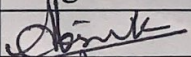

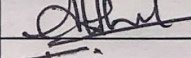
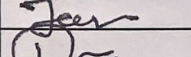
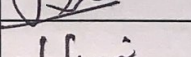
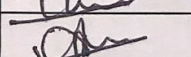
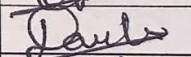
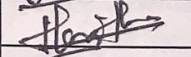
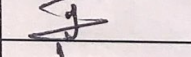
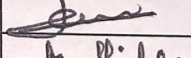
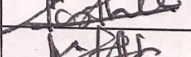
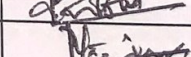

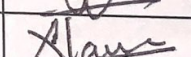
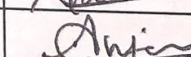

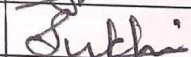
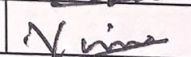

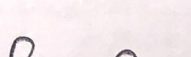
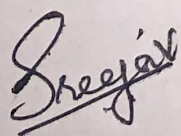


**MANNAM MEMORIAL NSS COLLEGE, KOTTIYAM**  
**STUDENT ENROLMENT LIST (2021-22)**

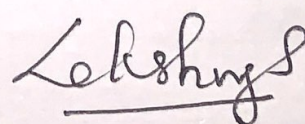
Name of department : Department of Zoology

Name of course : Human Nutrition

Sl No	Name of Student	Signature
1	Abhishek R Krishnan	
2	Ajmi k	
3	Althaf N	
4	Jeeja Jayaprasad	
5	Radhika R	
6	Unnikuttan B	
7	Aparna Mohan	
8	Devika Babu	
9	Haritha H	
10	Jasina S	
11	Jeena Prasad	
12	Karthika G	
13	Krishnathulasi V	
14	Misiriya H S	
15	Nandana krishnan R	
16	Navya Sudarsan	
17	R Anjana	
18	Saranya S	
19	Sukhi S	
20	Vinu T	



Co-ordinator



(HOD)



2021-'22

DEPARTMENT OF ZOOLOGY  
MMNSS COLLEGE, KOTTIYAM  
ADD ON COURSE 2021-22  
HUMAN NUTRITION

Total hours: 30

**Objectives of the course**

- To cultivate proper feeding habits.
- To learn the proper and scientific value of different food items.

**Course outcome**

- To make aware the students about the importance of nutrition in maintaining health.

**Syllabus**

**MODULE 1 - Introduction and scope. (7 hrs)**

Carbohydrates, Proteins and Lipids -: Functions, classification, food sources, storage in body, biomedical importance. Brief outline of metabolism glycogenesis & glycogenolysis (in brief), glycolysis, citric acid cycle. Clinical significance.

**MODULE 2 - Vitamins and minerals (5 hrs)**

Sources and functions, deficiency status. Minerals - macro & micronutrients. - functions, sources.

**MODULE 3 - Calorific values of food (10 hrs)**

Basal metabolic rate, energy requirements of man, women, infants and children





#### MODULE 4 - Interrelationship between nutrition & health (8 hrs)

Visible symptoms of good health; Use of food in body - Digestion, Absorption, transport & utilization; Role of fibres in human nutrition; Effect of cooking & heat processing on the nutritive value of foods; Processed supplementary foods; Food sanitation in hygiene.

#### Reference:

- Gopalan.C, BS. Ramasastri & SC Balasubramanian: 1971, Nutritive value of Indian foods. National Institute of Nutrition, Hyderabad.
- Gopalan.D & K. Vijaya raghavan 1971, Nutrition atlas of India, ICMR, New Delhi.
- Ghosh.S 1981, The feeding care of infants and young children, UNICEF, New Delhi.
- Mudambi.SR ,1995. Fundamentals of food and nutrition. New age international, New Delhi.
- Swaminathan.M, 1989. Handbook of food and nutrition. Bappco, Bangalore.
- Swaminathan.M, 1974. Essentials of food and nutrition. Vol I & II, Ganesh and Co. Madras.



*Sreeja.V*  
Dr. SREEJA.V  
Course coordinator

*Lekshmy.S*  
**Dr. LEKSHMY. S**  
Head, Dept. of Zoology  
M.M.N.S.S. College  
Kottiyam, Kollam

