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Reg. No. V 1 8 1 9 0 6 3

VII Semester B.V.A. Degree Examination, March/April - 2022

PRODUCT DESIGN (Theory)

Modern Design Theory

(CBCS Semester Scheme)

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

***Instructions to Candidates*:**

Attempt all the questions.

SECTION - A

Answer any Five questions: **(5×2=10)**

1. What is the full form of PLA & ABS.
2. Which file format do you export for 3D printing from CAD?
   a) STEP
   b) IGES
   c) STL
   d) OBJ
3. What is the standard Layer height for FDM 3D printing process
   a) 0.1 mm
   b) 0.2 mm
   c) 0.35 mm
   d) None of the above.
4. Traditional Machining process can also be called as Substractive manufacturing
   a) True
   b) False
5. Name any 3 sources of sustainable energy.
6. Sustainable design is critical for maintaining ecological balance
   a) True
   b) False

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SECTION -B

Answer any Four questions: **(4×5=20)**

1. Explain how 3D printing is beneficial in health care business.
2. Explain Photochromic materials and their applications.
3. What are Key principals of " Circular Design"?
4. What are 3 types of " Build Plate Adhesion" methods and which is the most strongest?
5. Explain "Ivoning" in 3D printing.

SECTION - C

Answer any Three questions: **(3× 8 = 24)**

1. Explain SLS (Selective Layer Sintentering) 3D printing process with a diagram.
2. Explain how "Modular Laptops" are a good example of Sustainable design.
3. Explain how "Designers" play an important role in saving the planet for future generations.
4. Explains the 3D printing fuels Designers imagination Compared to Conventional mass production & manufacturing Techniques.

SECTION - D

Answer any One question: **(1× 16 = 16)**

1. Explain the importance of 3R-Reduce, Recycle and Reuse in Sustainable design with examples.
2. Give examples of any "5" smart materials and their applications.

(OR)

3. Explain how Hydrogen & "Fuel cell Technology" will change the future of energy use.