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Bengaluru

Mid Term Examinations - October 2026

Date: 07/10/2026 **Time:** 02:00 PM - 03:30 PM

Course Code: MEC3019 **Course Name:** Additive Manufacturing and Its Applications

Semester: Fifth Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2	CO3
Marks	42	24	24

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	Define additive manufacturing as per ASTM.	2	CO1	BT1
2	Distinquish between DFMA and DFAM.	2	CO2	BT2
3	List the core concepts of DFAM.	2	CO2	BT1
4	Mention the limitations of current solid modeling based CAD systems.	2	CO3	BT1
5	Differentiate between implicit modeling and multiscale modeling.	2	CO3	BT2

PARTB: Answer Any 1 Following Questions. 20 M

Q.N.	Questions	M	CO	BT
06.A	Explain the construction and working principle of stereolithography apparatus (SLA) with a neat diagram	10	CO1	BT2
06.B	Describe the contruction and working principle of selective laser sintering (SLS) process with neat sketches.	10	CO1	BT2
07.A	Discuss the 3rd stage (STL file manipulation) of AM process chain with suitable examples.	10	CO1	BT2
07.B	Explain the different stages in product development process with suitable examples.	10	CO1	BT2

PARTC: Answer Any 1 Following Questions. 20 M

Q.N.	Questions	M	CO	BT
08.A	Illustrate the concept of customized geometry in additive manufacturing with an example.	10	CO2	BT3
08.B	Sketch the limitations of current solid-modeling-based CAD sytems with suitable examples.	10	CO3	BT3
09.A	Illustrate the concept of material complexity in additive manufacturing with an example.	10	CO2	BT3
09.B	Sketch the concept of part orientation in additive manufacturing with suitable examples.	10	CO3	BT3