RAJIV GANDHI PROUDYOGIKI VISHVAVIDYALAYA (DIPLOMA WING)
BHOPAL P05 DIPLOMA IN PRODUCTION ENGINEERING
PART A: - PROCESS OF CURRICULUM DEVELOPMENT

LIST OF IDENTIFIED PROFESSIONAL ROLES

1. To apply knowledge of mathematics, science, and engineering.
2. To design and conduct experiments, as well as to analyze and interpret data.
3. To design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. To function on multidisciplinary teams.
5. To identify, formulate, and solve engineering problems.
6. To understand professional and ethical responsibility.
7. To communicate effectively.
8. To understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. To engage in lifelong learning.
10. To use the techniques, skills, and modern engineering tools necessary for engineering practice.

LIST OF SELECTED TERMINAL BEHAVIORS

1. To apply knowledge of mathematics, science, and engineering.
   TB-1 Make use of quality management and statistical quality control techniques.
   TB-2 Explain management, materials management and its techniques

2. To design and conduct experiments, as well as to analyze and interpret data.
   NIL
3. To design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

   TB-1 Use work study techniques to improve organizational Process.
   TB-2 Make use of quality management and statistical quality control techniques
   TB-3 Explain management, materials management and its techniques.

4. To function on multidisciplinary teams. NIL

5. To identify, formulate, and solve engineering problems NIL

6. To understand professional and ethical responsibility. NIL

7. To communicate effectively. NIL

8. To understand the impact of engineering solutions in a global, economic, environmental, and societal context. NIL

9. To engage in lifelong learning.
   TB-1, Use work study techniques to improve organizational Process
   TB-2, Explain Material Handling Systems and Plant Layout.
   TB-3, Make use of quality management and statistical quality control techniques.
   TB-4, Explain Production planning and control
   TB-5, Explain management, materials management and its techniques
10. To use the techniques, skills, and modern engineering tools necessary for engineering practice. NIL

COs FOR SELECTED TERMINAL BEHAVIORS

1. To apply knowledge of mathematics, science, and engineering.
   TB-1, Explain Production planning and control
   CO2: Calculate time estimates using CPM, PERT techniques
   CO3: Use a SQC technique for process control of a given application

2. To design and conduct experiments, as well as to analyze and interpret data. NIL

3. To design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability. NIL

4. To function on multidisciplinary teams. NIL

5. To identify, formulate, and solve engineering problems. NIL

6. To understand professional and ethical responsibility. NIL

7. To communicate effectively. NIL

8. To understand the impact of engineering solutions in a global, economic, environmental, and societal context.NIL

9. To engage in lifelong learning.
   TB-1, Use work study techniques to improve organizational Process.
   CO2: Use an appropriate time study, work measurement technique in a given
   TB-2, Explain Material Handling Systems and Plant Layout
   CO2: Prepare a plant layout for a given layout problem
   TB-3, Explain management, materials management and its techniques
   C05: Determining the Manufacturing Sequence and Prepare the documents for process planning

10. To use the techniques, skills, and modern engineering tools necessary for engineering practice.NIL

CO GROUPING AND COURSE FORMATION

COURSE NAME: - Industrial Engineering & Quality Control (601)

(Total 100 Hrs. Total 100 Marks)

LIST OF COs:-

CO1: Use work study techniques to improve organizational Process. (20Hrs, 20 marks)

CO2: Explain Material Handling Systems and Plant Layout. (20Hrs, 20 marks)

CO3: Make use of quality management and statistical quality control techniques. (20Hrs, 20 marks)

C04: Explain Production planning and control. (20Hrs, 20 marks)

C05: Explain management, materials management and its techniques. (20Hrs, 20 marks)

LOs FORMATION

COURSE NAME: - Industrial Engineering & Quality Control (601)
(Total 100 Hrs. Total 100 Marks)

List of COs and Los

CO1: Use work study techniques to improve organizational Process. **(20hrs, 20 marks)**

LO1: Use relevant recording techniques for a given process to calculate productive and non-productive time with justification. **(**10Hrs, 10 marks)

LO2: Use an appropriate time study, work measurement technique in a given situation **(**10Hrs, 10 marks)

CO2: Explain Material Handling Systems and Plant Layout. (20hrs, 20 marks)

LO1 Select a material handling system for a given application. **(**10Hrs, 10 marks)

LO2: Prepare a plant layout for a given layout problem **(**10Hrs, 10 marks)

