

SHARAYU - I (2007 COURSE) : APRIL/MAY 2011
SUBJECT : NUTRITIONAL & BIOCHEMISTRY

Day : Wednesday
Date : 20-04-2011

Time : 9:00 A.M. To 12:00 Noon.
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.

SECTION - I

Q.2

Write notes on any **FIVE**.

- a) Write a note on 'Specific Dynamic Action' of food.
- b) State any three function of fat (except energy supply).
- c) Classify protein on the basis of essential amino acid composition and give an example under each class.
- d) Define essential amino acids and list all the essential amino acids required by a child.
- e) Define Vitamins. Name the fat soluble vitamins and give any one food source of each fat soluble vitamins.
- f) What are the functions of iron? Name any one food source rich in iron.
- g) What are the functions of Vitamin D?

Q.3

Answer any **TWO** questions:

(20)

- a) Discuss Calcium under the following heading
 - i) any three functions,
 - ii) four rich food source,
 - iii) name of the deficiency disease
 - iv) RDA for an adult man.
- b) Write a note on electrolyte balance.
- c) How would you prevent food contamination during food preparation?
- d) What is Kwashiorkor? What are its symptoms? What food you would suggest for this patient?

SECTION - II

Q.4

Classify lipids with suitable examples.

(10)

OR

Describe urea cycle. Add a note on significance of blood urea level.

Q.5

Write notes on any **FIVE** :

(15)

- a) Structure and function of tRNA
- b) Polysaccharides
- c) Lipid profile
- d) Write any three factors affecting enzyme activity
- e) Normal and abnormal hemoglobins
- f) Types and functions of plasma proteins
- g) Serum electrolytes

SHARAYU - I (2007 COURSE) : WINTER - 2016
SUBJECT : NUTRITION AND BIOCHEMISTRY

Day : Wednesday
Date : 05-10-2016

Time : —
Max. Marks : 15

N. B. :

- 1) All questions are **COMPULSORY**.
- 2) Put a tick (✓) mark in the appropriate box.
- 3) Use blue/black ball point pen only.
- 4) Section - I should be completed within **20** minutes.
- 5) Each question carries **ONE** mark.
- 6) Students will not be allotted marks if he or she overwrites strikes or puts ink on the cross marked.

Seat No. _____

Total Marks Obtained _____

Jr. Supervisor's Signature _____

Signature of Examiner _____

SECTION - I

MCQ

Q. 1 Uremia occurs in _____.

- a) Cirrhosis of Liver
- b) Diabetes
- c) Nephritis
- d) Coronary disease

Q. 2 Serum _____ levels are detected to confirm Jaundice.

- a) Bilirubin
- b) Urea
- c) Glucose
- d) HB

Q. 3 Creatinine levels are _____ in case of kidney disorders.

- a) Stable
- b) High
- c) Low
- d) Non significant

Q. 4 Which of the following Vitamin is responsible for retinol production?

- a) Vitamin A
- b) Vitamin B
- c) Vitamin C
- d) Vitamin D

P. T. O.

Q. 5 ATP is _____.

- a) Adenosine triphosphate
- b) Adenosine
- c) Adenine triphosphate
- d) Acyl phosphate

Q. 6 A rich source of carbohydrate is _____.

- a) Onion
- b) Corn
- c) Apple
- d) Fish

Q. 7 An essential amino acid is _____.

- a) Glycine
- b) Alanine
- c) Methionine
- d) Proline

Q. 8 Bitot's spot is due to the deficiency of _____.

- a) Vitamin A
- b) Vitamin C
- c) Vitamin D
- d) Vitamin E

Q. 9 Green leafy vegetables are rich in _____.

- a) Iron
- b) Calcium
- c) Phosphorus
- d) Sodium

Q. 10 Fat digesting enzymes are _____.

- a) Amylases
- b) Lipases
- c) Proteases
- d) Glycosidases

Q. 11 Biological method of preservation of food is _____.

- a) Heating
- b) Irradiation
- c) Freezing
- d) Acid fermentation

Q. 12 Thiamine deficiency causes _____.

- a) Scurvy
- b) Beriberi
- c) Night blindness
- d) Rickets

Q. 13 In refrigerators milk should be stored in _____.

- a) Freezer
- b) Chiller tray
- c) Crisper
- d) Shelves

Q. 14 Oil rich in PUFA is _____.

- a) Safflower oil
- b) Til oil
- c) Coconut oil
- d) Gingerlly seed oil

Q. 15 Food Adulteration Act was enacted by Government in _____.

- a) 1953
- b) 1954
- c) 1976
- d) 1990

SHARAYU - I (2007 COURSE): OCT/NOV-2013
SUBJECT: NUTRITION AND BIOCHEMISTRY

Day: Thursday
Date: 17-10-2013

Time: —
Max. Marks: 15

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Put \checkmark a tick mark in the appropriate box.
- 3) Use blue/ black ball point pen only.
- 4) Section -I should be completed in **20** minutes.
- 5) Each question carries **ONE** mark.
- 6) Student will not be allotted any marks if he/ she overwrite strikes or puts ink on the box once marked.

