,

measurements of trends, methods of least squares, linear and parabolic trend, measurement of seasonal variations; Index numbers: meaning and significance, methods and problems in construction of index numbers with weights and without weights, consumer price index, introduction to stock market index; time series analysis of claims, premia, and other parameters important for the insurance industry; construction of mortality table of life insurance.

#### **Unit-4 Probability - 9 Hours**

Concept: expectations, equally likely events, independent events, complementary events; Rules of probability, Random variables, Concept of probability distribution, Theoretical probability distributions: Binomial, Poisson, Normal curve & empirical rule; introduction to sampling and Central limit theorem; application of probability in insurance.

#### **Teaching- Learning**

#### **Practical Exercises:- 30 Hours**

1. Students are expected to examine the popularity of life and non-life insurance products through descriptive statistics (Unit1).
2. Students shall be encouraged to engage in primary research to study correlations between demographics and choice of insurance products (Unit2).
3. Students shall be encouraged to analyse time series data on insurance for public and private sectors (Unit3)
4. Students shall be encouraged to apply the concept of probability to simulation of risk (Unit4).

**Course Assessment:** Internal Assignments/projects/class tests/presentations - 25, Exam - 75

#### **Suggested Reading:**

1. Gupta SP (2021) *Statistical Methods*, Sultan Chand Publications.
2. Levin R. and Robin, D, (2017) *Statistics for Management*, Pearson.
3. Levine, D. M., Stephan, D. F., & Szobot, K. A. (2017). *Statistics for Managers using Microsoft Excel*. Pearson.
4. Vohra, N. D. (2021). *Business Statistics: Text and Problems - With Introduction to Business Analytics*. McGraw Hill
5. Keller, G (2015), *Statistics for Management and Economics*, Cengage Learning, 10th ed., New Delhi.
6. Stine, R and, Foster, Dean, *Statistics for Business Decision making and Analysis*, Pearson, 2014.
7. Barrow, Michael, *Statistics for Economics, Accounting and Business Studies*, Prentice Hall, 2006.

**Note: Students are advised to use the latest editions of textbooks**

**Microeconomics for Insurance**  
**DSC- 3**

**(4 credits: 3 + 1 tutorial)**

**Objective:** The course aims to expose students of insurance to micro economic theory and its applications for insurance industry. It covers basic principles such as decision making by consumers and producers, interactions of supply and demand with reference to insurance industry, characteristics of perfect and imperfect markets, market failure, role of information and decision making under uncertainty that are essential to understand the field of insurance. It will help students understand fundamental economic trade-offs and allocation problems. The course uses illustrations, graphical methods and numerical problems to explain the application of microeconomic concepts to real-life situations of the insurance market. This will develop wider appreciation and provide an enriched perspective to a student studying the Insurance vocation.

**Learning Outcomes:** After completion of the course, learners will be able to:

1. explain the concepts of economic trade-offs and opportunities in insurance
2. apply the fundamentals of market mechanisms to real situations in the economy in general and to insurance markets in particular.
3. analyse how markets work and why they fail
4. evaluate the role of information in creation of asset markets (insurance).

**Course Contents:**

Unit	Unit wise weightage of marks (in %)	C&K*	A&A**
Unit 1: Demand & supply, Price & resource allocation, Elasticity, Market equilibrium	20	√	√
Unit 2: Consumer behaviour	25	√	√
Unit 3: Production, Costs, Profit maximisation by firms	25	√	√
Unit 4: Market structures, market failure and role of information	30	√	√

\*Concept & Knowledge \*\* Analysis & Application

**Unit 1: Demand & Supply with special reference to insurance markets, Price and resource allocation, Elasticity, Market equilibrium – 15 Hours**

Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve (with special reference to Insurance, including health insurance, corporatisation) ; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets, markets and welfare, market failure and government failure.

**Unit 2. Consumer Behaviour and choosing insurance – 15 Hours**

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; preferences; consumer's optimum choice; income and substitution effects; labour supply and savings decision; choice between leisure and

consumption, Decision making under uncertainty, risk, moral hazard, adverse selection, bounded rationality

### **Unit 3. Production, Costs and Profit maximization by an insurance Firm - 15 Hours**

Production functions. Laws of production. Producer's equilibrium with the help of isoquants and iso-cost line. Expansion path in the long run and short run. Short run and long run costs curves. Economies and diseconomies of scale. Short-run costs and output decisions; costs and output in the long-run.

### **Unit 4. Market structures, Market failure and Role of information and working of insurance markets – 15 Hours**

Perfect competition, monopoly, monopolistic markets, Price discrimination under monopoly, equilibrium in short run and long run, allocative efficiency in perfect competition. Difference between monopoly and perfect competition. Sources of Market Failure and corrective measures, Insurance Markets with asymmetric information.

#### **Exercises:**

#### **The learners are required to:**

1. engage in a group project dealing with consumer demand for insurance products (Unit1).
2. conduct classroom discussions on the efficacy of insurance products for the poor by the government (Unit4)
3. study in small groups and analyse the costs involved, profitability and benefits of compulsory group insurance schemes offered by the government or private sector employers (Unit4)

**Course Assessment:** Internal Assignments/projects/class tests/presentations - 25, Exam - 75

#### **Suggested Readings:**

1. Bannerjee P. "Finance and Health" in Biswas, P.K. and Das P. (eds.) Indian economy; Reforms and Development – Essays in honour of Manoj Kumar Sanyal 2019, Springer, Singapore.
2. Satya P. Das and Goyal J. K. (2022) Managerial economics, Sage Publications, 2<sup>nd</sup> revised edition.
3. Farnham, Paul G., Economics for Managers, Pearson, 2014-2015.
4. Lipsey, R. and Alec Chrystal: Economics, Oxford University Press, 14th Edition.
5. Case, Karl E. & Ray C. Fair: Principles of Economics, Pearson Education, Inc., 13th edition, 2020
6. Bernheim and Whinston (2014) Microeconomics, Tata McGraw-Hill, Special Indian Edition
7. Rubinfeld, Pindyck and Mehta (2017) Pearson 7<sup>th</sup> Edition
8. Samuelson William F, Stephen G Marks and Jay L Zagorsky, Managerial economics, Wiley, 9<sup>th</sup> edition 2021.

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