CO3: Make use of quality management and statistical quality control techniques. (20hrs, 20 marks)

LO1 Describe quality management and its techniques. **(10**Hrs, 10 marks)

LO2: Use a SQC technique for process control of a given application. **(**10Hrs, 10 marks)

CO4: Explain Production planning and control. (20 Hrs, 20 marks)

LO1: Explain functions and elements of PPC **(**10Hrs, 10 marks)

LO2: Calculate time estimates using CPM, PERT techniques. **(10**Hrs, 10 marks)

CO5: Explain management, materials management and its techniques (20Hrs, 20 marks)

LO1: Describe management, its principles, and functions. **(**10Hrs, 10 marks)

LO2: Explain inventory control techniques for a given application **(**10Hrs, 10 marks)

PART B: - CURRICULUM OF PRODUCTION ENGINEERING

RGPV (Diploma Wing) Bhopal		COURSE PLAN		Format -2		Sheet No. 1/1	
Course Name	**Industrial Engineering & Quality Control**			Semester		SIXTH	
Branch	PRODUCTION ENGINEERING	Course Code	601	No. of Cos	05	No. of LOs	10
Total Hrs. of Teaching Learning	100	Total Marks	100	Total no. of Assessments		Types of Assessments		No. of External Assessments	

DESCRIPTION OF OUTCOMES			T-L Hrs.	Max Marks
CO 1	P056011	**Use Work Study techniques to improve organizational Process.**	20	20
Los	PO560111	Use relevant recording techniques for a given process to calculate productive and non-productive time with justification.	10	10
	PO560112	Use an appropriate time study, work measurement technique in a given situation	10	10
CO 2	P056012	**Explain Material Handling Systems, Plant Layout and Safety Measures.**	20	20
Los	PO560121	Select a material handling system for a given application.	10	10
	PO560122	Prepare a plant layout for a given layout problem	10	10
CO 3	P056013	**Make use of quality management and statistical quality control techniques.**	20	20
Los	PO560131	Describe quality management and its techniques	10	10
	PO560132	Use a SQC technique for process control of a given application.	10	10
CO 4	P056014	**Explain Production planning and control.**	20	20
Los	PO560141	Explain functions and elements of PPC	10	10
	PO560142	Calculate time estimates using CPM, PERT techniques.	10	10
CO 5	P056015	**Explain management, materials management and its techniques.**	20	20
Los	PO560151	Describe management, its principles, and functions.	10	10
	PO560152	Explain inventory control techniques for a given application	10	10

RGPV (DIPLOMA WING) BHOPAL	OCBC CURRICULUM FOR THE COURSE	FORMAT- 3	Sheet No. 1/3

Branch	PRODUCTION ENGINEERING	Semester	SIXTH

Course Code	601	Course Name	**Industrial Engineering & Quality Control**	**Teach Hrs**	**Marks**
CO 1	**Use Work Study techniques to improve organizational processes.**			20	20
LO 1	Use relevant recording techniques for a given process to calculate productive and non-productive time with justification.			10	10
CONTENT	Method Study: Definition, objectives, basic procedures using 5W technique. Selection of work, Recording techniques: classification, and introduction of different techniques: operation process chart, flow process chart, multiple activity chart, flow diagrams, string diagrams, Travel chart, Micro-motion Study, Therbligs, Two hand process chart/SIMO Chart. Principles of Motion Economy.				
Method of Assessment	Paper pen test				
LO 2	Use an appropriate time study, work measurement technique in a given situation.			10	10
CONTENT	Work Measurement: Definition, procedure of work measurement. Time Study: definition, procedure. Stop watch time study, types of stop watch, qualified and representative workers, work cycle, methods of time measurement, Definition of PMTS, MIM, MOST, Work Sampling. Performance rating, standard rating, rating scales, rating factors, Allowances- purpose, types, calculation of basic time, standard time. Synthesis method- meaning, data, compilation, advantages and limitations.				
Method of Assessment	Paper pen test				
CO 2	**Explain Material Handling Systems, Plant Layout and Safety Measures.**			20	20
LO 1	Select a material handling system for a given application.			10	10
CONTENT	Material Handling: Importance and its effects on productivity, requirement of good material handling system, objectives, functions, Analysis: Justification of need, Location, Type of Material, classification and selection of material handling equipment.				
Method of Assessment	Paper pen test				
LO 2	Prepare a plant layout for a given layout problem.			10	10
CONTENT	Plant Layout: Importance and its effects on productivity, requirement of a good layout. Effect of bad layout, Factors affecting plant layout, types of layout, Process, Product, Fixed position, Cellular and Job Shop Layout advantages and limitations of each type of layout, selection of layout, factors affecting the plant location				
Method of Assessment	Paper pen test				

