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P. G. Diploma in Dietetics and Nutrition (Semester-I) (New) (CBCS)
Examination: October/November - 2025
Nutritional Biochemistry (DDN102)

Day & Date: Friday, 31-10-2025
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q.Nos.1 and 2 are compulsory.
 2) Attempt any three questions from Q.No.3 to Q.No.7
 3) Figures to the right indicate full marks.

Q.1 A) Choose correct alternative. (MCQ) 10

- 1) _____ is a protein required for the formation of hard connective tissues, bones.
 - a) Collagen
 - b) Omega- 3FA
 - c) Niacin
 - d) Pantothenic acid
- 2) Which of the following is essential amino acids for adults?
 - a) Phenyl alanine
 - b) Alanine
 - c) Valine
 - d) Histidine
- 3) _____ Vitamin sometimes being called the "fertility vitamin".
 - a) Vitamin A
 - b) Vitamin B
 - c) Vitamin C
 - d) Vitamin E
- 4) The disaccharide sucrose consists of _____ two monosaccharides.
 - a) Glucose and fructose
 - b) Glucose and galactose
 - c) Glucose and lycine
 - d) Galactose and fructose
- 5) Which of the following are the major functions of Carbohydrates?
 - a) Storage
 - b) Structural framework
 - c) Transport Materials
 - d) Both storage and structural framework
- 6) Milk is an example of _____.
 - a) Dispersed fats in oil
 - b) Dispersed fats in water
 - c) Dispersed water in fats
 - d) Dispersed water in oil
- 7) Megaloblastic anemia is caused due to deficiency of _____.
 - a) Cobalamin
 - b) Pyridoxine
 - c) Niacin
 - d) Folic acid

- 8) Phenylketonuria is caused by the absence of the enzyme ____
- Phenylalanine hydroxylase
 - Phenylalanine oxidase
 - Phenylalanine glutamate
 - Phenylalanine pyruvate
- 9) _____ helps in the regulation of blood volume and blood pressure.
- Iron
 - Iodine
 - Sodium
 - Phosphorous
- 10) When dispersed phase is liquid and dispersion medium is gas, then the colloidal system is called ____.
- Smoke
 - Clouds
 - Emulsion
 - Jellies

B) Fill in the blanks OR Write True/False.**06**

- Glucose is the most abundant carbohydrate in nature and is a component of all the carbohydrates.
- The non-starch polysaccharides that are not digestible are also called dietary fibers.
- Enzymes are the proteins that catalyze biochemical reactions.
- Proteolytic enzymes are able to tenderize meat.
- All the types of fruits and vegetables show enzymatic browning.
- Waxes are also simple lipids and are esters of fatty acids.

Q.2 Answer the following.**16**

- Explain the classification and functions of proteins.
- Describe in detail about the role of dietary fiber in relation to nutrition.
- What are the food starches and write its applications?
- Explain in detail about the nutritional classification of amino acids with examples.

Q.3 Answer the following.**16**

- Write about the classification of Colloidal Systems in food chemistry.
- Explain the terms enzymes, coenzymes, cofactors and prosthetic groups.

Q.4 Answer the following.**16**

- What are emulsions? Give example of a naturally occurring emulsion.
- Write short note on the nutritional applications of lipids.

Q.5 Answer the following**16**

- What are fat soluble vitamins its sources and explain in detail and functions?
- What is hydrogenation? What are the harmful health effects of partial hydrogenation of fats?

- Q.6 Answer the following** **16**
- a) What is dietary fibre structurally? How are these nutritionally important?
 - b) What are the main sources of carbohydrates in nature? Give two examples of carbohydrates for each source.
- Q.7 Answer the following** **16**
- a) Explain and differentiate Caramelization and Maillard reaction.
 - b) Differentiate between macrominerals and microminerals. Give two examples for each of these.

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P. G. Diploma in Dietetics and Nutrition (Semester-II) (New) (CBCS)
Examination: October/November - 2025
Nutrition and Dietetics - II (DDN201)

Day & Date: Tuesday, 28-10-2025
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

Instructions: 1) All questions are compulsory.
 2) All Questions carry Equal marks.
 3) Draw diagrams wherever necessary.

Q.1 Solve any one in detail. **16**

a) Write in details about obesity definition, causes and types of obesity. Dietary guidelines and role of exercise.

OR

b) Write in details about Hepatitis & cirrhosis. Causes, Symptoms, Dietary management. Food to be given and avoided.

Q.2 Solve any one in detail. **16**

a) Write in details Atherosclerosis & role of Lipids.

OR

b) Write in details about AIDS.

Q.3 Write short answers. (Any Four) **16**

- a) Burns – Causes and remedies
- b) Role of fibers in different diseases
- c) Anemia – Causes & dietary sources
- d) Drug & Nutrient interaction
- e) Athlete's nutrition
- f) Causes & remedies for underweight

Q.4 Write Short Notes. (Any Four) **16**

- a) What is dehydration?
- b) Write about tropical sprue.
- c) Arthritis – Causes & dietary modification
- d) Chronic renal failure
- e) Jejunectomy
- f) Write about ischemic heart disease.

Q.5 Write in short.

- a)** Define alcoholics.
- b)** Define appendicitis.
- c)** What is tropical sprue?
- d)** Define constipation.
- e)** Causes of renal calculi
- f)** Glucose tolerance test
- g)** Use of medium chain triglyceride in diet therapy
- h)** Define trauma.

