

## **305 (D) : QUALITY AND TECHNOLOGY MANAGEMENT**

### Part A : Quality Management

1. Introduction : Quality – concept, definition, principles, types; Evolution of Quality management
2. Quality control functions: methods of inspection – sampling, SQC, control charts, OC curves.
3. TQM – philosophy, quality assurance; PDCA cycle; Reliability engineering concepts; zero defects concept.
4. Quality for customer satisfaction; standardization of parts ; testing of products – destructive & non- destructive tests, life of a product.
5. Process control: concepts of process variability; stability; SPC; tools and techniques- TQM methods, six sigma.
6. Reliability : concepts and components; Failures – concepts, types; failure mode & effect analysis; methods of achieving higher reliability; concept of maintainability and availability.
7. Quality management systems : defining and recognizing organizational excellence, Malcom Baldrige award. International standards – ISO 9000-2000, TS 16949, OHSAS, SEI-CMM, ISO 14000; Global quality consciousness and environmental awareness.
8. Cost of Quality.

### ***Books Recommended***

1. TQM – Ashwathapa & Bhat.
2. 100 Methods for TQM – Kanji & Asher.- Response books, New Delhi.
3. ISO – 9001, 9004 Standards – Bureau of Indian Standards.

## Part B : Technology Management

1. Concept and meaning of technology, Evolution and growth of technology, Impact of technology on society and business,
2. Competitive advantages through new technologies : product development – from scientific breakthrough to marketable product –
3. Role of Government in Technology Development, Technology strategy and planning ,Technology forecasting
4. Linkage between technology, development and competition, Managing research and development (R&D) ,Managing Intellectual Property
5. Meaning of Innovation and creativity, innovation management
6. Technology absorption and diffusion; project management in adoption and implementation of new technologies
7. Technology Transfer Management: Technology transfer-process; outsourcing-strategic issues; joint ventures, technology sourcing
8. Environment, ethical and Social Aspects of Technology

### ***Books Recommended***

1. Strategic Technology Management - Betz. F.- McGraw-Hill.
2. Strategic Management of Technology & Innovation - Burgelman, R.A., M.A. Madique, and S.C. Wheelwright - Irwin.
3. Handbook Of Technology Management - Gaynor -Mcgraw Hill
4. Managing New Technology Development - Souder, W.C. and C.M. Crawford - McGraw-Hill.
5. Managing Technological Innovation - Twiss, B. - Pitman.
6. Management of R&D and Engineering - Kocaoglu, D.F. (Ed) - North Holland.
7. Management Of New Technologies For Global Competitiveness - Christian N Madu – Jaico Publishing House