
Registration Seminar

Seminar Title	: Nutritional and Functional Optimization of Whole Wheat Jaggery Cake Using Ragi Flour and Beetroot Juice
Speaker	: Rashmi Rekha Tripathy (Rollno : 921bm5001)
Supervisor	: Prof. Kunal Pal
Venue	: Seminar Room, BM Department.
Date and Time	: 19 Feb 2025 (4:00 PM)
Abstract	: Despite their popularity, cakes often contain high levels of refined sugar and artificial additives, contributing to various health concerns. This study aimed to develop a healthier cake composition using natural ingredients comprising whole wheat flour, jaggery, olive oil, yeast, salt, and water. Jaggery was incorporated as a natural sweetener at varying concentrations (0 - 20% w/w) to assess its impact on physicochemical and biological attributes of the prepared cake samples. Several characterization methods were employed to evaluate the cakes' properties, such as visual and physical inspection, moisture analysis, electrical impedance spectroscopy, colorimetry, FTIR spectroscopy, and in vivo animal studies. The C10 (containing 10% jaggery) cake sample exhibited a notable increase in height and volume due to better aeration and moisture retention. Moderate impedance, with optimal moisture retention, was observed in C10. Further, it showed a moderate L* value, a* value showed a slight redness and b* value exhibited a warm yellow hue. However, a reduction in the whiteness index (WI) was observed compared to the CTL, while an increase was noted in the yellowness index (YI) and browning index (BI), indicating a controlled browning effect. FTIR studies demonstrated an improved intermolecular interaction in C10, showing stronger O-H and C-O stretching, thereby suggesting better hydration. C10 was observed to be the most suitable composition for maintaining stable blood sugar levels while maintaining nutritional benefits of jaggery. The findings suggest that replacing refined sugar with jaggery enhances the nutritional profile while maintaining desirable structural and chemical properties, offering a healthier cake alternative.