BACHELOR OF SCIENCE (NURSING) (2019 COURSE)
F. Y. B. Sc. (Nursing) : : SUMMER - 2022
SUBJECT : NUTRITION & BIOCHEMISTRY

Day : Wednesday
Date : 01-06-2022

S-22422-2022

Time : 10:00 AM-01:00 PM
Max. Marks : 75

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 (NUTRITION) (45 Marks)

Q.1 Write short notes on any **SIX** of the following: **(12)**

a) Define nutrients.
b) Artificial feeding.
c) List down four macro minerals.
d) List down the rich sources of vitamin C.
e) Define Beriberi.
f) Define food pyramid.
g) Define toxicity in foods.
h) List down the types of food preservation.

Q.2 Write short answers on any **FIVE** of the following: **(20)**

a) Discuss different cooking methods.
b) Explain the functions of carbohydrates.
c) Describe regulation of water in the body.
d) Write a note on food adulteration.
e) Explain role of nurse in planning therapeutic diet.
f) Discuss menu planning for the elderly.
g) Describe metabolism and deficiencies of proteins.

Q.3 Write long questions on any **ONE** of the following: **(13)**

a) Define Lipids. **(02)**
b) Discuss functions of lipids. **(05)**
c) Classify food groups according to nutritive value. **(06)**

OR

Q.3 **a)** Define basal metabolic rate (BMR). **(02)**
b) Explain factors affecting basal metabolic rate. **(05)**
c) Discuss Vitamin A deficiency programme. **(06)**

SECTION-II (BIOCHEMISTRY) (30 Marks)

Q.4 Write short answers on any **FOUR** of the following: **(08)**

a) Competitive inhibition of enzymes.
b) Write a note on essential fatty acids.
c) Sodium- Potassium pump
d) Functions of Golgi complex.
e) Facilitated diffusion.
f) Deficiency symptoms of Vitamin D.

P. T. O.

Q.5 Write short answers on any **THREE** of the following: **(12)**

a) Discuss various factors affecting enzyme activity.

b) Describe Watson and Crick model of DNA.

c) Describe role of lungs in the maintenance of acid-base balance.

d) Fluid-mosaic model of cell membrane.

e) Describe structure and classification of immunoglobulins.

Q.6 Write long questions on any **ONE** of the following: **(10)**

a) Describe beta-oxidation of fatty acids. **(07)**

b) Mention number of ATPs formed by oxidation of palmitic acid by beta-oxidation. **(03)**

OR

Q.6 **a)** Describe in detail about TCA/ Kreb cycle? **(06)**

b) Describe energetics and regulation of the TCA cycle. **(04)**

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F.Y. B.SC. (NURSING)(2019 Course) : SUMMER- 2021

SUBJECT: NUTRITION AND BIOCHEMISTRY

Day : Friday Time 10:00AM-TO 1:00 P.M.

Date : 04.06.2021 S-2021-22422 Max.Marks:75

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Answer to both the section should be written in **SEPARATE** answer books.

SECTION-I (NUTRITION)

Q.1 Write a short notes on **ANY FIVE** of the following: **(2X5)=10**

a) Define protein
b) Beriberi
c) Signs of anemia
d) Roasting
e) Therapeutic diet
f) List down four liquid diets
g) List down four sources of vitamin A

Q.2 Write a short answers on **ANY FOUR** of the following: **(4X4)=16**

a) Explain functions of cholesterol
b) Write a note on vitamin D
c) Explain regulation of water & electrolytes in body
d) Explain principles of meal planning
e) Write a note on midday meal program
f) Classify minerals with examples

Q.3 Long answer question **ANY ONE** of the following: **(1X12)=12**

a) Define carbohydrates **(02)**
b) Classify carbohydrates with examples **(06)**
c) List down the functions of carbohydrates **(04)**

OR

a) Define nutrition **(02)**
b) List down factors affecting food & nutrition **(05)**
c) Classify and explain foods in detail **(05)**

