

## ANNEXURE – I

### Minimum Technical Specifications of the rapid prototyping machine

Sl. No.	Parameter	Specification
1.	Technology for printing	Jetting photopolymer followed by UV curing technology
2.	Bed size	Minimum size should be 200 mm X 200 mm X 200 mm or higher
3.	Support material	Water jet removable, Soluble
4.	Resolution	X-axis: 600 dpi or higher, Y-axis: 600 dpi or higher, Z-axis: 1600 dpi or higher
5.	Accuracy	From the STL file deviation of Within $\pm 200 \mu\text{m}$ in X,Y,Z directions
6.	Minimum layer thickness	30 $\mu\text{m}$ or lower
7.	Power requirement	110-240 VAC, 50 Hz; single phase
8.	Materials	Process should support variety of materials (like ABS, PP, Rubber etc.)
9.	Specifications of the parts processed on the 3D printer	Tensile strength: 50-65 MPa, Flexural strength 60-110 MPa and Elongation at break: 10-15% <b>Note:</b> These strength values ranges should be achieved post curing of the 3D printed parts (including coloured parts). There should not be any post processing involved to achieve these strength values.
10.	Coloured parts	The rapid prototyping machine should be able to print rigid coloured parts along with digital mixing of at least three colours
11.	Multi-material parts	The printer should be capable of printing multi-material layered parts
12.	Software	The printing should be well managed by the software that can run on windows operating system (Window 10 and higher). Optimized processing parameters for each material should be available in the software. The software should be able to assist in optimal build direction, real time monitoring of the job slice processing information, monitoring of machine's processing and operational parameters.
13.	Support material removal equipment	The support material removal equipment (water jet cleaning station) should be supplied along with the machine
14.	Proposed Application	<ul style="list-style-type: none"><li>• The rapid prototyping machine should able to produce molds that can be used for making Injection molding for low volume wax patterns</li><li>• The rapid prototyping machine should be able to develop parts that can be directly used as pattern (should have very low ash content) for investment casting</li><li>• The rapid prototyping machine should be able to print functional parts in both mono and colour with mechanical properties as in Sl. No. 9 those can be directly used in assemblies along with other metallic components</li><li>• Colored 3D model manufacturing along with digital mixing of the colors</li></ul>
15.	Warranty	12 months

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## Annexure II

### List of materials

S. No.	Material to procure	Part No.	Material Name	Quantity
1	PACK OF 1 RGD843, VERO CYAN, 3.6 KG	OBJ-03325	Rigid opaque	1
2	PACK OF 1 OBJET RGD836, VERO YELLOW 3.6KG	OBJ-03302	Rigid opaque	1
3	PACK OF 1 OBJET RGD851, VERO MAGENTA, 3.6KG	OBJ-03299	Rigid opaque	1
4	PACK OF 1 RGD837, VERO PUREWHITE, 3.6KG	OBJ-03327	Rigid opaque	1
5	PACK OF 1 OBJET FLX985, AGILUS 30 BLACK 3.6KG	OBJ-03329	Rubber like	1
6	PACK OF 1 RGD535, 3.6KG	OBJ-03253	DIGITAL ABS - High Temp Material	1
7	PACK OF 1 RGD515 PLUS, 3.6KG	OBJ-03009	DIGITAL ABS - High Temp Material	1
8	PACK OF 1, SUP705, RESIN SUPPORT, 3.6KG	OBJ-03050	Support material	4
9	HEAD PRINTING ASSY (SHR).	ASY-02005-S	HEAD PRINTING ASSY (SHR).	2

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