

II B. Tech II Semester Regular Examinations, June/July - 2022
INDUSTRIAL ENGINEERING AND MANAGEMENT
(Mechanical Engineering)

Time: 3 hours**Max. Marks: 70**

Answer any **FIVE** Questions each Question from each unit
All Questions carry **Equal** Marks

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**UNIT-I**

- 1 a) Define Industrial Engineering and explain its applications. [7M]  
b) What do you mean by scientific management? Explain its principles. [7M]

**Or**

- 2 a) Compare and contrast between industrial engineering and production management. [7M]  
b) Explain about Theory X and Theory Y. [7M]

**UNIT-II**

- 3 a) What are factors affecting for selecting location? Explain in detail. [7M]  
b) Define plant layout and explain importance of layout decision. [7M]

**Or**

- 4 a) Explain the principles of plant layout. [7M]  
b) Discuss about pros and cons of process layouts. [7M]

**UNIT-III**

- 5 a) How can work study and method study enable an organization to improve productivity? [7M]  
b) What are the steps required in making 'time study'? Explain. [7M]

**Or**

- 6 a) What is work sampling? Explain the procedure of work sampling. [7M]  
b) Explain the various techniques used in work measurement. [7M]

**UNIT-IV**

- 7 a) Define quality and explain various attributes of quality. [7M]  
b) What is statistical quality control? Explain with examples. [7M]

**Or**

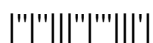
- 8 a) Explain the concept and objectives of Total Quality management. [7M]  
b) Define six sigma and explain its concepts and uses. [7M]

**UNIT-V**

- 9 a) Compare and contrast between HRM and personal management. [7M]  
b) What is job evaluation? Explain the process of job evaluation. [7M]

**Or**

- 10 a) Define wage incentive and explain different types wage incentives. [7M]  
b) What do you mean by supply chain management? Explain its components. [7M]



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**UNIT-I**

- 1 a) What are the different developments observed in ancient Industrial Engineering and modern Industrial Engineering? [7M]  
b) Explain about quantitative tools of industrial engineering. [7M]

**Or**

- 2 a) What are the different techniques used in Industrial Engineering for its development. [7M]  
b) Discuss about the Fayol's fourteen principles of management. [7M]

**UNIT-II**

- 3 a) Describe the concept of layout and different types of production layouts. [7M]  
b) Explain the different types preventive and break down maintenance. [7M]

**Or**

- 4 a) How to design and develop the optimal design of layout? [7M]  
b) What do you mean by plant maintenance? Explain effective maintenance methods. [7M]

**UNIT-III**

- 5 a) Define work measurement and its objectives. [7M]  
b) Explain the concept and process of micro-motion study. [7M]

**Or**

- 6 a) What do you mean by rating techniques? Explain its objectives and procedure. [7M]  
b) Discuss the various tools and techniques of work study. [7M]

**UNIT-IV**

- 7 a) Explain about Queing assurance and its importance. [7M]  
b) Illustrate different control charts. [7M]

**Or**

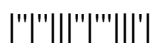
- 8 a) What is the importance and objectives of quality control in an industry? [7M]  
b) Explain the concept of SQC and how you can construct control charts for variables. [7M]

**UNIT-V**

- 9 a) Define HRM and explain the functions of HRM. [7M]  
b) What do you mean by job evaluation and explain its techniques? [7M]

**Or**

- 10 a) Discuss the concept and objectives of value engineering. [7M]  
b) Explain in brief about quantitative methods in Resource management. [7M]



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UNIT-I

- 1 a) Explain the role of Industrial Engineering. [7M]
b) Discuss about the productivity measurement techniques. [7M]

Or

- 2 a) Define management and explain the functions of management. [7M]
b) What are the thumb rules of scientific management? [7M]

UNIT-II

- 3 a) What is plant layout? Explain the various principles of plant layout. [7M]
b) How do you classify the different types of layouts? Explain in brief. [7M]

Or

- 4 a) Name and describe the various tools and techniques used in layout planning. [7M]
b) Describe a product layout and explain its principles. [7M]

UNIT-III

- 5 a) Define work study. State its objectives and basic procedure. [7M]
b) Explain about PMTS. [7M]

Or

- 6 a) Compare and contrast between work study and method study. [7M]
b) Explain about "SIMO Charts" and state its applications. [7M]

UNIT-IV

- 7 a) What do you mean by SQC? What are its advantages and benefits? [7M]
b) Discuss about attribute sampling and how will we inspect it. [7M]

Or

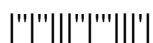
- 8 a) Explain about the zero defect concept with examples. [7M]
b) Write about the concept and implementation of quality circles. [7M]

UNIT-V

- 9 a) Define merit rating and explain the uses and importance of merit rating. [7M]
b) What do you mean by industrial relations? Explain its objectives. [7M]

Or

- 10 a) Discuss the different types of wage incentive plans. [7M]
b) Explain the objectives and functions of supply chain management. [7M]



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**UNIT-I**

- 1 a) Explain the concept and importance functions of management. [7M]  
b) What do you mean by production management? Explain its components. [7M]

**Or**

- 2 By considering an example, Explain Taylors principle in detail. [14M]

**UNIT-II**

- 3 a) What general considerations are made in preparing the layout of an industrial concern? [7M]  
b) Describe the process layout and explain its principles with examples. [7M]

**Or**

- 4 a) Discuss the various techniques for optimal design of layouts. [7M]  
b) Explain about the preventive and breakdown maintenance. [7M]

**UNIT-III**

- 5 a) What is need and objectives of production management? [7M]  
b) Discuss the different types and methods of method study. [7M]

**Or**

- 6 a) Explain about the string diagrams and Therbligs . [7M]  
b) What is flow chart? Discuss its utility for method study engineers. [7M]

**UNIT-IV**

- 7 a) Define Total quality management and explain how it will be implemented. [7M]  
b) Discuss about the rating techniques and its process of implementation. [7M]

**Or**

- 8 a) Define quality, quality management and discuss dimensions of quality. [7M]  
b) Write a note on ISO and benefits of ISO certification. [7M]

**UNIT-V**

- 9 a) Explain the concept and functions of human resource management. [7M]  
b) Distinguish between job evaluation and merit rating. [7M]

**Or**

- 10 a) Discuss the step by step procedure of value engineering. [7M]  
b) What are the objectives and limitations of enterprise resource planning? [7M]