SECTION-II (BIOCHEMISTRY)

Q.4 Write a short notes on **ANY FIVE** of the following: **(2X5)=10**

a) T- lymphocytes
b) Respiratory acidosis
c) Diffusion
d) Functions of proteins
e) Bitot's spot
f) Ribosomes
g) Disaccharides

Q.5 Write a short notes on **ANY FOUR** of the following: **(4X4)=16**

a) Classification of immunoglobulins
b) Polysaccharides
c) Structure and functions of cell membrane
d) Describe genetic code
e) Describe briefly about the classification of lipids
f) Explain sodium-potassium pump

Q.6 Write a long answer on **ANY ONE** of the following: **(1X11)=11**

a) What are enzymes? **(02)**
b) Classify enzymes with suitable examples **(04)**
c) Describe factors affecting enzyme activity **(05)**

OR

a) Describe gluconeogenesis in detail **(06)**
b) Explain glycogenesis in detail **(05)**

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F.Y. B.SC. (NURSING)(2019 COURSE): SUMMER-2020
SUBJECT: NUTRITION AND BIOCHEMISTRY

Day : Thursday
Date : 03-12-2020 S-2020-22422
Time 9:00AM TO 12:00 NOON
Max.Marks:75

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Answer to both the section should be written in **SEPARATE** answer books.

SECTION-I (NUTRITION)

Q.1 Write a short notes on **ANY FIVE** of the following: **(2X5)=10**

a) Define protein energy malnutrition
b) Sources of vitamin C
c) Simmering
d) Artificial feeding
e) Rickets
f) List down four minerals
g) Keratomalacia

Q.2 Write a short answers on **ANY FOUR** of the following: **(4X4)=16**

a) List down and explain medicinal value of any four foods
b) Write a note on food adulteration
c) Explain functions of carbohydrates in detail
d) Define balanced diet, explain steps in planning balanced diet
e) List down and explain different types of feeding
f) Explain role of nurse in planning therapeutic diet

Q.3 Long answer question **ANY ONE** of the following: **(1X12)=12**

a) Classify lipids with examples **(05)**
b) Explain the functions of lipids **(05)**
c) List down the animal and plant sources of lipids **(02)**

OR

a) Define basal metabolic rate **(02)**
b) Explain factors affecting basal metabolic rate **(10)**

SECTION-II (BIOCHEMISTRY)

Q.4 Write a short notes on **ANY FIVE** of the following: **(2X5)=10**

a) B- lymphocytes
b) Metabolic acidosis
c) Functions of enzymes
d) Deficiency symptoms of vitamin K
e) Exocytosis
f) Functions of cell membrane
g) Essential amino acids

Q.5 Write a short notes on **ANY FOUR** of the following: **(4X4)=16**

a) Write a note on ketone bodies
b) Explain glucose tolerance test
c) Explain structure and functions of mitochondria
d) Describe difference between active and passive immunity
e) Factors affecting enzyme activity
f) Explain features of Watson- Crick model of DNA

Q.6 Write a long answer on **ANY ONE** of the following: **(1X11)=11**

a) Describe the process of protein synthesis with diagram **(07)**
b) Explain post translational modifications of proteins **(04)**

OR

a) Define carbohydrates **(02)**
b) Write a note on glycolysis, its energetics and regulation during acrobic condition **(09)**

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F.Y. B.SC. (NURSING) (2007 COURSE) : SUMMER - 2019

SUBJECT : NUTRITION AND BIOCHEMISTRY

Day : Friday
Date : 19/04/2019

S-2019-4324

Time : 10.00 A.M. TO 01.00 P.M.
Max. Marks : 75

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 books.

