3D Printing Mini Project

Topic (Object): Mould Tray

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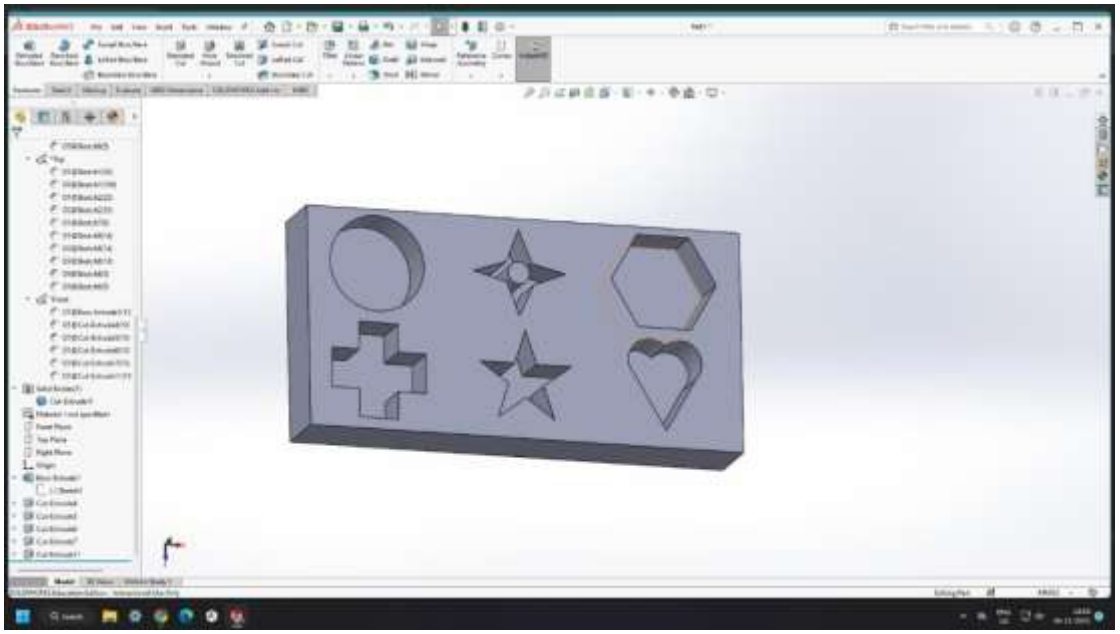
1. Object Specifications

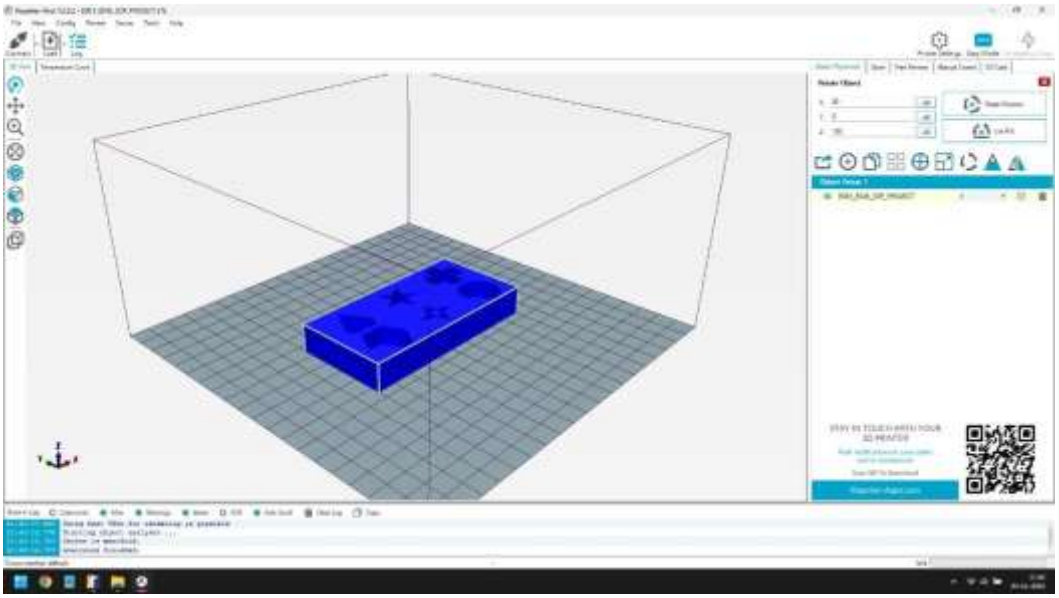
Object Name	Mould Tray
Source	Original design created using SolidWorks



