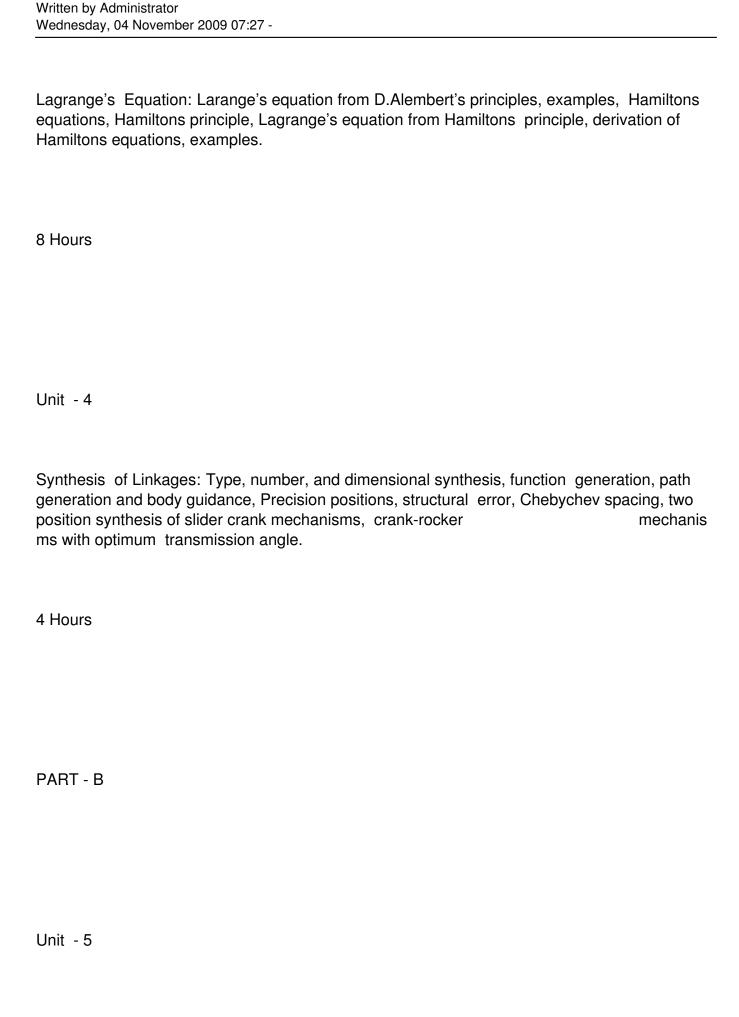
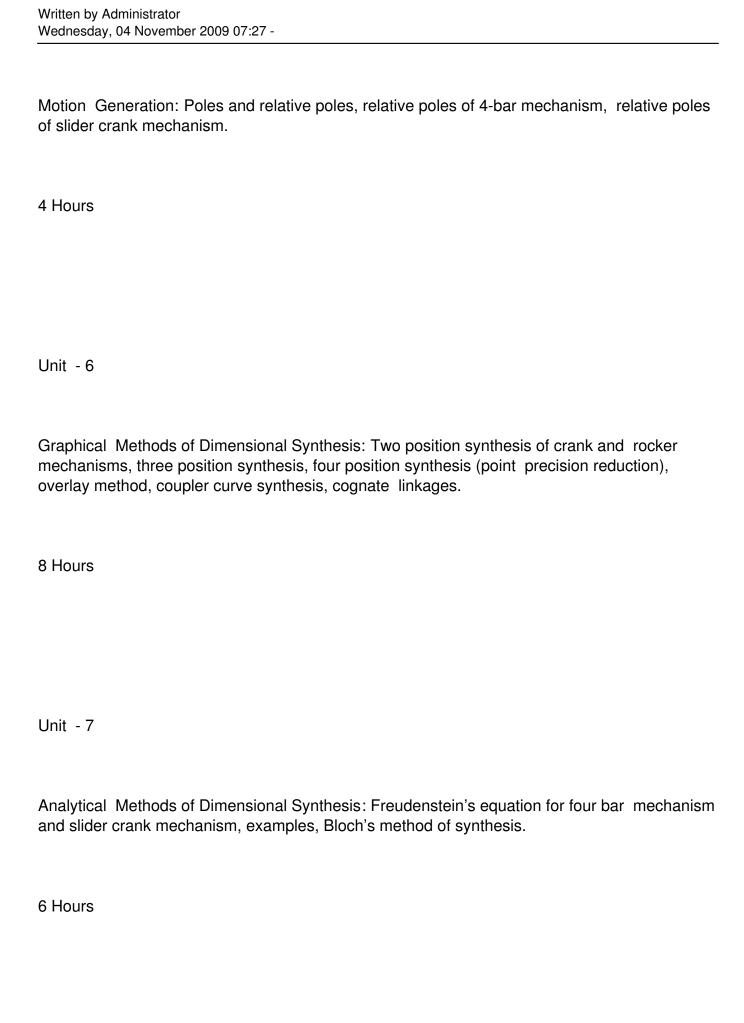
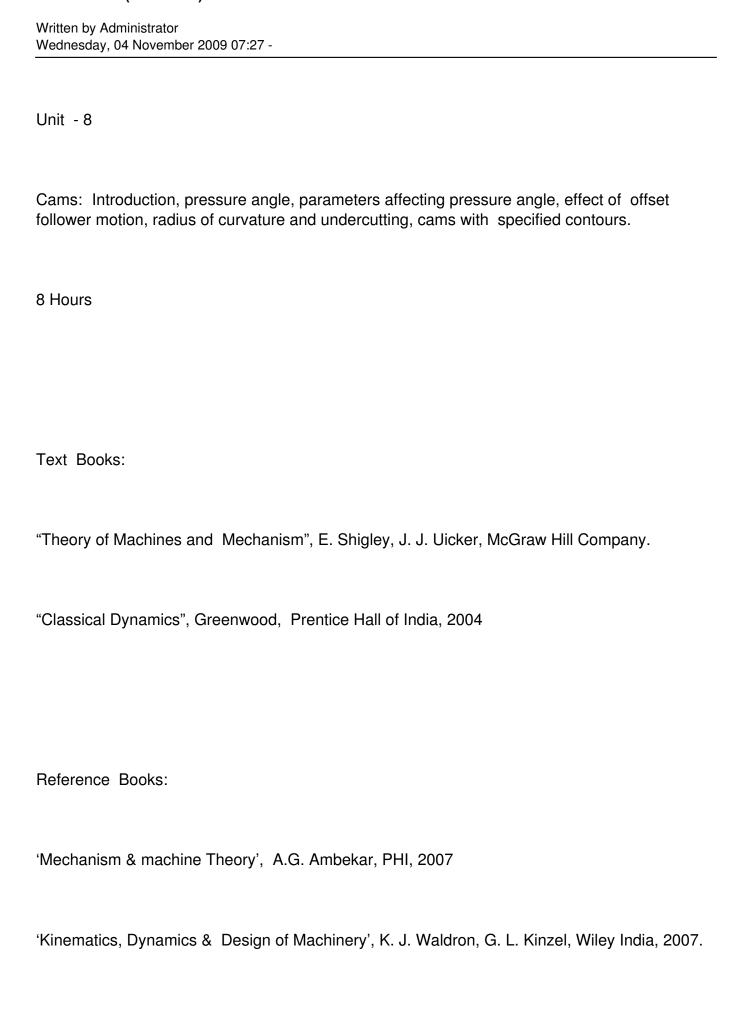
Written by Administrator Wednesday, 04 November 2009 07:27 -
MECHANISM DESIGN
Subject Code
06ME751
IA Marks
25
No. of Lecture Hrs./ Week

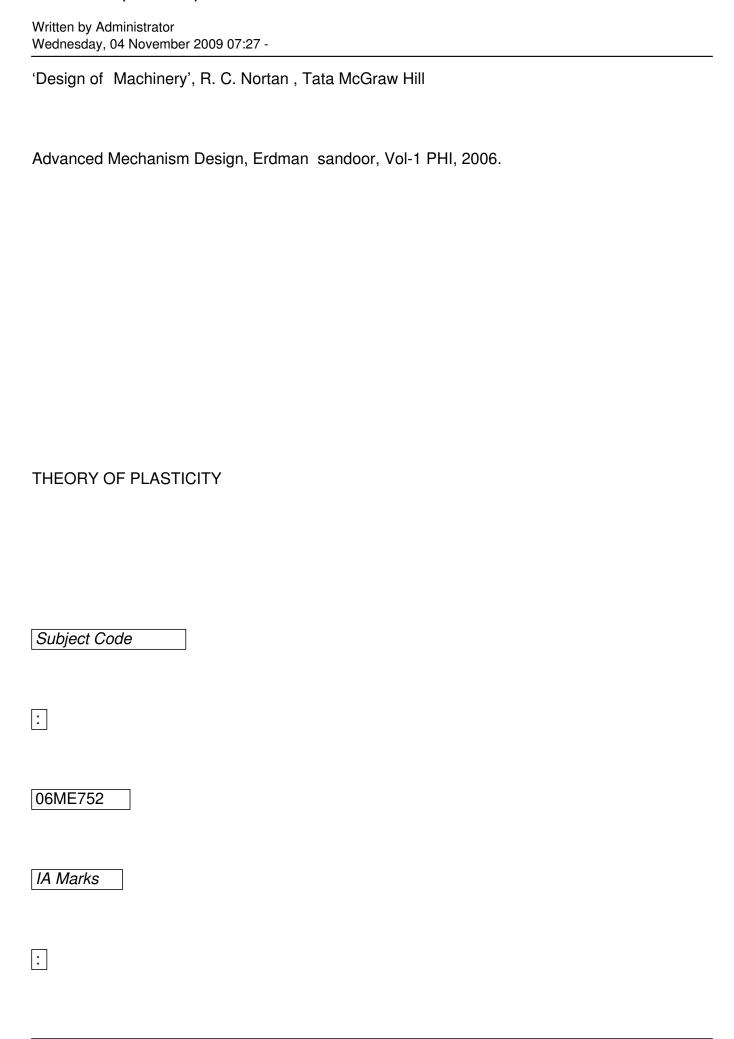
Written by Administrator Wednesday, 04 November 2009 07:27 -
04
Exam Hours
03
Total No. of Lecture Hrs.
52
Exam Marks
100

Written by Administrator Wednesday, 04 November 2009 07:27 -
PART - A
Unit - 1
Geometry of Motion: Introduction, analysis and synthesis, mechanism terminology, planar, spherical and spatial mechanisms, mobility, kinematic inversion, Grashoffs law, mechanical advantage, equivalent mechanisms, unique mechanisms.
6 Hours
Unit - 2
Generalized principles of dynamics: Fundamental laws of motion, generalized coordinates, configuration space, constraints, virtual work, principle of virtual work, energy and momentum, work and kinetic energy, equilibrium and stability, kinetic energy of a system, angular momentum.
8 Hours
Unit - 3