SECTION – I (NUTRITION)

Q. 1 Write short notes on **ANY FIVE** of the following: **(10)**

a) List down four examples of soft solid diet
b) Define toasting
c) Tetany
d) List down food sources of Fat
e) Define nutrition
f) Beriberi
g) Dietary Fiber

Q. 2 Short Answer Questions: (**ANY FOUR**) **(16)**

a) Note on integrated child development services.
b) Advantages of breast feeding.
c) Write a note on food adulteration.
d) Functions of carbohydrates.
e) Factors affecting basal metabolic rate.
f) Explain nutritional classification of food with examples.

Q. 3 Long Answer Questions: (**ANY ONE**)

a) **i)** Define Vitamins. **(02)**
ii) Classify Vitamins. **(04)**
iii) Describe Vitamin 'A' in detail. **(06)**

OR

b) **i)** Classify proteins in detail with examples. **(06)**
ii) Explain functions of protein in detail. **(06)**

SECTION – II (BIOCHEMISTRY)

Q. 4 Write short notes on **ANY FIVE** of the following: **(10)**

a) Deficiency symptoms and sources of Vitamin 'C'
b) Write a note on disaccharides
c) Lysosomes
d) Osmosis
e) Competitive inhibition of enzymes
f) Secondary structure of protein
g) Write a note on essential fatty acids

Q. 5 Short Answer Questions: (**ANY FOUR**) **(16)**

a) ELISA Test
b) Features of the Watson-Crick model of DNA.
c) Lipoproteins.
d) Structure and functions of t-RNA.
e) Plasma proteins.
f) Isoenzymes and its importance.

Q. 6 Long Answer Questions: (**ANY ONE**) **(11)**

a) Give outline of TCA. What are its regulatory steps? What is the energy yield of this pathway?

OR

b) Classify lipids with suitable examples.

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F.Y.B.Sc. Nursing (2007 Course) SUMMER- 2018

SUBJECT: NUTRITION AND BIOCHEMISTRY

Day: Wednesday
Date: 18-04-2018 S-2018-3858

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 question 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:** _____

M C Q.

SECTION-I

Q.1 The building blocks of proteins is _____

a) Glucose ☐

b) Fatty Acids ☐

c) Amino acids ☐

d) Peptides ☐

Q.2 Vitamin-E is important for _____

a) Protecting cells ☐

b) Vital tissues protection ☐

c) Both a & b ☐

d) Bone development ☐

Q.3 A method of cooking food over boiling water_____

a) Braising ☐

b) Steaming ☐

c) Baking ☐

d) Stewing ☐

Q.4 Rickets rosary is symptom of _____

a) Vitamin D ☐

b) Biotin ☐

c) Protein ☐

d) Fat ☐

P.T.O.

Q.5 1 gram of carbohydrate yields _____ Calories

a) 4 Calories ☐

b) 2 Calories ☐

c) 9 Calories ☐

d) 5 Calories ☐

Q.6 Milk, cheese and yogurt are important for _____

a) Strong bones ☐

b) Teeth ☐

c) Muscles ☐

d) All of the above ☐

Q.7 Which to the following is not a component of dietary fiber?

a) Cellulose ☐

b) Pectin ☐

c) Lignin ☐

d) Agar ☐

Q.8 Fruits and vegetables are usually considered as good source of _____

a) Proteins ☐

b) Carbohydrates ☐

c) Vitamins & Minerals ☐

d) Saturated fats ☐

Q.9 All of the following are needed for strong bones except _____

a) Calcium ☐

b) Thiamin ☐

c) Magnesium ☐

d) Vitamin-D ☐

Q.10 All the following are nutrients found in food except

a) Plasma ☐

b) Proteins ☐

c) Carbohydrates ☐

d) Vitamins ☐

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Q.11 Deficiency of glucose -6 – phosphate dehydrogenase causes

a) Cataract ☐

b) Hypoglycemia ☐

c) Hemolytic anemia ☐

d) Galactosemia ☐

Q.12 Which of the following intermediates in the oxidation of old chain fatty acids is likely to appear in the urine in vitamin B12 deficiency?

