

**ALLAMA IQBAL OPEN UNIVERSITY ISLAMABAD
(Department of Business Administration)**

PRODUCTION & OPERATIONS MANAGEMENT (MBA-9517)

CHECKLIST

SEMESTER: SPRING 2014

This packet comprises the following material:

1. Text Book
2. Course Outline
3. Assignment No 1 & 2
4. Assignment Forms (2 sets)

If you find anything missing out of the above-mentioned material, please contact at the address given below:

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(Department of Business Administration)

WARNING

1. **PLAGIARISM OR HIRING OF GHOST WRITER(S) FOR SOLVING THE ASSIGNMENT(S) WILL DEBAR THE STUDENT FROM AWARD OF DEGREE/CERTIFICATE, IF FOUND AT ANY STAGE.**
2. **SUBMITTING ASSIGNMENTS BORROWED OR STOLEN FROM OTHER(S) AS ONE'S OWN WILL BE PENALIZED AS DEFINED IN "AIOU PLAGIARISM POLICY".**

ASSIGNMENT No. 1

Course: Production & Operations Management (9517)
Level: MBA (Rural Management)

Semester: Spring 2014
Total Marks: 100
Pass Marks: 50

- Q. 1 Describe the concept of production and operations management and discuss the problems of production management. **(20)**
- Q. 2 Explain in brief the sources of new product ideas and role of research and development in the organizations with reference to Pakistani Industrial setup. **(20)**
- Q. 3 With reference to textile industry in Pakistan, what are the challenges that organizations have to face regarding product quality? What role total quality management can play for the survival of the Industry? **(20)**
- Q. 4 What is incentive pay system? Discuss how incentive pay system affects motivation level of employees? **(20)**
- Q. 5 What is capacity planning environment? Also discuss waiting line models with suitable examples. **(20)**

ASSIGNMENT No. 2

This assignment is a research-oriented activity. You are required to visit any business or commercial organization and prepare a paper of about 15–20 pages on the topic allotted to you. Prepare two copies of this report; submit one copy to your tutor for evaluation and the other for presentation in the class, which will be held at the end of semester prior to your final examination. Include following main headings in your report:

- i. Introduction to the topic
- ii. Important sub-topics
- iii. Practical study of the organization with respect to the topic
- iv. Review of theoretical and practical situations
- v. Merits, demerits, deficiencies or strengths of the organization with respect to topic under study

- vi. Conclusions and recommendations
- vii. Annex, if any

You may use transparencies, charts or any other material for effective presentation. You are required to select one of the following topics according to the last digit of your roll number. For example, if your roll number is D-3427185 then you will select topic number 5 (the last digit).

Topics

- 1. Product Development
- 2. Responsibilities of Operations Management
- 3. Computer Integrated Manufacturing
- 4. Importance of Product Quality to a Company
- 5. Qualitative Techniques for Forecasting in Services Industry
- 6. Production and Operations Standards
- 7. Inventory Management and Inventory Planning in Textile Industry
- 8. Major Considerations in Setting up Safety Program
- 9. Equal Employment Opportunities
- 10. Managing Resource Limitations in Projects

**PRODUCTION AND OPERATIONS MANAGEMENT
COURSE OUTLINE (9517)**

Level: MBA (Rural Management)

Credit Hours: 03

Unit 1: Introduction to Production and Operations Management

- 1.1. Historical Evolution of Production and Operations Management
- 1.2. A System's Concept
- 1.3. Systems Approach to Operations Management
- 1.4. Trends in Operations Management
- 1.5. Management Process
- 1.6. Responsibilities of Operations Management
- 1.7. The Problems of Production Management
- 1.8. Operations Strategy
- 1.9. Decision Making

Unit 2: Designing Products, Services and Processes

- 2.1. Sources of New Product Ideas
- 2.2. Product Development
- 2.3. Role of Research and Development
- 2.4. Evaluation of Product Design
- 2.5. Design Specifications
- 2.6. Design of Services and Service Process
- 2.7. Manufacturing Process Technology
- 2.8. Process Analysis Aids
 - 2.8.1 Assembly drawing

- 2.8.2 Assembly chart
- 2.8.3 Flow process chart
- 2.9. Computer Integrated Manufacturing

