



BARODA INSTITUTE OF MEDICAL SCIENCE

a unit of

ATMIYA EDUCATION AND CHARITABLE TRUST

SYLLABUS OF BLOOD BANKING AND BLOOD COMPONENTS TECHNICIAN

Duration: 6 months

[3 months theory and 3 training]

After that 3 months placement in blood banks]

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❖ **CO-ORDINATION WITH**

- * **Indu Blood Bank (Kothi, Vadodara)**
- * **Suraktam Blood Bank (Nr. Kalaghoda, Sayajiganj, Vadodara)**
- * **Jalaram Blood Bank (Karelibaug, Vadodara)**

❖ **Introduction of Blood Bank**

❖ **History, Criteria of Donors and Types of Donors**

- Criteria of Donor
- History of Donor

❖ **ABO, Rh Blood Group**

- Introduction
- Human blood group systems
- Coomb's Test (Direct and Indirect)
- Other blood group system
- Cross match and special technique

❖ **Blood collection in Blood bank**

- Blood donor and collection
- Anticoagulant is used in blood bank

❖ **Storage of Blood component**

❖ **Physical and Biochemical changes of Storage Blood**

❖ **Blood Components Preparation and Therapy**

- | | |
|---------------------------------|-----------------------|
| 1. Packed Cell Volume | 5. Plasma (FFP) |
| 2. LR-PCV | 6. Granulocytes |
| 3. Platelets | 7. Factor – VIII (CP) |
| 4. Irradiation Blood Components | |

❖ **Problems and Managements in Blood Bank**

- Auto antibodies
- HLA system
- Quality assurance

❖ **Aphaeresis (Separation)**

- Introduction
- Intermittent Flow Centrifuge
- General Requirements for Aphaeresis Procedure

❖ **Donor Selection for Phaeresis**

- Donor for Plasma phaeresis
- Donor for Platelets phaeresis
- Donor for Granulophaeresis
- Donor for Luco phaeresis
- Donor for Neocyto phaeresis
- Adverse effects of Aphaeresis in Donors

❖ **Plasma Exchange**

- Application of Plasma exchange
- Replacement fluid for Plasma exchange
- Indication of Plasma exchange
- Complication is in Plasma exchange

❖ **Preparation of PPS (Plasma Protein Solution)**

❖ **Transfusion Practice in Clinical Medicine**

- Hemorrhage and Surgery
- Autologus Transfusion

❖ **Types of Autologus Transfusion**

- Pre operative / Pre deposit
- Acute isovolumic Hemodilution
- Intraoperative blood salvage

❖ **Transfusion in Various Way**

- Cardiac Surgery
- Massive blood Transfusion
- Liver Transplantation
- Bone marrow transplantation
- Renal Transfusion
- Transfusion in New Born Baby
- Multiple Transfusions
- Thalassaemia

❖ **Stem Cells**

- Introduction
- Types of Stem cell
- Growth of Stem cells
- How Stem Cells are Grow
- Different between Embryonic stem cell and Adult stem cell