MEC PYQ 1 - pyq

Engineering graphics and digital fabrication (Lovely Professional University)

Registration No.: [redacted]

23241MEC21982
Paper Code: A

Course Code:MEC136
Course Title:ENGINEERING GRAPHICS AND DIGITAL FABRICATION

Time Allowed: 03:00hrs. **Max Marks: 70**

Read the following instructions carefully before attempting the question paper.

1. *This question paper is divided into two parts A and B.*
2. *Part A contains 10 questions of 2 marks each. All questions are compulsory.*
3. *Part B contains 6 questions of 10 marks each. Attempt any 5 questions out of these 6 questions. In case all the 6 questions are attempted then only the first five attempted questions will be evaluated.*
4. *Answer all questions in serial order.*
5. *Do not write or mark anything on the question paper except your registration no. on the designated space.*

Q1. Part-A

(a) Define the term "Isometric projection" CO4,L3, [2 marks]

(b) Write down the difference between isometric projection and orthographic projection CO4,L3, [2 marks]

(c) Write down the importance and use of surface development method CO4,L3, [2 marks]

(d) Write down the applications of rapid prototyping CO5,L1, [2 marks]

(e) Define the term digital manufacturing CO5,L1, [2 marks]

(f) What are the advantages of digital manufacturing? CO1,L1, [2 marks]

(g) How can rapid prototyping facilitate collaboration between design teams and stakeholders? CO3,L1, [2 marks]

(h) Explain the concept of iterative prototyping and its importance in the development cycle. CO4,L1, [2 marks]

(i) What are some post-processing steps often required after rapid prototyping to achieve a functional prototype? CO5,L1, [2 marks]

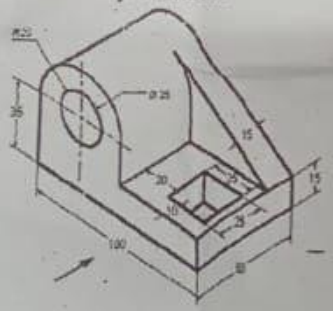
(j) How has the accessibility of 3D printing technology impacted the adoption of rapid prototyping? CO6,L1, [2 marks]

Part-B

Q2). Construct a Plain Scale to show meters & decimeters when 1 m is represented by 2.5 cm. The scale should be long enough to measure up to 6m. Mark off 2.4 m, 5.8 m, 3.9 m, 4.6, and 2.7 m on the scale. CO1,L2, [10 marks]

Q3). Draw the projection of following point on a common XY Line
Point P 40 mm above HP and 25 mm in front of VP
Point R 70 mm above HP and 30 mm behind the VP
Point S 30 mm below HP and 50 mm behind the VP
Point T 35 mm below HP and 40 mm infront of VP.
G in both HP and VP.

Q4). Draw the front view and Top view of the object shown CO2,L1, [10 marks]



CO1,L3, [10 marks]

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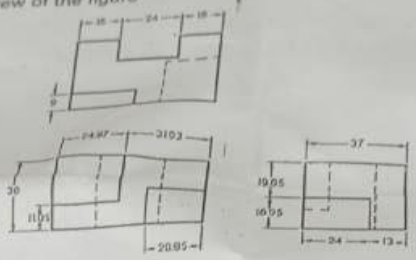
Q5). Draw the isometric view of the figure



Q6). Describe the historical development of Rapid Prototyping and related technologies. CO4,L3, [10 marks]

Q7). Explain the Powder-Based SLS Process in Detail along with its Advantages and Limitations CO1,L1, [10 marks]

CO2,L1, [10 marks]

--End of Question paper--