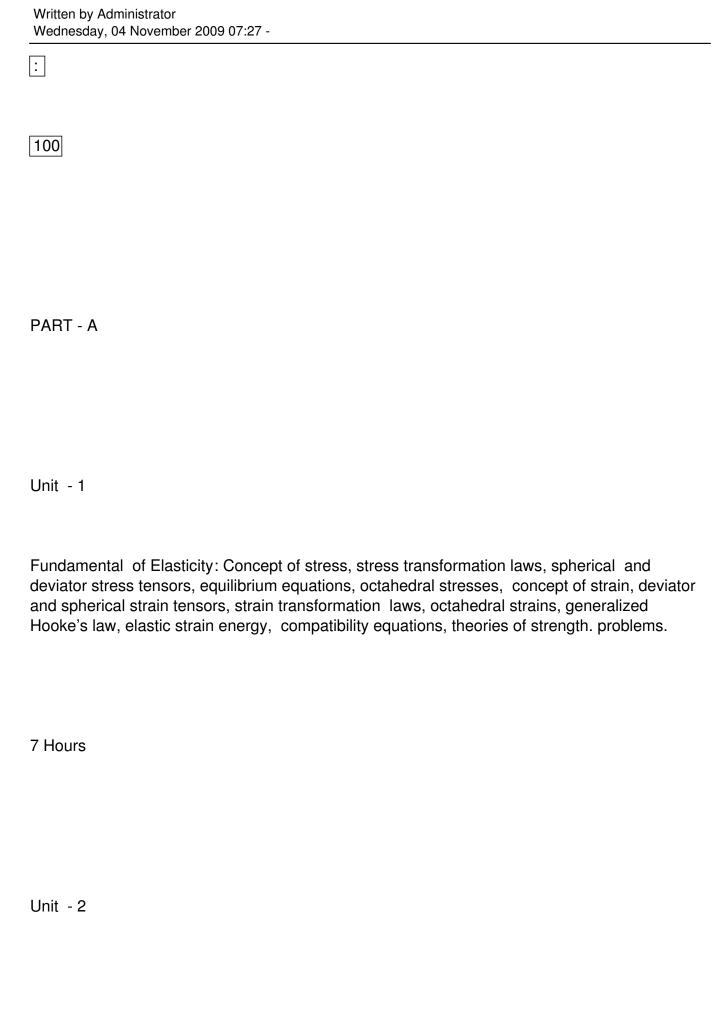






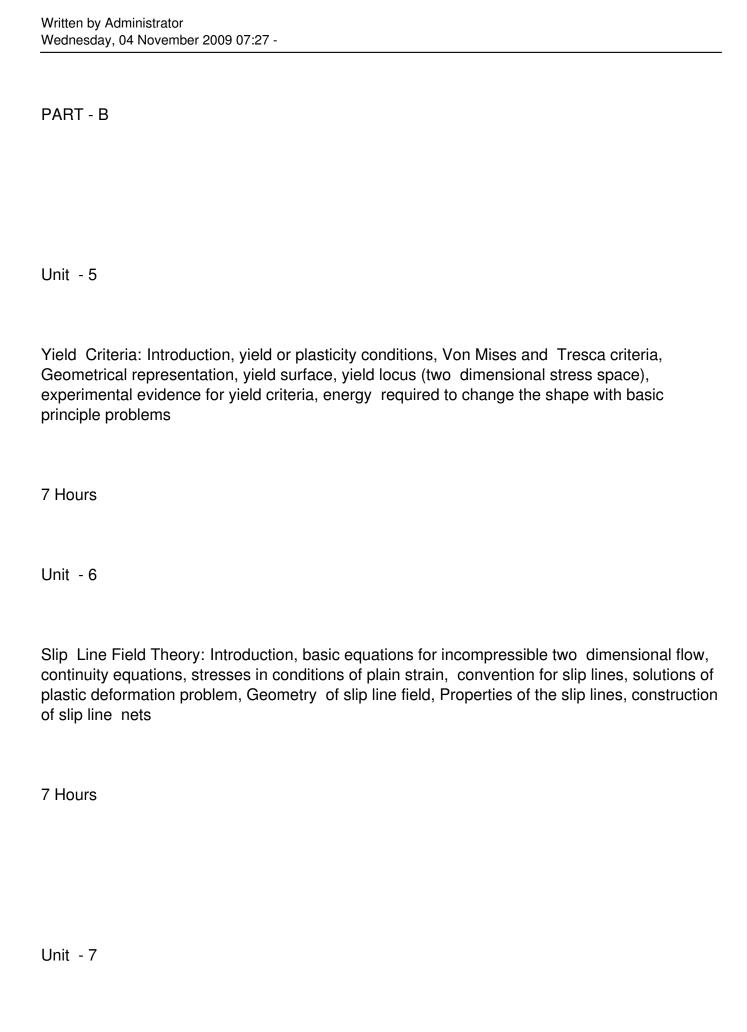
Written by Administrator

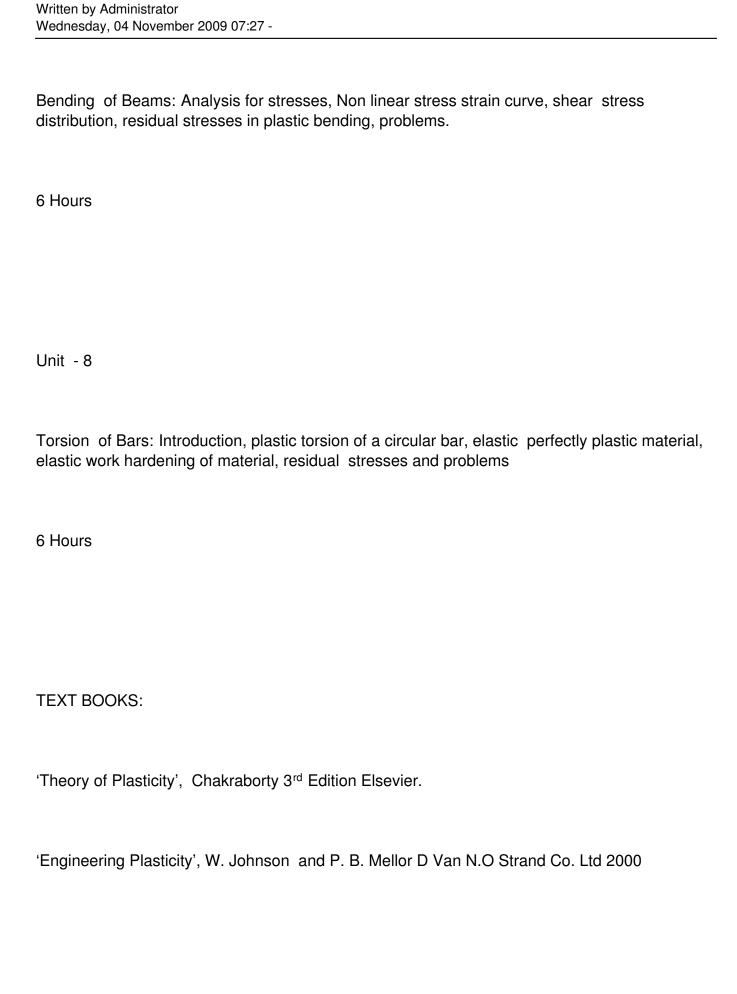
Wednesday, 04 November 2009 07:27 -
25
No. of Lecture Hrs./ Week
04
Exam Hours
03
Total No. of Lecture Hrs.
52
Exam Marks

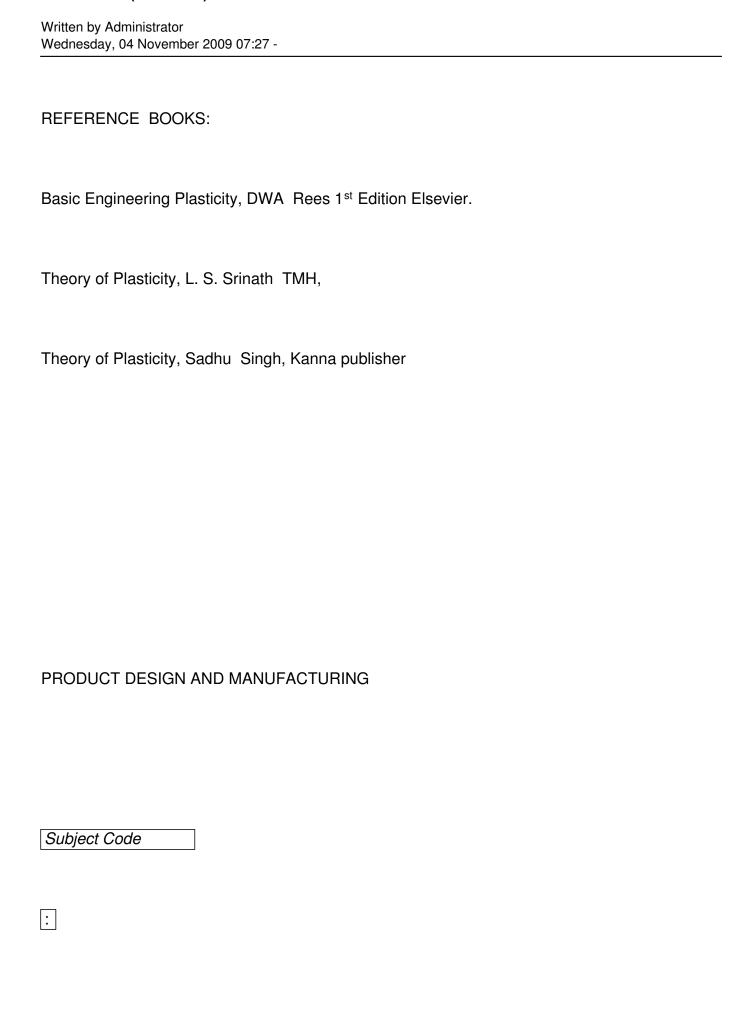


Written by Administrator

Wednesday, 04 November 2009 07:27 -Plastic Deformation of Metals: Crystalline structure in metals, mechanism of plastic deformation, factors affecting plastic deformation, strain hardening, recovery, recrystallization and grain growth, flow figures or luder's cubes. 6 Hours Unit - 3 Cubical dilation, true stress and strain: Strain tensor, principal strain, plane strain, spherical and deviator strain, octahedral strain and representative strain, problems. 7 Hours Unit - 4 Stress Strain Relations: Introduction, types of materials, empirical equations, theories of plastic flow, experimental verification of St.Venant's theory of plastic flow, the concept of plastic potential, the maximum work hypothesis, mechanical work for deforming a plastic substance. 6 Hours



