

1. INTRODUCTION

In the recent revised curriculum for the B.Tech (Food Technology) degree programme, which is followed from the academic year 2008-09, the Indian Council of Agricultural Research has recommended a new initiative called “EXPERIENTIAL LEARNING PROGRAMME”. The primary aim of this initiative is to remove the weaknesses in the earlier higher Food Technology education system and to develop technically skilled professionals who can create their own enterprise in food processing sector. Therefore, the course designed as Experiential Learning i.e “Hands on Training” is aimed at competence development through knowledge in all aspects of enterprise management so that the B.Tech (Food Technology) graduates have complete understanding of project planning, development and execution with an end to end approach. Emphasis has been laid on developing skills for career in the field of Food Technology. It is expected that the experiential learning/hands on training programme will bring professionalism and practical work experience in real life situations to B.Tech (Food Technology) students. In order to bring in high quality entrepreneurial skills and commercialization of technologies, enterprises have to be established and run by the students with the assistance of teachers.

2. OBJECTIVES

The objectives of the Experiential Learning / Hands on Training programme for B.Tech (Food Technology) are :

- To develop the students as skilled professionals through practical work experience in real life situations
- To develop technical and managerial competence in students in commercialization of technologies
- To train the students in high quality entrepreneurship skills in all the aspects of enterprise management
- To mould the students as job providers rather than job seekers

3. PROGRAMME OF WORK

3.1 General

- The Experiential Learning (EL) programme consists of the following programme equivalent to a load of 25 credits. The students shall be attached to any one of the experiential learning unit for 120 days. Programme consists of starting or running food technology based enterprises. The student who joins the Hands on Training unit has to perform the duties or functions as suggested by the Managing Director.
- A unit of EL shall have 6-10 students
- The student shall attend the Hands on Training on campus in various units regularly and be present in the unit all the working hours of the day
- Names should be given to all enterprises /EL units : Example Godavari, Krishna, Narmada, Kaveri etc
- Enterprises have to be registered
- Financial assistance from bank is permitted
- Separate account shall be opened
- Daily memorandum sheet has to be maintained
- Revolving fund may be created to EL unit with the usual procedure followed in the University
- For each EL unit a group leader shall be identified
- Technical plan, business plan, and marketing plan shall be worked out by the student
- Technical Plan / Organizational set up /Job chart - First Week
- Business plan - Second Week
- Marketing plan - Third Week
- Launching of Enterprise - Forth Week
- The data, information etc., as given in the programme has to be collected and analyzed by the student

3.2 Review meeting

- Shall be conducted every fortnight (First and third Monday / Saturday)
- All group leaders and students of the EL units in the college shall be present
- Innovations have to be identified
- For technical and marketing aspects students may be made into one/two batches based on the convenience
- C.E.O is the in charge of business activities of all EL units

3.3 Schedule for review meeting

- Attendance /Dairy of the student - 30minutes
- Presentation by group leaders - 2 hours
- Advisor (Finance & Marketing) - 30 minutes
- Expert - 1 hour
- Planning, innovation and improvements - 1 hour
- Finalization of the programme - 1 hour
- Teachers responsible
 - C.E.O
 - Directors
 - Advisors (Technical, business and marketing)

3.4 Weightage

C.E.O	: 2 credits
Advisor(Finance & Marketing)	: 1 credit
Director	: 5 credits
Managing Director	: 2 credits

3.5 Profit sharing

Accounting

Auditing

Balance sheet

Loss and profit statement

- 50% to Students
- 10% to Director
- 40% to Enterprise

3.6 Business models : Must be suitable and profitable

3.6.1 Technical plan

- Technology involved in the production of products or services
- Technologies developed by the university
- Technologies developed by others
- Details of the technology

3.6.2 Business plan

- This is a formal statement of a set of business goals, the reasons why they are attainable, and the plan for reaching those goals.
- It may contain background information about the organization or team attempting to reach those goals. Business plans are decision-making tools. There is no fixed content for a business plan. The content and format of the business plan is determined by the goals. A business plan represents all aspects of business planning process declaring vision and strategy and Sub-plans to cover: marketing, finance, operations and human resources. Typical structure of a business plan for a new venture:
 - cover page and table of contents
 - executive summary
 - business description
 - business environment analysis
 - industry background
 - competitor analysis

- market analysis
- marketing plan
- operations plan
- management summary
- financial plan
- attachments and milestones

3.6.3 Marketing plan

- Marketing plan is the details of the necessary actions to be taken to achieve marketing objectives. It can be for a product or service, a brand, or a product line. Marketing plans cover between one and five years. A marketing plan may be part of an overall business plan. Solid marketing strategy is the foundation of a well-written marketing plan. While a marketing plan contains a list of actions, marketing plan without a sound strategic foundation is of little use.

