**SOP**

**MATERIAL REQUIREMENTS**

**For the Collection of Blood Samples**

* Vacutainer/ Disposable Syringes 10 ml
* Gauge Pad
* Tourniquet
* 75% Isopropyl Alcohol or Spirit
* Trace Element Free Tubes
* Sticker
* Marker Pen
* Band-Aid
* Glass Rod
* Plain Plastic Tubes with Cap

**For Centrifugation of Collected Samples**

* Centrifuge Machine

**For Processing of Blood Samples**

* Serum Tubes
* Racks for Tubes/Vials

**For Processing of Samples**

* Sample Transfer Pipettes
* Sample Cups

**BLOOD SAMPLE COLLECTION TECHNIQUE**

1. Prior to blood sample collection it is ascertained that tubes are properly marked i.e. Patient’s ID.
2. The patient is asked to sit on a chair so that he/she can stretch his left arm horizontally in a comfortable way. Arm is laid on the table with palm facing upwards.
3. The sample is collected from the visibly prominent vein from antecubital area preferably from median cubital vein or cephalic vein. Venipuncture will be done at other sites in case these veins are inaccessible.
4. The person collecting sample should always wear gloves.
5. Vein is palpated with clean finger and the site of puncture is cleansed with a sterile gauze pad soaked in 75% Isopropyl alcohol. Alcohol is allowed to dry at its own. Tourniquet if applied, would not be left in place for more than 1 minute because homeostasis for too long will distort the chemical composition of the blood to be withdrawn.
6. The venipuncture is done with a quick movement in the direction of the anatomical course of the vein.
7. After the vacutainer is filled with blood, a sterile gauze pad is placed over the needle still sticking in the vein.
8. Blood is collected in tubes as per the description and vacutainer is removed from the vein gently and pressure is applied to the puncture site with clean gauze. Subject is asked to hold the gauze in place, with the arm extended and raised.
9. The used syringe is disposed by way of burning in electric needle destroyer and the syringe will be disposed after cutting the connector as per biomedical waste management guidelines.

**SEPARATION OF SERUM**

The blood sample collected as above in a trace element free plain vial is allowed to stand until it is clotted spontaneously. This process takes 15-20 minutes usually at room temperature. The clot so formed may adhere to the walls of the tube. ‘Ringing’ or ‘Rimming’ by a glass rod or wooden stick in a single sweep around the periphery of the tube is necessary to release the clot prior to centrifugation. The clotted blood sample is centrifuged at a speed of 2000 rpm for 10 minutes in a centrifuge machine. The centrifuge machine is allowed to stop at its own after switching off after 10 minutes of centrifugation. The tube is taken out and the clear supernatant serum will be collected in serum tubes/sample cups for analysis.

**ANALYSIS OF SAMPLES**

1. XL-300: Serum collected after processing as above is run on the machine by following the guidelines and manual of the supplier of the diagnostic kits (XL-300).
2. IMMULITE 1000: Serum collected after processing as above is run on the machine by following the guidelines and manual of the supplier of the diagnostic kits (Immulite 1000)
3. ELISA Reader: Serum collected after processing as above is run on the machine by following the guidelines and manual of the supplier of the diagnostic kits for ELISA.
4. Easylyte Na/K/Li: Serum collected after processing as above is run on the machine by following the guidelines and manual of the machine.
5. Sysmax KX-21: Whole blood collected in the EDTA tube is run on the machine by following the guidelines and manual of the machine.