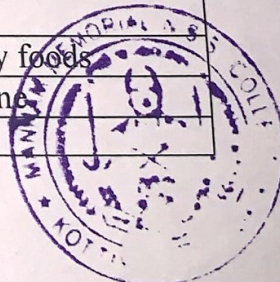


**DEPARTMENT OF ZOOLOGY**  
**COURSE : HUMAN NUTRITION**  
**COURSE SCHEDULE – HUMAN NUTRITION**

DATE	TIME	TOPIC
11/10/2021 (Monday)	3.30 – 4.30 pm	Carbohydrates : Functions, classification
12/10/2021 (Tuesday)	3.30 – 4.30 pm	Brief outline of metabolism glycogenesis
13/10/2021 (Wednesday)	3.30 – 4.30 pm	glycolysis, citric acid cycle. Clinical significance
14/10/2021 (Thursday)	3.30 – 4.30 pm	Protein metabolism
15/10/2021 (Friday)	3.30 – 4.30 pm	Lipid metabolism
16/10/2021 (Saturday)	9.00 – 1.00 pm	Biological significance of biomolecules
18/10/2021 (Monday)	3.30 – 4.30 pm	Vitamins- Sources and functions
19/10/2021 (Tuesday)	3.30 – 4.30 pm	Minerals - macro & micronutrients.
20/10/2021 (Wednesday)	3.30 – 4.30 pm	Basal metabolic rate
21/10/2021 (Thursday)	3.30 – 4.30 pm	energy requirements of man
22/10/2021 (Friday)	3.30 – 4.30 pm	energy requirements of women, infants
23/10/2021 (Saturday)	9.00 – 1.00 pm	energy requirements of children
25/10/2021 (Monday)	3.30 – 4.30 pm	Visible symptoms of good health
26/10/2021 (Tuesday)	3.30 – 4.30 pm	Use of food in body
27/10/2021 (Wednesday)	3.30 – 4.30 pm	Digestion
28/10/2021 (Thursday)	3.30 – 4.30 pm	Absorption, transport
29/10/2021 (Friday)	3.30 – 4.30 pm	Role of fibres in human nutrition
30/10/2021 (Saturday)	9.00 – 1.00 pm	Effect of cooking
01/11/2021 (Monday)	3.30 – 4.30 pm	heat processing on the nutritive value of foods
02/11/2021 (Tuesday)	3.30 – 4.30 pm	Processed supplementary foods
03/11/2021 (Wednesday)	3.30 – 4.30 pm	Food sanitation in hygiene
08/11/2021	END COURSE EVALUATION	

*Sreeja V*  
**DR. SREEJA V**  
**Course Coordinator**

*Lekshmy S*  
**Dr. LEKSHMY S**  
**Head, Dept. of Zoology**  
**M.M.N.S.S. College**  
**Kottiyam, Kollam**





**MMNSS COLLEGE, KOTTIYAM**  
**DEPARTMENT OF ZOOLOGY**  
**END COURSE EVALUATION OF ADD ON COURSE 2021-22**  
**HUMAN NUTRITION**

**Max marks: 25**

**Time: 1 hr**

**Section A. Answer all questions** in one or two sentences (5×1= 5)

1. What are the components of carbohydrates?
2. Write any two sources of fat?
3. Define gluconeogenesis?
4. Define enzymes?
5. Mention any two essential amino acids?

**Section B. Answer any 4 of the following** (4×2=8)

6. How do you classify carbohydrates?
7. How is protein digested in human body
8. Define vitamin
9. Give any two food sources of ascorbic acid
10. Give nutritional importance in adolescence.
11. Basal metabolic rate,

**Section C. Answer any 3 of the following** (3×4= 12)

12. Brief outline of metabolism glycogenesis & glycogenolysis
13. Explain the energy requirements of man, women, infants and children
14. Describe the Effect of cooking & heat processing on the nutritive value of foods.
15. Write a note on classification of proteins.
16. Plan a packed lunch for a 12-year-old boy.



**Mark sheet of end course evaluation of the Add on course Human Nutrition  
(2021-22)**

Sl. No:	Name	Candidate code	Mark (25)	Signature
1	Abhishek R Krishnan	25021116001	20	<i>Abhishek</i>
2	Ajmi k	25021116002	24	<i>Ajmi</i>
3	Althaf N	25021116003	20	<i>Althaf N</i>
4	Jeeja Jayaprasad	25021116004	25	<i>Jeeja</i>
5	Radhika R	25021116007	24	<i>Radhika</i>
6	Unnikuttan B	25021116008	14	<i>Unnikuttan</i>
7	Aparna Mohan	25021116009	25	<i>Aparna</i>
8	Devika Babu	25021116011	16	<i>Devika</i>
9	Haritha H	25021116012	24	<i>Haritha</i>
10	Jasina S	25021116013	22	<i>Jasina</i>
11	Jeena Prasad	25021116014	23	<i>Jeena</i>
12	Karthika G	25021116015	25	<i>Karthika</i>
13	Krishnathulasi V	25021116016	25	<i>Krishnathulasi</i>
14	Misiriya H S	25021116017	22	<i>Misiriya</i>
15	Nandana krishnan R	25021116018	21	<i>Nandana</i>
16	Navya Sudarsan	25021116019	19	<i>Navya</i>
17	R Anjana	25021116020	23	<i>R Anjana</i>
18	Saranya S	25021116021	17	<i>Saranya</i>
19	Sukhi S	25021116024	24	<i>Sukhi</i>
20	Vinu T	25021116025	17	<i>Vinu</i>

*Sreeja V*  
Dr. SREEJA V  
Course- Coordinator

*Lekshmy S*  
Dr. LEKSHMY S  
HOD, Dept of Zoology  
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Kottiyam - 691571



DEPARTMENT OF ZOOLOGY  
COURSE : HUMAN NUTRITION  
COURSE REPORT

2021-22

The add-on course on human nutrition introduces dynamic and exciting fields of human health and nutrition. This nutrition course is designed for those who are interested in learning about Nutritional Science. This course teaches about the function and key sources of macro and micronutrients, and their relationship with human metabolism and the maintenance of good health. It explains the concepts of balance and turnover, plus how energy and protein are conserved and utilised in metabolic pathways and also discuss the role nutrition plays in obesity. 20 students participated in this course. The duration of the course was 30 hours. The course started on 11/10/2021. End course evaluation was conducted on 03/11/2021.

*[Signature]*  
Principal  
M.M.N.S.S. COLLEGE  
KOTTIYAM

*[Signature]*  
**Dr. LEKSHMY. S**  
Head, Dept. of Zoology  
M.M.N.S.S. College  
Kottiyam, Kollam

FEEDBACK REPORT BY STUDENTS

The course was very useful and very well laid out. It was very accessible and informative and clearly defined the information that you needed to take away from the course. Students found the course lectures were very useful and will be able to refer to that knowledge in the future. The tests at the end of each module really helped them to see how much they had learned. So, they could go back and review items that they didn't do so well on.



*[Signature]*  
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*[Signature]*  
Principal  
M.M.N.S.S. COLLEGE  
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