



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్  
भारतीय प्रौद्योगिकी संस्थान हैदराबाद  
Indian Institute of Technology Hyderabad

**Advertisement No. IITH/2023/NF/15 dated 22.10.2023.**

| Post Number | Post Name                                       |
|-------------|-------------------------------------------------|
| <b>12.5</b> | <b>Junior Technical Superintendent – Design</b> |

**Syllabus and Selection process:**

Level 1: Screening test (Objective type, if the number of candidates are more)

Level 2: Practical Test

Level 3: Written Test

**Practical test** - pass or fail on technical skill in the workshop on any one of the following: (1) Animation /Film/ Photography studio, (2) Wood Metal and Ceramic Studio: (3)VR/AR/MR and Interaction studio : (the candidate can choose any one technical field)

**Written Test:** The candidates have to appear for a written test which has two parts: Part A consists of basic design aptitude and English Language and Analytical ability test. Part B consists of three sections and the candidate has to answer any one section.

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**Syllabus for the written test (Screening test, if required)**

**Photography, Videography and Animation:**

Basics of photography: Parts of a photography equipment, photography techniques to control light, Basics of composition.

Basic Videography: Editing Softwares, Film editing, Colour Correction, Effects, Simulations, Cinematography, Compositions, Rendering, Screen Resolution, Camera, Video Formats, Lighting, Sound Design.

Basic Animation: Animation Softwares (2D and 3D), Sketching, Principles of Animation, Motion Graphics, Rendering, Lighting, Editing, Sound Design, Video Formats, Compositions, Simulations, Effects.

## **Metal, Ceramics, Wood, /CNC, 3D printing:**

Basic concepts of Fitting, Understanding of working with machines like Lathe, Milling, Drilling machines.

Understanding of different processes of 3D Printing. Evolution of 3D Printing techniques, Advantages and disadvantages of different 3D Printing technologies.

Materials and Processes for 3D Printing and knowledge of different applications.

3D CAD Modeling, Surfacing, Drafting, STL file processing, Pre and Post processing for 3D printing.

Design guidelines for Different 3D Printing processes: Thorough Knowledge of one such software (GrabCAD/CURA/Slic3r, etc.)

Basic understanding of CNC machines; G codes; Part programming for different controllers (e.g. FANUC); Machining Parameters, basic maintenance operations.

## **VR/AR/MR Interaction:**

Virtual Reality /Augmented Reality / Mixed reality technologies and applications Hardware and software for VR/AR/MR, Haptic, sonic and other interactions, Geometric, procedural and kinematic modeling in VR. Texturing and ray tracing. Knowledge of Software like 3DS Max /Blender, knowledge of Game engines like Unity3D, Unreal, etc Scripting, Visual programming.

Sound design and engineering, editing composing. Dubbing.

Mobile and Web design, Basic knowledge of HTML, CSS, Web programming.

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