

Name :
Reg No:

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**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
07 THRISSUR CLUSTER**

FIRST SEMESTER M.TECH. DEGREE EXAMINATION MARCH 2021

Production Engineering

Manufacturing Systems Management

07PE6101 ADVANCED MANUFACTURING SYSTEMS

Time : 3 hours

Max. Marks: 60

Answer all six questions. Part 'a' of each question is compulsory.

Answer either part 'b' or part 'c' of each question

Q.no.	Module 1	Marks
1a	What is concurrent engineering? Explain with an example	4
	Answer b or c	
b	Explain any four principles of geometric modeling.	5
c	With a neat sketch explain the elements of CIM	5
Q.no.	Module 2	Marks
2a	What is automated process planning?	4
	Answer b or c	
b	Explain the importance of Group technology in manufacturing with any two type of coding structures	5
c	Write notes on (1) Process planning software (2) AI in process planning.	5
Q.no.	Module 3	Marks
3a	Explain the principle of numerical control system and its features.	4
	Answer b or c	
b	Write notes on NC CAM software.	5
c	Explain Flexible manufacturing system (FMS) with a simple sketch and list any four advantages.	5

Q.no.	Module 4	Marks
4a	Describe the different types of robots with supporting sketch?	4

Answer b or c

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| b | What is CAQC? Explain with a block diagram | 5 |
| c | Explain flexible inspection system with suitable sketch. | 5 |

Q.no.	Module 5	Marks
5a	What is Management of technology? Why it is important for manufacturing organizations?	5

Answer b or c

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| b | Why Responsive manufacturing and STEP NC Program are widely used in automobile industries? Explain its features | 7 |
| c | Describe the importance of product data management and database system in Manufacturing? | 7 |

Q.no.	Module 6	Marks
6a	What is failure mode effect analysis? Describe with any simple application.	5

Answer b or c

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| b | What is (1) Green manufacturing (2) SMED technique? | 7 |
| c | Describe agile manufacturing and its features. | 7 |