



St. Xavier's College (Autonomous) Mumbai

Syllabus For 4th Semester Cross Faculty Course in **LIFE SCIENCE** (June 2013 onwards)

Contents:

Syllabus (theory) for Course:

ASPC0401

Nutrition and Reproductive Health

Template for theory question paper

Evaluation and Assessment Grid

Percent revision:

2015-16: No revision

2016-17: No revision

2017-18: No revision

2018-19: No revision

2019-20: No revision

LIFE SCIENCE

S.Y.B.A./B.M.M/B.M.S.

Course No.: ASPC0401

Title: Nutrition and Reproductive Health

Learning Objectives:

1. To help the students of the faculties of Arts; Mass Media and Management Studies understand, assess and apply basic concepts in nutrition and reproductive health to make informed choices about their health and lifestyle.
2. To introduce the concepts of health and wellbeing, balanced diet, physiology of digestion, energy expenditure, body composition, nutritional and eating disorders coupled to the benefits of an active lifestyle and adequate sleep.
3. To assist students in reading the Nutrition Information Panel and design healthy, wholesome diets and lifestyle patterns for themselves.
4. To acquaint students with the basic anatomy and physiology of the human reproductive system, including the processes of gametogenesis, fertilization, pregnancy, hormones involved, reproductive disorders and the impact of the environment and genetics on congenital birth defects.
5. To inform them about the various contraceptive methods available, including ideal and typical failure rates, mechanism of action, benefits, and side effects, as well as addressing common myths about contraception.

Number of lectures: 45

NUTRITION

- I. Food and its Relation to Health** (2)
 - a. The meaning of food, nutrition and nutritional care.
 - b. Nutritional problems in India and other developing countries
 - c. Problems of over nutrition and under nutrition.
- II. Nutritive Processes – Digestion, Absorption, Metabolism and Excretion** (3)
- III. Food Groups and Food Selection:** (4)
 - a. Food groups – Exchange system of diet. Cereals, Pulses, Green leafy vegetables, Starch vegetables, Meat & Poultry, Dietary Fats, Dairy Foods. Balanced diet, Recommended Dietary Allowance.
 - b. Factors affecting food habits and choices. Fads and fallacies about diets.
- IV. Body Composition and Energy Expenditure:**
 - a. Body composition, Energy intake, Nutrient intake.** (2)
 - i. Assessment of body composition: Body Mass Index, Skin-fold test, Waist to Hip Ratio.
 - ii. Factors determining body composition. Energy & nutrient intake in different populations.
 - b. Energy Expenditure:** (3)
Basal Metabolic Rate, Thermic effect of food, Physical activity.

- V. Nutritional Disorders** (6)
- a. Micronutrient disorders – Calcium, Iron, Iodine, Vitamin A.
 - b. Macronutrient disorders – Obesity, Type II Diabetes Mellitus
 - c. Intolerance and allergies.

- VI. Eating disorders** (2)
- a. Anorexia
 - b. Bulimia
 - c. Binge-eating disorder

REPRODUCTIVE HEALTH

- I. Basic Biology of Human Reproduction:** (6)
- a. Male reproductive system
 - b. Female reproductive system
 - c. Menstrual cycle
 - d. Ovulation
 - e. Fertilization
 - f. Pregnancy and conceptus development
 - g. Hormones during pregnancy

- II. Abnormalities or Birth Defects:** (6)
- a. Genetic- Down's syndrome, Turner's syndrome, Klinefelter's syndrome
 - b. Environmental pollutants/chemicals- Radiation, thalidomide, vitamin A, alcohol
 - c. Developmental abnormalities- Spina bifida, neural tube defect

- III. Disorders of the Reproductive System** (3)

- IV. Infertility:** (4)
- a. Causes of Infertility in male and female
 - b. Assisted Human Reproduction

- V. Methods of contraception:** (4)
- a. Sterilization
 - b. Hormonal
 - c. Intrauterine devices
 - d. Barrier method
 - e. Chemical methods
 - f. Physiological methods
 - g. Coitus interruptus
 - h. Induced abortions

References:

Nutrition

Text books:

1. Mahan LK & Escott-Stump S. 2008. Krause's Food & Nutrition Therapy. 12th Ed. Saunders, Elsevier, USA.
2. Insel P, Ross D, McMahon K & Bernstein M. 2017. Nutrition. 6th Ed. Jones & Bartlett Learning, USA.
3. Dietary Guidelines for Indians. 2011. ICMR National Institute of Nutrition (NIN), India.
4. Gopalan C. 1990. Nutritive Value of Indian Foods. ICMR National Institute of Nutrition (NIN), India.
5. Harvard Health articles. Harvard University online.
6. USDA, US FDA, UK NHS, WHO websites.
7. Current articles in newspapers and online web resources.

Reproductive Health

Text books:

1. Principles of Anatomy & Physiology. 1996. Tortora GJ & Grabowski S. 8th Ed. Wiley. USA.
2. Biology. 2002. Campbell NA & Reece JB. 6th Ed. Pearson, USA.
3. Current articles in newspapers and online web resources.

Template of Theory Question paper

Course: ASPC0401

CIA I – 20 marks, 45 mins.

Nutrition = 10 marks

Reproductive Health = 10 marks

Objectives/Short questions, not more than 2-3 marks each

CIA II – 20 marks

Nutrition = 10 marks

Reproductive Health = 10 marks

Test (45 mins) /Survey /Assignment /Presentation /Poster /Essay /Review

/ Dietary Recall Sheet

End Semester exam – 60 marks, 2 hours

Question 1: *Nutrition* - maximum marks per sub-question - 5 marks

30 marks to be answered out of 38-40 marks

Question 2: *Reproductive Health* - maximum marks per sub-question - 5 marks

30 marks to be answered out of 38-40 marks

| DEPARTMENT OF LIFE SCIENCE AND BIOCHEMISTRY | | | | | |
|---|--------------|----------------------------------|----------------------|-----------------------------|--------------|
| Cross Faculty Course Life Science Exam Grid Semester 4 | | | | | |
| Course | Exam | Knowledge and Information | Understanding | Application/Analysis | Total |
| 0401 | CIA I | 8 | 8 | 4 | 20 |
| | CIA II | 8 | 8 | 4 | 20 |
| | End semester | 18 | 18 | 24 | 60 |