FT301 LEGUME AND OIL SEED TECHNOLOGY

Course Description & Objectives:
This course will impart knowledge to the students on Legume and Oil Seed Processing.
By the end of the course students will be able to develop good expertise on the technical aspects of dhal milling, oil milling and various legumes and oil seeds based product preparations.

Course Outcomes:
By the end of the course, the students will be able to
1. Know about different pulses processing aspects and preparation of products with pulses
2. Learn about different oil seeds, oil milling by expellers, solvent extraction of oils, refining of oils and utilization of oil seed meals for different food uses.

UNIT I - Pulse Classification and Processing

UNIT II - Milling of Pulses
Dehulling of pulses - Advantages - Methods of dehulling - Traditional and modern methods of dehulling. Dehulling pretreatments - wet treatment, soaking, chemical treatment, dry treatment, oil treatment and heat treatment. Seed characteristics that affect dehulling - Nature of seed coat and physical characteristics of grains. Storage of pulses - Insect control measures in pulses. Milling of pulses - Wet milling and dry milling. Commercial milling of
pulses by traditional methods. Dry milling of Tur, Black gram, Bengal gram, Wet milling of Tur - Modern CFTRI method of pulse milling

UNIT III - Pulse's Value Added Product
Dhal milling equipment and effect on quality - Principal products. Fermented products of legumes - Idli, Dosa, Soya curd(Tofu), Textured Vegetable Protein (TVP), Soya sauce, Tempeh, Natto and Miso. Cooking quality of dhal - Factors affecting cooking quality of dhal and Legumes – Processed legume products - Puffed chick pea and Peas, Canned dry pea. Quick cooking dhal and instant dhal - Uses of pulses - Role of pulses in cookery – Medicinal value of pulses. Present status and future prospects of oil seeds - Annual oil crops, Perennial oil seed plants and Minor oil seeds - Chemical composition and characteristics of oil seeds and oils. Anti-nutritional factors in oil seeds -

UNIT IV- Post-Harvest Technology of Oil Seeds

UNIT V- Refining of Oils

TEXT BOOKS:

REFERENCES:
1. Achhayya K.T. *Oil seeds and Oil Milling in India*. Oxford and IBH Publishing Co., New Delhi, 1999
5. Publishing Academy, Udaipur.