4. CHALLENGING TASK

- The student will be given a Challenging Task to prepare a business plan to establish his/her own enterprise. This task should address the question like how he/she plans to become a "job provider rather than job seeker" with the knowledge that he/she gained during the degree programme in general and ELP in particular. By the last week of the programme the student shall submit the report on challenging task. The weightage for challenging task is 25 marks.

5. STUDENT ADVISORY COMMITTEE

The criteria for allotment of students to EL units may be done as per the preference given by the student; OGPA obtained up to 2nd year (4th semester); or as appropriate / deem fit in the opinion of the C.E.O of the programme .

An Advisory Committee shall be constituted for each student to provide necessary guidance in the implementation of the Experiential Learning – Hands on Training programme.

The Advisory Committee consists of the following members :

- i. Director: Head of the experiential learning/Hands on Training unit who will operate the enterprise on business lines
- ii. Advisor/s (Finance & Marketing): The teacher who will assist the group of students in financial and marketing aspects of the enterprise

6. CONSTITUTION OF BOARD OF DIRECTORS

Each college shall have a Board of Directors. The main function of the Board is to guide the student's commercial activity of the college. The board members meet once in a month to review the progress of the business, plan for new business and to take policy decisions for improving the business. The board consists of the following members :

- Chairman : Dean of Agriculture or his nominee
- Managing Director(M.D) : Associate Dean
- C.E.O : Head, Dept of Food Trade and Business Management
- Directors : Enterprise Heads (EL unit head)
- Outside Directors : two outside Directors shall be selected from the local successful business people

6.1 Duties of Board of Directors

- Governing the organization by establishing broad policies and objectives
- Selecting, appointing, supporting and reviewing the performance of the chief executive
- Ensuring the availability of adequate financial resources
- Approving annual budgets
- Accounting to the stakeholders for the organization's performance

In addition to the above functions the M.D and C.E.O shall have the following responsibilities.

6.2 Chief Executive Officer (C.E.O) : The Head of the Department of Food Trade and Business Management, CFST.

- He/She shall have the overall responsibility for the implementation of Experiential Learning/Hands on training programme

- Supervise and execute the programme
- Shall ensure that proper records including evaluation of documents of the students which are maintained at the academic section of the M.D's (Associate Dean) office

6.3 Managing Director (M.D) : Associate Dean of the college

- He is responsible for monitoring of the experiential /hands on training units of the college
- He co-ordinates all the activities for the profitable running of the enterprises

7. REGISTRATION

7.1 Title : Experiential Learning programme : (0+25) Credits

7.2 Semester : The seventh semester (IV-1 sem.) of the UG degree programme is set apart for Experiential learning / Hands on Training programme as "On-Campus" programme.

7.3 Duration : 120 continuous days in which all Sundays and public holidays are working days.

7.4 Eligibility

The students shall have completed all the courses of second year of B.Tech (Food Technology) and register all the third year courses and completed successfully all courses except 6 of the third year standing are eligible for registration of Experiential Learning / Hands on Training programme (EL/HT). The registration for HT shall be done at the College concerned after clearing hostel and other dues. The allotment of EL/HT unit, registration shall be done on the first day, orientation on second day and the registration and orientation of the remaining students, if any, on the third day. Registration would not be permitted after these 3 days under any circumstances. The students then proceed to the EL/HT unit to which they are allotted.

7.5. Orientation

During the orientation programme, the following aspects are to be covered.

- (a) Location of the EL unit allotted
- (b) Objectives of the programme
- (c) Organizational aspects of programme

- (d) Items of work to be attended by the students
- (e) The information to be collected
- (f) Records to be maintained
- (g) Reports to be submitted by the students to the Advisory Committee
- (h) Attendance requirement
- (i) Any other item deemed appropriate

The Associate Dean (M.D), C.E.O, Directors of the EL/HT units and all the Heads of the Departments of the college and all the students who registered for experiential learning/hands on training shall participate in the orientation programme.