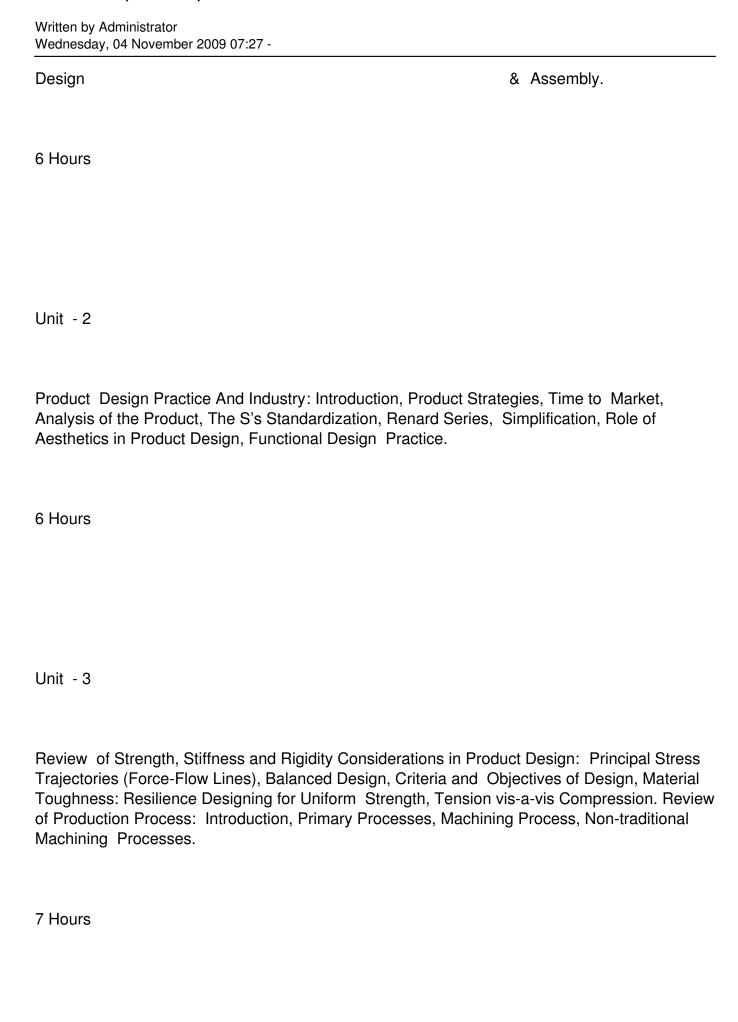


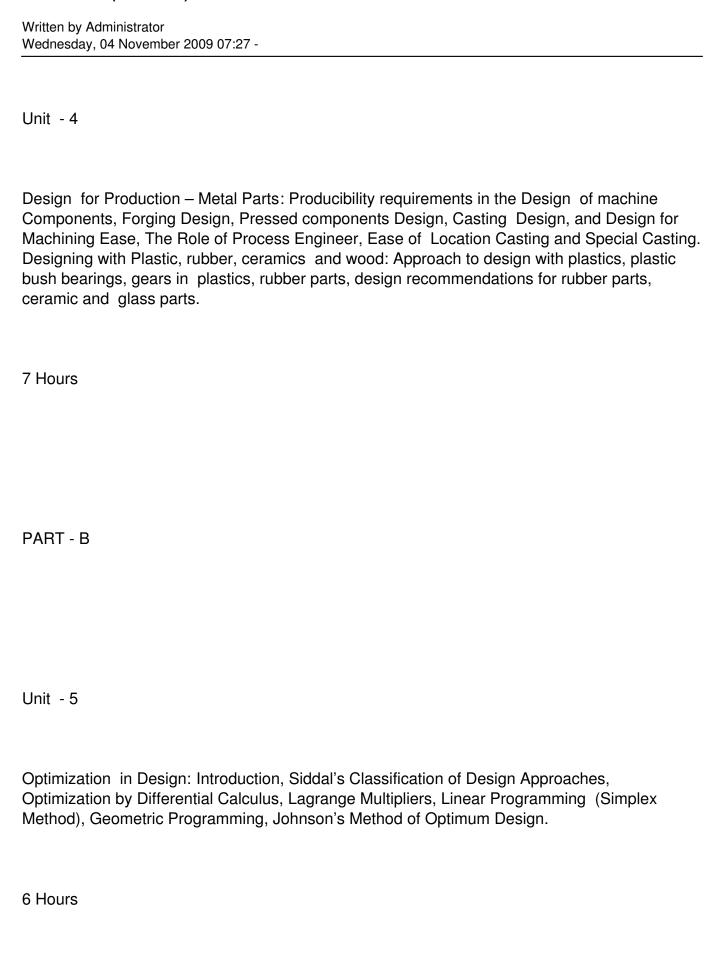


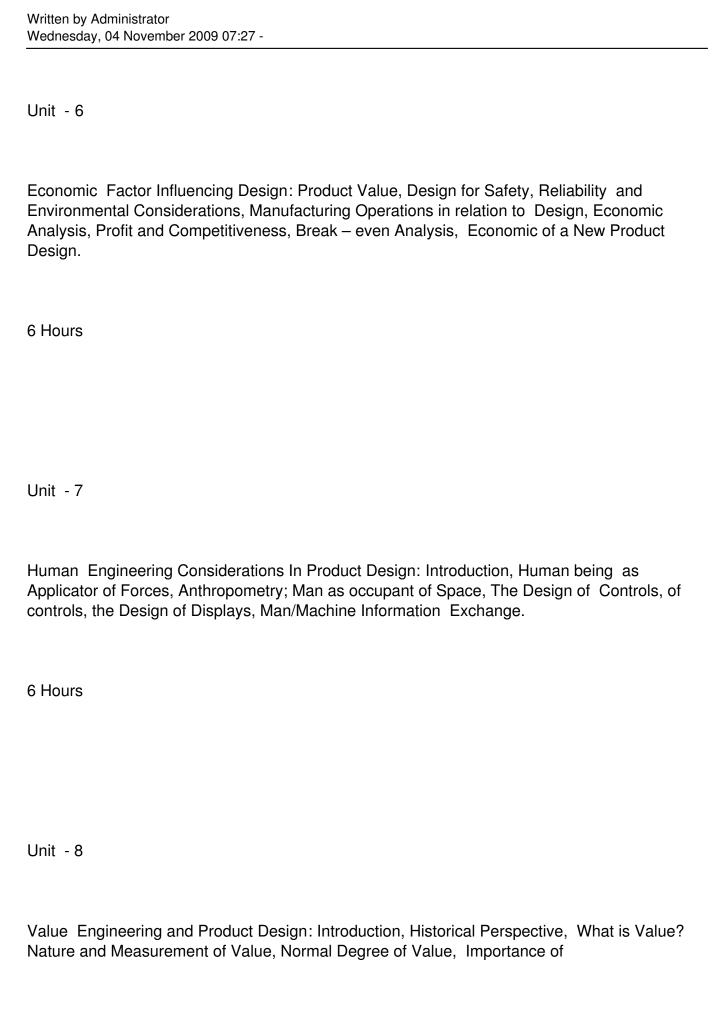
Written by Administrator

IA Marks  i.  25  No. of Lecture Hrs./ Week  i.  04  Exam Hours  i.  03  Total No. of Lecture Hrs.	Wednesday, 04 November 2009 07:27 -
Exam Hours  Exam Hours  3  3	06ME753
No. of Lecture Hrs./ Week  :  04  Exam Hours :	IA Marks
No. of Lecture Hrs./ Week  :  04  Exam Hours :  03	
<ul> <li></li> <li></li></ul>	25
Exam Hours  :  03	No. of Lecture Hrs./ Week
Exam Hours  :  03	
03	04
03	Exam Hours
Total No. of Lecture Hrs.	03
	Total No. of Lecture Hrs.

Written by Administrator Wednesday, 04 November 2009 07:27 -
52
Exam Marks
100
PART - A
Unit - 1
Introduction to Product Design: Asimow's model: Definition of product design, Design by Evolution, Design by Innovation, Essential Factors of Product design, Production-Consumption Cycle, Flow and Value Addition in the Production-Consumption Cycle, The Morphology of Design (The seven phases), Primary Design Phases and Flowcharting, Role of Allowance, Process Capability and Tolerance in Detailed





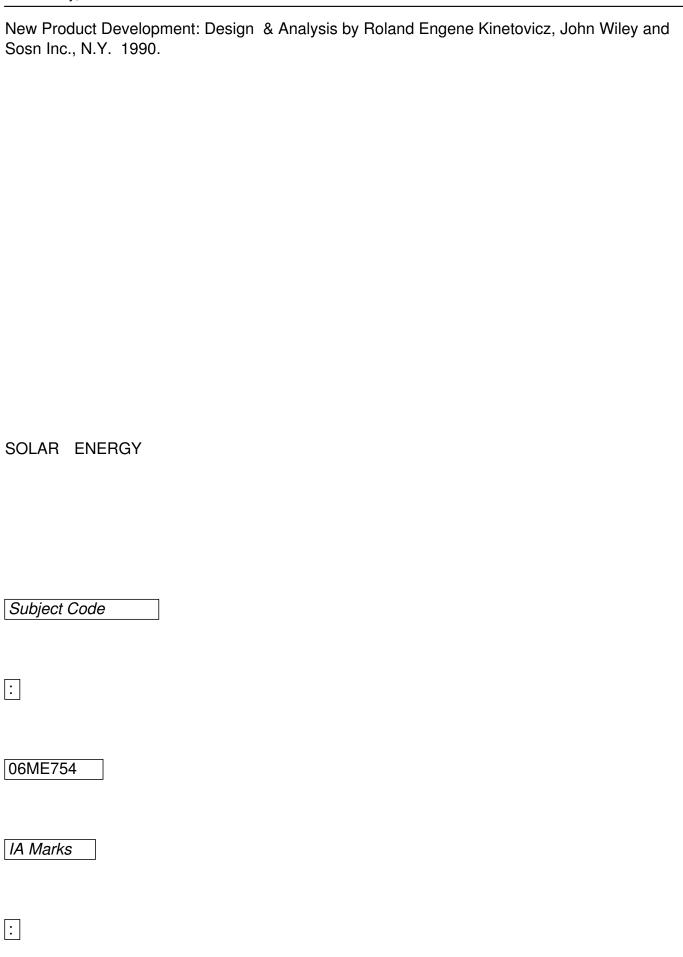


Written by Administrator
Wednesday, 04 November 2009 07:27 -

Value, The Value analysis Job Plan, Creativity, Steps to Problems-solving and Value Analysis, Value Analysis Test, Value Engineering Idea Generation Check-list Cost Reduction through value engineering case study on Tap Switch Control Assembly, Material and Process Selection in Value

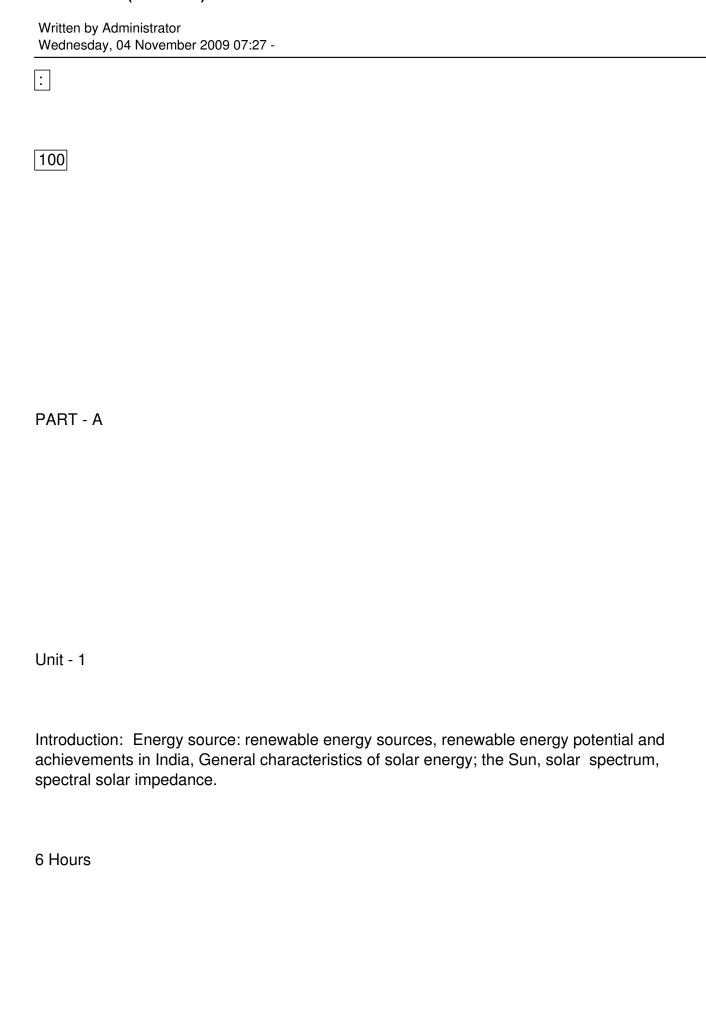
value engineering case study on Tap Switch Control Assembly, Material and Process Selection in Value
Engineering
Modern Approaches to Product Design: Concurrent Design and Quality Function Deployment (QFD).
8 Hours
Text Books:
Product Design and Manufacturing, A.C. Chitale and R.C. Gupta, PHI 4 <sup>th</sup> edition 2007.
Product Design & Development, Karl T. Ulrich & Steven D, Epinger, Tata Mc. Graw Hill, 3 <sup>rd</sup> Edition, 2003
Reference Books:
New Product Development, Tim Jones, Butterworh Heinmann, Oxford, mc 1997.

