

ME

**DEPARTMENT OF MECHANICAL ENGINEERING,
UJJAIN ENGINEERING COLLEGE, UJJAIN**

**Syllabus for Entrance Examination for Admission (For Non GATE
qualified Candidates) in ME Mechanical Engineering
(Ind. Engg & Management)**

Probability and Statistics: Definitions of Conditional probability, Mean, median, mode and standard deviation, Random variables, Poisson, Normal and Binomial distributions.

Industrial Engineering Concept of Industrial Engineering, techniques of Industrial, Engineering important application of IE productivity. Importance of productivity, factor affecting productivity. Concept of Productivity, Factors affecting Productivity, Total productivity model. Short term and Long term Productivity Planning Models. Productivity improvement Techniques.

Work study, introduction and concept of work study, work study and productivity.

Method study definition of concept, scope and objective of method study. Various charts for method study

Work Measurement: Definition and objectives; work measurement techniques, time study, and basic procedure of time study, advantage and limitation of time study, estimation of standard time micro motion study, therblies work sampling.

Wages and incentives, introduction defecation, factor influencing wages time wage system and concept of wage incentives.

Productivity Management: Concept of Productivity, Factors affecting Productivity, Total productivity model. Short term and Long term Productivity Planning Models. Productivity improvement Techniques.

Introduction to Ergonomics: objective scope. Introduction to information theory, design of work place.

Operation management: definition history industrial IT revolution (ERP) Tangible Service SWOT Porter five factors.

Processes transformation and value addition selection based on cost quality and flexibility consideration.

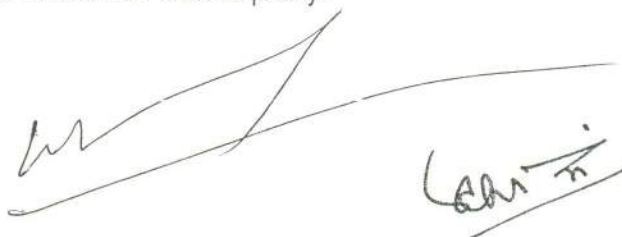
Plan facilities impact of organization strategies on choice of resign and site existing or new organization

Product / procedure of production control.

History and Development of O.R. Linear Programming, Present Trend, Assignment models, Transportation: Optimality Test, Degeneracy unbalanced Problems

Waiting line models: Introduction, Classification, States in queue, Probability distribution of arrival and service times Birth and Death Process, Single Server Model (M/M/1), Multiple Server Model (M/M/S), Single Server Model with finite capacity.

PERT / CPM



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Maintenance Management: Types of maintenance strategies, Breakdown, Preventive and Predictive maintenance, Individual and Group Replacement Policies.

Materials Management as part of supply chain, Purchasing, stores and vendor selection, Inventory Models, Selective Inventory Control

Quality Control: Definitions, Place of quality control in industries, Taguchi loss function and robust design, Quality control organization. Difference between inspection and quality control. Applications of quality control in industries. Economics of Quality systems. Quality Assurance

Introduction to Computer Aided Manufacturing, Element of CAM System. CNC, Computer Aided Part Programming (APT), Computer Aided Process Planning.

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