

**Aim** – Isolate microorganism from skin and identify them.

**Principle-** The skin serves as a natural protective barrier against invasion by most microorganisms because of the acidity of the skin, the presences of indigenous flora, the temperature of the skin, sebum secreted by oil glands and hypertonic environment of the skin. However, perspiration and sebum serve as a source of nutrition for certain microorganisms and help in their establishment as part of the normal flora of the skin. Most frequently encountered bacteria on the skin are gram-positive *cocci* including *Micrococcus* spp. and *Staphylococcus epidermidis*. *Staphylococcus aureus* is the part of the normal flora of the skin and is also considered a pathogen. Sebum secreted from oil gland helps the survival of *Propionibacterium acnes*, an anaerobic gram-positive rod in hair follicles. The so-called normal flora of the skin varies according to the skin region and the environmental factors.

**Requirments-**

- Nutrient agar plates
- Sterile cotton swab
- Sterile saline
- Gram-staining reagents
- Clean slides
- Inoculation loop
- Bunsen burner

**Procedure –**

1. Moisten a sterile cotton swab in saline aseptically.
2. Remove excess saline by pushing the swab against the test-tube wall.
3. Rub the swab over the skin surface of the nose, elbow or any other area.
4. Streak one-half of the nutrient agar plate with the above swab.
5. Using a sterile inoculation loop, touch the swabbed area back and streak the inoculation loop in rest nutrient agar plate.
6. Incubate the inoculated agar plate for 24-48 hours at 35°C in an inverted position.
7. Test the colonies for the gram-staining reaction.

### **Observation and Result -**

Observe the inoculated plate for the appearance of the bacterial colonies. Members of the family *Micrococcaceae* usually form large opaque colonies. Appearance of yellow haloes around the bacterial colonies. Colonies have red pigment *M. Roseus*, colonies have yellow pigment *M. Luteus*, and colonies have red-yellow pigment *Planonoccus*.

### **Precautions-**

1. Discard the swabs after use into a container with disinfectant to avoid contamination of the laboratory.