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VI Semester B.V.A. Degree Examination, September/October - 2022

**PRODUCT DESIGN**

**Modern Design Theory**

(CBCS Scheme)

**Time : 3 Hours**

**Maximum Marks : 70**

**Instructions to Candidates :**

*Illustrate with **diagrams** wherever necessary.*

**SECTION - A**

**I. Answer any Five questions.**

**(5×2=10)**

1. What is the composition of NITINOL alloy?
2. What is the temperature of Nozzle and Bed for ABS 3D printing.
3. Which of the below file format is suitable for 3D printing.

STEP

IGES

STL

OBJ

4. What is the standard layer height for FDM 3D printing.

0.1 mm

0.2 mm

0.35 mm

None of the above

5. Name any two applications of aluminium.
6. Sustainable design is critical for maintaining ecological balance

TRUE

FALSE



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**SECTION - B**

**II.** Answer any **Four** questions.

**(4×5=20)**

1. Explain how 3D printing is beneficial in healthcare business.
2. Explain photochromatic materials and their applications.
3. Explain “Ironing” in 3D printing.
4. Explain how 3D printing is being used in Fashion and Apparel industry.
5. What is “Circular Design” and how it is beneficial for the sustainable design.

**SECTION - C**

**III.** Answer any **Three** questions.

**(3×8=24)**

1. Explain SLS 3D printing process with diagram.
2. Explain how “Modular Laptops” are a good example of sustainable design.
3. Explain what is “Bio - Printing” and how it can change the future of mankind.
4. Explain how designers play an important role in saving the planet future generations.

**SECTION - D**

**IV.** Answer any **One** question.

**(1×16=16)**

1. Explain the importance of 3R - Reduce, Recycle and Reuse in sustainable design with examples.
  2. Explain how Hydrogen “FUEL CELL” will change the future of energy usage and what impact does it have on environment?
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