a) Succinic acid ☐

b) Methylmalonic acid ☐

c) Propionic acid ☐

d) Butyric acid ☐

Q.13 During denaturation of protein the following bonds are disrupted, except

a) Hydrogen ☐

b) Hydrophobic ☐

c) Peptide ☐

d) Sulfide ☐

Q.14 Earliest marker of myocardial infarction is

a) Creatine Kinase-1 ☐

b) Creatine Kinase-2 ☐

c) Creatine Kinase-3 ☐

d) Aspartate transaminase ☐

Q.15 Enzyme inhibition caused by a substance resembling substrate molecule is

a) Competitive inhibition ☐

b) Non competitive inhibition ☐

c) Feedback inhibition ☐

d) Allosteric inhibition ☐

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F.Y. B.SC. (NURSING) (2007 COURSE) : SUMMER - 2018

SUBJECT: NUTRITION AND BIOCHEMISTRY

Day: **Wednesday** Time: **10.00 AM TO 01.00 PM**

Date: **18/04/2018** **S-2018-3858** Max Marks. 60

N.B. :

1) All questions are **COMPULSORY**.

2) Figures to right indicate **FULL** marks

3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION-II (NUTRITION)

Q.1 Answer **ANY FIVE** of the following: **(15)**

a) Write a note on food preservation

b) Explain factors affecting food and nutrition

c) Enumerate dietary sources rich in carbohydrates

d) Integrated child development service scheme

e) Write a note on protein energy malnutrition

f) Functions of prostaglandins

g) Explain functions and dietary sources of sodium

Q.2 Answer **ANY TWO** of the following:

a) i) Classify carbohydrates with examples **(04)**

ii) List down the dietary sources **(02)**

iii) Explain the functions of carbohydrates **(04)**

b) Note on Vitamin A

i) Functions **(04)**

ii) Dietary sources **(02)**

ii) Deficiency diseases **(04)**

c) Cooking methods

i) Principles of cooking methods **(04)**

ii) Explain any two moist heat cooking method in detail **(06)**

d) Foods

i) Classify foods according to their functions **(04)**

ii) Describe foods in detail **(06)**

SECTION-III (BIOCHEMISTRY)

Q.3 Answer **ANY FIVE** of the following: **(15)**

a) Sodium – potassium pump

b) Phospholipids

c) Antioxidant defenses

d) Essential amino acids

e) Genetic code

f) Isoenzymes and their importance

g) Regulation of blood glucose

Q.4 Answer **ANY ONE** of the following: **(10)**

a) Give outline of glycolysis. What are its regulatory steps? What is the energy yield of this pathway?

b) Write note on:

i) Chemistry and functions of cholesterol **(05)**

ii) Features of the Watson – Crick model of DNA **(05)**

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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

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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 on 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

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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 √ 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

P. T. O.

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

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

Day: Thursday
Date: 17-10-2013

Time: 9:00AM-TO 12:00NOON.
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 √ 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

P.T.O.

11) When an egg is boiled, the albumin is converted into a white soild 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

...2

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

* * * *

F.Y. B.SC. (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**.
2) Figures to the right indicate **FULL** marks.
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.

F.Y B.Sc. Nursing (2007 Course) SUMMER- 2018

SUBJECT: NUTRITION AND BIOCHEMISTRY

Day: Wednesday
Date: 18-04-2018 S-2018-3858

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 question 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:** _____

M C Q.

SECTION-I

Q.1 The building blocks of proteins is _____

a) Glucose ☐
b) Fatty Acids ☐
c) Amino acids ☐
d) Peptides ☐

Q.2 Vitamin-E is important for _____

a) Protecting cells ☐
b) Vital tissues protection ☐
c) Both a & b ☐
d) Bone development ☐

Q.3 A method of cooking food over boiling water_____

a) Braising ☐
b) Steaming ☐
c) Baking ☐
d) Stewing ☐

Q.4 Rickets rosary is symptom of _____

a) Vitamin D ☐
b) Biotin ☐
c) Protein ☐
d) Fat ☐

P.T.O.

