

### **3. Certificate course on the techniques of Glass blowing for scientific glass wares (CCGBSGW)**

CISST, Sardar patel University, Vallabh Vidyanagar is planning to offer a short term **Certificate course on the techniques of glass blowing for scientific glass wares (CCGBSGW)** jointly with USIC, SPU, V V Nagar. Apart from lectures, hands-on laboratory/ practical sessions are the major components of this skill based add on certificate course.

#### **Course Content**

Different Types of Glasses and their thermal properties- Identification of different types of glasses, Physical properties of glass, working point, annealing point, flame annealing of glass, Strain point, Coefficient of thermal expansion of glasses, Bursting pressure of pyrex. Glass blowing equipments- pressure regulator, glass blowing burners and different types of flames, heat resistant cloths and wares.

Preliminary glass blowing operations- fire polishing and flared ends, round bottom tubes, flat bottom tubes, healing cracks, glass fusion, glass tube bending and joints.

Fundamentals of glass blowing seals- straight seals, T-seals by rotation, Bulb forms, capillary tubing, test tube with different open edges. Sealing glass to metals- Ampule preparation and vacuum sealing of quartz glass

#### **Resource Persons:**

Expert from the glass blowing unit of USIC, SPU

#### **Target Audience**

- Interested UG/PG/Research level students of Science (Chemistry, Biosciences, Physics, Home Science, Lab technicians etc.)

#### **Benefits of the course**

The course is designed to allow each student to learn basic glass working techniques that will enable them to do simple repairs and minor glassware construction in the laboratory. After completion of the course, each student will have a more complete understanding of the skills involved in scientific glassblowing practical knowledge on the Architects of glass blowing for scientific laboratory glass wares.

**Course Duration:** 30 hours

**Minimum No. Of Registration reqrd:** 15

**Contact details & Enquiry for Registration:** Email: [sulaxc\\_shah@spuvvn.edu](mailto:sulaxc_shah@spuvvn.edu),  
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