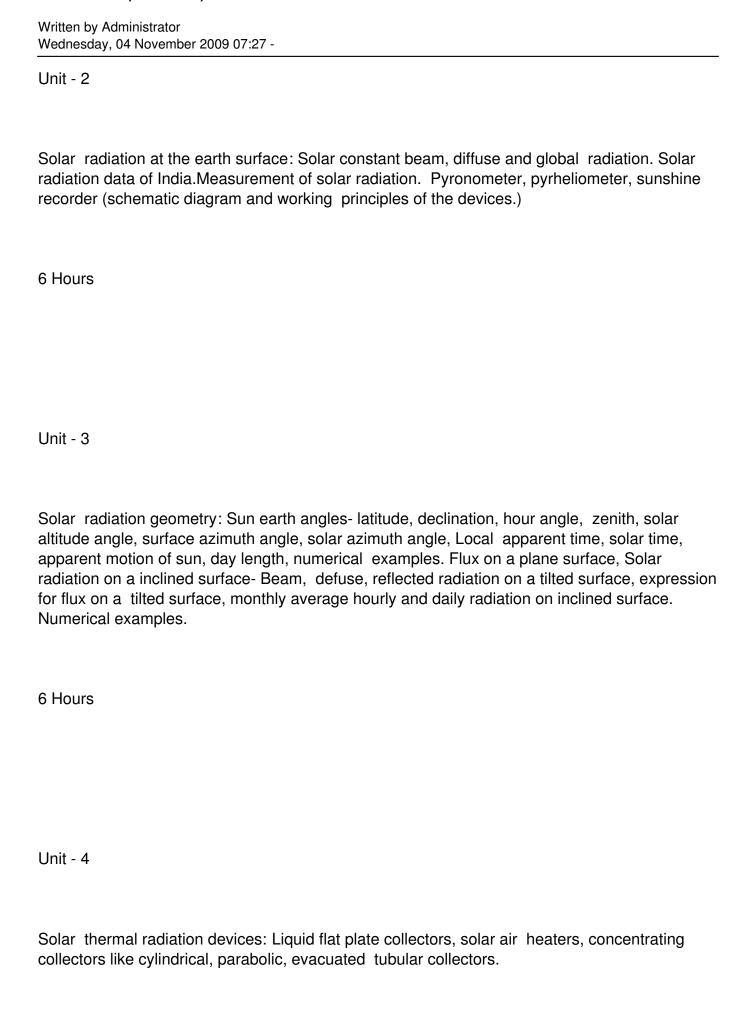
# ELECTIVE-II (GROUP B) Written by Administrator Wednesday, 04 November 2009 07:27 -

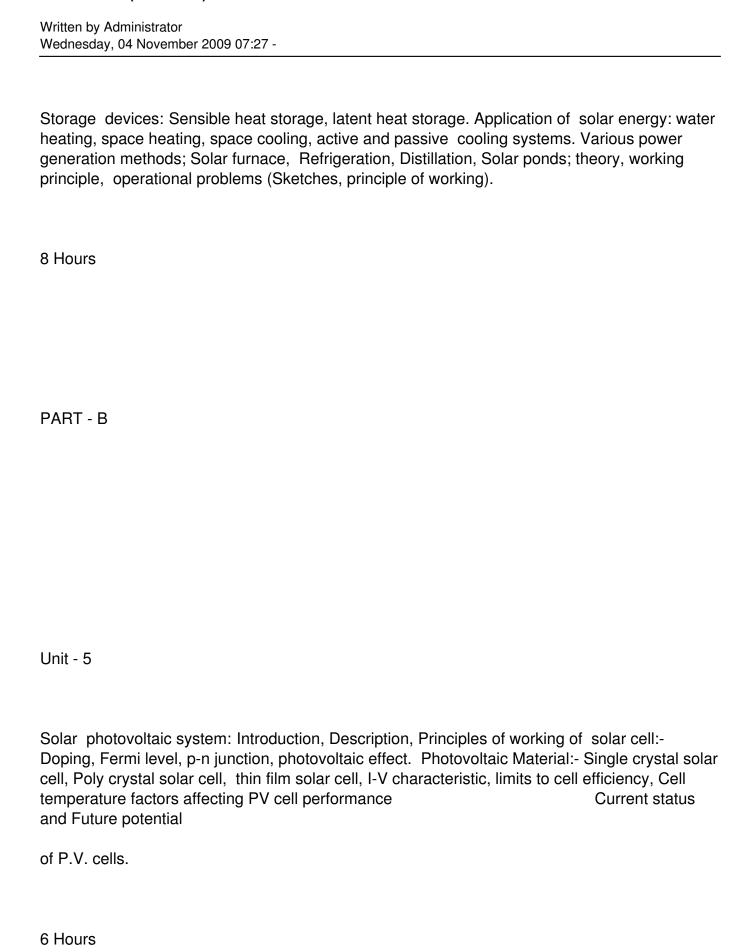


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Wednesday, 04 November 2009 07:27 -
25
No. of Lecture Hrs./ Week
04
Exam Hours
03
Total No. of Lecture Hrs.
52
Exam Marks







Written by Administrator Wednesday, 04 November 2009 07:27 -

Unit - 6

Performance analysis of liquid flat plate collectors: General description, collector geometry, selective surface (qualitative discussion), basic energy balance equation, stagnation temperature, transmissivity of the cover system, transmissivity- absorptivity product, numerical examples. The overall loss coefficient, correlation for the top loss coefficient, bottom and side loss- coefficient, problems (all correlations to be provided)

6 Hours

Unit - 7

Temperature distribution: Temperature distribution between the collectors tubes, collector heat removal factor, collector efficiency factor and collector flow factor, mean plate temperature, instantaneous efficiency (all expression to be provided). Effect of various parameters on the collector performance: Collector orientation, selective surface, fluid inlet temperature, number of covers, dust.

Solar Concentrators: Introduction, characteristic parameters: Aperture area, Acceptance angle, absorber area, geometric concentration ratio. Local concentration ratio or brightness concentration ratio, intercept factor, optical efficiency, thermal efficiency.. Concentration ratio.

6 Hours



Unit - 8

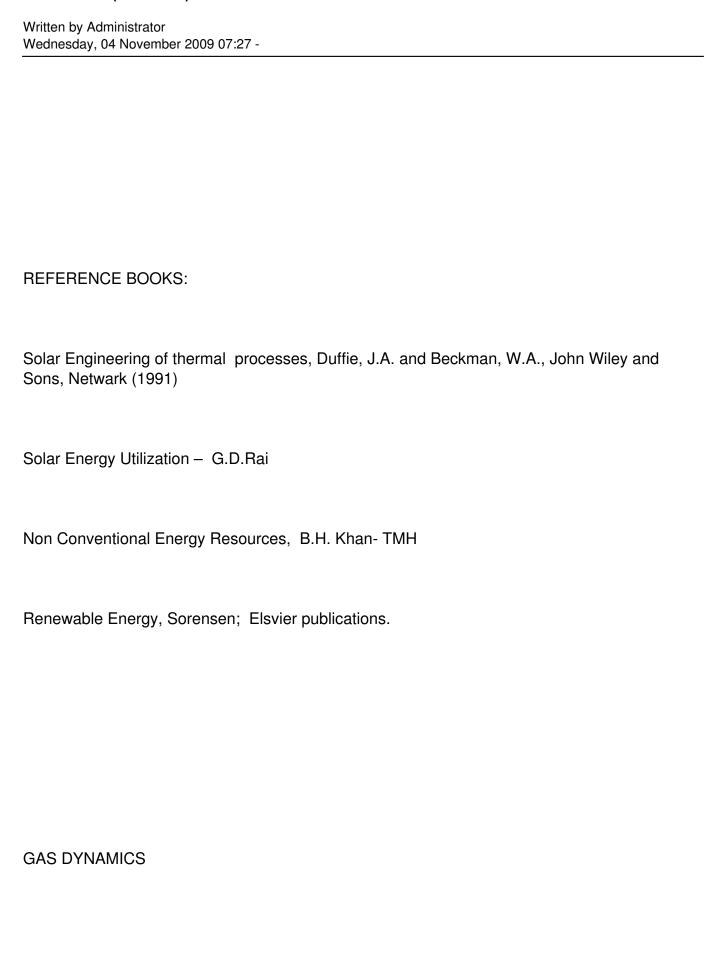
Concentrators, types, classification, Tracking: Concentration, Non tracking concentrator. Geometrical optics in concentrators:- Ray tracing in a reflecting surface, ray tracing in a refracting surface. Theoretical solar image. Thermal analysis:- Cylindrical parabolic concentrator, Hemispherical Bowl Mirror, V- trough. Tracking Methods:- Three Dimensional Concentrators, Two dimensional concentrators. Materials for concentrators: - Reflecting and Refracting surfaces, receiver cover and surface coating, working fluids, insulation, Numerical problems.

8 Hours

**TEXT BOOKS:** 

Solar Energy- Principles of thermal collection and storage, S.P Sukhatme, Tata McGraw- Hill publishing company limited, NewDelhi, ISBN 0-07-462453-9.

Solar Power Engineering, P. K. Nag THH 2003.