8. ATTENDANCE

The minimum attendance required for this programme is 85%. The attendance of a student will be maintained at the EL/HT unit. The attendance particulars shall be communicated to the Associate Dean by the Director of the EL/HT unit of the college every week. The students will be eligible for the final evaluation of EL/HT only when the attendance requirement is met with. Any student in the event of recording shortage of attendance, has to re-register the EL/HT when offered next year. The C.E.O shall arrange to inform the Managing Director about the particulars of the backlog courses for which EL/HT students pay re-examination fee within five weeks after commencement of the programme. After completion of the examinations, the C.E.O shall arrange to inform the dates on which students appeared for the backlog examinations. The period of absence from EL/HT shall be marked absent in the attendance register.

9. DISCIPLINE

Student whose activities are prejudicial to the interest of the EL/HT programme or indulging in any malpractices shall be debarred from EL/HT programme or as appropriate according to the disciplinary rules, act, statute etc., of the University. He/ She shall register for the EL/HT programme as per the directions of the competent authority of the university when offered next year.

10. EVALUATION

After the student registers for the EL/HT programme, appropriate proforma for recording daily, weekly, monthly, final reports etc., of the student shall be developed and communicated to the student by the Director of the unit. A model “Diary of the student” is appended at ANNEXURE- IV.

10.1 Records and reports : The students shall complete record work with his/her own hand writing. The students shall not use printed or typed material in the preparation of EL/HT records. The record shall be paper bound.

10.2 Evaluation procedure:

The student’s performance in EL/HT shall be evaluated by evaluation committee.

- The Internal evaluation : This is done during the last week of ELP by the Director and advisor/s(Financial and Marketing) of EL unit to which the student is attached. Weightage is 50 Marks (Annexure-I).
 - External evaluation : The Dean of Agriculture nominates a committee of 2-4 teachers from the disciplines of Food Technology/ Food Trade and Business Management/ Food Engineering /Food and Industrial Microbiology/ Food Chemistry and Nutrition/ or as deemed appropriate .Weightage is 50 Marks.
 - The evaluation committee shall be the Advisory Committee of the EL/HT programme of the student. The GPA shall be sent to the university.
 - The weightage for Challenging task is 25 Marks (Annexure II).
 - The weightage for EL unit as a group is 25 Marks (Annexure III).
- } External
Evaluation
- After the evaluation the external committee hand over filled in marks proformas separately to EL unit and consolidated proforma of marks of EL units of the college to Associate Dean concerned.

The student who records a grade point of less than 5.0 or who secured grade point of 5.0 and above but obtained below 50 per cent of marks either in EL unit internal evaluation (Annexure I) or External evaluation (Annexure II and III together) shall be deemed to have failed and ‘F’ shall be indicated in the grade report. The student who had failed has to re- register the entire ELP when offered next by paying the necessary fee .The GPA shall be sent to the University by the Associate Dean within 30 days of completion of ELP.

11. MODULES FOR EXPERIENTIAL LEARNING

The following modules can be taken up for experiential learning

Module - 1 : Spices processing

1. Chilly powder processing
2. Masala powder processing
3. Turmeric powder processing
4. Coriander processing

Module - 2 : Fruits & Vegetable processing

1. Jam, jelly
2. Squashes
3. Pickles/Chutney processing
4. Canned products preparation
5. Toffee, candy preparation

Module - 3 : Fish and Marine Product processing

1. Prawn pickle processing
2. Prawn powders processing
3. Processing of value added fish and marine products

Module - 4 : Milk and Milk Product processing

1. Soy milk processing
2. Flavoured milk preparation
3. Manufacturing of ice creams

Module - 5 : Cereal Processing

1. Extruded cereal products

12. STUDY OF THE ENTERPRISE

The following data / information shall be collected and analysed by the students when attached to an enterprise (EL unit).

12.1. General information

- i. Name of the firm
- ii. Name of the Head of the unit
- iii. Geographic location of Corporate Office
- iv. Nature of business
- v. Year of Establishment
- vi. Annual turnover of the firm
- vii. Range of products and their brand names
- viii. Core products
- ix. Subsidiary products
- x. Type of firm (owner ship /Partner ship/ joint venture)
- xi. Organizational structure of the firm
- xii. Market covered
- xiii. Range of products and their brand names
- ix. Position of the company relative to the competitors in terms of market share

12.2. Financial Aspects of the Firm

- i. Fixed resources (Value in Rs.)
 - a) Land
 - b) Building / Godowns
 - c) Equipment
 - d) Machinery
 - e) Transport vehicles
- ii. Variable costs (Value in Rs.)
 - a) Raw material

