

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0222]

**FEBRUARY 2022
(OCTOBER 2021 EXAM SESSION)**

Sub. Code: 1302

M.Sc. CLINICAL NUTRITION

FIRST YEAR

(Candidates admitted from 2012-2014 onwards - Paper II)

(Candidates admitted from 2020-2021 onwards - Paper III)

PAPER II & III – NUTRITIONAL BIOCHEMISTRY

Q.P. Code : 281302

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Describe how glucose is metabolized to pyruvate in the body.
2. Write the mechanism of action of hormones.

II. Write notes on:

(10 x 6 = 60)

1. Biological role of eicosanoids.
2. Explain the diversity of protein structure.
3. Explain nucleotide and its components.
4. Characteristics of an active site.
5. Detoxification of ammonia.
6. Absorption and transport of carbohydrates.
7. Purine salvage pathway.
8. Disorders of carbohydrate metabolism.
9. Disease caused by free radicals.
10. Diagnostic importance of transaminases.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1022]

OCTOBER 2022

Sub. Code: 1302

M.Sc. CLINICAL NUTRITION

FIRST YEAR

(Candidates admitted from 2012-2013 onwards - Paper II)

(Candidates admitted from 2020-2021 onwards - Paper III)

PAPER II & III – NUTRITIONAL BIOCHEMISTRY

Q.P. Code : 281302

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Give an account on Chemistry, sources, absorption, daily requirement, function and clinical manifestation and toxic effects of vitamin A.
2. Write in brief about the digestion and absorption of proteins. Add a note on urea cycle.

II. Write notes on:

(10 x 6 = 60)

1. Role of nicotinamide.
2. Energetics of Palmitic acid oxidation.
3. Action of hormones secreted by the posterior pituitary gland.
4. Classification of minerals.
5. Role of plasma lipo proteins.
6. Essential amino acids and their importance.
7. Calcium homeostasis.
8. Name the iso enzymes of LDH. Mention its significance.
9. Harmful effects of free radicals.
10. Digestion and absorption of carbohydrates.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1023]

OCTOBER 2023

Sub. Code: 1302

**M.Sc. CLINICAL NUTRITION
FIRST YEAR (From 2020-2021 onwards)
PAPER III – NUTRITIONAL BIOCHEMISTRY**

Q.P. Code: 281302

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. What are the three stages in which glucose is completely broken to CO_2 and H_2O with the formation of ATP?
2. How are lipids classified? Give examples of each group.

II. Write notes on:

(10 x 6 = 60)

1. Rhodopsin cycle.
2. Explain the general properties of proteins.
3. State the clinical importance of enzymes.
4. Explain B-thalassemia.
5. Enumerate the metabolic role of tyrosine in the body.
6. Name the constituent enzymes of the fatty acid synthase multi-enzyme complex.
7. Illustrate the pituitary gland.
8. Difference between DNA and RNA.
9. Explain the biosynthesis of urea.
10. Write the glycogen storage diseases.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1024]

OCTOBER 2024

Sub. Code: 1302

**M.Sc. CLINICAL NUTRITION
FIRST YEAR (From 2020-2021 onwards)
PAPER III – NUTRITIONAL BIOCHEMISTRY**

Q.P. Code: 281302

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2x20=40)

1. Discuss in detail about structural organisation of DNA. Add a note on its functions.
2. Discuss cholesterol synthesis and its importance in human health.

II. Write notes on:

(10x6=60)

1. Metabolic effects of insulin and glucagon.
2. Phenylketonuria and lactose intolerance.
3. Importance and functions of plasma lipoproteins.
4. Composition and functions of phospho lipids.
5. Steps involved in urea cycle.
6. Role of pantothenic acid as coenzymes.
7. Types of enzymes inhibition.
8. Water soluble vitamins and its importance.
9. Biochemical role of thyroid and hormones of adrenal medulla.
10. Sick cell anemia and thalassemia.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1025]

OCTOBER 2025

Sub. Code: 1302

**M.Sc. CLINICAL NUTRITION
FIRST YEAR (From 2020-2021 onwards)
PAPER III – NUTRITIONAL BIOCHEMISTRY**

Q.P. Code: 281302

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Classify monosachharides and add a note on its structural aspects.
2. Palmitic acidoxidation – discuss.

II. Write notes on:

(10 x 6 = 60)

1. Antioxidant vitamins.
2. Enzymes involved in protein digestion.
3. Hormones bind to intracellular receptors.
4. Any three glycogen storage diseases.
5. Salvage pathway of purine biosynthesis.
6. Sickle cell anemia & thalassemia.
7. LDL and HDL.
8. Pathway of glycogenesis.
9. Mechanism of enzyme action.
10. Action of hormones secreted by the pancreas.
