

FACULTY OF SCIENCES

SYLLABUS

FOR

INTERDISCIPLINARY COURSE IN FOOD SCIENCE & TECHNOLOGY (UG)

Examinations: 2019 - 20



GURU NANAK DEV UNIVERSITY AMRITSAR

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Interdisciplinary Courses
FOOD SCIENCE AND TECHNOLOGY (UG)

**FTL-001: Food Hygiene and Sanitation
(Odd)**

Credits: 4-0-0

**Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage**

Instructions for the Paper Setters:

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION-A

General principles of food hygiene.
Personal hygiene.
Food handling habits, water sources and impurities in water supply and treatment.
Sanitation facilities and procedures in food plant operation.

SECTION-B

Quality standards for potable water supply.
Microbial standards for foods.
Sanitation in food service institution.

SECTION-C

Good Manufacturing Practices in Food Industry
Good Laboratory Practices in Food Industry

SECTION-D

HACCP, CCP
Method of cleaning and disinfection.
Detergents and Sanitizer

Recommended Books:

1. Guide to Improving Food Hygiene - Ed Gaston and Tiffney.
2. Practical Food Microbiology and Technology (2nd edition) - J. Mountney and W.A. Gould.
3. Food Poisoning and Food Hygiene (3rd Edition) - Betty C. Hobbs.

Interdisciplinary Courses
FOOD SCIENCE AND TECHNOLOGY (UG)

**FTL-002: Introduction to Food Science and Nutrition
(Even)**

Credits: 4-0-0

Mid Semester Examination: 20% weightage

End Semester Examination: 80% weightage

Instructions for the Paper Setters:

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION-A

Basic terms of food science and technology, Principles of processing and preservation, Food poisoning: its causes and symptoms, Food safety, adulteration and food laws.

SECTION-B

Status of Food Industry in India. Introduction to human nutrition. The functions of foods. Food groups and concept of balanced diet. The need for energy, basal energy metabolism. Calorific value of foods.

SECTION-C

Dietary allowances for different age groups, nutritive value of foods, Dietary interrelationship Classification, physiological functions, dietary sources, Deficiency diseases.

SECTION-D

Role in metabolism and daily requirement of following: carbohydrates, lipids, proteins, vitamins and minerals and deficiency disease.

Recommended Books:

1. Food Science by Norman N. Potter.
2. Lehninger: Principles of Biochemistry by David L. Nelson and Micheal M. Cox.
3. Biochemistry by Jeremy M. Berg, John L Tymoczko and Lubert Stryer.
4. Essentials of Food Nutrition by Dr. M Swaminathan.

Interdisciplinary Courses
FOOD SCIENCE AND TECHNOLOGY (UG)

**FTL-003: Food Trends and Consumption
(Odd)**

Credits: 4-0-0

Mid Semester Examination: 20% weightage

End Semester Examination: 80% weightage

Instructions for the Paper Setters:

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

SECTION-A

Definition - Food science, Food technology and their sub disciplines
Food Processing Industry in India - Potential and Prospects of Indian Food Industry
Food losses and factors affecting food losses - physical, chemical, physiological and biological factors

SECTION-B

Food Nutrients-Proteins, Fats, Carbohydrates, Vitamins and Minerals - Functions and sources
Classification of foods based on pH - Low acid food, medium acid food, highly acid food and acid food - Definition and Examples

SECTION-C

Convenience food, definition, characteristics and classification - Ready- to-Eat foods, Ready-to-use-foods and RTS Beverages.
Introduction to various Packaging materials used in Food Industry. Environmental Impact of food Packaging

SECTION-D

Packaging of processed foods - Definition for modified atmospheric packaging - Vacuum packaging – Aseptic packaging for improving the shelf life of perishable foods.
Present trends of consumption of processed foods - Consumer change of aptitude in food product consumption.

Recommended Books:

1. Herson A.C and Null A.D. Canned Foods Thermal Processing and Microbiology. Churchill Ltd., London.
2. Raman K.V., Anwer M.M. and Gaddagimath R.B. Agriculture Research systems and Management in the 21st Century. NAARM Alumni Association. National Academy of Agricultural Research Management, Rajendra nagar, Hyderabad.
3. Desai B.M., Gupta N.V. and Namboodri. Food Processing Industries. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
4. Graft and Saguy. Food Product Development (From concept to market place). CBS Publishers, New Delhi..