- b) Lubricants
- c) Electricity
- d) Wages (daily)
- e) Others
- iii. Fixed costs (Value in Rs.)
 - a) Salaries
 - b) Insurance
 - c) Taxes
 - d) Telephone bill
 - e) Stationary
- iv. Balance Sheet of the firm for the last financial year
- v. Sources of funds
 - ◆ Owned
 - ◆ Borrowed
 - ◆ Public raising : Institution/Non Institution/combination
- vi. Financial Ratios
 - ◆ Liquidity ratios
 - ◆ Current ratio
 - ◆ Acid test ratio
 - ◆ Cash ratio

Interval measure(days)

- Net working capital ratio
- Leverage ratios
- Total liabilities ratio
- Turnover ratios or Activity ratios
- Inventory turnover ratio

- Raw materials inventory turnover
 - Current assets turnover ratio
 - Fixed assets turnover ratio
 - Total assets turnover ratio
 - Profitability ratios
 - Gross profit margin ratio
 - Net profit margin ratio
 - Operating expenses ratio
 - Return on total assets
 - Earning power
 - Valuation ratios
 - Price-earning
 - Yield
 - Market value to book value ratio
- vii. Break-Even Point of the firm

12.3. Production Aspects

- The Technology used
 - Domestic/Indigenous (Partially/ totally)
 - Imported (partially / completely)
- Main raw material items
- Source of raw material
- Production cycle
 - Duration
 - Total production
 - Production months in a year
- Problems in procurement of raw material
- Inventory management methods

- Quality control aspects
- Type of production
 - Production in the firm
 - Outsourcing the production
 - Final product procured and marketed

12.4. Marketing Aspects

- Range of products
- Channels of distribution under each product
- Channel members
- Market segmentation of the industry
- Which segments are targeted by the firm
- Consumer behaviour towards the product
- Strengths of the products
- Weakness of the products
- Where it stands in the competition in terms of market share
- Position of the firm among competitors
- Mode of transportation of goods
- Incentives and margins to intermediaries of distribution of products
- Marketing strategies adopted
 - Change in price
 - Change in product quality
 - Change in promotion etc.
 - Range of products produced
- Product differentiation
- Names of close competitor firms
- Improvement in sales over last year
- Promotion measures
 - a) Advertising through media: Print/Electronic media/demonstrations

- b) Sales promotion
- c) Personal selling
- d) Publicity
- Problems faced in Marketing the products
- Motivation for marketing personnel
- Level of brand awareness

12.5 Organizational structure

Under this the student will know the employee strength, their training needs, organization behaviour, employee recruitment policies and methods etc.

- i. No of employees in the firm
 - a Top executives :
 - b Middle level managers :
 - c First line managers :
 - d Workers/ labourers :
 - e Employees under contract/permanent basis :

12.6. Legal Aspects

(To have the overall knowledge of legal implications, rules and laws applicable to the business)

- Applicable labour laws
- Laws relating to patents
- Packaging and marketing laws
- Environment laws
- Taxes and duties
- Company laws
- Banking rules and laws
- Quality certification rules and conditions

- Product registration
- Any other rule or law related to the business

12.7. Market Research

(To assess the marketability of the potential product and to understand the competitive situation in the market)

NOTE : Assessing the consumer perception and preferences

(A suitable questionnaire is prepared to know about the existing products as well as the expectations from the potential products)

12.8. Marketing Strategies - 4 P's

(To develop suitable strategies to establish the product in the market)

Product

- i) Brand name :
- ii) Quality-basic/moderate/premium
- iii) Packaging-basic/moderate/premium
- iv) Size of the product: different variants
(SKUs- Stock Keeping Unit)
- v) Product line - Different varieties of same product
- vi) Products USP (Unique Selling Proposition) over other major players.
(brand/price/quality/packaging etc.)

Price

Determining competitive price

- i) Cost based method
- ii) Competition based method
- iii) Loss leader pricing
- iv) Follow the leader pricing
- v) BEP pricing

Promotion

A) Paid Forms

1. Advertisements (print and electronic media)

- i) Pamphlets
- ii) Banners
- iii) Hoardings
- iv) News papers
- v) Magazines
- vi) TV
- vii) Radio

Costs involved depending on the choice made.

Preparing an attractive ad and a message or punch line

2. Sales promotion :

- i) Good offers
- ii) Discounts
- iii) Free gifts
- iv) Free samples
- v) Coupons

Costs involved depending on the choice made.

