

Bengaluru to get India's 1st 3D printed post office

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In news– L&T Construction has recently said it was constructing India's first post office building using 3D printing technology in Bengaluru.

About the project-

- The project is to design and build the **1,000 square feet Halasuru Post Office using 3D Concrete Printing Technology within 45 days**. The project scope involves structure, MEP (mechanical, electrical and plumbing), and finishes.
- It costs around ₹23 lakh, approximately 30 to 40 per cent less than that needed to build a normal post office.

What is 3D printing?

- 3D printing, **also known as additive manufacturing**, is a method of **creating a three dimensional object layer-by-layer using a computer created design**.
- 3D printing is an additive process whereby layers of material are built up to create a 3D part.
- This is the opposite of subtractive manufacturing processes, where a final design is cut from a larger block of material.
- As a result, **3D printing creates less material wastage**.

Types of 3D printing-

There are three broad **types of 3D printing technology; sintering, melting, and stereolithography**.

1. **Sintering** is a technology where **the material is heated, but not to the point of melting**, to create high

resolution items. **Metal powder is used for direct metal laser sintering** while thermoplastic powders are used for selective laser sintering.

2. **Melting methods of 3D printing include powder bed fusion, electron beam melting and direct energy deposition**, these use lasers, electric arcs or electron beams to print objects by melting the materials together at high temperatures.
3. **Stereolithography utilises photopolymerization to create parts**. This technology uses the correct light source to interact with the material in a selective manner to cure and solidify a cross section of the object in thin layers.