Project Based Learning (PBL) List 2025

B. Sc Food technology: I Sem

1. Study on Microbial Load in Homemade vs. Street-Vended Foods

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Research Design	Clear hypothesis & methods	Adequate	Basic	Incomplete
Microbial Analysis	Accurate results & interpretation	Mostly correct	Limited	Incorrect
Presentation	Well-organized & neat	Moderate	Acceptable	Disorganized

2. Effect of Cooking Methods on Vitamin C Content in Vegetables

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Experimental Design	Proper control & variables	Minor flaws	Basic setup	Flawed
Data Accuracy	Reliable &analyzed	Mostly accurate	Limited	Unreliable
Use of Charts	Informative and clear	Moderate	Minimal	Confusing

3. Evaluation of Antimicrobial Properties of Kitchen Spices

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Selection of Spices	Scientifically justified	Reasonable	Basic	Weak
Lab Procedure	Accurate & safe	Acceptable	Errors present	Unsafe/Incorrect
Discussion	Well interpreted	Adequate	Basic	Weak or missing

4. Nutritional Label Analysis of Packaged Foods

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Data Collection	Extensive & varied	Moderate	Few samples	Limited
Analysis	Detailed & clear	Moderate	Basic	Incorrect

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Presentation	Graphical + tabular	Only tables	Basic	Poor

5. Shelf-Life Comparison: Homemade vs. Market Pickles

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Observation Log	Daily and detailed	Mostly complete	Basic	Sparse
Spoilage Indicators	Accurately reported	Mostly correct	Some errors	Missing
Conclusion	Well summarized	Acceptable	Basic	Weak

6. Study of Sensory Preferences for Different Beverage Flavors

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Design	Logical & varied	Adequate	Few samples	Limited
Data Collection	From >20 participants	10–20	<10	Incomplete
Sensory Chart	Clear & well analyzed	Acceptable	Minimal	Not used

7. Antioxidant Activity in Fresh vs. Stored Fruit Juices

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Preparation	Properly handled	Few errors	Basic	Flawed
Test Methodology	Scientifically valid	Mostly correct	Basic	Incorrect
Result Interpretation	Accurate	Partly clear	Vague	Incorrect

8. Fortification Awareness in Local Consumers

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Questionnaire Design	Clear & relevant	Moderate	Basic	Flawed
Sample Size	≥30 responses	20–29	10–19	<10
Data Analysis	Insightful	Adequate	Basic	Confusing

9. Waste Management Practices in Local Food Processing Units

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Data Collection	Based on real fieldwork	Partly field-based	Limited	No data
Waste Solutions Suggested	Practical & innovative	Moderate	Basic	Absent
Report Format	Clear & well-structured	Adequate	Needs clarity	Disorganized

10. Study of pH Changes in Fermented Foods Over Time

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sampling Frequency	Regular & documented	Slight gaps	Basic	Irregular
Data Graph	Well plotted & explained	Moderate	Basic	Unclear
Scientific Reasoning	Strong & logical	Adequate	Weak	Missing

B. Sc Food technology: IIISem

1. Comparative Study on Puffed vs. Non-Puffed Millets: Nutritional and Sensory Attributes

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Preparation	Scientific & accurate	Minor errors	Basic	Incorrect
Nutritional Comparison	Detailed & accurate	Moderate	Basic	Missing
Sensory Evaluation	Well-designed panel	Acceptable	Limited	Inadequate

2. Effect of Soaking Time on Cooking Quality of Pulses

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Experiment Design	Logical & well-timed	Adequate	Basic	Weak
Data Recording	Consistent & complete	Some gaps	Basic	Sparse
Conclusion	Insightful	Adequate	Basic	Vague

3. Effect of Heat on Protein Denaturation in Egg White and Pulses

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Experimental Setup	Scientific & clear	Slightly unclear	Basic	Flawed
Observation Detail	Accurate & consistent	Some gaps	Minimal	Incomplete
Interpretation	Scientifically sound	Acceptable	Basic	Incorrect

