



GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Master of Business Administration, 3rd Semester
Functional Area Specialization: Production and Operations Management
Subject Name: Production Planning and Control (PPC)
Subject Code: 4539273

With effective
 from academic
 year 2018-19

1. Learning Outcomes:

Learning Outcome Component	Learning Outcome (Learner will be able to)
Business Environment and Domain Knowledge (BEDK)	<ul style="list-style-type: none"> • <i>Describe</i> and determine the effect of product, process, inventory costs, product forecasting, operations strategies, and schedule design parameters on design of materials requirements planning, inventory planning, capacity planning, and production planning/control systems.
Critical thinking, Business Analysis, Problem Solving and Innovative Solutions (CBPI)	<ul style="list-style-type: none"> • <i>Prepare</i> a production plan consisting of labor, materials, equipment, inventory, and a production cost budget summary. • <i>Determine</i> the resources requirements for a specified production plan. • <i>Prepare</i> a capacity plan using capacity requirements planning procedures. • <i>Analyze</i> and <i>evaluate</i> various facility alternatives and their capacity decisions, develop a balanced line of production & scheduling and sequencing techniques in operation environments
Global Exposure and Cross-Cultural Understanding (GECCU)	<ul style="list-style-type: none"> • <i>Deduce</i> the applicability of latest developments across the world in the domain of production planning and production control.
Social Responsiveness and Ethics (SRE)	<ul style="list-style-type: none"> • <i>Assess</i> the relationships between people, process, technology, productivity and quality and how it contributes to the competitiveness of firms.
Effective Communication (EC)	<ul style="list-style-type: none"> • <i>Justify</i> the decisions of layout, capacity, inventory and scheduling for a real or hypothetical example.
Leadership and Teamwork (LT)	<ul style="list-style-type: none"> • <i>Design, develop, and analyze</i> a Master Production Schedule and a resultant Materials Requirement Plan (MRP) for a complete production facility.

Correlation Levels:

1 = Slight (Low); 2 = Moderate (Medium); 3 = Substantial (High), “-“= no correlation

Sub. Code: 4539273	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
LO1: <i>Describe</i> and determine the effect of product, process, inventory costs, product forecasting, operations strategies, and schedule design parameters on design of materials requirements planning, inventory planning, capacity planning, and production planning/control systems.	3	3	3	-	-	1	-	1	3



GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Master of Business Administration, 3rd Semester
Functional Area Specialization: Production and Operations Management

With effective
 from academic
 year 2018-19

Subject Name: Production Planning and Control (PPC)

Subject Code: 4539273

LO2: Prepare a production plan consisting of labour, materials, equipment, inventory, and a production cost budget summary.	3	3	1	-	-	1	-	1	2
LO3: Determine the resources requirements for a specified production plan.	2	2	3	-	1	1	-	1	1
LO4: Prepare a capacity plan using capacity requirements planning procedures.	1	1	3	-	1	-	-	1	1
LO5: <i>Analyze</i> and <i>evaluate</i> various facility alternatives and their capacity decisions, develop a balanced line of production & scheduling and sequencing techniques in operation environments	1	1	3	1	1	1	1	1	1
LO6: <i>Deduce</i> the applicability of latest developments across the world in the domain of production planning and production control.	2	2	2	-	3	1	-	1	1
LO7: <i>Assess</i> the relationships between people, process, technology, productivity and quality and how it contributes to the competitiveness of firms.	1	1	2	2	1	1	3	-	1
LO8: <i>Justify</i> the decisions of layout, capacity, inventory and scheduling for a real or hypothetical example.	1	1	2	3	-	1	1	1	1
LO9: <i>Design, develop, and analyze</i> a Master Production Schedule and a resultant Materials Requirement Plan (MRP) for a complete production facility.	2	2	3	3	1	3	-	1	2

2. Course Duration: The course duration is of **40 sessions of 60 minutes each.**



GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Master of Business Administration, 3rd Semester
Functional Area Specialization: Production and Operations Management
Subject Name: Production Planning and Control (PPC)
Subject Code: 4539273

