

Syllabus for PhD Admission Test 2021-22

Dept. of FTBE

Syllabus for Ph.D. Admission Test:

Syllabus of Research Methodology:

Linear and non linear algebraic equations. Concept of different numerical methods, integration by trapezoidal and Simpson's rules. Use of log-log and semi log papers. Concept of independent & dependent variables; Data preparation and analysis: frequency tables, bar charts, pie charts, percentages, Error analysis. Concepts of accuracy, precision and resolution. Concept of mean, median, standard deviation, curve fitting, correlation and regression. Concept of different numerical methods, integration by trapezoidal and Simpson's rules. Concept of units and dimensions, Objectives of Research, Main components of any research work. Use of tools like Microsoft Excel, Microsoft PowerPoint, Use of Internet and search engines. Writing a research report; Plagiarism, Intellectual Property Issues.

Syllabus of **Departmental Subject:**

Fermentative production of valuable products (amylase, alcohol, Baker's yeast, lactic acid, vinegar); microscope; Pasteurization; sterilization; bacterial growth curve; structural and physicochemical properties of carbohydrate, protein, lipid ,vitamin and natural pigment; units and dimensions; mass and energy balance; basic concept of chemical kinetics; Newtonian and non-Newtonian fluids; introduction to rheology of food materials; concept of canning; drying; freezing; irradiation and chemical preservative; Bioreactors (types and applications); Raw material and process steps for manufacturing of Bread , biscuit and ice-cream; objectives of food packaging and types of food packaging materials; food laws and regulations (FSSAI, FPO,AGMARK).