RGPV (DIPLOMA WING) BHOPAL	OCBC CURRICULUM FOR THE COURSE	FORMAT- 3	Sheet No. 2/3

Branch	PRODUCTION ENGINEERING	Semester	SIXTH

Course Code	601	Course Name	**Industrial Engineering & Quality Control**	**Teach Hrs**	**Marks**

CO 3	**Make use of quality management and statistical quality control techniques.**		
LO 1	Describe quality management and its techniques	10	10
CONTENT	Quality Management: Meaning of quality, classification, quality characteristics, quality of design, and quality of conformance. Concept of reliability, Cost, Quality Assurance, Cost of rework and repair, quality circle. Concept of Total Quality Management, Six Sigma, KAIZEN, 5S. Introduction to ISO 9000, ISO 14000.		
Method of Assessment	Paper pen test		
LO 2	Use a SQC technique for process control of a given application.	10	10
CONTENT	Statistical Quality Control: definition, inspection and quality control, concept of variability, natural variation, its importance to quality control, basic tools of SQC and their application, frequency distribution, measures of central tendency and dispersion, their need and calculations. Normal Curve: Definition, characteristics, calculation of area under normal curve, statistical tolerance, process capability and their calculation. Control Charts for Variables: control Charts for variables, construction, interpretation and use of X and R Charts. Control Charts for Attributes: Limitation of X and R charts, Meaning and use of attributes, their advantages, construction, interpretation and use of p- chart, c- chart, np-chart. Need of calculating the revised values of mean, and control limits and their calculation		
Method of Assessment	Paper pen test		
CO 4	**Explain Production planning and control.**	20	20
LO1	Explain functions and elements of PPC	10	10
CONTENT	Types of Production: Mass, Batch and Job Order Production; Characteristics; Economic Batch Quantity (EBQ) Production Planning and Control: Introduction; Major functions of Production Planning and Control; Pre planning; Methods of forecasting; Routing and Scheduling; Dispatching and Controlling		
Method of Assessment	Paper pen test		
LO 2	Calculate time estimates using CPM, PERT techniques.	10	10
CONTENT	Concept of Networking- Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT).		
Method of Assessment	Paper pen test		

RGPV (DIPLOMA WING) BHOPAL	OCBC CURRICULUM FOR THE COURSE	FORMAT- 3	Sheet No. 3/3

Branch	PRODUCTION ENGINEERING	Semester	SIXTH

Course Code	601	Course Name	**Industrial Engineering & Quality Control**	**Teach Hrs**	**Marks**
CO 5	**Explain management, materials management and its techniques.**			20	20
LO 1	Describe management, its principles, and functions.			10	10
CONTENT	Definition of Management; Administration; Organization; Principles of Management; Functions of Manager; Types of Organization: Line, Staff, Taylor's Pure functional types; Line and staff and committee type; Directing.				
Method of Assessment	Paper pen test				
LO 2	Explain inventory control techniques for a given application			10	10
CONTENT	Material Management: Introduction, function, purchase systems, stock turn-over, ordered quantity, EOQ. Inventory need of inventory control, Safety stock, different techniques of inventory control, ABC analysis- VED Analysis (simple treatment only).				
Method of Assessment	Paper pen test				

CO1:LO1

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 601	CO 01	LO 01	Format No. 4
COURSE NAME	**Industrial Engineering and Quality Control**					
CO Description	Use Work Study techniques to improve organizational processes.					
LO Description	Use relevant recording techniques for a given process to calculate productive and non-productive time with justification.					

SCHEME OF STUDY

SNo.	Learning Content	Teaching/ Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Method Study: Definition, objectives, basic procedures using 5W technique. Selection of work, Recording techniques: classification and introduction of different techniques: operation process chart, flow process chart, multiple activity chart, flow diagrams, string diagrams, Travel chart, Micro-motion Study, Therbligs, Two hand process chart/SIMO Chart. Principles of Motion Economy.	Traditional Lecture method	Teacher will explain the contents. Teacher will conduct Progressive test/ give Assignment	10		Handout, Book.	

