MASTER OF BUSINESS ADMINISTRATION- TOTAL QUALITY MANAGEMENT

Mode	Dual Mode University System
Duration	2 Years
Scheme of Examination	Semester
Eligibility	Graduation

SCHEME OF EXAMINATION

Subject Code	Title
3rd Semester	
MBATQM-301	TOTAL QUALITY MANAGEMENT
MBATQM-302	LEAN & SIX SIGMA QUALITY MANAGEMENT
MBATQM-303	QUALITY IMPROVEMENT TECHNIQUES: TOOLS AND METHODS
MBATQM-304	PERFORMANCE MANAGEMENT & SYSTEMS
MBATQM-305	OPERATIONS MANAGEMENT
4th Semester	
MBATQM-401	QUALITY MANAGEMENT SYSTEMS
MBATQM-402	STATISTICAL PROCEDURES
MBATQM-403	STATISTICAL QUALITY CONTROL & ASSURANCE
MBATQM-404	SOFTWARE PRODUCT QUALITY PLANNING AND ASSURANCE
MBATQM-405	PROJECT REPORT
MBATQM-406	COMPREHENSIVE VIVA-VOCE

MBATQM 301: TOTAL QUALITY MANAGEMENT

UNIT-I
Evolution of Quality -Historical Perspective, Basic Concepts of Quality,
Vision, Mission and Objectives of an Organization, Corporate Structure in an Organization and Role of Quality.

UNIT-II
Quality Planning, Quality By Design, Quality Costs and Cost of Failure, Waste Control, How Quality Benefits Business

UNIT-III
Quality and Competitiveness in Business, Zero Defects and Continuous Improvement, Role of Leadership and Commitment in Quality Deployment, Team Building, Motivation and Rewards, Total Employee Empowerment, Quality Functions -Measurement, Inspection, Testing, Calibration and Assurance

UNIT-IV
Design Control and Conformity, Tolerance and Variability, PDCA Cycle, Juran Trilogy, Crosby's 10 points and Deming's 14 Points Customers Requirements, Customer-Supplier and Chain Links, Establishing Customer Focus-Customer, Satisfaction, Measurement and Customer Retention

UNIT-V
Product Liability, Total Quality Concepts and CWQC, Difference in Western And Japanese Approach of TQM, Basic Philosophy and Fundamental Models of TQM, Total Quality and Ethics

UNIT-VI
Internal Politics and Total Quality Management, Quality Culture, Education and Training Implementing Total Quality Management -An Integrated System Approach
Total Preventive Maintenance

Reference Books:
1. Total Quality Management by N.V.R Naidu, G. Rajendra New Age international,First Edition,Jan 2006
2. Total Quality Management by R.S Naagarazan, New Age international,3e, 2015
3.Quality Control & Application by B. L. Hanson & P.M. Ghare, Prentice Hall of India, 2004.
4. Total Quality Management by V.S Bagad Technical Publications, First Edition,Jan 2008
5. Total Quality Management by S. Rajaram Dreamtech Press,First Edition, Jan 2008

MBATQM 302: LEAN & SIX SIGMA QUALITY MANAGEMENT

UNIT-I
Overview of Six Sigma Methodology, Cultural Imperatives to Six Sigma,Six Sigma: The Power of Culture

UNIT-II
Strategies for Effectively Implementing Six Sigma in an Organization, Understanding of Deployment Strategies –Business Goals/ Dashboards/ Balance,
Business Score Card Or Customer Goals including Linkages With Financial Goals, Linkage of Six Sigma Methodology with Other Initiatives like Lean Concepts etc., Roles and Responsibilities In Six Sigma Implementation,
Six Sigma Project Selection-Linkage to Strategy

UNIT-III
Over View of Six Sigma Project Execution (DMAIC Or DFSS/ DMADV) (Define-Measure-Analyze-Improve & Control) , Design For Six Sigma, Define Measure Analyze Design and Validate)

UNIT-IV
Project Review , Guidelines and Selection of Belts for the Projects, Process of Closing the Project, Work Through aSample Six Sigma Project

UNIT-V
Lean Means Speed, Lean Six Sigma: Creating Breakthrough, Creating Competitive Advantage with Lean Six Sigma