4. Influence of Roasting on Nutritional Composition of Finger Millet

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Lab Method	Correct & repeatable	Minor errors	Acceptable	Incomplete
Nutritional Test	Well conducted	Moderate	Basic	Not done
Data Presentation	Clear & comparative	Somewhat clear	Basic	Confusing

5. Drying Kinetics of Chili Under Sun vs. Oven Drying

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Method Comparison	Scientifically valid	Moderate	Basic	Weak
Moisture Analysis	Accurate & repeated	Acceptable	Limited	Inaccurate
Graphs & Tables	Clear	Moderate	Basic	Absent

6. Effect of Roasting Time on Sensory Attributes of Coffee Beans

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Roasting	Controlled & repeatable	Slight variation	Basic	Uncontrolled
Sensory Testing	Structured panel	Informal testing	Few testers	Missing
Report Clarity	Very clear	Moderate	Basic	Disorganized

7. Analysis of Essential Oils in Clove and Cinnamon Using Simple Extraction Techniques

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Extraction Method	Correct & safe	Slight error	Basic	Flawed
Oil Yield Estimation	Measured & recorded	Rough estimate	Limited	Incomplete
Interpretation	Clear and scientific	Partly correct	Basic	Incorrect

8. Shelf-Life Study of Spiced Buttermilk Stored Under Refrigeration

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Observation Period	Daily & consistent	Moderate	Limited	Incomplete
Spoilage Indicators	Scientific (pH, odor, color)	Basic	Limited	Missing
Summary	Well written	Adequate	Basic	Weak

9. Nutritional Evaluation of Fermented Millet-Based Foods

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Selection	Diverse & appropriate	Adequate	Basic	Limited
Nutritional Testing	Scientifically valid	Moderate	Basic	Not done
Analysis	Clear and well explained	Adequate	Basic	Weak

10. Consumer Preference Survey for Traditional Spice Mixes in Urban Homes

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Questionnaire Design	Clear & relevant	Moderate	Basic	Flawed
Sample Size	≥30 responses	20–29	10–19	<10
Analysis & Charts	Insightful & visual	Adequate	Minimal	Missing

B. Sc Food technology: VSem

1. Effect of Storage Time on pH and Acidity of Curd
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Handling	Accurate and hygienic	Slightly acceptable	Limited	Improper
Data Accuracy	Precise and recorded daily	Mostly accurate	Some gaps	Incomplete
Interpretation	Logical and scientific	Moderately clear	Basic	Weak

2. Comparative Study of Homemade vs. Commercial Paneer
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Preparation Method	Scientifically correct	Acceptable	Basic	Incorrect
Texture and Yield	Clearly compared	Moderate comparison	Minimal	Not done
Presentation	Clear and tabulated	Partially clear	Basic	Disorganized

3. Effect of Milk Source (Cow vs. Buffalo) on Quality of Ghee
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Control	Multiple batches tested	One batch per type	Limited	Not clear
Parameters Studied	≥3 (color, aroma, yield)	2	1	None
Conclusion	Well-analyzed	Moderately clear	Basic	Vague

4. Sensory Evaluation of Flavored Milk with Natural vs. Synthetic Flavor
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Flavor Selection	Appropriate and diverse	Acceptable	Basic	Inadequate
Panel Design	≥10 testers with proper sheet	6–9 testers	Few testers	Informal
Data Interpretation	Graphical and accurate	Moderate	Basic	Weak

5. Comparative Study of Consumer Preference for Tea with Sugar, Jaggery, and Stevia
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Design	Well-differentiated	Moderately clear	Basic	Unclear

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sensory Data	Structured collection	Partially organized	Basic	Missing
Result Analysis	Scientific	Moderate	Basic	Weak

6. Influence of Serving Temperature on Taste Perception of Soup
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Temperature Control	Clearly documented	Moderate	Limited	Not measured
Sensory Testing	Well-structured panel	Acceptable	Few responses	Missing
Discussion	Scientifically linked	Moderate	Basic	Weak

