

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S6 (S,FE) (FT/WP) Examination December 2025 (2019 Scheme)

**Course Code: HUT310****Course Name: MANAGEMENT FOR ENGINEERS***(Use of statistical table is permitted)*

Max. Marks: 100

Duration: 3 Hours

PART A*Answer all questions, each carries 3 marks.*

Marks

- | | | |
|----|---|-----|
| 1 | Define management. | (3) |
| 2 | List and elaborate three important roles of a manager. | (3) |
| 3 | Define organizational structure. | (3) |
| 4 | What is the difference between vision and mission? Give an example. | (3) |
| 5 | What is productivity? | (3) |
| 6 | What do you mean by a risky situation in business? | (3) |
| 7 | Explain the concept and objectives of network analysis | (3) |
| 8 | Define Crashing. | (3) |
| 9 | What are the objectives of operations management? | (3) |
| 10 | What is market segmentation? | (3) |

PART B*Answer one question from each module, each carries 14 marks.***Module I**

- | | | |
|----|---|-----|
| 11 | a) Describe the essential skills required for an effective manager. | (7) |
| | b) Illustrate, with suitable examples, the functions of management. | (7) |

OR

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|----|---|-----|
| 12 | a) Define scientific management. Explain any four techniques in scientific management. | (7) |
| | b) Explain, in detail, the key managerial tasks and responsibilities involved in managing and running a business organization successfully. | (7) |

Module II

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|----|--|-----|
| 13 | a) Differentiate between Functional and Matrix types of organizational structures, highlighting their merits and demerits. | (8) |
| | b) Define the term Span of Control and discuss the various factors that influence span of control. | (6) |

OR

- 14 a) Explain the various steps involved in planning process. (7)
 b) Discuss any four types of plans. (7)

Module III

- 15 a) Explain why the process of decision-making is complex. Describe any two techniques employed for making decisions under conditions of uncertainty. (7)
 b) Enumerate the major steps of decision tree analysis and explain the areas of application in project evaluation. (7)

OR

- 16 a) Discuss the factors influencing productivity. (7)
 b) A farmer needs to choose among three crops — A, B, and C. The possible yields (High, Moderate, and Low) provide different payoffs (profits in thousands of rupees) as shown in the given table. Determine the best decision based on the **Maximax**, **Maximin**, and **Laplace** decision criteria. (7)

Alternatives	Status of nature (Product demand)		
	High	Moderate	Low
Crops A	Rs.60	Rs.42	Rs.-10
Crops B	Rs.85	Rs.60	Rs.-20
Crops C	Rs.50	Rs.25	Rs.-12.5

Module IV

- 17 a) Explain in detail the CPM and PERT network techniques used in project management. (4)
 b) Draw the network diagram, determine the critical path and project completion time for the following project: (10)

Activity	1-2	1-3	1-4	2-5	3-6	3-7	4-7	5-8	6-8	7-9	8-9
Time Estimates (Days)	5	6	3	5	7	10	4	2	5	6	4

OR

- 18 a) A small project consisting of ten activities has the following characteristics: (10)
- Construct the project network.
 - Find the duration and variance of each activity.
 - Find the critical path and project completion time
 - What is the probability of completing project on or before 22 week

Activity	Predecessor	Time Estimates (Weeks)		
		to	tm	tp
A	-	4	5	12
B	-	1	1.5	5
C	A	2	3	4
D	A	3	4	11
E	A	2	3	4
F	C	1.5	2	2.5
G	D	1.5	3	4.5
H	B, E	2.5	3.5	7.5
I	H	1.5	2	2.5
J	F, G, I	1	2	3

- b) Explain Fulkerson's rule for numbering events in a project network with a suitable example. (4)

Module V

- 19 a) Explain the essential components and significance of a business plan in entrepreneurship. (8)
- b) Discuss the different types of selection tests. (6)

OR

- 20 a) Explain the scope of financial management. (7)
- b) Explain the concept of the marketing mix (4Ps). (7)