UNIT-VI
Infrastructure and Deployment Planning, Establishing the Vision Company-Wide, Selecting the Right People and the Right Projects, Predicting and Improving Team Performance Implementation: The DMAIC Improvement Process, Implementation: The DMAIC Tools, Institutionalizing Lean Six Sigma, Total Supply Chain Acceleration, Lean Six Sigma Logistics, Design For Lean Six Sigma

Reference Books:
1. An Introduction to Six Sigma and Process Improvement by James Evans, William Lindsay, Cengage Learning, 2010
2. Simplified Six Sigma Methodology, Tools and Implementation N. Gopalakrishnan, 2012:
3. The Certified 6 Sigma Green belt Handbook Roderick A Munro, Mathew J Maio, Mohamed B. Nawaz, Govindrajan Ramu, 2005
4. The Six Sigma Way Peter Pande, Robert Neuman, Roland Cavanagh, McGraw Hills , 2006

MBATQM 303: QUALITY IMPROVEMENT TECHNIQUES: TOOLS AND METHODS

UNIT-I
Guidelines for Quality Improvement (ISO 9004-4), Classification of Tools: Based on What It Will Achieve and According to Type, Basic (Old) Quality Tools and Practices: Tally Sheets, Check sheet, Check List, Bar Chart, Gantt Chart, Histogram, Pareto Analysis, Cause and Effect Diagram, Scatter Diagram, Flow Chart

UNIT-II
Advanced (New) Quality Tools and Practices, Data Gathering: Brain Storming,
Questionnaire, Suggestion Scheme, Supplier Survey, Relation Diagram, Tree Diagram, Affinity Diagram, Matrix Diagram, Responsibility Matrix, Matrix Data Analysis Diagram, Process Decision Program Chart

UNIT-III
Concepts of Off-line and On-line Quality, Planning and Preventative Tools: Quality Function Deployment (QFD), Fault Tree Analysis, FMEA (Design), FMEA (Process), Progravaluation and Review Technique (PERT), Critical Path Analysis (CPA) and Critical Path Method (CPM) and Why-How Chart, Balanced Score Card

UNIT-IV
Japanese Tools and Practices: JIT, ANDON, KAIZEN, JIDOKA, KANBAN, HOSHIN KANRI, POKA-YOKE, 5S

UNIT-VI
Quality Circles, Business Process Re-engineering (BPR), Bench-Marking, Zero Defect Taguchi Loss Function, Orthogonal ArraysOverview of Six Sigma Quality Management

Reference Books:
1. Quality Control and Improvement, Amitava mitra,A John Wiley & Sons, Inc., Publication, 3e,2008
2.Total Quality Management by Dale H. Besterfield, Carol Besterfield-Michna, Glen H. Besterfield and Mary Besterfield -Sacre, Pearson Educaiton, 2003
3. Quality Control & Application by B. L. Hanson & P. M. Ghare, Prentice Hall of India, 2000
4.Juran's Quality Handbook by Joseph Juran , A. Blanton Godfrey, McGraw Hill, 1999

MBATQM 304: PERFORMANCE MANAGEMENT & SYSTEMS

UNIT-I Introduction:
Performance Management(PM), Efficiency and effectiveness of processes, Organizations, Business Objectives, Human Resources, Metric, Key Performance indicators, Monitoring & Measurement; Step-by-step PM Process Checklist, Reporting, Dashboards

UNIT-II The Kpi Family Dimension: Internal Business Benchmarks, External Industry Benchmarks, Productivity and Efficiency Measurements, Quality Measurements, Profitability Effectiveness, Timeliness and Effective Resource Utilization, Innovation and Technology.