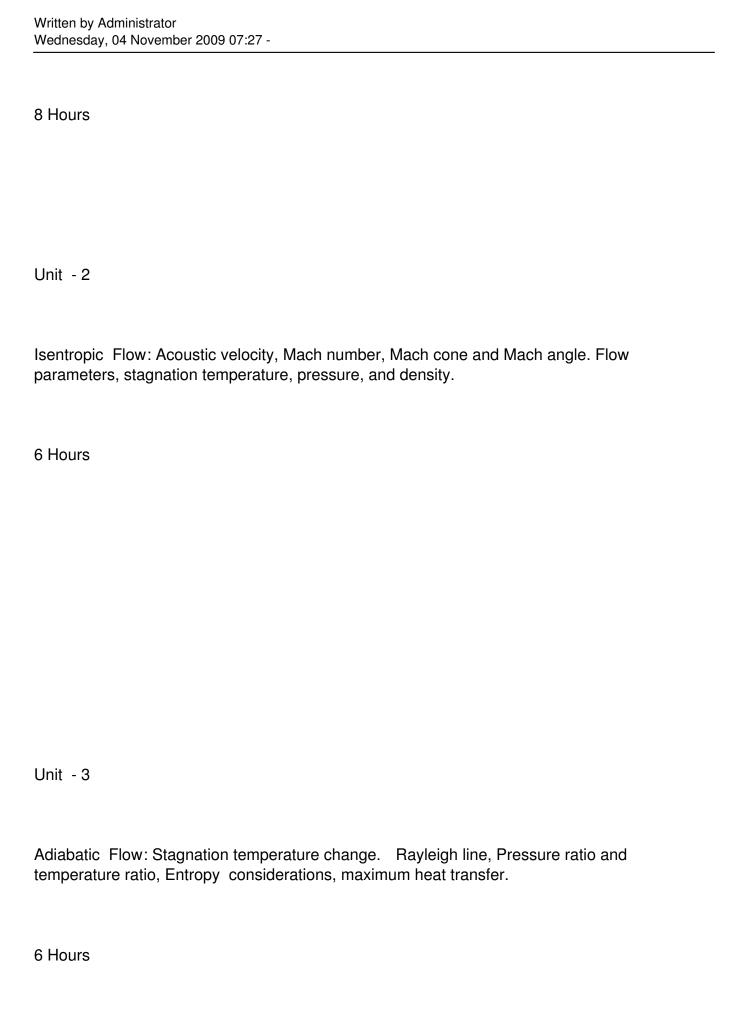
Subject Code  :  O6ME755  IA Marks  :  25  No. of Lecture Hrs./ Week  :  O4  Exam Hours	Written by Administrator Wednesday, 04 November 2009 07:27 -
O6ME755  IA Marks  25  No. of Lecture Hrs./ Week  :  O4  Exam Hours	Subject Code
O6ME755  IA Marks  25  No. of Lecture Hrs./ Week  :  O4  Exam Hours	
IA Marks  :  25  No. of Lecture Hrs./ Week  :  04  Exam Hours	
IA Marks  :  25  No. of Lecture Hrs./ Week  :  04  Exam Hours	
25  No. of Lecture Hrs./ Week  :  O4  Exam Hours	06ME755
25  No. of Lecture Hrs./ Week  :  O4  Exam Hours	
No. of Lecture Hrs./ Week  :  O4  Exam Hours	IA Marks
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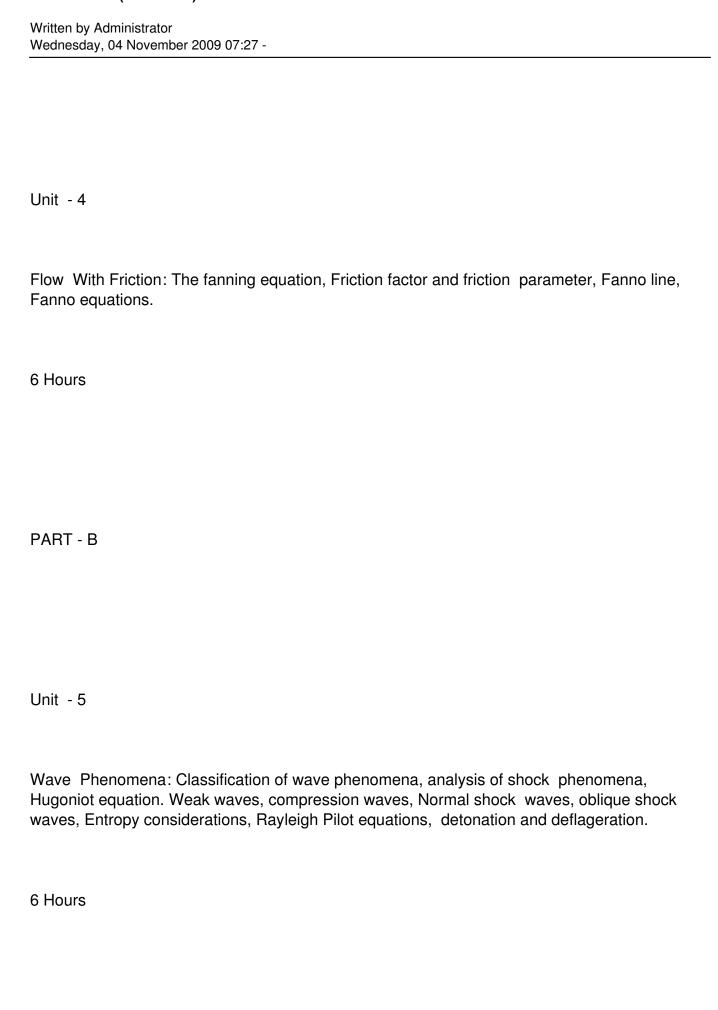
# **ELECTIVE-II (GROUP B)** Written by Administrator Wednesday, 04 November 2009 07:27 -Total No. of Lecture Hrs. $\Box$ 52 Exam Marks $\Box$ 100 PART - A Unit - 1

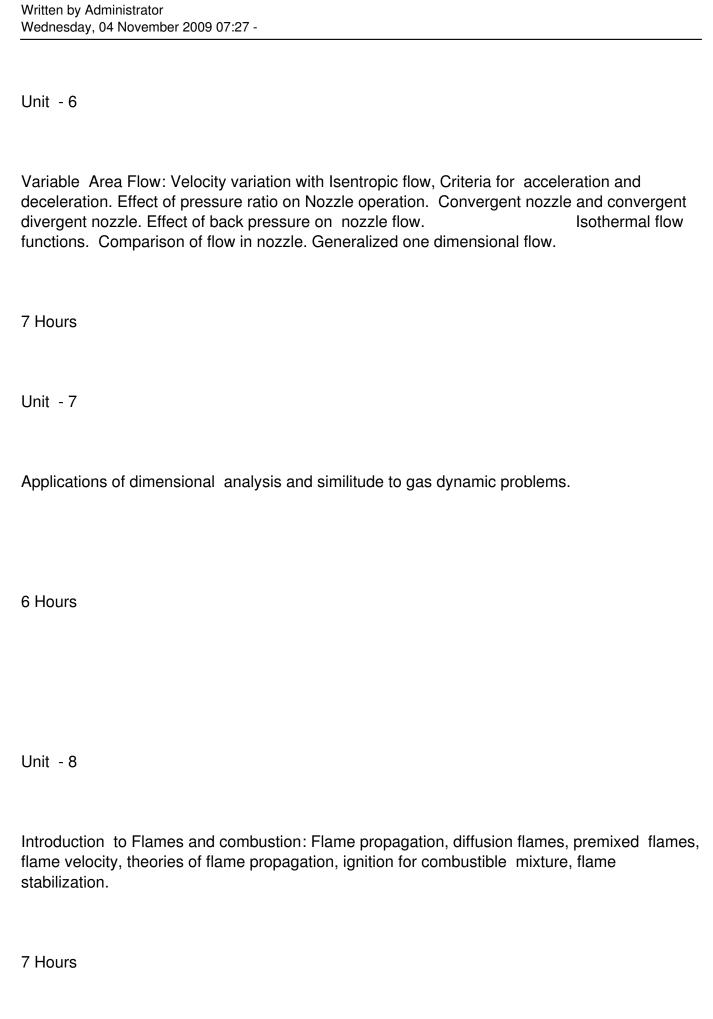
Fundamental Equations of Steady Flow: Continuity and momentum equations, The thrust function, The dynamic equation and Euler's Equation.

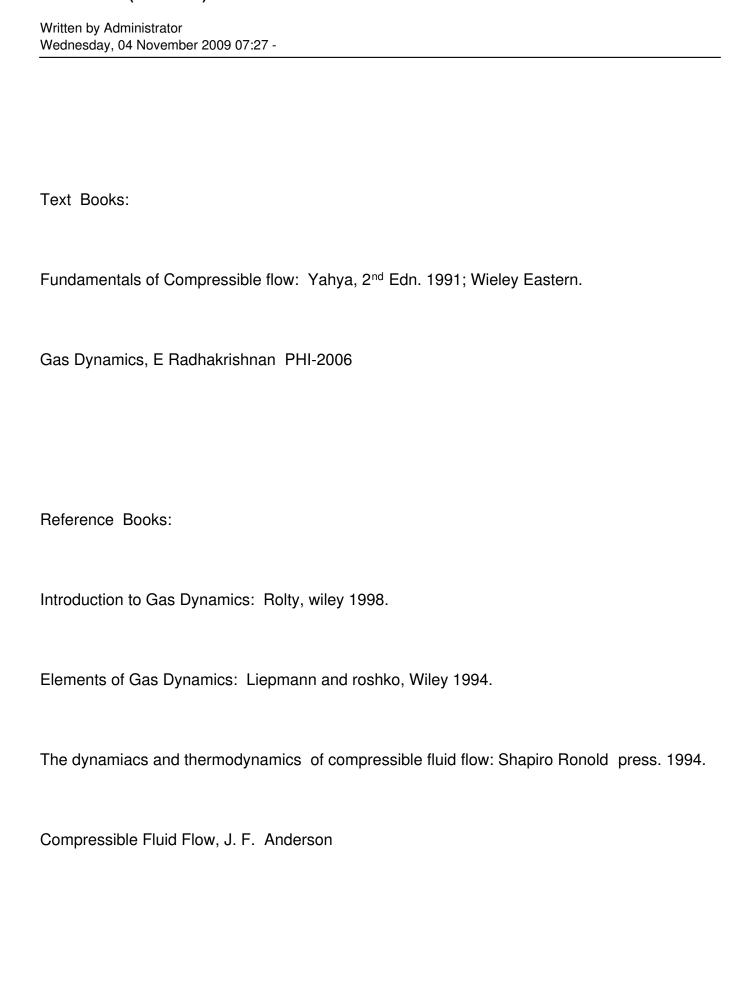
Bernoulli's Equation.

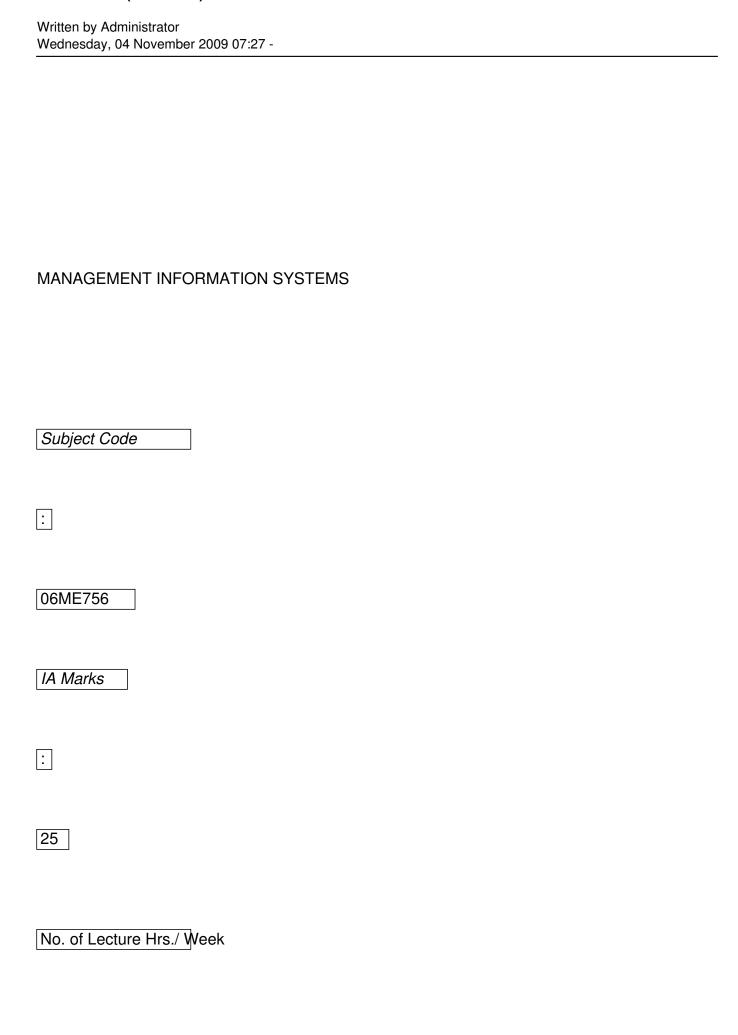
Steady flow energy equation.