2. Printer Settings

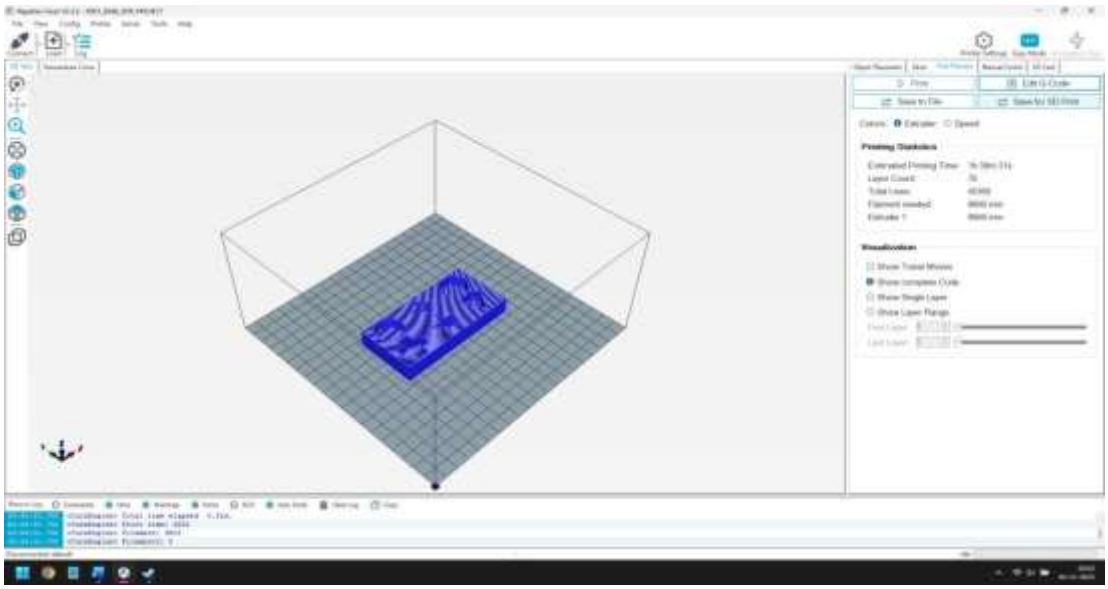
Temperature of nozzle	280 °C
Bed temperature	120 °C
Feed rate	4800mm and 100mm(XY axis and Z axis)
Print speed	2mm/s
Reading 1	• **Layer thickness** = 0.2 mm • **Infill Density** = 20 %
Reading 2	• **Layer thickness** = 0.2 mm • **Infill Density** = 40%
Reading 3	• **Layer thickness** = 0.2 mm • **Infill Density** = 60%

3. Build Orientation



4. Results

Reading 1	• **Layer thickness** = 0.2 mm • **Infill Density** = 20 %	**Build Time = 1h:39m:31s** **Material Consumption = 9606mm**
Reading 2	• **Layer thickness** = 0.2 mm • **Infill Density** = 40%	**Build Time = 2h:7m:32s** **Material Consumption = 13547**
Reading 3	• **Layer thickness** = 0.2 mm • **Infill Density** = 60%	**Build Time = 2h:34m:49s** **Material Consumption =17525**



5. Applications

This 3D-printed mould tray with different shapes can be highly useful in the food and culinary industry. It can be used to create chocolate or candy molds in the form of different shapes, sizes, and cool designs, allowing for unique and personalized treats. Similarly, it can serve as a creative ice cube tray, producing differently shaped ice cubes for cafes, bars, or special events instead of the same old cubic ice cubes. In baking, such moulds can help shape cookies, cupcakes, or fondant decorations into designs that enhance presentation and creativity. Additionally, these molds can also be used for soap or butter crafting, enabling artisans to produce products with unique shapes that stand out visually and add a touch of personalization.