UNIT-III The Human Factor:
Metrics for an Engaged Workforce, Employee Engagement and Productivity, Performance enhancement. Synergizing people, Role, Benefits Strategic Plan
Key Result Areas Results,
Measures or KPIs, Real-World Improvements Using KPIs, Distributing Knowledge Management Responsibilities, Getting Cooperation and Buy-In to KPI Objectives

UNIT-IV Human Competence:
Engineering Worthy Performance, Performance Appraisals Catalytic Coaching:
The modern thoughts in Performance Review Abolishing, 360 Degree Feedback

UNIT-V Knowledge Management & Development Measurements:
Performance Indicators (KPI's) and Common Metrics, Balanced Scorecard Systems.Case Studies

UNIT-VI Strategic Performance Management Systems:
Emerging Issues viz. Governance, Empowerment and the Strategic Audit, Performance measurement and control, The scope of performance measurement, Performance analysis in not-for-profit Organizations and the public sector, Make-or-buy and other decisions

Reference Books:
1.
Keeping Score: Using Right METRICS TO DRIVE World Class Performance: Brown PH1 Learning 1996.
2.Performance Management : Strategies, Interventions, DriversIsbn:Kandula,Srinivas,PHI Learning, Delhi 200024
1.Strategic Human Resource Development: Srinivas Kandula PHI learning Jan 2001.
2.Performance Modeling Of Automated Manufacturing Systems Narahari, Y., Viswanadham, N, 2001
3.Performance Management : Concepts, Skills And Ex Ercises Cardy, Robert L., Leonard, BrainPhi Learning,Delhi 2nd Edition. 2001

MBATQM-305: OPERATIONS MANAGEMENT

Unit –I
Operations Management – An overview, Definition of production and operations management, Production Cycle, Classification of operations, New Product Development, Product Design, Plant Location, Layout Planning.

Unit –II
Forecasting as a planning tool, Forecasting types and methods, Exponential smoothening, Measurement of errors, Monitoring and Controlling forecasting models, Box- Jenkins Method. Productivity and Work study, Method study, Work Measurement. Basic Concept & Philosophy of Supply Chain Management; Essential features, Various flows (cash, value and information)

Unit-III
Recent Issues in SCM : Role of Computer / IT in Supply Chain Management, CRM Vs SCM, Benchmarking concept, Features and Implementation, Outsourcing-basic concept, Value Addition in SCM-concept of demand chain management. Production Planning techniques, Routing Decisions, Line of Balance, Scheduling types & principles, master production schedule.

Unit-IV
Inventory Management – Objectives, Factors, Process, Inventory control techniques-ABC, VED, EOQ, SED,FSN analysis. Basic concepts of quality, dimensions of quality, Juran's quality trilogy, Deming's 14 principles, PDCA cycle, Quality circles, Quality improvement and cost reduction- 7QC tools and 7 new QC tools, ISO 9000-2000 clauses, coverage QS 9000 clauses, coverage. Six Sigma, Total Productive Maintenance (TPM)

Unit-V
Logistics Management: Logistics as part of SCM, Logistics costs, different models, logistics sub-system, inbound and outbound logistics, bullwhip effect in logistics, Distribution and warehousing management. Purchasing & Vendor management: Centralized and Decentralized purchasing, functions of purchase department and purchase policies. Use of mathematical model for vendor rating / evaluation, single vendor concept, management of stores, accounting for materials.

Reference Book:
1. MUHLEMANN: Production & Operation management (PEARSON)
2. Bisen& Singh-Operation & Logistics Management(Excel Books)
3. R.V.Badi & N.V. Badi - Production & Operation Management (Vrinda Publications 3rd Edition)
4. Chary - Production and Operations Management (Tata McGraw-Hill, 1997, 9th Edition)
5. Raghuram G. (I.I.M.A.) - Logistics and Supply Chain Management (Macmillan, 1st Ed.)
6. Krishnan Dr. Gopal - Material Management, (Pearson,New Delhi, 5th Ed.)
7. Adam Jr Everetl E. R J – Production and Operations Management (Prentice-Hall, 200

MBATQM 401: QUALITY MANAGEMENT SYSTEMS

UNIT-I

Introduction to Modern Quality Management System2Historical Development of Quality Standards ISO 9001:2000. Quality Management System Standards, Documentation, Implementation of ISO 9000:2000, Quality Management Systems, Accreditation/ Certification Quality Audit -Internal, Second Party, Third Party, and Surveillance Audit, Failure, Non-Conformance Analysis and Corrective Action

