

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2021

Programme Name : B. Tech. (Mechanical)

Semester : VIII

Course Name : Rapid Prototyping and Tooling

Time : 03 hours

Course Code : MEAD 4008P

Max. Marks : 100

Nos. of page(s) : 02

Instructions:

SECTION A

S. No.		Marks	CO
Q 1	Define Rapid Prototyping.	5	CO1
Q 2	Describe any 2 design benefits of Rapid Prototyping.	5	CO1
Q 3	State the two parts of automation.	5	CO2
Q 4	Mention any five applications of 3-Dimensional (3D) Printing.	5	CO3
Q 5	Write the various starting materials that are being used in the material addition Rapid Prototyping.	5	CO3
Q 6	State any two drawbacks of Rapid Prototyping.	5	CO3

SECTION B

Q 7	Draw the Rapid Prototyping cycle and briefly describe the steps associated with it.	10	CO1
Q 8	Describe the steps followed in the Stereolithography Rapid prototyping process with the help of a neat diagram.	10	CO2
Q 9	Write down the classification of materials (with examples) used for the 3-Dimensional (3D) Printing.	10	CO2
Q 10	Give detailed description of the Laminated Object Manufacturing (LOM) technique with properly labelled diagram.	10	CO3
Q 11	Write in detail about the steps used to prepare control instructions for Rapid Prototyping.	10	CO3

SECTION-C

Q 12	<p>State all the techniques that come under the liquid based Rapid Prototyping techniques. Describe in details any two of them with neat and labelled diagrams.</p> <p style="text-align: center;">OR</p> <p>State all the techniques that come under the powder based Rapid Prototyping techniques. Describe in details any two of them with neat and labelled diagrams.</p>	20	CO4
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