

## Chapter-16

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### Blood bank – basic requirements and functions

#### Blood bank:

- A blood bank is a facility that collects, stores, and provides blood for transfusions.
- Blood banks play a crucial role in modern medicine, as they provide a vital resource for patients who require blood transfusions due to medical conditions, surgeries, and accidents.
- Blood banks collect blood donations from volunteer donors, which are then screened, processed, and stored for future use.
- The blood is typically separated into various components, including red blood cells, plasma, and platelets, which can be used to treat different medical conditions.
- Blood banks also maintain a database of blood types and the antibodies present in the donated blood, which helps match blood products with patients in need.
- This helps ensure that patients receive safe and compatible blood transfusions.
- Blood banks may also conduct research into new blood products and transfusion techniques, as well as provide education and training to healthcare professionals and the public on the importance of blood donation and transfusion safety.

#### Requirement:

- (i) **Space:** The area required for setting up the facility is only 10 square metres, well lighted, clean and preferably air-conditioned.
- (ii) **Manpower:** In the present phase no additional staff is required. One of the existing doctors and technicians should be designated for this purpose. They should be trained in the operation of blood storage centres and other basic procedures like storage, grouping, cross- matching and release of blood. The medical officer designated for this purpose will be responsible for overall working of the storage centre.
- (iii) **Electricity:** Regular 24 hours supply is essential. Provision of backup Generator is required.
- (iv) **Equipment:** Each FRU should have the following.



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## Function:

The primary function of a blood bank is to collect, process, test, and store blood and blood products for use in transfusion therapy. Here are some of the specific functions of a blood bank:

1. **Blood collection:** The blood bank collects blood from voluntary blood donors through blood drives or at the blood bank itself. The blood is collected using sterile techniques and appropriate collection equipment.
2. **Blood processing:** Once the blood is collected, it undergoes processing to separate the various components of blood such as red blood cells, white blood cells, platelets, and plasma.
3. **Blood testing:** All donated blood must be tested for various infectious diseases such as HIV, Hepatitis B and C, and syphilis to ensure that the blood is safe for transfusion.
4. **Blood storage:** The blood bank stores the various blood components at appropriate temperatures to maintain their viability and potency.
5. **Blood transfusion:** The blood bank provides blood and blood products to hospitals and medical facilities for transfusion to patients who require them due to various medical conditions such as surgery, trauma, and cancer treatments.
6. **Blood inventory management:** The blood bank maintains an inventory of blood and blood products and ensures that an adequate supply is available to meet the demands of the community.
7. **Donor recruitment and retention:** The blood bank actively promotes blood donation and encourages donors to donate regularly.
8. **Research and development:** The blood bank may conduct research to improve transfusion therapy and develop new blood products to meet the evolving needs of the medical community.