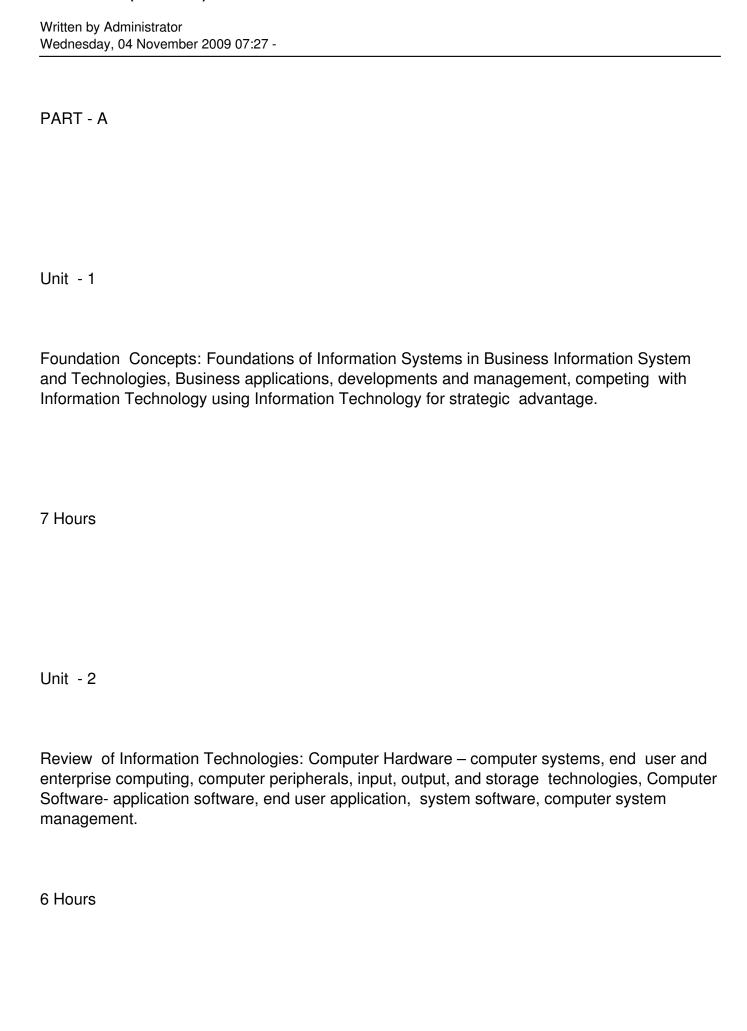


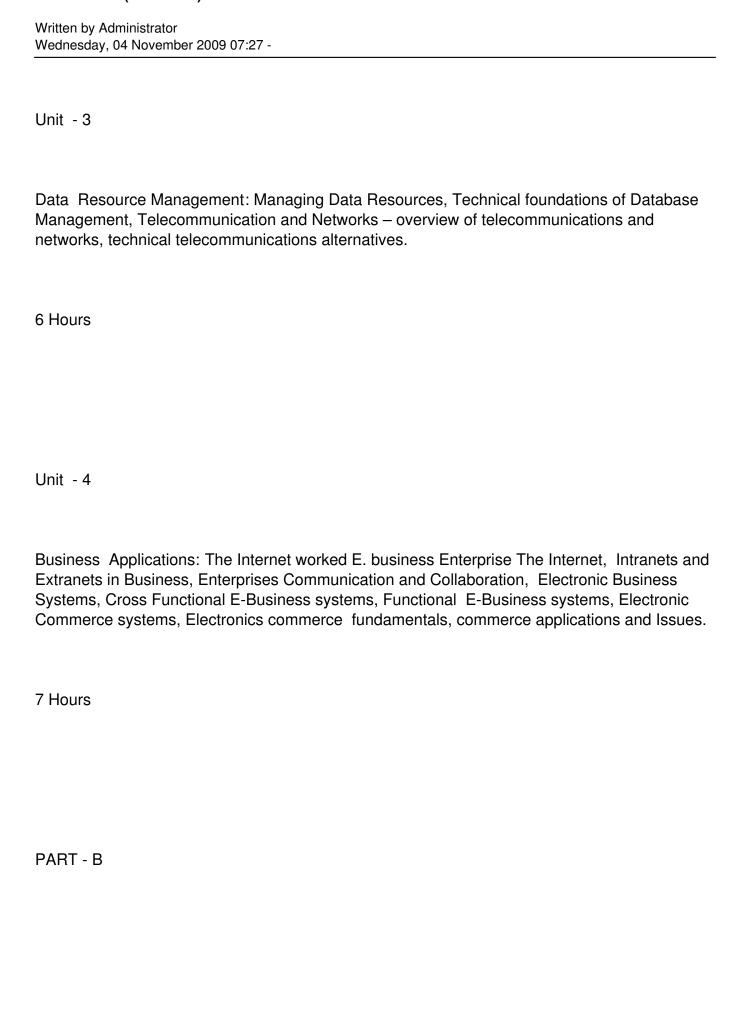


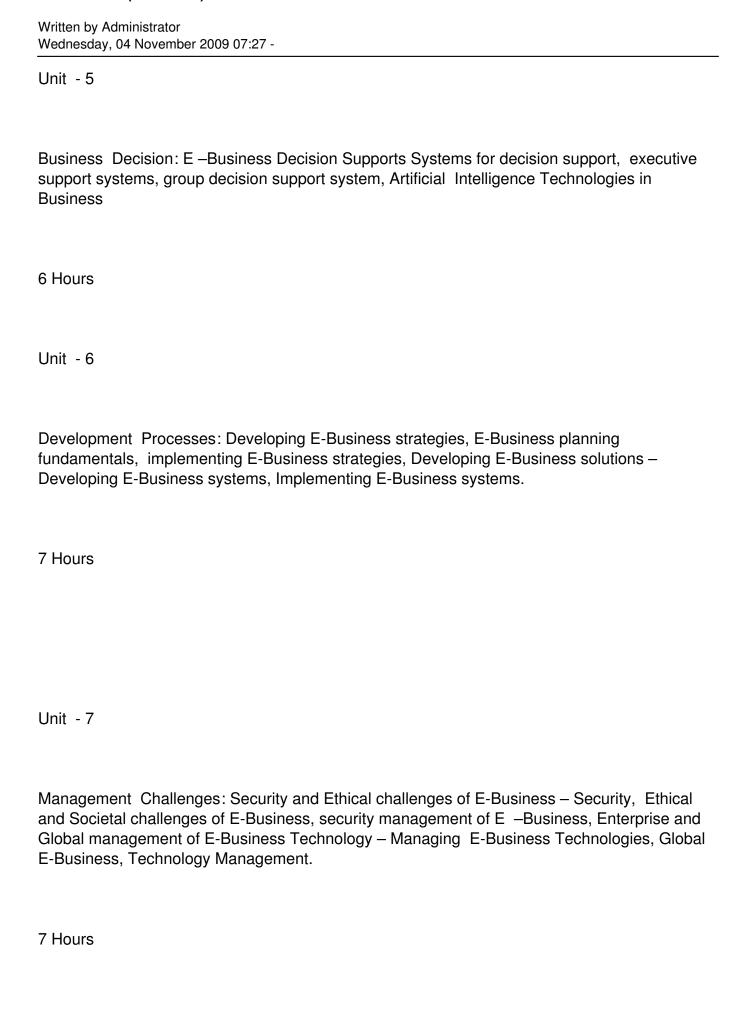


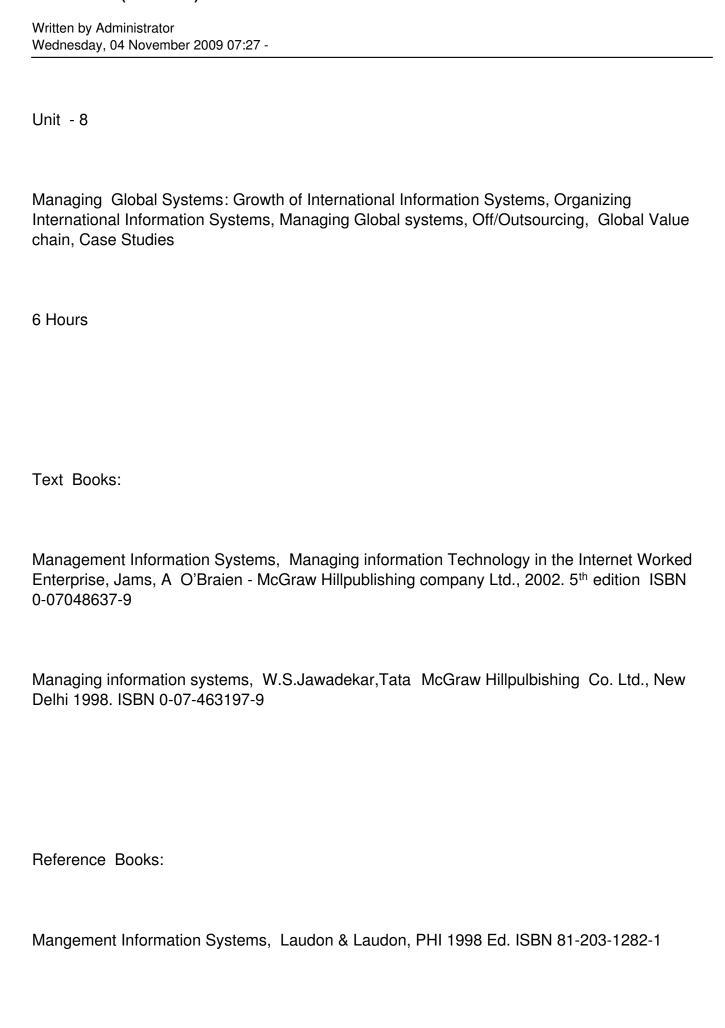
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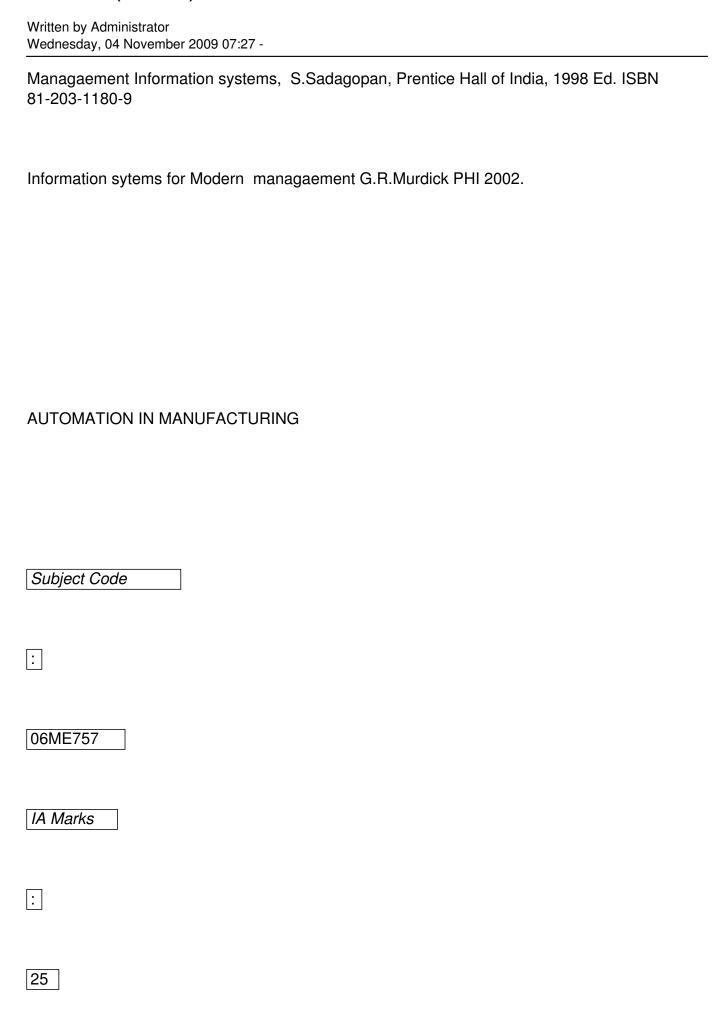
Wednesday, 04 November 2009 07:27 -
04
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03
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52
Exam Marks
100



