

Open Elective Courses: For the student of M.Sc Food Science & Technology.

The student will earn minimum ten credits by choosing some open elective course offered by the different departments in the university other than the Department of Food Science and Technology.

**Open Elective Course: For the Student of other department of the university.**

The Department of Food Science and Technology offer the following open elective course for the Students of first, second, third and/or fourth semester of other departments of the university.

| Type of course | Course Code                 | Title of Course      | Teaching Hours per week | Credits | Internal Assessment / Evaluation | End term Examination | Total | Duration of Exam. (Hrs.) |
|----------------|-----------------------------|----------------------|-------------------------|---------|----------------------------------|----------------------|-------|--------------------------|
| Open elective  | OEC-FST-001 (Odd semester)  | Nutrition and Health | 4                       | 4       | 30                               | 70                   | 100   | 3                        |
| Open elective  | OEC-FST-002 (Even semester) | Food adulteration    | 4                       | 4       | 30                               | 70                   | 100   | 3                        |

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Open elective Paper

Food adulteration  
OEC-FST-002

Credits: 4

Periods per week: 4 Hrs.

Max. Marks: 70

Duration of exam: 3 Hrs.

#### Unit I

**Introduction and concept:** Food Adulteration – Definition, concept, classification of adulterants, Food Contaminants, difference between adulterants and contaminants List of foods commonly adulterated, harmful effects of adulterants.

#### Unit II

**Adulteration in milk and milk products:** Common adulterants in milk and milk products. Household and laboratory scale methods to detect the adulterants in milk and milk products

**Adulteration in spices and additives:** Common adulterants in spices and food additive. Household and laboratory scale methods to detect the adulterants in these commodities.

#### Unit III

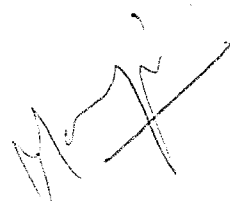
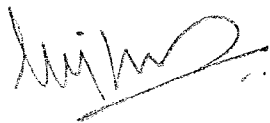
**Food Laws and standards for adulteration:** National and international Laws and regulations to minimize adulteration in food commodities.

#### Unit IV

**Public health hazards and food safety:** Food borne illness, food poisoning, types of food poisonings, bacterial agents of food borne illness, food poisoning by clostridium, salmonella, E. coli, staphylococcus.

#### References books:

1. N. Shakuntala Manay and M. Shadaksharaswamy (2008) Food Facts and Principles
2. Frank Weiss Food Adulteration
3. Edwin M. Bruce Edwin M Bruce Detection of the Common Food Adulterants
4. Shyami Narayan Jha (2016) Rapid Detection of Food Adulterants and Contaminants



(Open Elective)  
Nutrition & Health  
OEC-FST-001

Credits: 4

Periods per week: 4 Hrs.

Max. Marks: 70

Duration of Exam.: 3Hrs

Note: There are nine questions in all. Question No. 1 is compulsory, it consists of 5 short questions of 2 marks each. Students have to attempt **five** questions in all, selecting one question from each unit.

**Unit I**

Food and nutrients: Basic definitions, changing concepts of nutrition.

Energy requirements of individuals and groups. Control of food intake and weight.

**Unit II**

Obesity and its causes, Body composition, Body Mass Index (B.M.I).

Basal metabolic rate (B.M.R.), Factors affecting B.M.R.

**Unit III**

Cardio vascular diseases, Diabetics, Hypertension, Inflammatory bowel disorder (IBD): causes, precaution and preventive measures.

Functional Foods, role in controlling various diseases.

**Unit IV**

Diet planning for specific age groups.

Diet planning for diabetic patients.

Preparation of food charts.

**Text and Reference Books:**

1. Insel, P., Turner R.E. & Ross, D. (2006). Discovering Nutrition, IInd Edition. ADA, Jones and Bartlett Publishers Inc., USA.
2. Williams, S.R., (1990). Essentials of Nutrition and Diet Therapy. Times Mirror / Mosby College Publishing.
3. Hegarty, Vincent. (1995). Nutrition Food and the Environment. Eagen Press.
4. Brian, A. F., Allen, G. (1995). Food Science, Nutrition & Health. Edward Arnold, A member of Hodder Headline Group London, Sydney, Auckland.
5. Mudambi Sumati R. & Rajagopal, M.V. (1995). Fundamentals of Food & Nutrition. New Age International (P) Limited, Publishers.
6. ICMR (1995). Nutrient Requirement & RDA, ICMR, New Delhi.
7. Gibney, M.J., Elia, M., Ljungqvist, O. & Dowsett, J. (2005). Clinical Nutrition. The Nutrition society textbook series, Blackwell publishing company.