3. Personal selling :

- i) Door to door, no. of sales person required, salaries and total costs. (Costs includes salaries, transportation charges etc)

B) Non Paid Forms

1. Publicity

- i) News papers - press note or release
- ii) Radio talks

2. Place

Distribution Network

- i) Direct channel (producer-consumer)
- ii) Single level channel (producer-retailer-consumer)
- iii) Two level channel(producer-wholesaler-retailer-consumer)
- iv) Three level channel (producer-distributor-wholesaler-retailer-consumer)
- v) Any other suitable channel

Channel member margins per unit, transportation costs per unit and the total costs involved. Distributor's terms and policies, stock returns policy adopted, payment terms etc.

12.9. Returns/Turnover

Level of production in a single cycle

- i) Total output
- ii) Price per unit
- iii) Gross income : Total output x price per unit
- iv) Net income : Gross income-Total cost (F.C + V.C)

12.10. Financial Analysis

(To assess the economic viability of the unit with the help of financial ratios and other indicators)

12.10.1 Leverage ratio

Debt to total assets ratio
(lower ratio indicates better
payment of debts)

$$= \frac{\text{Total Debt}}{\text{Total Assets}}$$

Debt to total capital ratio
(lower ratio is better for the firm)

$$= \frac{\text{Long Term Debt}}{\text{Permanent Capital (Shareholders Equity} \\ \text{+Longterm Debt)}}$$

Interest coverage ratio
(higher ratio indicates better
payment of Interest)

$$= \frac{\text{Earnings Before Interest and Tax}}{\text{Interest}}$$

12.10.2 Turnover ratios

Inventory turnover ratio
(Higher ratio indicates better use
of stock converted into sales)

$$= \frac{\text{Cost of Goods Sold}}{\text{Average Stock}}$$

Debtors turnover ratio
(Indicates amount of sales
made by credit)

$$= \frac{\text{Total Credit Sales}}{\text{Average Debtors + Average Bills
Receivable}}$$

Average collection period
(Indicates the frequency
of payment of debts)

$$= \frac{\text{Months}}{\text{Debtors Turnover Ratio}}$$

Fixed assets turnover ratio
(Higher ratio indicates
better use of assets)

$$= \frac{\text{Cost of Goods Sold}}{\text{Average Fixed Assets}}$$

Current assets turnover ratio
(Higher ratio indicates
better use of assets)

$$= \frac{\text{Cost of Goods Sold}}{\text{Average Current Assets}}$$

Total assets turnover ratio
(Higher ratio indicates
better use of assets)

$$= \frac{\text{Cost of Goods Sold}}{\text{Average Total Assets}}$$

12.10.3 Profitability ratios

Gross profit ratio
(Higher ratio indicates better
performance)

$$= \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

Net profit ratio
(Higher ratio indicates better
performance)

$$= \frac{\text{Net profit or Earnings After Tax}}{\text{Net Sales}} \times 100$$

Return on total assets (Indicate the assets used in getting profit or loss)	= $\frac{\text{Earnings After Tax + Interest}}{\text{Average Total Assets}}$
Price earnings ratio	= $\frac{\text{Market Price of a Share}}{\text{Earning Per Share}}$
Earnings per share (Indicates what is available to equity share holder)	= $\frac{\text{Earnings After Tax-Dividend Paid to Preference Share}}{\text{Number of Ordinary Shares Outstanding}}$
Earnings yield	= $\frac{\text{EPS (Earning Per Share)}}{\text{Market Price Per Share}}$
Operating ratio (higher ratio indicates more expenses)	= $\frac{\text{Cost of Goods Sold + Operating Expenses}}{\text{Net Sales}} \times 100$

12.10.4 Liquidity ratios

Current ratio	= $\frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}$ (ideal ratio = 2:1)
Acid-test ratio	= $\frac{\text{Current Assets - Stock - Prepaid Expenses}}{\text{Total Current Liabilities}}$ (ideal ratio = 1:1)

12.11. Balance sheet of the firm

Assets

Land & building
Plant & machinery
Investments
Stock
Bills receivable
Debtors
Cash on hand
Cash at bank

Liabilities

Equity shares
Long-term debt
Long-term loans
Debentures
Creditors
Bills payable

13. ANNEXURES

ANNEXURE - I (EL Unit Internal Evaluation)

S.No.	Name of student	I.D.No.	Record and assignment (30m)	Performance (15)	Viva (5 m)	Total 50 m	Remarks

Signature/s of Advisor/s (Finance / Marketing) : 1.