SCHEME OF ASSESSMENT

S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test/	For the given learning content, Students write answer of questions	10	Progressive test/ End semester exam/	Internal /External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

CO1:LO2

RGPV(Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 601	CO 01	LO 02	Format No. 4
COURSE NAME	**Industrial Engineering and Quality Control**					
CO Description	Use Work Study techniques to improve organizational processes					
LO Description	Use an appropriate time study, work measurement technique in a given situation					

SCHEME OF STUDY

S No.	Learning Content	Teaching–Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Work Measurement: Definition, procedure of work measurement. Time Study: definition, procedure. Stop watch time study, types of stop watch, qualified and representative workers, work cycle, methods of time measurement, Definition of PMTS, MIM, MOST, Work Sampling. Performance rating, standard rating, rating scales, rating factors, Allowances- purpose, types, calculation of basic time, standard time. Synthesis method- meaning, data, compilation, advantages and limitations.	Traditional Lecture method	Teacher will explain the content... Teacher will conduct Progressive test/quiz	10		Handout, Book,	

SCHEME OF ASSESSMENT

S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test/	For the given learning content, Students write answer of questions	10	Progressive test/ End semester exam	Internal /External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

CO2:LO1

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 601	CO Code 02	LO Code 01	Format No. 4

COURSE NAME	**Industrial Engineering and Quality Control**
CO Description	Explain Material Handling Systems, and Plant Layout.
LO Description	Select a material handling system for a given application.

SCHEME OF STUDY

S. No.	Learning Content	Teaching–Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Material Handling: Importance and its effects on productivity, requirement of good material handling system, objectives, functions, Analysis: Justification of need, Location, Type of Material, classification and selection of material handling equipment.	Interactive classroom lecture method Handout, video display, tutorials	Teacher will explain the contents and provide handout to students. Teacher will conduct Progressive test/assignment.	10		Handout, Book	

SCHEME OF ASSESSMENT

S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test	For the given learning content, Students write answer of questions.	10	Progressive Test paper/ End semester exam	Internal /External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

CO2:LO2

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 601	CO Code 02	LO Code 02	Format No. 4

COURSE NAME	**Industrial Engineering and Quality Control**
CO Description	Explain Material Handling Systems, and Plant Layout.
LO Description	Prepare a plant layout for a given layout problem

SCHEME OF STUDY

S. No.	Learning Content	Teaching–Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Plant Layout: Importance and its effects on productivity, requirement of a good layout. Effect of bad layout, Factors affecting plant layout, types of layout, Process, Product, Fixed position, Cellular and Job Shop Layout advantages and limitations of each type of layout, selection of layout, factors affecting the plant location	Traditional Lecture method	Teacher will explain the learning outcome.	10		Handout, Book.	

SCHEME OF ASSESSMENT

S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test	For the given learning content, Students write answer of questions	10	End semester exam	Internal /External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

CO3:LO1

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 601	CO Code 03	LO Code 01	Format No. 4

COURSE NAME	**Industrial Engineering and Quality Control**
CO Description	Make use of quality management and statistical quality control techniques
LO Description	Describe quality management and its techniques.

SCHEME OF STUDY

S. No.	Learning Content	Teaching–Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Quality Management: Meaning of quality, classification, quality characteristics, quality of design, and quality of conformance. Concept of reliability, Cost, Quality Assurance, Cost of rework and repair, quality circle. Concept of Total Quality Management, Six Sigma, KAIZEN, 5S. Introduction to ISO 9000, ISO 14000.	Traditional Lecture method	Teacher will explain the contents to students.	10	-	Handout, Book	

SCHEME OF ASSESSMENT

S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test	For the given learning content, Students write answer of questions	10	End semester exam	Internal /External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

CO3:LO2

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 601	CO Code 03	LO Code 02	Format No. 4

COURSE NAME	**Industrial Engineering and Quality Control**
CO Description	Make use of quality management and statistical quality control techniques
LO Description	Use a SQC technique for process control of a given application.