UNIT-II

Environment Management System –ISO 14000, ISO 14001, QS-9000 Quality Standards, Quality System for Automotive Supplier-TS 16949, Quality System for Telecom Industries -TL 9000

UNIT-III

Guidelines for Processed Material, Guidelines for Safety and Hazard (OHSAS),Quality Assurance Requirement for Measurement Equipment -Meteorological Confirmation System -ISO 10012-1

UNIT-IV

Guidelines for Control and Measurement Processes -ISO 10012-3 Quality Management -Guidelines for Training -ISO 10015, Hazard and Critical Control Points (HACCP)

UNIT-V

Good Manufacturing Practices (GMP), Good Laboratory Practices (GLP) in Pharmaceutical Industries, Guidelines on Application in Food and Drink Industry

Reference Book:
1. Arora K C, ISO 9001to OHAS 18001, Katson Ludhiana, 2013
2. Bagchi T P ISO 9001 and Auditing, 2006
3. Quality Control & Application by B. L. Hanson & P. M. Ghare, Prentice Hall of India, 1998
4. Singhal and Singhal ISO 9001:2012(PH1 Learning System), 2e,2012
5. Juran's Quality Handbook by Joseph Juran , A. Blanton Godfrey, McGraw Hill, 1999

MBATQM 402: STATISTICAL PROCEDURES

UNIT-I
Data Representation and Frequency Distribution, Histogram, Box-Plots, Stem Leaf Diagram

UNIT-II
Measures of Central Tendency and Dispersion, Moments of a Frequency Distribution, Skewness and Kurtosis

Concepts of Population Sample, Elements of Probability Theory

UNIT-III
Laws of Probability and Bayes Theorem, Random Variables and Probability Distributions

UNIT-IV
Mathematical Expectation, Discrete Probability Distributions -Bernoulli, Binomial, Poisson, Geometric, and Hyper Geometric

UNIT-V
Continuous Probability Distributions-Normal, Exponential, Weibull, Raleigh, and Log-Normal

UNIT-VI
Sampling Distributions -Chi-Square, t and F–Distributions,
Inter Relationships among various Probability Distributions

Reference Books:

1.Probability & Statistics for Engineers & Scientists, Ronald E. Walpole, Roanoke College, Raymond H. Myers, Sharon L. Myers, Keying Ye, Prentice Hall, 2010
2. Probability and statistics for Engineers, by I. R. Miller, J. E. Freund & R. Johnson, Prentice Hall of India, 2012
3. Quality Control and Improvement, Amitava Mitra, A John Wiley & Sons, Inc.,2003
4. Quality Control & Application, B. L. Hanson & P. M. Ghare, Prentice Hall of India, 2009

MBATQM 403: STATISTICAL QUALITY CONTROL & ASSURANCE

UNIT-I
Concepts of Reliability, Maintainability and Product Life Cycle, Statistical Basis for Control Charts, Causes of Variation-Special Causes and Common Causes, Concepts of Statistical Process Control, Use of Control Charts for Statistical Process Control

UNIT-II
Concepts of Testing of Hypothesis, Type I and Type II Errors, Analysis of Patterns in Control Charts, Operating Characteristics (OC) Curves-Producer's Risk and Consumer's Risk, Operating Characteristics (OC) Curves for Attribute control Charts

UNIT-III
Control Charts for Variables-X Bar-R Charts, X Bar-s Charts, Individual Item (MR) Charts, Control Charts for Attributes-p-Charts, np-Charts, c-Charts, u-Charts, U Bar Charts

UNIT-IV
Process Capability Analysis -Specification Limits, control Limits, Natural Tolerance Limits, Statistical Tolerance Limits, Cp, Cpk, CPU, CPL, CpmIndices, Setting Tolerances for Assembly and Components

UNIT-V
Statistical Tolerance Limits for Normal Distributions, Concepts of Sampling, Producer's Risk and Consumer's Risk

UNIT-VI
Acceptance Sampling Plans for Attributes -Single, Double and Multiple Sampling Plans, Chain, Sequential and Skip Lot Sampling Plans, Switching Rules, Acceptance Sampling Plan for Variable -Sampling Plans for Process Parameters and Sampling Plans for Acceptance of Lots

