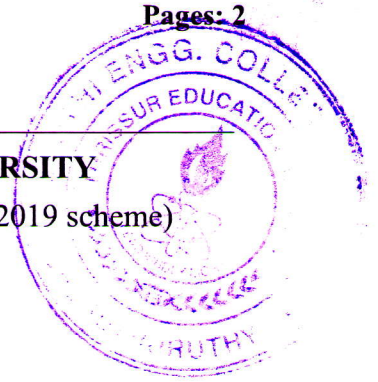


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Fifth Semester B.Tech Degree Examination December 2021 (2019 scheme)



Course Code: MET305

Course Name: INDUSTRIAL & SYSTEMS ENGINEERING

Max. Marks: 100

Duration: 3 Hours

PART A

(Answer all questions; each question carries 3 marks)

Marks

- | | | |
|----|---|---|
| 1 | List any <i>six</i> functions of Industrial engineering | 3 |
| 2 | What do you understand by the terms prototype and model? | 3 |
| 3 | What are the opposing costs in inventory control? Represent them in a neat sketch, showing the total cost curve also. | 3 |
| 4 | List any <i>four</i> factors which favour 'Make' decision? | 3 |
| 5 | Define industrial psychology. What are its aims and objectives? | 3 |
| 6 | Why communication in industry is considered as an important function? | 3 |
| 7 | What is lean manufacturing? Name the seven main wastes being dealt with in lean manufacturing. | 3 |
| 8 | Define agile manufacturing and list four objectives of agile manufacturing | 3 |
| 9 | List any <i>six</i> benefits of ERP implementation. | 3 |
| 10 | What do you understand by Customer Relationship Management (CRM)? | 3 |

PART B

(Answer one full question from each module, each question carries 14 marks)

Module -1

- | | | |
|----|---|----|
| 11 | a) Define ergonomics. What are its objectives? Elaborate on how ergonomics finds application in work system design | 7 |
| | b) Explain 'Break-even analysis' with a neat sketch, clearly explaining the terms involved in it. Derive a mathematical expression for break-even quantity. | 7 |
| 12 | Explain the following: 1) Standardization 2) Simplification and 3) Diversification. | 14 |

Module -2

- | | | |
|----|--|----|
| 13 | Classify various material handling equipments used in a manufacturing company and explain in detail about any <i>four</i> category | 14 |
|----|--|----|

- 14 a) Derive the expression for EOQ, clearly explaining the relevant costs involved. 7
b) Differentiate between P system and Q system with neat sketches. 7

Module -3

- 15 What is meant by industrial fatigue? What is the nature and effect of fatigue? 14
What are the methods of eliminating fatigue?
16 Elaborate on worker's participation in management. 14

Module -4

- 17 Explain the seven wastes in lean manufacturing and describe the methods of 14
eliminating each
18 Explain the concept of 'Agile manufacturing. How agile and six sigma differs? 14
Explain the steps to become agile by an ordinary firm.

Module -5

- 19 a) What is ERP? List any *seven* benefits of ERP implementation? 7
b) Explain the concept of 'Business Intelligence'. 7
20 a) Explain OLAP. Explain any one practical application of OLAP by choosing 7
and illustrating any one suitable business
b) Describe the concept of supply chain management, with the help of a practical 7
example. Draw a neat sketch of the supply chain network of that example.