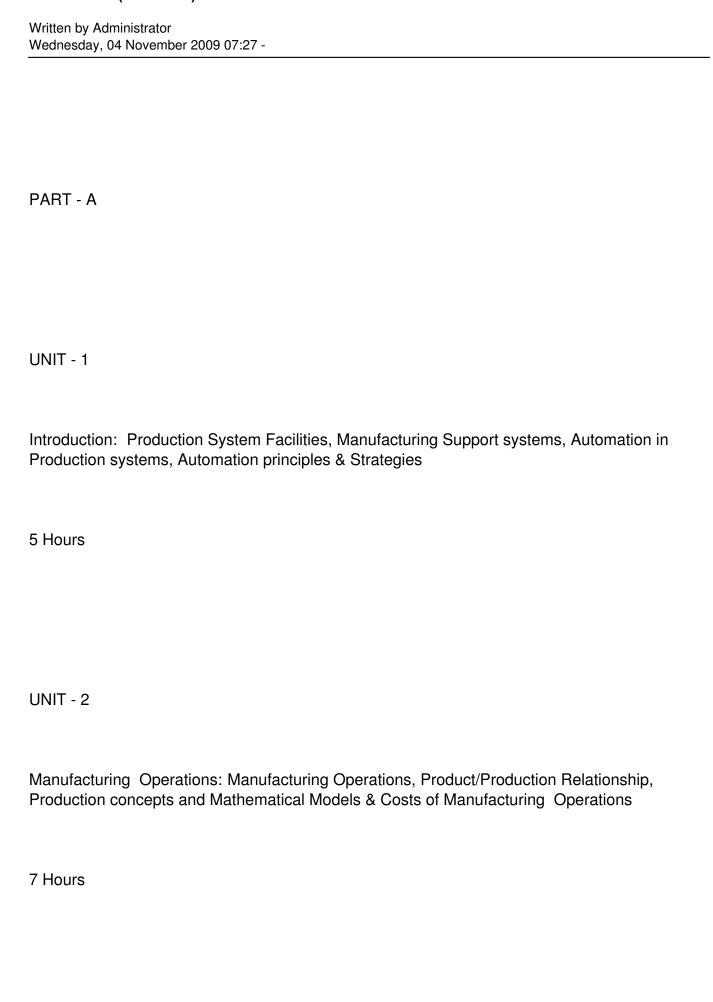


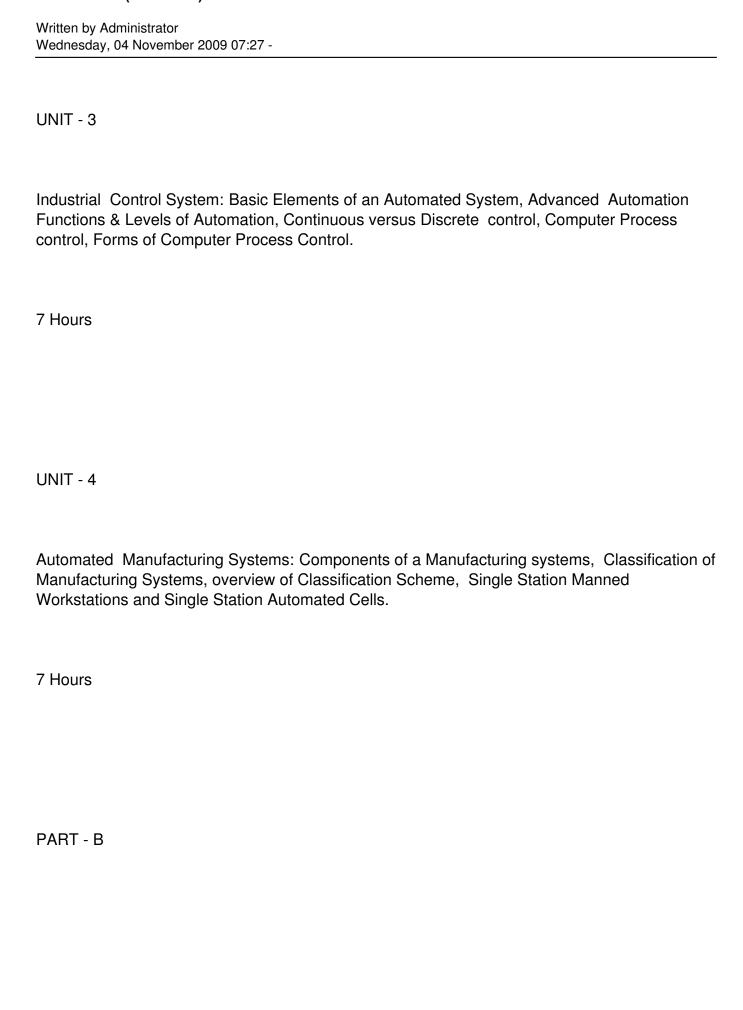


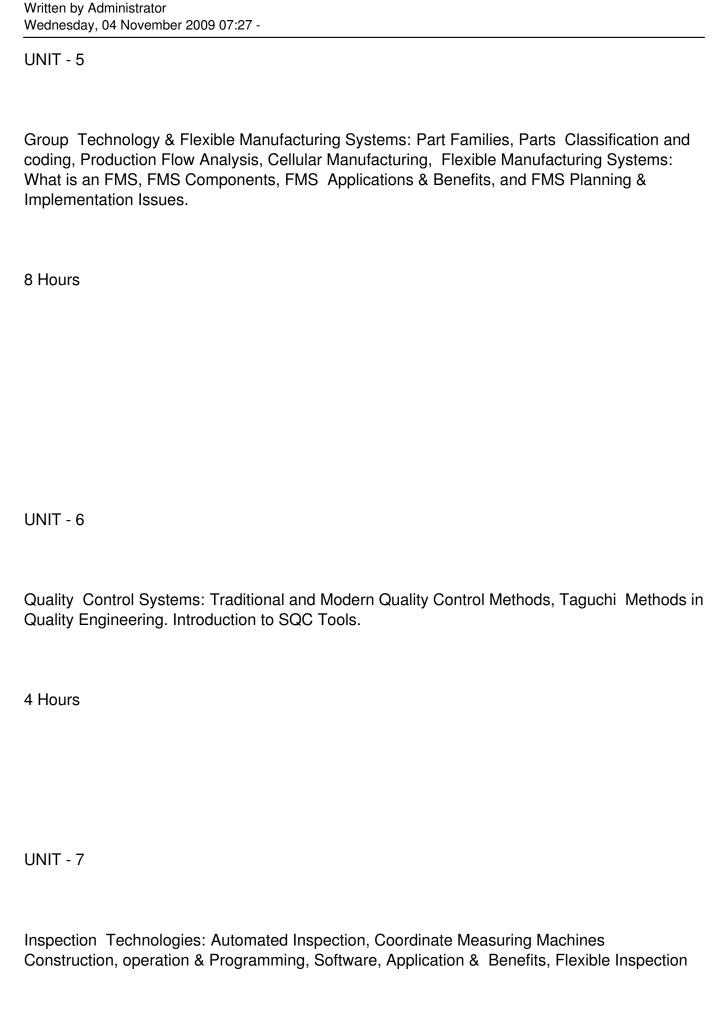




Written by Administrator Wednesday, 04 November 2009 07:27 -
No. of Lecture Hrs./ Week
04
Exam Hours
$\Box$
03
Total No. of Lecture Hrs.
$\Box$
52
Exam Marks
100