Seat No: _____

Signature of Supervisor: _____

Marks Obtained: _____

Signature of Examiner: _____

SECTION- I

- 1) Soyabean is an example of
 - a) Green leafy vegetable
 - b) Cereal
 - c) Pulse
 - d) Nut
- 2) Fructose is also called as
 - a) Milk sugar
 - b) Fruit sugar
 - c) Monosaccharide
 - d) polysaccharide
- 3) Rickets is due to the deficiency of
 - a) Thiamine
 - b) Niacin
 - c) Calcium
 - d) Iron
- 4) Ghee has more of
 - a) Saturated fatty acid
 - b) Unsaturated fatty acid
 - c) Essential fatty acid
 - d) Glycerol

- 5) Calcium is present in
- a) Tur dal
 - b) Egg
 - c) Banana
 - d) Ragi
- 6) In hypothyroidism BMR
- a) Decreases by 30 %
 - b) Increases by 40 %
 - c) Decreases by 20%
 - d) Increases by 20 %
- 7) Thiamine deficiency leads to
- a) Anaemia
 - b) Goitre
 - c) Rickets
 - d) Beriberi
- 8) The main 'cation' seen in ICF is
- a) Potassium
 - b) Sodium
 - c) Chloride
 - d) Bicarbonate
- 9) The loss of water by lungs is
- a) Respiration
 - b) Perspiration
 - c) Inhalation
 - d) None of the above
- 10) Pellagra is due to the deficiency of
- a) Niacin
 - b) Thiamine
 - c) Folic acid
 - d) Riboflavin

SECTION-II

- 1) The HMP shunt is responsible for the formation of
- a) Glucose
 - b) NAD
 - c) Pentose sugars
 - d) GTP
- 2) The normal blood urea level is
- a) 20 to 60 mg %
 - b) 5 to 20 mg %
 - c) 8 to 10 mg %
 - d) 15 to 40 mg %
- 3) Storage form of fats in the body is
- a) Triglycerides
 - b) Phospholipids
 - c) Lipoproteins
 - d) Cholesterol
- 4) Free radicals are harmful as they damage
- a) Cell membrane
 - b) DNA
 - c) Proteins
 - d) All of the above
- 5) Which of the following vitamin is derived from cholesterol?
- a) Vitamin E
 - b) Vitamin K
 - c) Vitamin A
 - d) Vitamin D

SHARAYU - I (2007 COURSE): Oct/Nov-2013
SUBJECT: NUTRITION AND BIOCHEMISTRY

Day: Thursday
Date: 17-10-2013

Time: 9:00AM TO 12:00 NOON.
Max. Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate full marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION- I

Q.2 Answer Any **FIVE** of the following: (15)

- a) Define essential amino acids. List the essential amino acids for a child. Name any one food with supplies all essential amino acids.
- b) Explain any three ways by which nutrients can be preserved during cooking.
- c) Explain 'Electrolyte Balance'.
- d) What is PFA? Why was it implemented?
- e) Write a note on Mid day meal programme.
- f) Discuss IRON under the following headings:
i) RDA for an adolescent girl ii) Any two important functions
- g) What is Goiter? Why does it occur? What are the preventive measures?

Q.3 Answer Any **TWO** of the following: (20)

- a) What is PCM? Why does it occur? What treatment should be given to this patient?
- b) What is Balanced Diet? Plan vegetarian balanced diet for an adolescent girl. Justify how this diet planned can be called balanced?
- c) How are carbohydrates digested and absorbed in our body? What is the importance of fiber in maintaining good health.
- d) What is Basal Metabolism? Explain any four factors that affect Basal Metabolism.

SECTION-II

Q.4 Define proteins. Classify proteins with suitable example. Add a note on plasma proteins. (10)

OR

What is normal fasting Blood glucose level? Explain mechanisms for regulation of blood glucose.

Q.5 Write short notes on Any **FIVE** of the following: (15)

- a) Abnormal Hemoglobins
- b) Ketosis
- c) Competitive Inhibition of enzymes
- d) Lipid profile
- e) Functions of Phospholipids
- f) Jaundice
- g) Immune response

SHARAYU - I: SUMMER 2015 (2007 Course)
SUBJECT: NUTRITION & BIOCHEMISTRY

Day: Wednesday
Date: 22-04-2015

Time: —
Max Marks. 15

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Put a tick mark \checkmark in the appropriate box.
- 3) Use blue / black ball point pen only.
- 4) Section - I should be completed within **20** minutes.
- 5) Each question carries **ONE** mark.
- 6) Students will not allotted marks if he or she overwrites strikes or puts ink on the cross marked.