Q.5 1 gram of carbohydrate yields _____ Calories

a) 4 Calories

b) 2 Calories

c) 9 Calories

d) 5 Calories

Q.6 Milk, cheese and yogurt are important for _____

a) Strong bones

b) Teeth

c) Muscles

d) All of the above

Q.7 Which of the following is not a component of dietary fiber?

a) Cellulose

b) Pectin

c) Lignin

d) Agar

Q.8 Fruits and vegetables are usually considered as good source of _____

a) Proteins

b) Carbohydrates

c) Vitamins & Minerals

d) Saturated fats

Q.9 All of the following are needed for strong bones except _____

a) Calcium

b) Thiamin

c) Magnesium

d) Vitamin-D

Q.10 All the following are nutrients found in food except

a) Plastics

b) Proteins

c) Carbohydrates

d) Vitamins

Q.11 Deficiency of glucose -6 phosphate dehydrogenase causes

a) Cataract

b) Hypoglycemia

c) Hemolytic anemia

d) Galactosemia

Q.12 Which of the following intermediates in the oxidation of old chain fatty acids is likely to appear in the urine in vitamin B12 deficiency?

a) Succinic acid

b) Methylmalonic acid

c) Propionic acid

d) Butyric acid

Q.13 During denaturation of protein the following bonds are disrupted, except

a) Hydrogen

b) Hydrophobic

c) Peptide

d) Sulfide

Q.14 Earliest marker of myocardial infarction is

a) Creatine Kinase-1

b) Creatine Kinase-2

c) Creatine Kinase-3

d) Aspartate transaminase

Q.15 Enzyme inhibition caused by a substance resembling substrate molecule is

a) Competitive inhibition

b) Non competitive inhibition

c) Feedback inhibition

d) Allosteric inhibition

* * * * *

F.Y. B.SC. (NURSING) (2007 COURSE) : SUMMER - 2018

SUBJECT: NUTRITION AND BIOCHEMISTRY

Day: **Wednesday** Time: **10.00 AM TO 01.00 PM**

Date: **18/04/2018** Max Marks. 60

S-2018-3858

N.B. :

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

SECTION-II (NUTRITION)

Q.1 Answer **ANY FIVE** of the following: **(15)**

a) Write a note on food preservation
b) Explain factors affecting food and nutrition
c) Enumerate dietary sources rich in carbohydrates
d) Integrated child development service scheme
e) Write a note on protein energy malnutrition
f) Functions of prostaglandins
g) Explain functions and dietary sources of sodium

Q.2 Answer **ANY TWO** of the following:

a) i) Classify carbohydrates with examples **(04)**
ii) List down the dietary sources **(02)**
iii) Explain the functions of carbohydrates **(04)**

b) Note on Vitamin A
i) Functions **(04)**
ii) Dietary sources **(02)**
ii) Deficiency diseases **(04)**

c) Cooking methods
i) Principles of cooking methods **(04)**
ii) Explain any two moist heat cooking method in detail **(06)**

d) Foods
i) Classify foods according to their functions **(04)**
ii) Describe foods in detail **(06)**

SECTION-III (BIOCHEMISTRY)

Q.3 Answer **ANY FIVE** of the following: **(15)**

a) Sodium – potassium pump
b) Phospholipids
c) Antioxidant defenses
d) Essential amino acids
e) Genetic code
f) Isoenzymes and their importance
g) Regulation of blood glucose

Q.4 Answer **ANY ONE** of the following:

a) Give outline of glycolysis. What are its regulatory steps? What is the energy yield of this pathway? **(10)**

b) Write note on:
i) Chemistry and functions of cholesterol **(05)**
ii) Features of the Watson – Crick model of DNA **(05)**

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