

Hiralal Mazumdar Memorial College For Women

Department of Food and Nutrition

3rd Semester Honours

Food and Nutrition

FNTACOR0 5 (T)

NUTRIENTS METABOLISM

CHAPTER 1: CARBOHYDRATE METABOLISM

Marks-6

1. Describe the process of Glycolysis.
2. Justify the nomenclature of enzymes involved in Glycolysis.
3. Describe the process of Glycogenolysis.
4. Write down about the oxidation of pyruvate and its place of occurrence. Mention the role of enzymes in the process of oxidation of pyruvate.
5. Write down the process of Gluconeogenesis,
6. Write down the Pentose phosphate pathway.

Marks-3

1. Explain Glycolysis with respect to its bioenergetic only.
2. What all enzymes involve in glycogen metabolism.
3. Justify Gluconeogenesis is not a reverse pathway of Glycolysis.
4. When Gluconeogenesis occur in cells?
5. What is the relevance Pentose phosphate pathway in bioenergetics?
6. What is the significance of Pentose phosphate pathway in terms of nucleic acid synthesis?

Marks-1

1. How many ATP produce in Glycolysis?
2. How many ATP utilise in Glycolysis?
3. What all allosteric enzyme take part in Gluconeogenesis?
4. What do you mean by fate of pyruvate?

CHAPTER 2: LIPID METABOLISM

Marks -6

1. Write down the β -oxidation pathway?
2. How cholesterol gets catabolized?
3. Write down about the de-novo biosynthesis of fatty acids.
4. What is the process of fatty acid oxidation occur in cell for even number of carbon or odd number of carbon present in fatty acids.

Marks-3

1. Apart from β -oxidation mention the name of other oxidation processes of fatty acid.
2. How lipid metabolism in physiological medium before enter into the cell?

Marks- 1

1. What is PUFA?

2. What is MI-JFA?
3. Mention the relevance of β -oxidation in bio energetics.

CHAPTER 3:AMINO - ACID METABOLISM

Marks-6

1. What is Transmission?
2. What is oxidative deamination?
3. Write down about the urea cycle.

Marks-3

1. What is essential amino acid give example?
2. What is difference between essential amino acid & non - essential amino acid?
3. Write down the process of transmethylation.
4. What is decarboxylation?
5. What is the difference between Glucogenic & Ketogenic amino acid give example?
6. What is phenyl ketonuria?

CHAPTER 4: BIOLOGICAL OXIDATION

Marks- 6

1. Describe Electronic Transport Chain in brief with suitable diagram.
2. Describe the process of ATP synthesis.
3. Describe the process of Oxidative Phosphorylation.

Marks-3

1. Describe the structure of ATP synthetase.
2. What is Chemo osmotic hypothesis?
3. Write down the name of enzyme involve in Electron Transport Chain.

Marks- 1

1. What is proton gradient?
2. What is the energy currency in our body?
3. What is 'Q' cycle?
4. Give two examples of Electron Transport Chain inhibition.

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NUTRITION THROUGH LIFE SPAN

CHAPTER 1 :- BASICS OF MENU PLANNING

SHORT QUESTIONS :- (1 MARKS)

1. DEFINE THE TERM "MENU PLANNING?"
2. FOUR FOOD GROUPS IS SUGGESTED BY WHOM?
3. IN A BALANCED DIET WHAT WILL BE THE RATIO OF CARBOHYDATE, PROTEIN AND FAT?
4. HOW MUCH MINIMUM AMOUNT OF MILK SHOULD BE INCLUDED IN THE DIET OF A ADULT MAN?
5. WRITE THE FULL FORM OF RDA AND RDI?

SHORT NOTES MARKS 5

BASIC 4 FOOD GROUPS, BASIC FIVE FOOD GROUPS, PRINCIPLES OF MENU PLANNING, FOOD EXCHANGE LIST, FOOD VALUE TABLE, AIMS AND OBJECTIVES OF MENU PLANNING, ADVANTAGES OF MENU PLANNING.

LONG QUESTIONS MARKS 10

WHAT ARE THE FACTORS AFFECTING MENU PLANNING?

WHAT ARE THE STEPS INVOLVED IN PLANNING A MEAL?

CHAPTER 2: NUTRITION IN ADULTS AND ELDERLY

1. Write down the physiological changes in old age?
2. Write down the nutritional requirement of elderly?
3. Dietary guideline for elder people?
4. Discuss about nutrition related problem of old age?
5. Give RDA for older people.
6. What alteration would you suggest in the diet plan for an old man?
7. What are the reason for malnutrition during old age?
8. Bring out the importance of calcium and fibre during old age?
9. How can Degenerative disease be prevented during old age?
10. Why is osteoporosis common during old age ? What are the risk factor?

11.Nutritional requirements of adult?

12.Complications commonly occurring in adulthood?

