29634

Reg. No.

VI Semester B.V.A. (Theory) Degree Examination, August/September - 2023

PRODUCT DESIGN

Modern Design Theory

(CBCS Scheme Freshers)

Time : 3 Hours **Maximum Marks : 70**

Instructions to Candidates :

1) *Answer **All** questions.*
2) *Illustrate wherever necessary.*

SECTION - A

I. Answer any FIVE questions. **(5×2=10)**

1. Sustainable design is critical for maintaining ecological balance TRUE or FALSE.
2. What is the standard layer height for 7DM 3D printing?
   a) 0.1 mm
   b) 0.2 mm
   c) 0.3 mm
3. Name any 2 sources of sustainable energy.
4. Which file format is suitable for 3D printing?
   a) STEP
   b) IGES
   c) STL
   d) OBJ

SECTION - B

II. Answer any FOUR questions. **(4×5=20)**

1. What are 3 types of "Build Plate Adhesion" methods and which is strongest?
2. What are the key principles of "Circular Design"?
3. Explain how 3D printing is beneficial in health business.
4. Explain how 3D printing is used in 'Fashion and Apparel" Industry.
5. Explain how "Linear Product Life cycle" has damaged the environment.

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SECTION - C

III. Answer any THREE questions. **(3×8=24)**

1. Explain SLS 3D printing process with diagram.
2. Explain what is "Bio Printing" and how it can change the future of mankind?
3. Explain how designers play an important role in saving the planet for future generations.
4. Explain any 4 factors that affect the quality of 3D printed part. Also how these factors affect time taken for 3D printing.

SECTION - D

IV. Answer any ONE question. **(1×16=16)**

1. Explain below smart materials with their properties and applications.
   a) NITINOL
   b) GRAPHENE
   c) SEMI CONDUCTORS
   d) PHOTOCROMATIC
2. Select any plastic object from your everyday life and replace that plastic material with a more eco-friendly material. Explain your innovation process in achieving it.