7. Effect of Blanching Time on Texture and Color of Vegetables
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Time Variants	≥3 tested	2 tested	1 tested	Missing
Color& Texture Analysis	Scientific and clear	Moderate	Basic	Incomplete
Graphs and Tables	Accurate and clear	Partially clear	Basic	Not used

8. Comparative Study of Mechanical vs. Manual Juice Extraction Yield
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Method Control	Repeated trials	Some repetition	Single attempt	Uncontrolled
Yield Measurement	Accurate and compared	Moderate	Basic	Missing
Result Discussion	Analytical	Basic	Limited	Incomplete

9. Effect of Grinding Time on Particle Size Distribution in Flour
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Time Intervals	≥3 tested	2 tested	1 tested	Not defined
Measurement Method	Scientifically valid	Moderate	Basic	Not done
Result Analysis	Graphical and explained	Moderate	Basic	Weak

10. Evaluation of Thermal Conductivity in Metal vs. Glass Cookware Using Food as Medium
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Setup Accuracy	Controlled and valid	Moderate	Basic	Flawed
Heat Time Recording	Consistent and scientific	Moderate	Basic	Missing
Interpretation	Scientifically reasoned	Acceptable	Basic	Weak

M. Sc Food technology: ISem

1. Comparative Study of Moisture Reduction by Oven Drying vs. Sun Drying in Leafy Vegetables

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Experimental Design	Well-structured, replicates included	Clear but limited	Basic	Inadequate
Moisture Analysis	Scientifically accurate	Moderate	Basic	Weak
Interpretation	Logically presented	Acceptable	Basic	Unclear

2. Analysis of pH-Dependent Browning Reaction in Fruit Juices
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
pH Adjustment	≥3 pH levels tested	2 levels	1 level	Not done properly
Observation Consistency	Accurate and regular	Moderate	Basic	Missing
Scientific Discussion	Well-reasoned	Adequate	Basic	Lacks clarity

3. Effect of Natural Food Colorants on Shelf Life and Stability of Fruit Jelly
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Colorant Variety	≥3 types used	2 types	1 type	Inadequate
Shelf Life Observation	Systematic and measured	Moderate	Basic	Absent
Result Interpretation	Scientifically analyzed	Acceptable	Basic	Weak

4. Antimicrobial Activity of Common Culinary Herbs Against Spoilage Bacteria
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Selection of Microbes	Relevant and identified	Moderate	Basic	Unclear
Testing Method	Standardized (e.g., disc diffusion)	Acceptable	Basic	Inappropriate
Data Analysis	Clear and statistical	Moderate	Descriptive	Weak

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
			only	

5. Microbial Load Assessment of Raw vs. Pasteurized Milk Stored at Ambient Temperature
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sampling Consistency	Daily sampling with control	Regular, some gaps	Infrequent	Poor tracking
Colony Count Accuracy	Properly done with CFU/ml	Moderate	Basic	Inaccurate
Interpretation	Scientific and logical	Some analysis	Basic	Weak

6. Sensory Profiling of Plant-Based Milk Alternatives Compared to Cow Milk
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Product Variety	≥3 types (soy, almond, oat)	2 types	1 type	Not differentiated
Sensory Test Design	Structured with >10 participants	6–10 participants	<6	Informal
Data Presentation	Charts, graphs, valid stats	Moderate	Basic	Weak

7. Impact of Food Texture on Consumer Acceptability of Snack Products
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Texture Variation	Controlled across samples	Partial	Minimal	Uncontrolled
Panel Feedback	Structured sensory sheets	Informal discussion	Limited	None
Analysis & Conclusion	Clear and scientific	Moderate	Basic	Weak

8. Quantification of Food Waste in Institutional Canteens and Proposal of Reduction Strategies

Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Data Collection	Detailed for multiple days/meals	Somewhat consistent	Occasional	Poorly recorded
Categorization of Waste	Clear separation of types	Somewhat done	Basic	Not done
Suggestions Feasibility	Practical and innovative	Acceptable	General	Vague