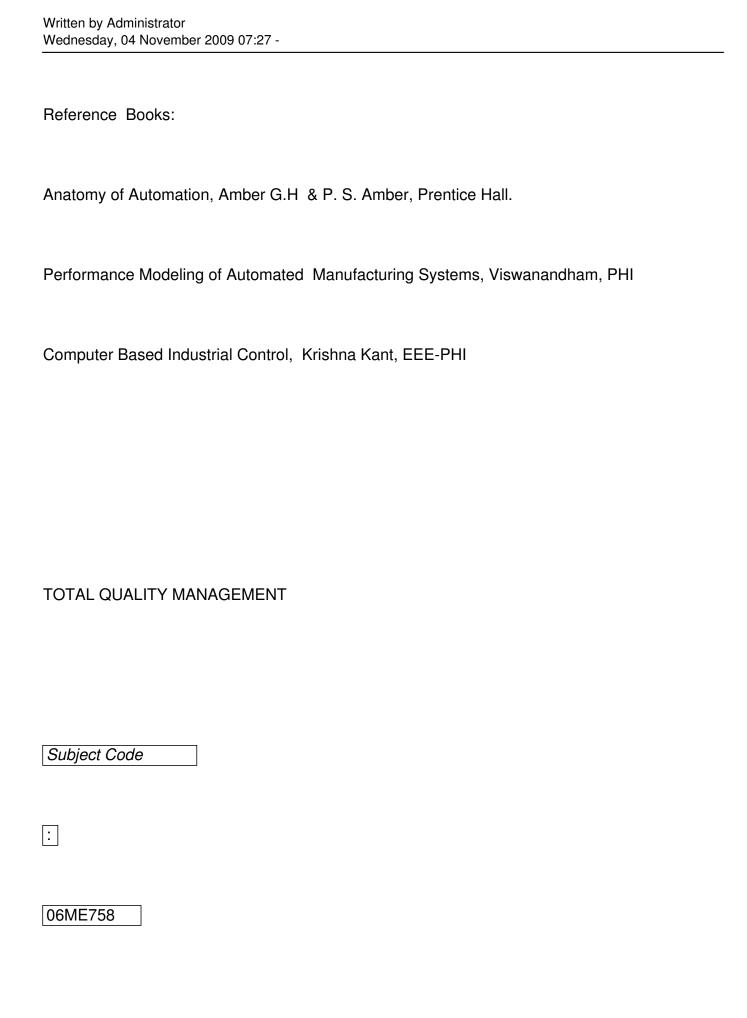






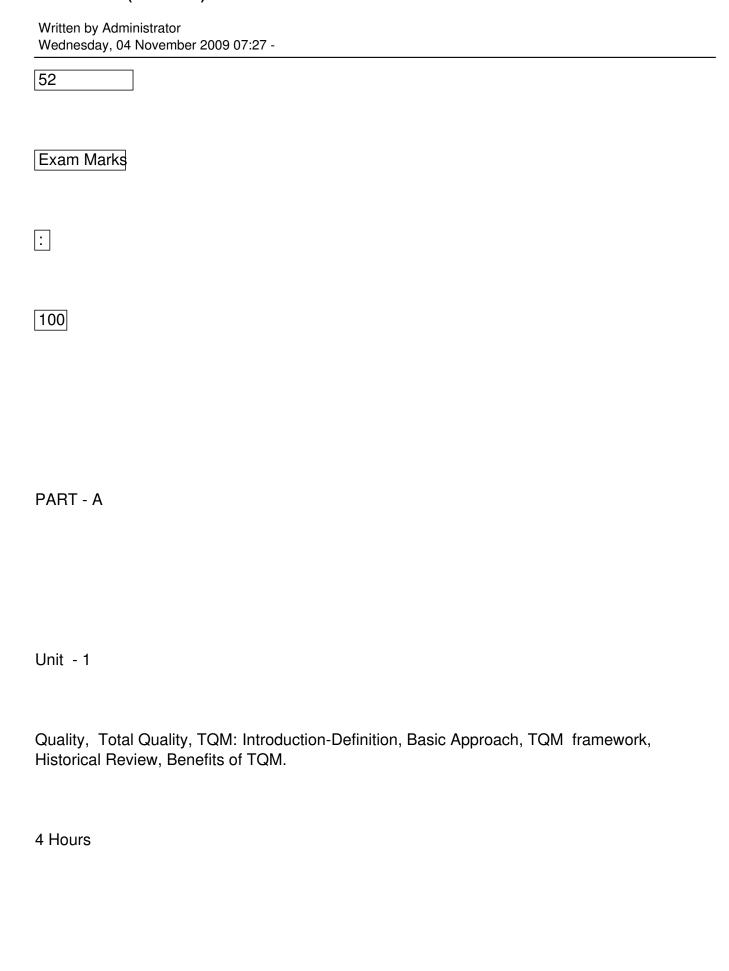
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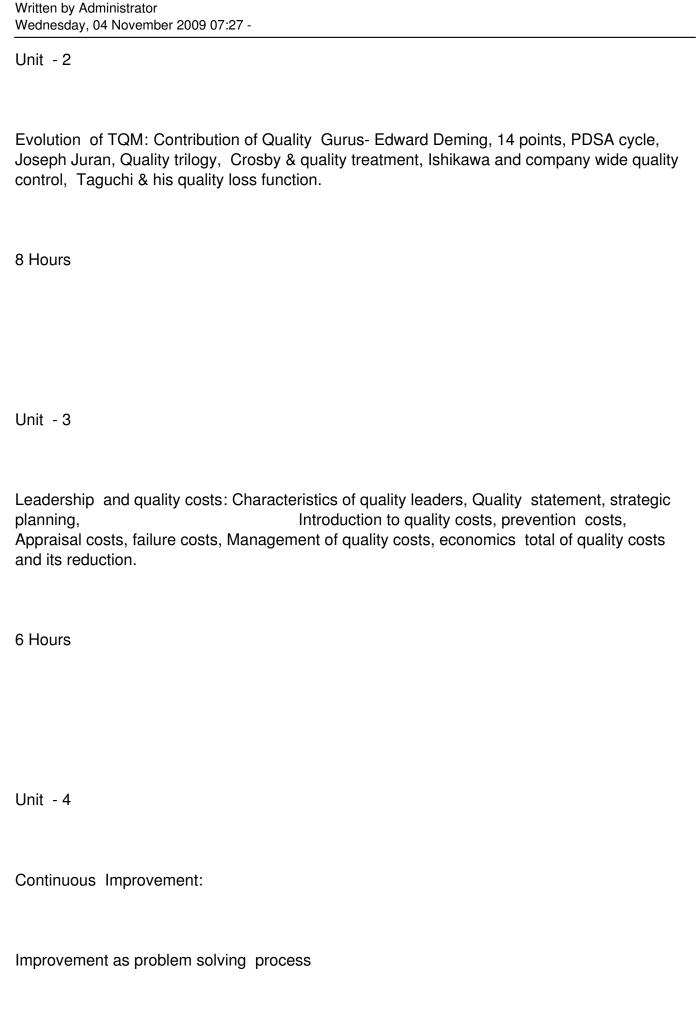
Wednesday, 04 November 2009 07:27 -System, Inspection Probes on Machine Tools, Machine Vision, Optical Inspection Techniques & Noncontact Nonoptical Inspection Technologies 6 Hours UNIT - 8 Manufacturing support system: Process Planning, Computer Aided Process Planning, Concurrent Engineering & Design for Manufacturing, Advanced Manufacturing Planning, Just-in Time Production System, Basic concepts of lean and Agile manufacturing. Basic Concepts of Lean and Agile manufacturing, Comparisons of Lean & Agile Manufacturing. 8 Hours Text Books: Automation, Production Systems and Computer Integrated Manufacturing, M. P. Groover, Pearson education. Third Edition, 2008 Principles of CIM, Vajpayee, PHI.

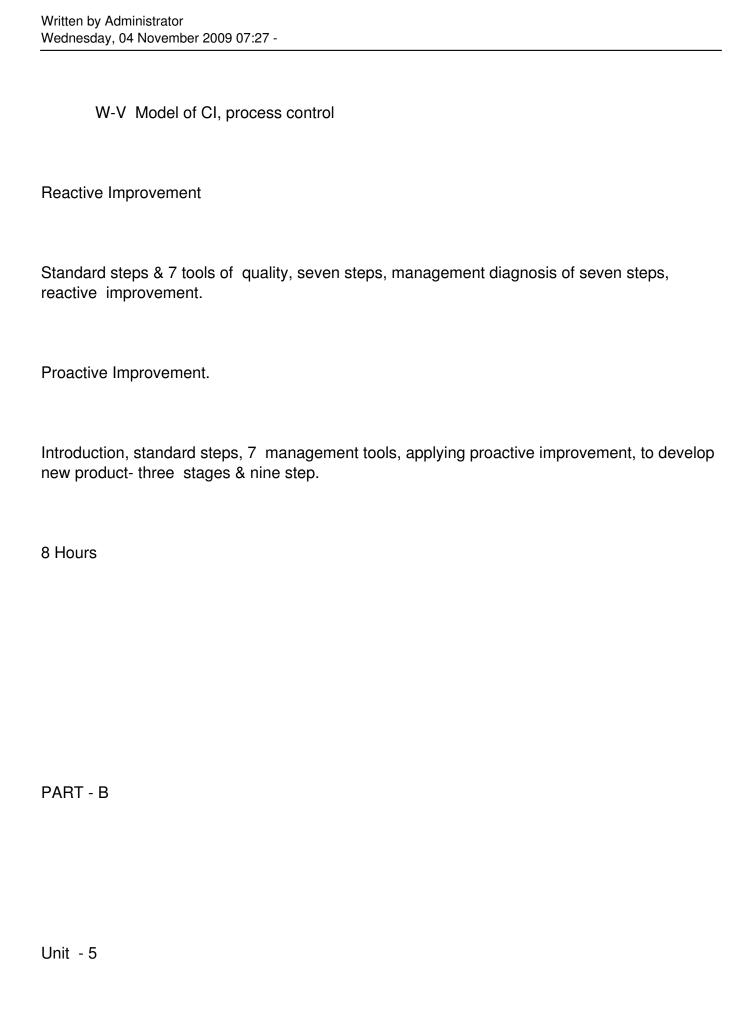


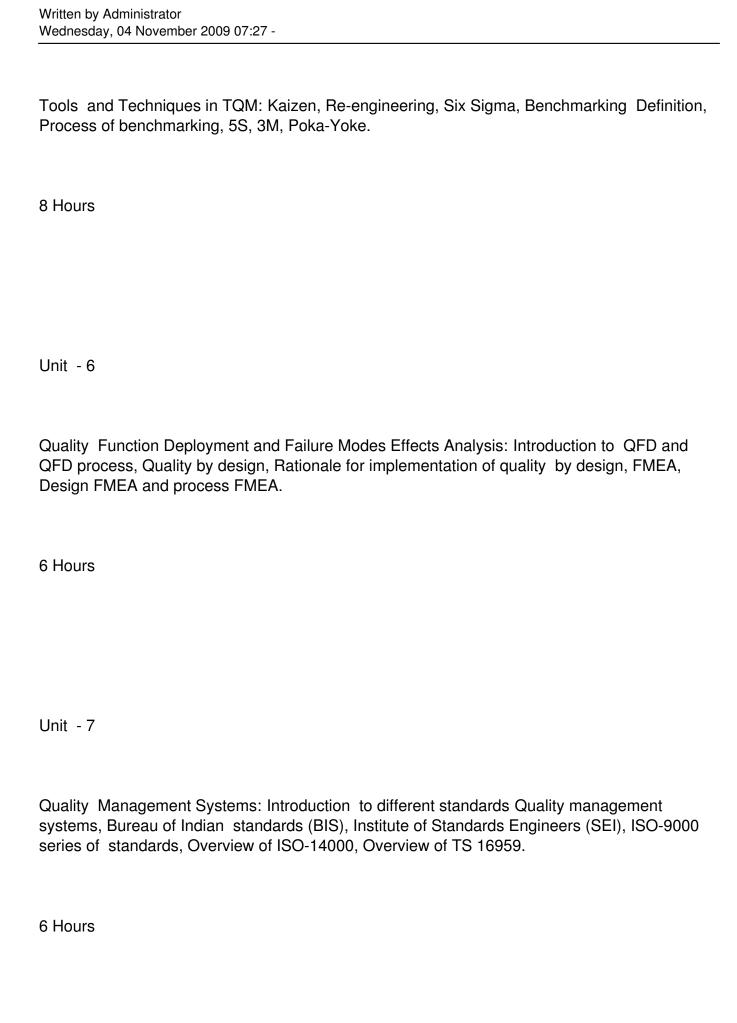
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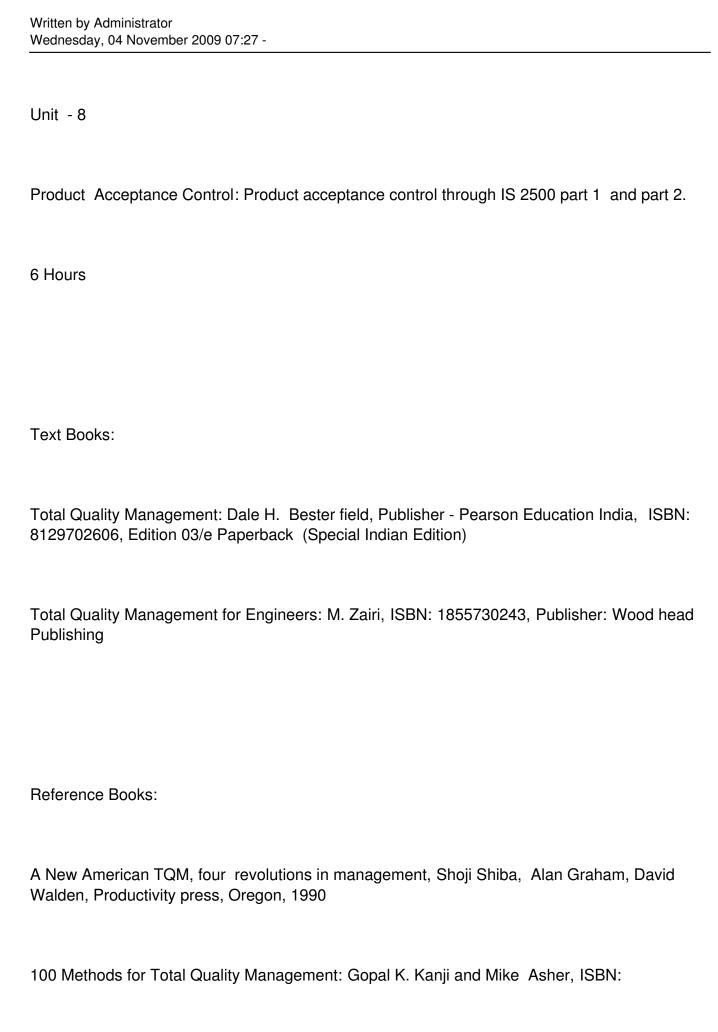
Wednesday, 04 November 2009 07:27 -
IA Marks
25
No. of Lecture Hrs./ Week
04
Exam Hours
03
Total No. of Lecture Hrs.











Written by Administrator Wednesday, 04 November 2009 07:27 -

0803977476, Publisher:

Sage Publications, Inc.; Edition – 1

Organisational Excellence through TQM, H. Lal, New age pub, 2008