Q.1 MCQ :

- 1) The food source of iron is
 - a) Apple
 - b) Banana
 - c) Figo
 - d) Grapes

- 2) Coconut is good source of
 - a) Unsaturated fat
 - b) Saturated fat
 - c) Polyunsaturated fat
 - d) Transcend fat

- 3) Vitamin D3 formed in the body
 - a) Duodenum
 - b) Skin
 - c) Bones
 - d) Stomach

- 4) Walnut is rich source of
 - a) Essential fatty acid.
 - b) Essential amino acid
 - c) Iron
 - d) Calcium

- 5) The dryness of sclera is called as
- a) Xorophthalmia
 - b) Bitotospot
 - c) Night blindness
 - d) Conjunctivitis
- 6) Which of the following methods should be used for nutrition education
- a) Personal talks
 - b) Group discussion
 - c) Posters and charts
 - d) All of the above
- 7) The normal blood level of cholesterol is
- a) 100 to 250 mg/dl
 - b) 150 to 300 mg/dl
 - c) 200 to 350 mg/dl
 - d) 250 to 400 mg/dl
- 8) The good source of protein is
- a) Fruits
 - b) Cereals
 - c) Poultry foods
 - d) Legumes
- 9) Thiamine is also known as
- a) Vit B1
 - b) Vit B2
 - c) Vit B3
 - d) Vit B6
- 10) Milk is lacking in the supply of nutrients
- a) Iron and Vit C
 - b) Calcium and Vit A
 - c) Sodium and Vit B1
 - d) Fat and Vit B12

- 11) When an egg is boiled, the albumin is converted into a white solid mass. In chemical terms we can say that
- a) The protein was dehydrated by heat
 - b) The protein was denatured by heat
 - c) The protein was cross-linked by heat
 - d) The protein was degraded by heat
- 12) Which one of the following is a cofactor and not a coenzyme?
- a) Biotin
 - b) Tetrahydrofolic acid
 - c) Copper
 - d) Methylcobalamin
- 13) Which molecule binds to the active site of an enzyme?
- a) Allosteric inhibitor
 - b) Allosteric activator
 - c) Noncompetitive inhibitor
 - d) Competitive inhibitor
- 14) In simple diffusion process, molecules cross the plasma membrane
- a) Against concentration gradient
 - b) Along concentration gradient
 - c) Do not depend on concentration
 - d) With help of energy
- 15) Cholesterol is essential for normal membrane functions because it
- a) Cannot be made by mammals
 - b) Spans the thickness of the bilayer
 - c) Keeps membranes fluid
 - d) Catalyzes lipid flip-flop in the bilayer

SHARAYU - I : SUMMER 2015 (2007 Course)
SUBJECT: NUTRITION & BIOCHEMISTRY

Day: Wednesday
Date: 22-04-2015

Time: 9:00 A.M. To 12:00 Noon
Max Marks. 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate full marks
- 3) Use separate answer sheet for each sections.

SECTION - I

- Q.2** Attempt any **FIVE** (5 × 3) (15)
- a) Functions of proteins
 - b) Factors affecting iron absorption
 - c) Pulses and legumes
 - d) Vitamin B12
 - e) Advantages of cooking food
 - f) Essential fatty acids
 - g) Vitamin A deficiency
- Q.3** Attempt any **TWO**
- a) i) Define Recommended Daily Allowance (02)
ii) Write the uses of RDA (03)
iii) Describe the factors affecting nutritional requirement of RDA (05)
 - b) Explain the various cooking methods with its nutritional importance by appropriate examples (10)
 - c) i) What are essential fatty acids (04)
ii) Explain digestion and absorption of fat (06)
 - d) i) Classify minerals (02)
ii) Give one example under each classification and state its functions (08)

SECTION - II

- Q.5** Attempt any **FIVE** (5 × 3) (15)
- a) Cori's cycle
 - b) Electrophoresis
 - c) Classification of enzymes
 - d) Antioxidants
 - e) Vitamin D
 - f) Lipoproteins
 - g) Fluid mosaic model
- Q.6** Attempt any **ONE** (10)
- a) Draw the structure of an antibody and describe the various classes of immune response
 - b) i) What is acid-base balance?
ii) Describe the role of blood buffers, lungs and kidneys in its maintenance.