9. Utilization of Fruit and Vegetable Peels in Value-Added Products (e.g., cookies, powder)
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Innovation	Unique product developed	Moderate innovation	Simple reuse	Repetitive
Safety and Palatability	Tested and ensured	Moderate testing	Basic tasting	Not tested
Marketability	Considered and discussed	Briefly mentioned	Minimal	Ignored

10. Effect of Salt Substitutes on Preservation and Sensory Quality of Pickles
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Additive Selection	Scientifically chosen	Some relevance	Random	Irrelevant
Sensory and Shelf Life Data	Thorough and regular	Moderate	Basic	Missing
Discussion	Clear and backed with references	General	Basic	Weak

M. Sc Food technology: IIISem

1. Comparative Analysis of Acidity and pH in Different Commercial Fruit Juices
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Variety	≥3 branded juices	2 juices	1 juice	Not diverse
Data Accuracy	pH + titratable acid	Only pH or acidity	One random test	Inaccurate results
Conclusion & Clarity	Clear with graphs	Moderately clear	Basic	Weak explanation

2. Evaluation of Caffeine Content in Branded Energy Drinks Using UV-Vis Spectrophotometry
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Method Selection	Standard protocol	Minor deviation	Basic method only	Unscientific method
Calibration Accuracy	Graph and equation	Acceptable range	Limited accuracy	Not done
Interpretation	Logical and comparative	Moderate	Basic	Vague

3. Study on Sedimentation Stability of Natural vs. Synthetic Beverages
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Design	≥2 types each	One type each	Only one type	No comparison
Sediment Measurement	Daily/weekly with chart	Basic observation	Irregular	Incomplete data
Conclusion	Detailed and reasoned	Moderate	Basic	Weak

4. Comparative Study of Polyethylene vs. Biodegradable Films in Moisture Transmission
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Film Selection	Scientific & tested	Acceptable	Basic	Not appropriate
Measurement	Controlled environment	Some control	Limited control	Not standardized
Data Presentation	Graphs and moisture loss	Tables only	Narrative only	Missing

5. Impact of Different Packaging Materials on the Shelf Life of Cookies at Room Temperature
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Material Variety	≥3 tested	2 tested	1 tested	Inadequate
Parameter Measured	Moisture, crispness, color	2 parameters	1 parameter	Not clear
Analysis	Comparative and clear	Moderate	Basic	Weak

6. Analysis of Food Color Content in Soft Drinks Using Colorimetry
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Standard Curve Used	Correct and plotted	Slight errors	Basic	Missing
Sample Dilution Accuracy	Precise	Moderate	Approximate	Incorrect
Result Clarity	Tabulated + graphed	Basic chart	Narrative only	Unclear

7. Study on Acceptability of Homemade Functional Herbal Drinks (e.g., amla, tulsi, ginger)
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Variety & Formulation	≥3 drinks developed	2 drinks	1 drink	Not structured
Sensory Testing	10+ panelists with sheet	5–9 participants	Informal	No testing
Analysis & Discussion	Tabulated and analyzed	Moderate	Basic	Weak

8. Assessment of Labeling Compliance in Packaged Beverages According to FSSAI Standards
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Size	≥10 brands	6–9 brands	3–5 brands	<3 brands
Labeling Checklist	Detailed and valid	Moderate	Basic	Missing

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Conclusion & Accuracy	Scientifically aligned	General	Basic	Incomplete

9. Survey-Based Study on Packaging Preferences Among Consumers (Glass vs. PET vs. Tetra Pak)
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Sample Size	≥50 responses	30–49 responses	15–29 responses	<15 responses
Questionnaire Design	Logical, validated	Acceptable	Basic	Incomplete
Interpretation	Charted + discussed	Partially clear	Basic	Vague or absent

10. Identification of Common Errors in Hypothesis Framing and Objective Writing Among PG Research Proposals
Rubric:

Criteria	Excellent (5)	Good (4)	Fair (3)	Poor (1–2)
Data Sources	≥10 proposals reviewed	6–9 reviewed	3–5 reviewed	<3 reviewed
Classification of Errors	Clear categorization	General grouping	Basic	None
Recommendations	Practical and insightful	Moderate	Basic	Missing