

SEMESTER -I

MDC-I (A)

Food and Nutrition

Course Outcome:

- ✓ The students will get basic knowledge on macro and micro nutrients and different types of food and their nutritional contribution.
- ✓ The students will gain practical knowledge on market survey and locally available food stuffs from each food group.

UNIT-I

Basic Concepts in Food and Nutrition

- Introduction to Food and Nutrition Science- Definitions (food, food science, food additive, fermented food, food fortification, functional food, nutrition, health, nutrients, nutritional status, optimal nutrition, nutrition security).
- Classification and Functions of Food- Physiological, psychological, and socio-cultural.
- Food Groups- Basic five and seven food groups, their nutritional contribution.
- Methods of Cooking- Different methods of cooking and their advantages and disadvantages: Dry methods - Frying, Sautéing, Parching, Roasting, Grilling/Broiling, Toasting, And Baking. Moist methods - boiling, steaming, stewing, simmering, poaching, blanching, pressure cooking. Combination method- braising.

UNIT-II

Macro Nutrients

- Carbohydrates- Introduction, classification, functions, dietary sources, and daily requirement.
- Proteins- Introduction, classification, functions, dietary sources, and daily requirement.
- Lipids- Introduction, classification, functions, dietary sources, and daily requirement.

UNIT-III

Micro Nutrients

- Fat Soluble Vitamins (A, D, E and K)- Introduction, functions, dietary sources, daily requirement, and deficiency diseases.
- Water Soluble Vitamins (Thiamin, Riboflavin, Niacin, Folate, Vitamin B12 and Vitamin C)- Introduction, functions, dietary sources, daily requirement, and deficiency diseases.
- Minerals (Calcium, Iron, Zinc, and Iodine)- Introduction, functions, dietary sources, daily requirement, and deficiency diseases.

Text Books:

1. Srilakshmi. B, Food Science, New Age International (P) Limited Publishers.
2. Srilakshmi. B, Nutrition Science, New Age International Pvt. Ltd.
3. N. Shakuntala Manay, M. Shadaksharaswamy, Foods Facts and Principles, New Age International (P) Limited Publishers.
4. Swaminathan. M, Advanced Text-Book on Food and Nutrition, Volume 1 and 2, The Bangalore printing and publishing co. LTD.

Reference Books:

1. Bamji MS, Krishnaswamy K. Brahman GNV. Textbook of Human Nutrition, Oxford and IBH publish Co Pvt. Ltd.
2. Norman. N Potter, Joseph H. Hotchkiss, Food Science, 5th edition, CBS Publishers, and Distributors.
3. Mudambi S. R and Rajagopal M.V, Fundamentals of foods and Nutrition, New Age International Pvt. Ltd.
4. Gopalan, C. Rama Sastry, B.V., and Balasubramanian, S.C., Nutritive value of Indian Foods, National Institute of Nutrition, ICMR, Hyderabad.

Course Outcome:

- ✓ By the time the students have completed this course, they will be able to understand the relationship between science and society, and the conceptual and theoretical issues in the study of sociology of science.

UNIT-I*Building the Concepts of Science, Technology and Society*

- Scientific Revolution and the Era of Enlightenment
- Science- the basic tenets, difference between Science and Common Sense
- Technology-The Basic Features, history of technological development.
- Relationship between Society, Science and Technology, E-governance, Surveillance Society

UNIT-II*India's Progress in Science through Ages*

- Science in different periods in India: Ancient, Medieval and Modern
- Globalization and the new Scientific Revolution
- The rise of Information and Knowledge Society
- Science, Technology and Social Deliverables, Technology & emerging political process, Global and India

UNIT-III*Science and Technology Education and Research*

- Popularising Science and Technology education in India
- The building of iconic scientific and technological institutions
- Privatization of Scientific and Technological Education
- STEM Education: Students enrolment and challenges

UNIT-IV*India's Policies for Science and Technology*

- Scientific Policies and Programmes under five-year plans
- Incentivising science and technology education in educational institutions.
- Department of Science and Technology (DST)
- Policies and programmes for expanding science and technology education, State policies, Digital Divide & Inclusion.

