

**Course name: Anti-diabetic Potential of Underutilized Fruits of India: Measurements and Analyses (3 credit- 30 h)**

**Module 1:** Definition and types of diabetes; implication of diabetes on the human lifestyle; role of different food components on acceleration or prevention of diabetes: dietary fibre, reducing and non-reducing sugars, amylase activity, presence or absence of bioactive compounds.

**Module 2:** India: the fruit basket of the world; The underutilized fruits of India and the reason behind their low consumption; Proximate composition and phytochemical reserve of underutilized fruits of India: jamun, amla, bael, rambutan, jackfruit, bilimbi and kokum; Anti-diabetic potential of underutilized fruits of India: jamun, amla, bael, rambutan, jackfruit, bilimbi and kokum – case studies; Novel measures for increasing cultivation, shelf-life and scope of utilization of anti-diabetic underutilized fruits of India.

**Module 3:** Estimation of starch, dietary fibre, reducing and non-reducing sugars, glucose, total phenolics content, total flavonoids content, glycemic index,  $\alpha$ -amylase inhibition activity and glucose retardation index of food using various *in vitro* laboratory methodologies.

**17 hours: Theory, 10 hours: Practical, 3 hours: Assessment and Evaluation**