SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)
Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai
Accredited by NAAC-UGC with 'A++' Grade (Cycle III) &
Accredited by NBA (B.E - CSE, EEE, ECE, Mech & B.Tech IT)
COIMBATORE-641 035, TAMIL NADU

Reg. No:

B.E/B.Tech- Internal Assessment – III
Academic Year 2024-2025 (Even Semester)
Eighth Semester
Mechanical Engineering
19MEZ407 – Smart Manufacturing Process

A

Time: 1½ Hours   Maximum Marks: 50

Answer All Questions

#	Question		CO	Blooms
1.	Write the different technologies utilized in Rapid Prototyping		CO4	Rem
2.	Mention the Hardware & Software involved in Rapid Prototyping		CO4	Und
3.	What is NURBS surface model?		CO4	Rem
4.	List out the stages involved in additive manufacturing		CO5	Rem
5.	State the advantages & disadvantages of Additive Manufacturing		CO5	Und

PART – B (2*13=26 Marks) & (1*14=14 Marks)

#		Question		CO	Blooms
6.	(a)	What are the key steps in rapid prototyping, and how do they enhance product development efficiency?	13	CO4	Und
		(or)			
	(b)	How do you select an appropriate reverse engineering system with suitable examples?	13	CO4	Ana
7.	(a)	Illustrate the stages and components of additive manufacturing	13	CO5	Und
		(or)			
	(b)	Explain various technologies of additive manufacturing in detail	13	CO5	Und
8.	(a)	Describe the technologies of reverse engineering with suitable example	14	CO4	Ana
		(or)			
	(b)	Illustrate the strength and weakness of additive manufacturing with suitable example	14	CO5	Rem

Bloom's Taxonomy:
REM – Remember   UND – Understand   APP– Apply   ANA– Analyze   EVA - Evaluate
CRT - Create

Faculty Incharge   Teaching Coordinator   HoD/Mech

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B.E/B.Tech- Internal Assessment – III
Academic Year 2024-2025 (Even Semester)
Eighth Semester
Mechanical Engineering
19MEZ407 – Smart Manufacturing Process

B

Time: 1½ Hours   Maximum Marks: 50

Answer All Questions

#	Question		CO	Blooms
1.	Define Rapid Prototyping.		CO4	Rem
2.	What is point clouds and meshes in Rapid Prototyping?		CO4	Rem
3.	Mention the role of reverse engineering in manufacturing process.		CO4	Und
4.	What is additive manufacturing?		CO5	Rem
5.	List the components of additive manufacturing?		CO5	Und

PART – B (2*13=26 Marks) & (1*14=14 Marks)

#		Question		CO	Blooms
6.	(a)	Describe the general methodology of rapid prototyping in detail	13	CO4	Und
		(or)			
	(b)	Explain the hardware and software involved in the rapid prototyping	13	CO4	Und
7.	(a)	Sketch on the principle involved in additive manufacturing in detail	13	CO5	Rem
		(or)			
	(b)	Illustrate the challenges and limitations of additive manufacturing in detail	13	CO5	Und
8.	(a)	As an engineer, how do you differentiate reverse engineering and additive manufacturing?	14	CO4	Ana
		(or)			
	(b)	How is additive manufacturing applied in real world applications?	14	CO5	Ana

Bloom's Taxonomy:
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CRT - Create

Faculty Incharge   Teaching Coordinator   HoD/Mech

SET A

Reg. No:

B.E/B.Tech- Internal Assessment – III
Academic Year 2024-2025 (Even Semester)
Eighth Semester
19MEZ407 – Smart Manufacturing Process
Mechanical Engineering

A

Time: 1½ Hours
Answer All Questions
Maximum Marks: 50

	Question	CO	Blooms
1.	Write the different technologies utilized in Rapid Prototyping	CO4	Rem
2.	Mention the Hardware & Software involved in Rapid Prototyping	CO4	Und
3.	What is NURBS surface model?	CO4	Rem
4.	List out the stages involved in additive manufacturing	CO5	Rem
5.	State the advantages & disadvantages of Additive Manufacturing	CO5	Und

PART – B (2*13=26 Marks) & (1*14=14 Marks)