CHAPTER3 :- NUTRITION DURING PREGNANCY

SHORT QUESTION :- MARKS 1

1. WRITE THE NAME OF SOME PLACENTAL HORMONES.
2. WHY EXCESS CALCIUM IS NEEDED DURING PREGNANCY?
3. WHAT IS MORNING SICKNESS?
4. WHAT IS HYPERMESIS GRAVIDERUM?
5. GIVE EXAMPLES SOME NUTRITIONAL PROBLEM AND COMPLICATIONS DURING PREGNANCY.
6. WHAT IS CREVINGS AND AVERSIONS?
7. WHAT IS GESTATIONAL DISBETES?
8. DEFINE PICA

SHORT NOTES MARKS 5

PRINCIPLES OF BREAST FEEDING, NUTRITIONAL AND NON NUTRITIONAL PROBLEMS DURING PREGNANCY, MORNING SICKNESS, GESTATIONAL DIABETES, TOXAEMIA, ANAEMIA DURING PREGNANCY, HORMONAL PROFILE DURING PREGNANCY, HIGH RISK PREGNANCIES, PHYSIOLOGICAL CHANGES DURING PREGNANCY, COMPLICATIONS DURING PREGNANCY, PRE ECLAMPSIA ,INITIATIVES OF GOVT TO PREVENT ANAEMIA IN PREGNANCY, ADOLECENT PREGNANCY, NON NUTRITIONAL FACTORS AFFECTING PREGNANCY OUTCOME, IMPACT OF NUTRITIONAL DEFICIENCIES ON THE OUTCOME OF PREGNANCY, WEIGHT GAIN DURING PREGNANCY

LONG QUESTION MARKS 10

WRITE THE NUTRITIONAL REQUIREMENTS AND RDA OF A PREGNANT WOMEN WITH A SAMPLE MENU.

CHAPTER 4 : NUTRITION DURING LACTATION

SHORT QUESTIONS MARKS 1

1. WHAT IS GALACTOGOGUES?GIVE SOME EXAMPLES OF COMMON GALACTOGUES.
2. DEFINE LET DOWN REFLEX.
3. WHICH MINERAL CONTENTS ARE INDEPENDENT AND DEPENDENT OF MOTHER'S DIET?
4. WHAT IS EXPRESSED MILK?
5. WHAT IS FTT?
6. WHAT IS LAM?

7. DEFINE LACTATION FAILURE.

8. BREAST MILK BANK IS SITUATED WHERE IN KOLKATA?

SHORT NOTES MARKS 5

HORMONAL CONTROL OF LACTATION. LET DOWN REFLEX, PHYSIOLOGY OF LACTATION, FACTORS AFFECTING QUALITY AND QUANTITY OF MILK, EXPRESSED MILK, FAILURE TO THRIVE, GALACTOGOGUES, BREAST FEEDING DURING COVID 19, LACTATION FAILURE. CARE OF NIPPLES AND BREAST DURING LACTATION, DIFFERENT BREASTFEEDING PROCEDURES, PROBLEMS OF BREAST AND NIPPLES DURING LACTATION

LONG QUESTIONS MARKS 10

WRITE THE NUTRITIONAL REQUIREMENTS AND RDA OF A LACTATING MOTHER WITH A SAMPLE MENU.

CHAPTER 5: NUTRITION DURING INFANCY

SHORT QUESTION 1 MARKS

1. What is Colostrum?
2. What is transition milk?
3. What is foremilk ?
4. What is hind milk?
5. What do you mean by artificial feeding or bottle feeding?
6. What do you mean by weaning ?
7. What do you mean by beikost?
8. What do you mean by mixed feeding?
9. What is Supplementary food?

SHORT NOTE 5 MARKS

1. Define weaning and give the schedule for it?
2. List the problem of weaning and explain any one in details.
3. Breast milk is the best milk- Explain
4. Explain : Lactobacillus Bifidus factor.
5. Compare the nutritive value of human milk with cow's milk.

LONG QUESTION

1. Growth and development during infancy?
2. Importance of breast feeding?

- 3.Importance of Colostrum?
4. Composition of Colostrum?
5. Nutritional requirement of infancy?
- 6.Advantages of exclusive breast feeding?
- 7.Basic principle of breast feeding?
- 8.What do you mean by Baby led weaning?
- 9.Bottle feeding circumstances under which bottle feeding is to be given?
- 10.How do you take care and sterilize bottle?
- 11.How do you prepare of formula food?
- 12.Write down the difference between artificial feeding and breast feeding ?
- 13.What do you mean by preterm baby and low birth weight baby? Describe the nourishment method of them?
- 14.Give the RDA of an Infant.

CHAPTER 6 : NUTRITION FOR CHILDREN AND ADOLESCENT

SHORT QUESTION 1MARKS

- 1.Name the low cost recipes of Preschool.

