

Syllabus for Ph. D. Entrance Test

The syllabus consists of Two Parts – Part 1 Research Methodology and Part 2 Management (Strictly based on the UGC NET Syllabus).

Scheme of the Entrance Test: Distribution of Weightage for the Entrance Test is 50% from each Part. The cut-off marks for the entrance test will be strictly as per the MTU's existing rule.

Part 1 Research Methodology

Unit - I Introduction

Meaning, objectives and motivations in research, Characteristics and limitations of research – Components of research work - Criteria of good research, Research process – Types of Research, Fundamental, Pure or Theoretical Research –Applied Research –Descriptive Research – Evaluation Research –Experimental Research –Survey Research – Qualitative Research – Quantitative Research – Historical Research.

Unit - II Research Design

Research Design – definition – essentials and types of research design – errors and types of errors in research design. Research problem: Selecting and analyzing the research problem – problem statement formulation – formulation of hypothesis. Literature review: purpose, sources, and importance - literature review procedure. Objectives: Learning Objectives; Definitions; Formulation of the research objectives.

Unit - III Measurement: Scaling and Sampling

Variables in Research – Measurement and scaling – Different scales – Construction of instrument – Validity and Reliability of instrument. Data Collection methods – primary and secondary data – Construction of questionnaire and instrument – validation of instruments. Sample size determination - Sample design and sampling techniques.

Unit - IV Data Analysis and Tools

Processing of Data: Editing of Data – Coding of Data – Classification of Data –Statistical Series. Qualitative vs Quantitative data analyses – Univariate, Bivariate and Multivariate statistical techniques

Measures of Central Tendency, Dispersion, correlation and Regression, Chi-square test: Applications, Steps, characteristics, limitations, Analysis of Variance and Co-variance, Factor analysis – Discriminant analysis – cluster analysis – multiple regression and correlation – multidimensional scaling – Conjoint Analysis - Application of statistical software for data analysis.

Unit - V Research Report Writing

Research report – Different types – Contents of report –executive summary – Chapterisation – contents of chapter – report writing – the role of audience – readability – comprehension – tone – final proof – report format – title of the report – Ethical issues in research: Code of Ethics in Research – Ethics and Research Process – Importance of Ethics in Research.

Part 2 Management Paper

Unit-I

Management – Concept, Process, Theories and Approaches, Management Roles and Skills

Functions – Planning, Organizing, Staffing, Coordinating and Controlling. Communication – Types, Process and Barriers. Decision Making – Concept, Process, Techniques and Tools. Organisation Structure and Design – Types, Authority, Responsibility, Centralisation, Decentralisation and Span of Control.

Managerial Economics – Concept & Importance

Demand Analysis – Utility Analysis, Indifference Curve, Elasticity & Forecasting, Market Structures – Market Classification & Price Determination, National Income – Concept, Types and Measurement, Inflation – Concept, Types and Measurement

Business Ethics & CSR, Ethical Issues & Dilemma, Corporate Governance, Value Based Organisation

Unit-II

Organisational Behaviour – Significance & Theories, Individual Behaviour – Personality, Perception, Values, Attitude, Learning and Motivation, Group Behaviour – Team Building, Leadership, Group Dynamics, Interpersonal Behaviour & Transactional Analysis, Organizational Culture & Climate, Workforce Diversity & Cross-Culture Organisational Behaviour, Emotions and Stress Management, Organisational Justice and Whistle Blowing

Human Resource Management – Concept, Perspectives, Influences and Recent Trends, Human Resource Planning, Recruitment and Selection, Induction, Training and Development, Job Analysis, Job Evaluation and Compensation Management

Unit-III

Strategic Role of Human Resource Management, Competency Mapping & Balanced Scoreboard, Career Planning and Development, Performance Management and Appraisal

Organization Development, Change & OD Interventions, Talent Management & Skill Development, Employee Engagement & Work Life Balance, Industrial Relations – Disputes & Grievance Management, Labour Welfare and Social Security, Trade Union & Collective Bargaining, International Human Resource Management – HR Challenge of International Business, Green HRM

Unit-IV

Accounting Principles and Standards, Preparation of Financial Statements

Financial Statement Analysis – Ratio Analysis, Funds Flow and Cash Flow Analysis, DuPont Analysis, Preparation of Cost Sheet, Marginal Costing, Cost Volume Profit Analysis, Standard Costing & Variance Analysis

Financial Management – Concept & Functions

Capital Structure – Theories, Cost of Capital, Sources and Finance, Budgeting and Budgetary Control – Types and Process, Zero Base Budgeting, Leverages – Operating, Financial and Combined Leverages, EBIT–EPS Analysis, Financial Breakeven Point & Indifference Level