SCHEME OF STUDY

S. No.	Learning Content	Teaching–Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Statistical Quality Control: definition, inspection and quality control, concept of variability, natural variation, its importance to quality control, basic tools of SQC and their application, frequency distribution, measures of central tendency and dispersion, their need and calculations. Normal Curve: Definition, characteristics, calculation of area under normal curve, statistical tolerance, process capability and their calculation. Control Charts for Variables: control Charts for variables, construction, interpretation and use of X and R Charts. Control Charts for Attributes: Limitation of X and R charts, Meaning and use of attributes, their advantages, construction, interpretation and use of p- chart, c-chart, np-chart. Need of calculating the revised values of mean, and control limits and their calculation.	Traditional Lecture method + Assignment + Quiz	Teacher will explain the contents to students.	10	-	Handout, Book	

SCHEME OF ASSESSMENT

S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test	For the given learning content, Students write answer of questions,	10	Assignment/End semester exam	Internal /External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

CO4:LO1

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 601	CO Code 04	LO Code 01	Format No. 4

COURSE NAME	**Industrial Engineering and Quality Control**
CO Description	Explain Production planning and control.
LO Description	Explain functions and elements of PPC.

SCHEME OF STUDY

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Types of Production: Mass, Batch and Job Order Production; Characteristics; Economic Batch Quantity (EBQ) Production Planning and Control: Introduction; Major functions of Production Planning and Control; Pre planning; Methods of forecasting; Routing and Scheduling; Dispatching and Controlling.	Traditional Lecture method	Teacher will explain the contents. Teacher will conduct Progressive test/ give Assignment	10		Handout, Book	

SCHEME OF ASSESSMENT

S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test	For the given learning content, Students write answer of questions.	10	Progressive Test paper/ End semester exam	Internal /External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

CO4:LO2

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 601	CO Code 04	LO Code 02	Format No. 4

COURSE NAME	**Industrial Engineering and Quality Control**
CO Description	Explain Production planning and control.
LO Description	Calculate time estimates using CPM, PERT techniques.

SCHEME OF STUDY

S. No.	Learning Content	Teaching–Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Concept of Networking-Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT). .	Traditional Lecture method	Teacher will explain the contents. Teacher will conduct Progressive test	10		Handout, Book	

SCHEME OF ASSESSMENT

S.No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test	For the given learning content, Students write answer of questions.	10	Progressive Test paper/ End semester exam	Internal /External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

CO5:LO1

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 601	CO Code 05	LO Code 01	Format No. 4

COURSE NAME	**Industrial Engineering and Quality Control**
CO Description	Explain management, materials management and its techniques.
LO Description	Describe management, its principles, and functions.

SCHEME OF STUDY

S. No.	Learning Content	Teaching-Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Definition of Management; Administration; organization; Principles of Management; Functions of Manager; Types of Organization: Line, Staff, Taylor's Pure functional types; Line and staff and committee type; Directing.	Traditional Lecture method	Teacher will explain the contents to students	10	-	Handout, Book	

SCHEME OF ASSESSMENT

S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test	For the given learning content, Students write answer of questions.	10	Progressive Test paper/ End semester exam	Internal /External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF .ANY)

CO5:LO2

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 601	CO Code 05	LO Code 02	Format No. 4

COURSE NAME	**Industrial Engineering and Quality Control**
CO Description	Explain management, materials management and its techniques.
LO Description	Explain inventory control techniques for a given application

SCHEME OF STUDY

S. No.	Learning Content	Teaching–Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Material Management: Introduction, function, purchase systems, stock turn-over, ordered quantity, EOQ. Inventory need of inventory control, Safety stock, different techniques of inventory control, ABC analysis-VED Analysis (simple treatment only). .	Traditional Lecture method	Teacher will explain the contents to students	10	-	Handout, Book,	

SCHEME OF ASSESSMENT

S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test	For the given learning content, Students write answer of questions.	10	Progressive Test paper/End semester exam	Internal /External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Reference Books:

1. Learning Package on Industrial Management Publisher: TTTI, Bhopal.
2. CPM and PERT - Principles and Applications by L.S. Shrinath
3. Industrial Engg. and Management By O.P.Khanna, Khanna Publisher.
4. Industrial Organization and Management, By K.K.Ahuja
5. Modern Production Operation Management, By Buffa, Willey Eastern Ltd. (latest edition)
6. Production Operation Management, By Goel B.S., Pragati Prakashan.
7. Introduction to work study by ILO, Geneva Pub. Oxford & IBH Publishing co. Pvt. Ltd
8. Industrial Engineering By S. C. Saxena Pub J. K. Publishing
9. Industrial Engineering & Management by O. P. Khanna
10. Introduction to Industrial Engineering by Philip Hicks (McGraw Hills)
11. Learning Package in Industrial Engineering by TTTI, Bhopal

******