

BIOLOGY

BASIC SCIENCE

Syllabus

Preliminary exam

- General Studies Paper I - General Science

Mains exam

- General studies Paper III- Biotechnology

Only for nagendrarajput9756@gmail.com

Weightage in prelims

YEAR	NUMBER OF QUESTIONS
2022	5
2021	5
2020	4
2019	5
2018	2
2017	1
2016	1
2015	1

FOOD AND NUTRITION

Only for nagendrarajput9753@gmail.com

PROTEIN, CARBOHYDRATES & FAT



MACRONUTRIENTS

VITAMINS & MINERALS



MICRONUTRIENTS

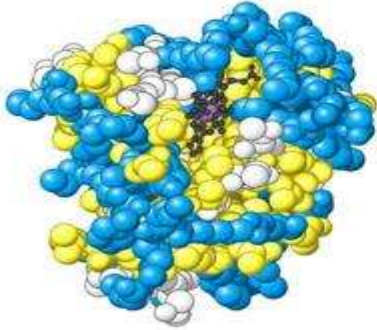
CARBOHYDRATES



PROTEINS



Fibrous vs. Globular proteins



Globular: functional protein
with active domain(s)

Fibrous: general structural
role (e.g. collagen)



FATS



Different Types of Fat

Unsaturated ("Good") Fats



Nuts, avocados and other vegetables

Saturated Fats



FOUND IN:

Animal products (dairy, meats) and oils (palm, coconut)

Trans Fats



Processed snacks and baked goods



Hackensack
Meridian Health

A company marketing food products advertises that its items do not contain trans-fats. What does this campaign signify to the customers?

1. The food products are not made out of hydrogenated oils.
2. The food products are not made out of animal fats/oils.
3. The oils used are not likely to damage the cardiovascular health of the consumers.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3



Water soluble vitamins

- ⦿ B1- THIAMINE
- ⦿ B2- RIBOFLAVIN
- ⦿ B12- CYANOCOBALAMINE
- ⦿ C- ASCORBIC ACID

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Fat soluble vitamins

- ⦿ A- RETINOL
- ⦿ D- CALCIPHEROL
- ⦿ E- TOCOPHEROL
- ⦿ K- PHYLLOQUINONE

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Which one of the following statements is NOT correct ?

- a) Milk contains none of the B-vitamins
- b) Vitamin-A retinol deficiency leads to dry and scaly skin
- c) One of the symptoms of scurvy is pain in the joints
- d) Vitamin B, thiamine deficiency can lead to heart failure

MINERALS



Minerals

- ◉ CALCIUM
- ◉ SODIUM
- ◉ POTASSIUM
- ◉ PHOSPHOROUS
- ◉ MAGNESIUM
- ◉ CHLORINE
- ◉ SULFUR

Macrominerals

- ◉ IRON
- ◉ FLOURINE
- ◉ COPPER
- ◉ IODINE
- ◉ ZINC

Microminerals