With effective
from academic
year 2018-19

3. Course Contents:

Module No:	Contents	No. of Sessions	70 Marks (External Evaluation)
I	Overview of Production Planning and Control: <ul style="list-style-type: none">• Introduction• Phases of production• Functions of production planning and control• Relationship of PPC with other departments• Types of production systems<ul style="list-style-type: none">▪ Types, concepts, applications• Levels of manufacturing:<ul style="list-style-type: none">▪ Aggregate planning▪ Master production schedule▪ Material requirement planning• Manufacturing methods:<ul style="list-style-type: none">▪ Projects and job work▪ Batch production▪ Mass / flow production▪ Continuous / process production	10	18
II	Prerequisites of PPC: <ul style="list-style-type: none">• Data pertaining to design, equipment, raw materials, tooling, performance standards, labor and operating systems. Demand Forecasting: <ul style="list-style-type: none">• Introduction. Meaning and need for forecast• Quantitative and qualitative methods of forecast Order preparation: <ul style="list-style-type: none">• Work order preparation for different manufacturing methods• Subsidiary orders• Shop or production orders• Inspection orders• Store issue orders Industrial Safety Management: <ul style="list-style-type: none">• Meaning, legal aspect of safety• Causes of accident• Work permit procedures in plant, safety equipment, PPE's, breathing apparatus, safety belt, etc.	10	18
III	Capacity Planning: <ul style="list-style-type: none">• Capacity Planning, Integrated Production Planning and Control. Facility or Layout Planning and Analysis: <ul style="list-style-type: none">• Introduction	10	17



GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Master of Business Administration, 3rd Semester
Functional Area Specialization: Production and Operations Management
Subject Name: Production Planning and Control (PPC)
Subject Code: 4539273

With effective
from academic
year 2018-19

	<ul style="list-style-type: none">Objectives of LayoutClassification of FacilitiesBasis for Types of LayoutsImportance of layout decisionsNature of layout problemsRedesigning of a layoutManufacturing facility layoutsLayout PlanningEvaluating Plant LayoutsAssembly Line Balancing Material handling		
IV	<p>Scheduling:</p> <ul style="list-style-type: none">Forms of SchedulesFactors influencing scheduling <p>Product sequencing, dispatching:</p> <ul style="list-style-type: none">Progress report & expectation of manufacturing lead time technique for aligning completion time & due dates. <p>Aggregate Planning:</p> <ul style="list-style-type: none">IntroductionRequirement of Aggregate PlanSteps in Developing an Aggregate PlanAdvantages of Aggregate PlanAggregate Planning StrategiesPlanning OptionsSelecting the Method in Aggregate PlanningAggregate Planning in Services <p>Maintenance Management:</p> <ul style="list-style-type: none">Meaning, type, scopeMaintenance budgetShut down maintenance, break down maintenance, corrective maintenance, preventive maintenance	10	17
V	<p>Practical:</p> <ul style="list-style-type: none">Visit different industries and service organizations to understand various production layout systems and PPC activities carried out by them.Simulate a small shop floor, considering the various PPC functions.Prepare various documents associated with PPC.	---	(30 marks CEC)

4. Pedagogy:

- ICT enabled Classroom teaching
- Case study
- Practical / live assignment
- Interactive class room discussions



GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Master of Business Administration, 3rd Semester
Functional Area Specialization: Production and Operations Management
Subject Name: Production Planning and Control (PPC)
Subject Code: 4539273

With effective
from academic
year 2018-19

5. Evaluation:

Students shall be evaluated on the following components:

	Internal Evaluation	(Internal Assessment- 50 Marks)
A	• Continuous Evaluation Component	30 marks
	• Class Presence & Participation	10 marks
	• Quiz	10 marks
B	Mid-Semester examination	(Internal Assessment-30 Marks)
C	End –Semester Examination	(External Assessment-70 Marks)

6. Reference Books:

No.	Author	Name of the Book	Publisher	Year of Publication / Edition
1	Seetharama L. Narsimhan, Dennis W. McLeavy, Peter J. Billington	Production Planning and Inventory Control	Pearson	Latest Edition
2	Stephen N. Chapman	Fundamentals of Production Planning and Control	Pearson	2006
3	Samuel Elion	Elements of Production Planning and Control	Universal	Latest Edition
4	S. N. Chary	Production and Operations Management	McGraw Hill	Latest Edition
5	Hari Raghu Rama Sharma	Production Planning and Control: Concepts and Applications	Deep & Deep	2003

Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

7. List of Journals/Periodicals/Magazines/Newspapers / Web resources, etc.

1. Production Planning and Control: The Management of Operations
2. Integrated Production Planning and Control
3. International Journal of Production Research
4. Process-Oriented Production Planning and Control