Unit 3: Quality, Planning and Control

- 3.1. Product Quality
- 3.2. Importance of Quality to a Company
- 3.3. How to Determine and Improve Quality
- 3.4. Total Quality Manager
- 3.5. Quality Control Methods
- 3.6. Statistical Quality Control
- 3.7. Employees Involvement
- 3.8. Continuous Improvement
- 3.9. Improving Quality through TQM
- 3.10. Control Charts and Acceptance Inspection
- 3.11. Accepting Sampling

Unit 4: Job Design and Work Measurement

- 4.1. Production and Operations Standards
- 4.2. Work Measurement
- 4.3. Methods Analysis
 - 4.3.1. Motion study
 - 4.3.2. Man-machine analysis
 - 4.3.3. Flow process charting
- 4.4. Time Analysis
 - 4.4.1. Time study
 - 4.4.2. Work sampling
 - 4.4.3. Learning curve analysis
- 4.5. Considerations in Work Analysis
 - 4.5.1. Job description
 - 4.5.2. Job specification
 - 4.5.3. Human factors
 - 4.5.4. Equal employment opportunity
 - 4.5.5. Affirmative action
 - 4.5.6. Safety and health considerations
- 4.6. Working Conditions
- 4.7. Incentive Pay Systems
- 4.8. Employees Benefits
 - 4.8.1. Health benefits
 - 4.8.2. Payment for time not worked
 - 4.8.3. Payment for unusual work hours
 - 4.8.4. Payment for job related costs
 - 4.8.5. Company paid life insurance
 - 4.8.6. Learning Level

Unit 5: Capacity Planning and Facility Location

- 5.1. Capacity Planning Environment
- 5.2. Defining and Measuring Capacity
 - 5.2.1. Design capacity
 - 5.2.2. Effective capacity
 - 5.2.3. Actual output
- 5.3. Waiting Line Models
- 5.4. Simulation
- 5.5. Location of Facility
- 5.6. Transportation Methods

Unit 6: Forecasting Demand

- 6.1 What is Forecasting
- 6.2 Factors that Influence Demand
- 6.3 Types of Forecasting Techniques
 - 6.3.1. Least square method
 - 6.3.2. Time series analysis
 - 6.3.3. Moving average
 - 6.3.4. Weighted moving average
 - 6.3.5. Exponential smoothing
 - 6.3.6. Regression and correlation
 - 6.3.7. Coefficient of determination
 - 6.3.8. Qualitative techniques for forecasting
- 6.4 Measures of Forecast Error
- 6.5 How Computers Assist in Forecasting

Unit 7: Inventory and Materials Management

- 7.1. Inventory Concepts
- 7.2. Inventory Costs
- 7.3. Inventory Modeling
- 7.4. Classical Inventory Model
- 7.5. Production Order Quantity Model
- 7.6. ABC Inventory Model
- 7.7. Computation of Inventory Order Quantities
- 7.8. Reorder Points and Optimum Number of Orders
- 7.8. Aggregate Planning
- 7.9. Master bill of Materials
- 7.10. Planning for Materials Needs
- 7.11. Material Requirement Planning Just in Time System Scheduling

Unit 8: Maintenance and Safety Management

- 8.1. Basic Approaches to Maintenance
- 8.2. Factors Determining the Efficiency and Effectiveness of Maintenance
- 8.3. Preventive and Remedial Maintenance
- 8.4. Causes for Component and Equipment Failure

- 8.5. Means and Objectives of Measuring Maintenance
- 8.6. Computation of Estimates of Reliability
- 8.7. Importance of Safety Considerations
- 8.8. Major Considerations in Setting-up Safety Program
- 8.9. Safety Engineering
- 8.10. Objectives and Process of Safety Inspection
- 8.11. Accident Frequency Rate, Injury Frequency Rate, and Average Severity Rate

Unit 9: Managing Complex Projects

- 9.1. Managing Projects
- 9.2. Network Methods (CPM)
- 9.3. Probabilistic Time Estimate (PERT)
- 9.4. Cost Consideration
- 9.5. Resource Limitation
- 9.6. Benefits and Limitations of PERT/CPM Systems

Recommended Books:

- 1. Everett E. Adam, Jr. Ronald J. Ebert, *Production & Operations Management: Concepts Models and Behaviour*, 5th Revised Ed. Prentice-Hall Inc. USA.
- 2. James D. Dilworth: *Production and Operations Management*, McGraw Hill.USA.
- 3. Elwood S. Buffa and Rakesh K. Sarin: *Modern Production/Operations Management*, 8th John Wiley, USA.

