

# **B V RAJU COLLEGE**

VISHNUPUR BHIMAVARAM



**VISHNU**  
UNIVERSAL LEARNING



**AMTZ VISIT**  
**VISAKAPATNAM**

# B.V.RAJU COLLEGE

VISHNUPUR, BHIMAVARAM

## DEPARTMENT OF LIFESCIENCES

### VISIT TO AMTZ

Lifesciences Department Final year students of Microbiology along with HOD and 2 faculty visited AMTZ- **Andhra Pradesh Med Tech Zone** in Vishakhapatnam on 19<sup>th</sup> December 2023.

AMTZ is India's premier medical technology park with common manufacturing facilities & common scientific facilities that include specialized laboratories, warehousing and testing centers such as the Centre for electromagnetic compatibility and safety testing, centre for biomaterial testing, centre for 3-d printing, centers for lasers, MRI super conducting magnets, gamma irradiation centre, mold & machining centre and many other industrial service centers. AMTZ is one of world's largest medical technologies manufacturing cluster with over 100 companies working on research, development and production of life saving medical devices.

Students visited the following centres:

- Artificial limb centre
- ADDIT-3D Printing
- COBALT-A Gamma irradiation for safest sterilization



## ARTIFICIAL LIMB CENTER

AMTZ partnered with Wakon Healthcare Private Ltd to set up the Artificial Limb Centre in the campus. In this centre, the clinical assessment and examination of the patient are carried out. As per user's requirement, manufacturing and production of high-quality advanced variety of assistive devices such as **Lower Limb Prosthetics & Orthotics** (i.e. below knee, above knee), **Upper limb Prosthetics & Orthotics** (i.e. below elbow, above elbow), **Spinal Orthosis, endo skeletal below knee prosthetics, ankle foot orthotics, knee ankle foot orthotics, foot orthotics, Mobility aids** (i.e. wheelchairs, tricycles, motorized wheelchairs, standing frame, corner table, commode chair, elbow crutches, axillary crutches), **Compression garments, Cosmetic Restoration Prosthesis** etc.

It provides services like free consultation, assembly, fabrication, socket lamination, alignment, GATE training at low cost and subsidised prices. Facilities include medical camp services, heavy machineries, heavy duty router, hot air oven, drilling machine and grinding machines etc.

Artificial limb centre is being carried out under the supervision of AMTZ, Visakhapatnam. The process is extremely transparent and the beneficiaries are often offered same day service.





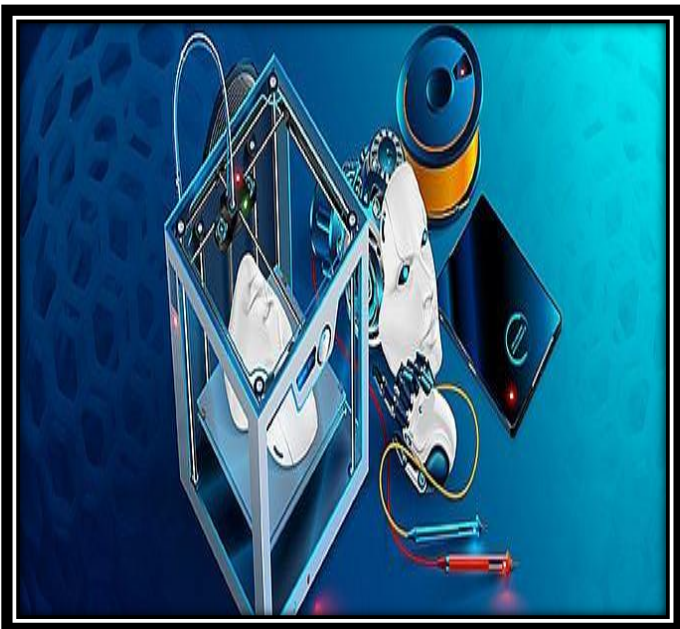
## COE- ADDITIVE MANUFACTURING CENTRE

Additive manufacturing (AM) or 3D printing is a revolutionary way to make smaller, stronger parts and systems. The time and cost associated with developing a new product from conception to production can be reduced significantly using additive manufacturing. The Centre of Excellence - Additive Manufacturing (CoE-AM) of AMTZ has various branches that include Material Analysis Centre for Metal 3D Printing, Advanced Assembly Technology Centre, Polymer Additives Production Centre, Polyethylene Extrusion Centre and Radiation Protection AM Centre.

### Advantages of 3D facility

- Mass customization
- New capabilities
- Lead time and speed
- Supply chain simplification
- Waste reduction

3D Printing equipment jet printing, laser sintering, stereo lithography and metal printing, PJP, CJP and MJP.



# COBALT-A GAMMA IRRADIATION CENTRE

Gamma irradiation facility setup at AMTZ with cobalt source supply from BRIT/BARC would cater to 15% of medical device market.

Only one real parameter- exposure time- to control absorbed dose.

Multipurpose plant designed as per the guidelines at atomic energy regulatory board (AERB).

Minimal rise in temperature. Safe, reliable, and reproducible process.

Good penetration- enables treatment of products in final packaging, cartons, and complete pallets,

Ability to handle a wide range of product densities. No residue after treatment.

Products immediately ready for use.

## Radiation facility

- Irradiation cell contains the radiation co-60 source.
- Labyrinth 1-2m thick walls to act as biological shield, control room. Loading and unloading area for the product.
- Ventilation room, dosimetry, and microbiology lab.
- Cell roof top& cask handling areas.