			CO	Blooms
6.	(a)	What are the key steps in rapid prototyping, and how do they enhance product development efficiency?	13	CO4 Und
		(or)		
	(b)	How do you select an appropriate reverse engineering system with suitable examples?	13	CO4 Ana
7.	(a)	Illustrate the stages and components of additive manufacturing	13	CO5 Und
		(or)		
	(b)	Explain various technologies of additive manufacturing in detail	13	CO5 Und
8.	(a)	Describe the technologies of reverse engineering with suitable example	14	CO4 Ana
		(or)		
	(b)	Illustrate the strength and weakness of additive manufacturing with suitable example	14	CO5 Rem

Bloom's Taxonomy:
REM – Remember   UND – Understand   APP– Apply   ANA– Analyze   EVA - Evaluate
CRT - Create

Faculty Incharge   Teaching Coordinator   HoD/Mech

SET B

Reg. No:

B.E/B.Tech- Internal Assessment – III
Academic Year 2024-2025 (Even Semester)
Eighth Semester
19MEZ407 – Smart Manufacturing Process
Mechanical Engineering

B

Time: 1½ Hours
Answer All Questions
Maximum Marks: 50

	Question	CO	Blooms
1.	Define Rapid Prototyping.	CO4	Rem
2.	What is point clouds and meshes in Rapid Prototyping?	CO4	Rem
3.	Mention the role of reverse engineering in manufacturing process.	CO4	Und
4.	What is additive manufacturing?	CO5	Rem
5.	List the components of additive manufacturing	CO5	Und

PART – B (2*13=26 Marks) & (1*14=14 Marks)

			CO	Blooms
6.	(a)	Describe the general methodology of rapid prototyping in detail	13	CO4 Und
		(or)		
	(b)	Explain the hardware and software involved in the rapid prototyping	13	CO4 Und
7.	(a)	Sketch on the principle involved in additive manufacturing in detail	13	CO5 Rem
		(or)		
	(b)	Illustrate the challenges and limitations of additive manufacturing in detail.	13	CO5 Und
8.	(a)	As an engineer, how do you differentiate reverse engineering and additive manufacturing?	14	CO4 Ana
		(or)		
	(b)	How is additive manufacturing applied in real world applications?	14	CO5 Ana

Bloom's Taxonomy:
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Institution	SNSCT
Branch	Mechanical Engineering
Semester	VIII
Course Code/Name	19ME7407 Smart Manufacturing Process
Name of the Faculty	M. Mohan Prasath, AP/Mech.

IA-3 (SET-B)

S.No	Quality Parameters basedon blooms	Grade points (g)	Part	No of Questions(n)	Allotted marks (m)	n*m	Q= n*m*g
1	Remember/ Understand (Level - 1,2)	1	A	5	2	10	10
			B	4	13	52	52
			C				
2	Apply (Level - 3)	2	A				
			B				
			C				
3	Analyze (Level - 4)	3	A				
			B	2	14	28	84
			C				
4	Evaluate(Level-5)	4	A				
			B				
			C				
5	Create (Level -6)	5	A				
			B				
			C				
						90	146

Quality Index

$$Q = \frac{\sum Q}{\sum (n \times m)} = \frac{146}{90} = 1.62$$

M. Mohan
Faculty Incharge

Sunny 27/3/25
Teaching Coordinator

27/3/25
HoD/Dean

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Institution	SNSCT
Branch	Mechanical Engineering
Semester	VIII
Course Code/Name	19MED407- Smart Manufacturing Process
Name of the Faculty	M. Mohan Ranjith, AP/Mech.

IA-3 (SET-A)

S.No	Quality Parameters basedon blooms	Grade points (g)	Part	No of Questions(n)	Allotted marks (m)	n*m	Q= n*m*g
1	Remember/ Understand (Level - 1,2)	1	A	5	2	10	10
			B	3	13	39	39
			B	1	14	14	14
2	Apply (Level - 3)	2	A				
			B				
			C				
3	Analyze (Level - 4)	3	A				
			B	1	13	13	36
			B	1	14	14	42
4	Evaluate(Level-5)	4	A				
			B				
			C				
5	Create (Level -6)	5	A				
			B				
			C				
						90	141

Quality Index

$$Q = \frac{\sum Q}{\sum (n \times m)} = \frac{141}{90} = 1.57$$

M. Mohan 4/3/2025
Faculty

Suresh 27/3/25
Teaching Coordinator

HoD/Dean