F.Y. B.SC. (NURSING) (2007 COURSE) : WINTER - 2017
SUBJECT: NUTRITION & BIOCHEMISTRY

Day : Thursday
Date : 05/10/2017

W-2017-3731

Time: _____
Max. Marks: 15

N.B:

- 1) All questions are **COMPULSORY**.
- 2) Put a tick mark in appropriate box.
- 3) Use **BLACK/BLUE** ball pen only.
- 4) Section - I should be completed within 15 minutes.
- 5) Each questions carry **ONE** mark.
- 6) Students will not be allotted marks if he/she overwrites, strikes, or put ink or cross marked.

Seat No. _____

Total Marks Obtained: _____

Jr. Supervisor's Signature. _____

Examiners Signature: _____

SECTION - I

- 1) The milk, cheese and yogurt are important for _____
 - a) Strong bones
 - b) Teeth
 - c) Muscles
 - d) All of the above
- 2) The mineral essential for healthy red blood cells is _____
 - a) Iron
 - b) Magnesium
 - c) Iodine
 - d) Calcium
- 3) Grilling uses which source of heat transfer _____
 - a) Conduction
 - b) Radiation
 - c) Convection
 - d) Electromagnetic radiation
- 4) _____ is an example of a hydrogenated fat.
 - a) Butter
 - b) Margarine
 - c) Olive oil
 - d) Yogurt

P.T.O.

5) Vitamin A prophylaxis programme is initiated in _____.

- a) 1970
- b) 1960
- c) 1958
- d) 1980

6) The sugar present in DNA is _____.

- a) Ribose
- b) Erythrose
- c) Glucose
- d) Sucrose

7) 1 gram of protein gives _____.

- a) 4 Kcal
- b) 5Kcal
- c) 3Kcal
- d) 8Kcal

8) Pellagra is caused by deficiency of _____.

- a) Riboflavin
- b) Biotin
- c) Thiamine
- d) Niacin

9) One of the symptoms of scurvy is _____.

- a) Odema
- b) Pigeon chest
- c) Swollen gums
- d) Swollen legs

10) The sunshine vitamin is _____.

- a) Vitamin A
- b) Vitamin B
- c) Vitamin C
- d) Vitamin D

11) Starch is a main source of _____ in the human diet

- a) Vitamin
- b) Carbohydrate
- c) Protein
- d) Lipid

12) The breakdown of glucose to _____ is called glycolysis.

- a) Pyruvic acid
- b) Phosphoenol pyruvate
- c) Glyceraldehyde
- d) Lactic acid

13) In protein structure, the α -helix and β -pleated sheet are examples of ____

- a) Secondary structure
- b) Quaternary structure
- c) Tertiary structure
- d) Primary structure

14) An allosteric enzyme responsible for controlling the rate of TCA cycle is

- a) Isocitrate dehydrogenase
- b) Malate dehydrogenase
- c) Aconitase
- d) Fumarase

15) Lactate dehydrogenase is a/an _____.

- a) Isomerase
- b) Ligase
- c) Lyase
- d) Oxidoreductase

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F.Y. B.S.C. (NURSING) (2007 COURSE) : WINTER - 2017

SUBJECT: NUTRITION & BIOCHEMISTRY

Day : Thursday
Date : 05/10/2017

Time: 09.00 A.M. TO 12.00 NOON
Max. Marks: 60

W-2017-3731

N.B.:

- 1) All questions are **COMPULSORY**.
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- 3) Answers to both the sections should be written in **SEPARATE** answer books.

SECTION - II [Nutrition]

- Q.1 Answer ANY FIVE of the following: [15]
- a) Describe preventive measures for food adulteration.
 - b) Explain about balanced diet.
 - c) Explain the factors affecting food and nutrition.
 - d) Write a note on food preservation.
 - e) Write a note on nutrients.
 - f) List down functions of iron and four food sources rich in iron.
 - g) Explain the dietary sources of protein.

- Q.2 Answer ANY TWO of the following: [20]
- a) Define BMR. Explain any eight factors affecting it.
 - b) How fats are digested and absorbed in our body?
 - c) Define electrolytes. Explain electrolyte imbalance.
 - d) List down cooking methods. Explain any three cooking methods in detail.

SECTION - III [Biochemistry]

- Q.3 Write short notes on ANY FIVE of the following: [15]
- a) Monosaccharides
 - b) Cholesterol
 - c) Biological importance of proteins.
 - d) Metabolic acidosis.
 - e) Classification of enzymes.
 - f) Ribosomal RNA.
 - g) Classification of immunoglobulins.
- Q.4 Define enzymes. Discuss factors affecting enzyme activity. [10]

OR

Write note on:

- a) Glycolysis
- b) Structural organization of proteins.