Evaluating Sampling Plans -AQL, AOQ, and AOQL, Taguchi's Loss Function

Reference Books:
1. Quality Control and Improvement ,Amitava mitra, AJohn Wiley & Sons, Inc., Publication,2001
2. Total Quality Management by Dale H. Besterfield, Carol Besterfield-Michna, Glen H. Besterfield and Mary Besterfield-Sacre, Pearson Education, 2005
3. Probability and statistics for Engineers, by I. R. Miller, J. E. Freund & R. Johnson, Prentice Hall of India, 2002
4. Juran's Quality Handbook by Joseph Juran , A. Blanton Godfrey,McGraw Hill, 1999
5. Quality Control & Application by B. L. Hanson & P. M. Ghare, Prentice Hall of India, 2007

MBATQM 404: SOFTWARE PRODUCT QUALITY PLANNING AND ASSURANCE

UNIT-I Introduction to SQA Framework and Standards: SQA Framework: What is Quality? Software Quality Assurance, Components of Software
Quality Assurance –Software Quality Assurance Plan: Steps to develop and implement a Software Quality Assurance Plan –Quality Standards: ISO 9000 and Companion ISO Standards, CMM, CMMI, PCMM, Malcom Balridge, 3 Sigma, 6 Sigma

UNIT-II Software Quality Assurance Metrics And Measurement: Software Quality Metrics: Product Quality metrics, In-Process Quality Metrics, Metrics for Software Maintenance, Examples of Metric Programs –Software Quality metrics methodology: Establish quality requirements, Identify Software quality metrics, implement the software quality metrics, analyze software metrics results, validate the software quality metrics – Software quality indicators –Fundamentals in Measurement theory

UNIT-III Software Testing Strategy And Environment: Establishing testing policy, structured approach to testing, test factors, Economics of System Development Life Cycle (SDLC) Testing

UNIT-IV Software Testing Methodology: Defects hard to find, verification and validation, functional and structural testing, workbench concept, eight considerations in developing testing methodologies and testing tactics checklist.

UNIT-V Software Testing Techniques: Black-Box, Boundary value, Bottom-up, Branch coverage, Cause-Effect graphing, CRUD, Database, Exception, Gray-Box, Histograms, Inspections, JADs, Pareto Analysis, Prototyping, Random Testing, Risk-based Testing, Regression Testing, Structured Walkthroughs, Thread Testing, Performance Testing, White-Box Testing.

UNIT-VI Software Testing Tools:
Taxonomy of Testing tools, Methodology to evaluate automated testing tools, Load Runner, Win runner and Rational Testing Tools, Java Testing Tools, JMetra, J and Cactus.

Testing Process: Eleven Step Testing Process: Assess Project Management Development Estimate and Status, Develop Test Plan, Requirements Phase Testing, Design Phase Testing, Program Phase Testing, Execute Test and Record Results, Acceptance Test, Report test results, testing software installation, Test software changes, Evaluate Test Effectiveness.

Testing Specialized Systems And Applications:Testing Client/Server –Web applications, Testing off the Shelf Components, Testing Security, Testing a Data Warehouse.

Reference Books:

1.Effective Methods for Software Testing, 2nd Edition by Willia. Perry , Second Edition, published by Wiley,2001.
2.Software Quality, by Mordechai Ben-Menachem/Garry S. Marliss, by Thomson Learning publication, 2003
1.Testing and Quality Assurance for Component-based Software, by Gao, Tsao and Wu, Artech House Publishers, 2003
2. Software Testing Techniques, by Bories Beizer, Second Edition, Dreamtech Press ,1996.
3. Managing the Testing Process, by Rex Black, Wiley 3rd Edition,2000
4. Handbook of Software Quality Assurance, by G. Gordon Schulmeyer, James I.McManus, Second Edition, International Thomson Computer Press, 2004
5.Software Testing and continuous Quality Improvement, by William E.Lewis, Gunasekaran Veerapillai, Second Edition, Auerbach Publications, 2006.

MBATQM 405: PROJECT REPORT

MBATQM 406: COMPREHENSIVE VIVA-VOCE