

# STERILISATION Sterilization by radiation

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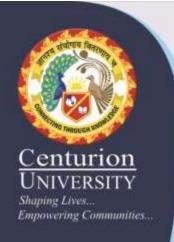
#### **Radiation Sterilization**

## Sterilization by U.V light:

- ➤ U.V rays for sterilization is produced by passing a low current at high voltage through mercury vapour in an evacuated glass tube.
- The antimicrobial activity of U.V. light depends on its wave length.

### **Applications:**

- ➤ It is used for sterilisation of air to prevent cross infection in hospitals. It is used in maintain the aseptic area in the pharmaceutical industry & also used for sterilisation.
- ➤ It is used for sterilisation of thermolabile substances before packing.



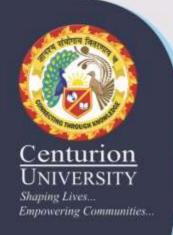
# **Sterilization by Ionising Radiation**

- The ionising radiations are X-rays & Gamma rays.
- These are kill to bacterial cell & destroys the nuclei of the cell.
- ➤ Gamma rays are produced from radio-isotonic source such as cobalt-60 or cesium-137 or of electrons energised by suitable electron accelerator.
- ➤ Ionising radiations are much more efficient as a sterilized agent than U.V rays.

#### **ADVANTAGES:**

Gamma rays have high penetration power. S	ю,	it	can	be
sterilized after filling them in the final contained	er.			
No aseptic precautions are required.				

☐ This method suitable for all types of materials such as dry, moist & frozen.



#### **DISADVANTAGES:**

- ☐ A lot of capital is required in setting up the plant.
- $\square$  The radiations are harmful to workers.
- ☐ It produces undesirable changes in many medicaments, such as, color, solubility & texture of the product. Sterilization by Ionising Radiation