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St Aloysius College (Autonomous)
Mangaluru
Semester II – P.G. Examination – M.Sc. Food Science, Nutrition and
Dietetics
April- 2019
ADVANCED NUTRITION- I

Time: 3 Hours

Max. Marks: 70

I Answer any SIX of the following.**(6x3=18)**

1. Difference between PAL and PAR.
2. Distinguish between TEF and AT.
3. What's Lactose Intolerance?
4. Difference between MUFA and PUFA.
5. Types of Dietary Fiber.
6. Clinical symptoms of PEM.
7. Briefly describe role of triglyceride in vascular diseases.

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II Answer any FOUR of the following.**(4x7=28)**

8. Define body composition. Elaborate on the factors affecting body composition.
9. Elaborate on the concepts in determining human energy requirement as per ICMR.
10. Elaborate on GI and GL.
11. Explain the steps in beta-oxidation of fatty acids.
12. Describe briefly the disorders associated with carbohydrate metabolism.

III Answer any TWO of the following.**(2 x12=24)**

13. Elaborate on the regulation of water balance in the body and describe briefly the disorders associated with it.
14. Elaborate on the nitrogen balance concept and setting of protein requirement for Indians.
15. Elaborate on the functions of essential and non essential amino acids.

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CLINICAL AND THERAPEUTIC NUTRITION- I

Time: 3 Hours

Max. Marks: 70

I Answer any SIX of the following. (6x3=18)

1. The factors that affect nutritional needs.
2. What are the functions of a consultant dietitian?
3. Write a note on underwater weighing technique.
4. Describe the deficiency symptoms of niacin.
5. Write about the basic guidelines for diet planning.
6. What are the types of nutrition care records and explain briefly.
7. Write a note on therapeutic diets.

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II Answer any FOUR of the following. (4x7=28)

8. How body composition is measured using air displacement plethysmography.
9. Write in detail about the nutritional screening methods.
10. Write a note on any two biochemical methods for diagnosis of anemia.
11. Formulate a nutrition care plan for the following case:

A 34 yr old male came to the hospital with history of diabetes mellitus II, hypertension and hyperlipidemia. His height is 157cm and wt 113kg, BMI =36. He works night shift, eats, 2 meals/ day in restaurants (fried foods, burgers, ice cream, beans) plays golf once a month.

12. How food choices and behaviour of a patient can be changed through nutrition counseling.

III Answer any TWO of the following. (2 x12=24)

13. Discuss about the nutrition problems and current nutrition status in India.
14. Enumerate the objectives of diet therapy and rationale for modifications in normal diets.
15. Explain in detail about different models of nutrition counseling.

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ESSENTIALS OF MICRO NUTRIENTS

Time: 3 Hours

Max. Marks: 70

I Answer any SIX of the following. (6x3=18)

1. What is Hypovitaminosis?
2. Give the sources of Iron and Vitamin E.
3. Explain on the storage of Thiamine.
4. Write a note on distribution of water in our body.
5. Brief out the excretion of folic acid.
6. Give the essential role of sodium in our body.
7. Write on Pyridoxine.

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II Answer any FOUR of the following. (4x7=28)

8. Enumerate on the regulation of calcium concentration? Add a note on its interaction with other nutrients.
9. Discuss on the deficiencies of Niacin and Thiamine.
10. Explain the distribution and concentration of Phosphorus in our body.
11. Brief out the role of Iron in prevention of anemia.
12. Write on the interaction of fat soluble vitamins with other nutrients.

III Answer any TWO of the following. (2 x12=24)

13. Explain the Sodium and Potassium transport
 - a. Active transport
 - b. Co-transport
 - c. Passive transport
14. Give in detail the physiology, functions, toxicity and sources of Iodine and Fluoride.
15. Differentiate between Vitamin A and Vitamin D under the following heads
 - i) Deficiency
 - ii) Toxicity
 - iii) Functions.

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RESEARCH METHODOLOGY

Time: 3 Hours

Max. Marks: 70

I Answer any SIX of the following. (6x3=18)

1. Define Research and list the types of research.
2. What are Standard error, sampling errors and population?
3. Principles of Experimental designs.
4. What are good and poor literature surveys?
5. Find the arithmetic mean and median for the following:
63, 57, 51, 54, 61, 62, 59, 58, 60.
6. Write note on co efficient of variation.
7. Write a note on binomial distribution.

II Answer any FOUR of the following.

8. Explain primary data and secondary data.
9. Find the standard deviation for the following data regarding daily sales of number of glasses of lemon juice in shop.

No of glasses lemon juices	15	20	30	35	40
No of days	5	0	2	5	2

10. Explain Chi squire test for goodness of fit with example.
11. Explain Research process in detail.
12. Explain the types of probability and non probability samplings in research.

III Answer any TWO of the following.

(2 x12=24)

13. What is ANOVA? Discuss in detail.
14. Explain the regression and find the regression equation of X and Y and predict the value of X when Y is 9.

X	3	6	5	4	4	6	7	5
Y	3	2	3	5	3	6	6	4

15. The Probability that the bomb dropped on a bridge hits is 0.4. Eight bombs are dropped on the bridge. Two bombs-hits are enough to destroy the bridge. Find the Probability that;
 - i) All the bombs hit the bridge
 - ii) Two bombs hit the bridge
 - iii) The bridge is destroyed