SHORT NOTE

- 1.Short note on growth chart.
- 2.Explain the Nutritional importance of preschool?
- 3.Discuss the factors affecting the nutritional status of children?
- 4.Describe the factors to be considered in planning a diet for a preschool?
- 5.What re the reason for malnutrition during preschool?
- 6.What are the nutritional problem during preschool?
- 7.Write a short note on ICDS.
- 8.How can you prevent dental problem in children?
9. How can you modify the food habit of children?
- 10.Dietary management of preschool children?
- 11.Suggested recipes for school going children?
12. Give the RDA for preschool children.

13. Describe the points to be considered in planning diets for school going children?

14. What are the feeding problems of school going children?

15. Short note on- Packed lunch, School lunch program or Mid day meal program?

16. Importance of breakfast for school goers?

17. Dietary guidelines for School going children?

18. What do you mean by Pica?

19. Give RDA for school going children?

20. Explain the cause of obesity in school going children?

21. What are the problems involved in feeding programs of India.

22. Give the RDA for school going children.

23. Write a note on Anaemia in adolescent.

24. Discuss the common nutrient deficiencies in adolescent.

25. Plan a diet of an adolescent girl suffering from nutritional anaemia.

26. Discuss eating disorder of adolescent girl.

27. Explain malnutrition due to Early marriage?

LONG QUESTION

1. What do you mean by PEM. Symptoms of different types of PEM. Nutritional requirements of PEM. Describe the Stages of treatment of PEM.

2. Write down the aetiology and clinical of vit A deficiency? Prevention of vitamin A deficiency?

3. Explain the nutritional problem of adolescent girls and boys?

4. Explain Anorexia nervosa and Bulimia.

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ELEMENTARY DIETETICS AND MENU PLANNING

CHAPTER 1:DIETETICS AND DIETICIAN

1. Write short notes on :

- a) Dietetics
- b) Dietician

CHAPTER 2: FOOD GROUPS

1.SHORT NOTE

Five food groups

Food Pyramid

Gelatinization of starch

Maillard reaction

Convenience foods

Caramelization

2. Define food colours. Mention different types of food colours. Write its significance.

3. Explain the composition of tea, coffee, chocolate and cocoa powder.

4. Discuss in details toxic constituents present in pulses.

5. Describe the structure and composition of wheat.

6. Mention the advantages and disadvantages of parboiling of rice.

7. Discuss the medicinal value of different spices.

CHAPTER 3: DIETARY GUIDELINES

What is RDA?

What is food pyramid?

What is nutritive value?

Short notes

Classification of food, RDA, Dietary Guidelines for Indians, food pyramid.

CHAPTER 5: BASICS OF DIET THERAPY

What is therapeutic Diet?

What is modification of diet?

What is therapeutic adaptation?

Short notes

Concept of diet therapy, therapeutic adaptation of normal diet, classification of therapeutic diet, principles of therapeutic diet.

CHAPTER 6: DIET FOR HEALTH CARE

What is health care?

What is counselling?

Short notes

Counselling, stages of counselling, assessment of patients needs, approaches of counselling.

CHAPTER 7: ROUTINE HOSPITAL DIET

Short notes

Routine Hospital Diet, light diet, regular diet, soft diet, fluid diet, enteral & parenteral diet.

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SEC- Instrumentation

CHAPTER1: MICROSCOPY

- 1.What is Bright field Microscopy?
- 2.What is Dark field Microscopy?
- 3.What is Phase Contrast Microscopy?
- 4.What is Optical Microscopy? Types of Optical Microscopy.
- 5.What is Inverted Microscopy?
- 6.Describe the parts of Inverted Microscopy?

CHAPTER 2 :CHROMATOGRAPHY

SHORT NOTE:

Principles and application of paper chromatography

Principles and application of thin layer chromatography

Principles and application of HPLC

Separation of mixture by paper / thin layer chromatography

CHAPTER 3:SPECTROPHOTOMETRY

1. Discuss the principle and use spectrophotometer.

CHAPTER 4: ELECTROPHORESIS

2. Explain the principle and applications of polyacrylamide gel electrophoresis

CHAPTER 5:CENTRIFUGATION

- 1.Short notes -Centrifugation, preparative centrifugation, analytical centrifugation, density gradient centrifugation, ultra centrifugation.

CHAPTER 6: ECG and EEG



1. What do you mean by ECG?
2. What do you mean by Einthoven's Triangle?
3. What are the types of ECG recording?
4. What are the Limb Electrodes and Chest Electrodes.
5. What do you mean by Bipolar and Unipolar Leads?
6. Write down the Application of ECG?
7. What do you mean by EEG?
8. Describe Bipolar and Unipolar record.
9. Write down the Application of EEG.
10. Write down the types of waves present in EEG.