Text Books:

1. Gobo, G., & Marcheselli, V. (2023). Science, Technology and Society: An Introduction. Springer Nature.
2. Science Technology and Society Studies by Sangeeta Dey. UGC e-Adhyayan.

Course Outcome (ପାଠ୍ୟପୁସ୍ତକ ଫଳଶ୍ରୁତି):

- ✓ କଳା ଓ ବିଜ୍ଞାନ ପରସ୍ପର ପରିପୁରକ । ସାହିତ୍ୟ କଳା ଅନ୍ତର୍ଭୁକ୍ତ ବିଷୟ ହେଲେ ମଧ୍ୟ ତହିଁରେ ବୈଜ୍ଞାନିକ ଦୃଷ୍ଟିକୋଣର ଅଭାବ ନାହିଁ । ବିବିଧ ବିଜ୍ଞାନ ବିଷୟ ସହିତ ସାହିତ୍ୟର କିପରି ସମ୍ପର୍କ ରହିଛି, ସେ ସମ୍ପର୍କରେ ଜ୍ଞାନ ଅର୍ଜନ କରିବାପାଇଁ ସଂସ୍ଥିତ ପଢ଼ୁ ସହାୟକ ହେବ ।

ପ୍ରଥମ ଏକକ**(କ) ସାହିତ୍ୟ ଓ ବିଜ୍ଞାନ: ସମ୍ପର୍କ ଓ ପାର୍ଥକ୍ୟ****(ଖ) ସାହିତ୍ୟରେ ବୈଜ୍ଞାନିକ ଦୃଷ୍ଟିଭଙ୍ଗୀ****ଦ୍ୱିତୀୟ ଏକକ****ସାହିତ୍ୟ ଓ ପରିବେଶ ବିଜ୍ଞାନ****ତୃତୀୟ ଏକକ****ସାହିତ୍ୟ ଓ ଜୀବବିଜ୍ଞାନ****ଚତୁର୍ଥ ଏକକ****ପୁରାଣରେ ବିଜ୍ଞାନର ସଙ୍କେତ****Text Books (ସହାୟକ ଗ୍ରନ୍ଥସୂଚୀ):**

1. ପ୍ରାଣୀ ବିଜ୍ଞାନ ପରିଚୟ - ବସନ୍ତ କୁମାର ବେହେରା, ଉପେନ୍ଦ୍ର ଚନ୍ଦ୍ର ପଣ୍ଡା, ଓଡ଼ିଶା ରାଜ୍ୟ ପାଠ୍ୟ ପୁସ୍ତକ ପ୍ରଣୟନ ସଂସ୍ଥା, ଭୁବନେଶ୍ୱର
2. ଆମ ପରିବେଶ (ପ୍ରଦୂଷଣ ଓ ସୁରକ୍ଷା) - ଡକ୍ଟର ବିଶ୍ୱନାଥ ସାହୁ, ବିଶ୍ୱ ଯୁଗ୍ମ ପ୍ରତିଷ୍ଠାନ, ସୂର୍ଯ୍ୟ ନଗର, ଭୁବନେଶ୍ୱର
3. ପରିବେଶ ନୀତିବାଦ ଓ ସ୍ୱସ୍ଥୀକେଶ ପଣ୍ଡାଙ୍କ କଥା ସମ୍ଭାର - ବସୁବାହନ ମହାପାତ୍ର, ବିଜୟିନୀ ପବ୍ଲିକେଶନ୍, କଟକ
4. ବିଜ୍ଞାନର ରୂପ - ଦେବକାନ୍ତ ମିଶ୍ର, ଜଗନ୍ନାଥ ରଥ, ବିନୋଦ ବିହାରୀ କଟକ
5. ଓଡ଼ିଆ ଶିଶୁସାହିତ୍ୟ ଓ ଓଡ଼ିଆ ବିଜ୍ଞାନ ଭିତ୍ତିକ ସାହିତ୍ୟ - ନିରୋଦ କୁମାର ମନ୍ତ୍ରୀ, କଲ୍ୟାଣୀ ପବ୍ଲିକେଶନ୍, କଟକ