2.

Signature of the Director :

ANNEXURE - II

(Performance sheet of Challenging Task)

S.No.	Name of the student	I.D. No.	A Gene ral infor mation (20 m)	B Analy sis of alter natives (20)	C Marke ting plan (20 m)	D Tech nical plan (20 m)	E Finan cial analy sis (20 m)	F Total (100 m)	G Redu ced to (25 m)

External Expert I

External Expert II

Note : Each student should submit his/her own independent project. No repetition is allowed and the project may be from any aspects related to Food Technology.

ANNEXURE - III

(EL Unit External Evaluation)

S.No.	Name of the student	I.D. No.	Establishment (10 m)	Product Generation (10 m)	Income Generation (5 m)	Total (25 m)

External Expert I

External Expert II

ANNEXURE- IV

DIARY OF THE STUDENT

Experiential Learning/Hands on Training Programme report for the week

from _____ to _____

1. Name of the Student _____
2. I.D.No. _____
3. Name of the College _____
4. Name and address of the Industry _____
5. Abstract work : (indicate in brief the activities of week)

Week Days

Abstract of work done

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

6. New experience gained during this week and experience or skills that I would like to gain during this week

7. Period of absence from work and reasons for absence

Days _____ Hours _____

Signature of the student

8. Comments of the Advisory Committee

9. Date of receipt of the diary by the Director _____

10. Date of communication of comments, if any, to the student _____

Signature of the Director

ANNEXURE - V
ACHARYA N.G.RANGA AGRICULTURAL UNIVERSITY
COLLEGE OF FOOD SCIENCE & TECHNOLOGY, _____
EXPERIENTIAL LEARNING/HANDS ON TRAINING PROGRAMME

CERTIFICATE

Certified that this is a bonafied record of EL/HT practical work done and data collected by Mr/Kum _____ I.D.No. _____ during first semester of final year B.Tech (Food Technology) course during the academic year _____.

Signature of the Director

Annexure - VI

(Performance register for EL unit)

S.No.	Name of the Student	I.D. No.	Sections			Total (100 m)	Grade Point (10)	Remarks
			I Internal (50 m)	II External (CT) (25 m)	III External (EL Unit) (25 m)			

Signature of the Managing Director

Signature of the Director

Note : Consolidated report of the college shall be sent by the Associate Dean in the same format to the University

EXPERIENTIAL LEARNING MANUAL - 2011 B.TECH (FOOD TECHNOLOGY)

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FOREWORD

India ranks as one of the largest producers of crops despite certain disadvantageous agro-climatic conditions. The country has achieved self-sufficiency in food grains. There is also increase in production of milk, its products, fruits, vegetables etc. However, processing and value addition account for only 2% of agricultural produce.

Food processing adds value, enhances shelf life and encourages crop diversification. More over, it is employment intensive and generates 2 persons directly and 6 persons indirectly per ten lakh rupee investment. Therefore, food processing coupled with marketing has the potential of solving the major problems of agricultural surpluses, wastages and unemployment. This industry has also the potential to help the farmers in over coming uncertain prices. Rapid growth of food processing sector is inevitable since urbanisation with globalisation is changing the life styles, rise in employment to all age groups thereby prosperity and food habits. This situation demands for value added food products. Accordingly, the vision 2025 set out is to realise the vast potential of Indian Agriculture by trebling the size of the processed food sector. This enhances the farmer income, generate employment opportunities, provide choice to the consumers at affordable prices and contribute to over all national growth by increasing (a) the level of processing of perishables from 6% to 20% (b) value addition from 20% to 35% (c) increase in global trade from 1.5% to 3%.

The above situation, amply signifies the importance of the "business angle of food science". Therefore, the 4 th Dean's committee of ICAR recommended to introduce experiential learning to provide hands on training to the students of B.Tech (Food Technology). In tune with these recommendations the university introduced a 25 credit load Experiential Learning Programme to provide ample hands on training. This initiative enable the graduates to become "job providers rather than job seekers" by becoming successful entrepreneurs and earn profits with dignity.

I hope that this manual will help in developing competitive skilled manpower in Food Technology. I compliment the sincere efforts of Dr. T. Yellamanda Reddy, Dean of Agriculture and his team for writing this very useful manual for the benefit of students and teachers.

V. NAGI REDDY, IAS
VICE-CHANCELLOR