Unit–V

Value & Returns – Time Preference for Money, Valuation of Bonds and Shares, Risk and Returns, Capital Budgeting – Nature of Investment, Evaluation, Comparison of Methods; Risk and Uncertainty Analysis, Dividend – Theories and Determination, Mergers and Acquisition – Corporate Restructuring, Value Creation, Merger Negotiations, Leveraged Buyouts, Takeover, Portfolio Management – CAPM, APT

Derivatives – Options, Option Payoffs, Option Pricing, Forward Contracts & Future Contracts

Working Capital Management – Determinants, Cash, Inventory, Receivables and Payables Management, Factoring, International Financial Management, Foreign Exchange Market

Unit–VI

Strategic Management – Concept, Process, Decision & Types

Strategic Analysis – External Analysis, PEST, Porter’s Approach to Industry Analysis, Internal Analysis – Resource Based Approach, Value Chain Analysis, Strategy Formulation – SWOT Analysis, Corporate Strategy – Growth, Stability, Retrenchment, Integration and Diversification, Business Portfolio Analysis – BCG, GE Business Model, Ansoff’s Product Market Growth Matrix, Strategy Implementation – Challenges of Change, Developing Programs, McKinsey 7s Framework

Marketing – Concept, Orientation, Trends and Tasks, Customer Value and Satisfaction

Market Segmentation, Positioning and Targeting, Product and Pricing Decision – Product Mix, Product Life Cycle, New Product Development, Pricing – Types and Strategies, Place and Promotion Decision – Marketing Channels and Value Networks, VMS, IMC, Advertising and Sales Promotion

Unit–VII

Consumer and Industrial Buying Behaviour – Theories and Models of Consumer Behaviour
Brand Management – Role of Brands, Brand Equity, Equity Models, Developing a Branding Strategy, Brand Name Decisions, Brand Extensions and Loyalty

Logistics and Supply Chain Management – Drivers, Value Creation, Supply Chain Design, Designing and Managing Sales Force, Personal Selling, Service Marketing – Managing Service

Quality and Brands, Marketing Strategies of Service Firms, Customer Relationship Marketing – Relationship Building, Strategies, Values and Process, Retail Marketing – Recent Trends in India, Types of Retail Outlets, Emerging Trends in Marketing – Concept of e-Marketing, Direct Marketing, Digital Marketing and Green Marketing, International Marketing – Entry Mode Decisions, Planning Marketing Mix for International Markets

Unit–VIII

Statistics for Management – Concept, Measures of Central Tendency and Dispersion

Probability Distribution – Binomial, Poisson, Normal and Exponential, Data Collection & Questionnaire Design, Sampling – Concept, Process and Techniques, Hypothesis Testing – Procedure; T, Z, F, Chi-square Tests, Correlation and Regression Analysis

Operations Management – Role and Scope

Facility Location and Layout – Site Selection and Analysis, Layout – Design and Process, Enterprise Resource Planning – ERP Modules, ERP Implementation, Scheduling – Loading, Sequencing and Monitoring, Quality Management and Statistical Quality Control, Quality Circles, Total Quality Management – KAIZEN, Benchmarking, Six Sigma; ISO 9000 Series Standards, Operation Research – Transportation, Queuing, Decision Theory, PERT/CPM

Unit–IX

International Business – Managing Business in Globalization Era

Theories of International Trade; Balance of Payment, Foreign Direct Investment – Benefits and Costs, Multilateral Regulation of Trade and Investment under WTO, International Trade Procedures and Documentation; EXIM Policies, Role of International Financial Institutions – IMF and World Bank

Information Technology – Use of Computers in Management Applications; MIS, DSS

Artificial Intelligence and Big Data, Data Warehousing, Data Mining and Knowledge Management – Concepts, Managing Technological Change

Unit–X

Entrepreneurship Development – Concept, Types, Theories and Process, Developing Entrepreneurial Competencies Intrapreneurship – Concept and Process, Women Entrepreneurship and Rural Entrepreneurship, Innovations in Business – Types of Innovations, Creating and Identifying Opportunities, Screening of Business Ideas, Business Plan and Feasibility Analysis – Concept and Process of Technical, Market and Financial Analysis

Micro and Small-Scale Industries in India; Role of Government in Promoting SSI

Sickness in Small Industries – Reasons and Rehabilitation, Institutional Finance to Small Industries – Financial Institutions, Commercial Banks, Cooperative Banks, Micro Finance