

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)