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Set **P**

P. G. Diploma in Dietetics and Nutrition (Sem-II) (New) (CBCS)
Examination: October/November – 2025
Food Science and Food Microbiology (DDN202)

Day & Date: Thursday, 30-10-2025
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

Instructions: 1) Q.No.1 and 2 are compulsory.
2) Attempt any three questions from Q.No.3 to Q.No.7.
3) Figure to right indicate full marks.

Q.1 Choose the correct alternative. (MCQ)**10**

- 1) Which of the following food products are the best sources of animal protein.
 - a) Milk
 - b) egg
 - c) cheese
 - d) all of the above
- 2) Direct steaming is a method of cooking in which _____.
 - a) Dry heat is applied
 - b) fat or oil is used as a cooking medium.
 - c) wet cooking recipe
 - d) indirect method of heating
- 3) At what temperature milk is heated during pasteurization.
 - a) At a temperature greater than 33.8 °C and less than 40.6 °C for at least 20 minutes
 - b) at a temperature greater than 62.8 °C and less than 65.6 °C for at least 30 min
 - c) at a temp greater than 30.8 °C and less than 35.6°C for at least 15 min.
 - d) at a temp greater than 40.8 and less than 45.6°C for at least 10 min.
- 4) Triangle test is where _____.
 - a) Three food samples are given, two of which are identical, pick up the one that is different.
 - b) the degree of discrepancy from the ideal can be estimated
 - c) food samples are ranked based on a single equality
 - d) information is provided to describe each food sample.
- 5) Which of these is not considered a nutrient?
 - a) vitamins
 - b) minerals
 - c) fiber
 - d) fats

- 6) In order to protect the health of the consumer the Government of India promulgated Food Adulteration Act in _____ year.

a) 1958	b) 1954
c) 1968	d) 1964
- 7) Monosodium glutamate is added to food products to enhance food _____.

a) flavor	b) colour
c) texture	d) taste
- 8) The important causes of food spoilage are _____.

a) microorganisms	b) enzymes
c) insects and rodents	d) all of the above
- 9) Overcooking of meat _____ the flavour.

a) increases	b) decreases
c) no change.	d) all of these.
- 10) Asepsis means _____.

a) killing of microorganisms	b) removal of microorganisms
c) keeping out microorganisms	d) none of these.

B) State true /false

06

- At the edges in the front part of the tongue is more sensitive for salty test.
- Sulphur dioxide and sulphite is not suitable for the preservation of fruits and vegetables for longer time.
- Canning is one of the bacteriostatic method of food preservation.
- Food gets contaminated mainly due to the growth of microorganisms.
- Cereals are rich in proteins than pluses.
- Boiling, simmering and stewing are direct moist heat methods of cooking.

Q.2 Answer the following.

16

- a) State the nutritional significance of nuts, dried fruits and Spices and condiments.
- b) Define leavening agents and explain chemical/artificial leavening agents.
- c) Preferences tests of sensory evaluation.
- d) Dry heat methods of cooking.

Q.3 Answer the following.

- How the texture of food affects the food acceptance.
- Importance and principles of food preservation.

06

10

Q.4 Answer the following.

- a) Define fermentation state its advantages and uses in food preparation. **10**
- b) What are the common adulterants used in tur dal, sabudana/sago and honey and how can we detect it. **06**

Q.5 Answer the following.

- a) Write classification of food additives and explain colouring agents in detail. **08**
- b) Explain changes produced in meat during cooking. **08**

Q.6 Answer the following.

- a) Explain food Adulteration its causes and types in detail. **10**
- b) Important points considered while packaging. **06**

Q.7 Answer the following.

- a) Explain process of Canning in detail. **08**
- b) Causes of food spoilage in detail. **08**

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P. G. Diploma in Dietetics and Nutrition (Sem-II) (New) (CBCS)
Examination: October/November - 2025
Sports nutrition (DDN207)

Day & Date: Saturday, 01-11-2025
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Questions 1 and 2 are compulsory.
 2) Attempt any three from Q. No. 3 to Q. No. 7.
 3) Figure to the right indicates full marks.

Q.1 A) Choose correct alternative (MCQ) 10

- 1) MACRO ratios for anaerobic immediate energy sports performance nutrition plan
 - a) 20%fat, 25%protein,55% carbohydrate
 - b) 20%fat, 20%protein, 60% carbohydrate
 - c) 15%fat, 30%protein, 55% carbohydrate
 - d) 25%fat, 15%protein, 60% carbohydrate
- 2) MACRO ratios for anaerobic glycolytic sports performance nutrition plan
 - a) 20%fat, 25%protein,55% carbohydrate
 - b) 20%fat, 20%protein,60% carbohydrate
 - c) 15%fat,30%protein, 55% carbohydrate
 - d) 25%fat,15%protein, 60% carbohydrate
- 3) _____accumulation during workout limits the intensity with which one can exercise muscle.

a) Pyruvic acid	b) Acetic acid
c) Lactic acid	d) None of the above
- 4) What is the lean factor percent body fat level for normal men?

a) 14-20 %	b) 20-28 %
c) 10-14 %	d) Above 28%
- 5) A contraction in which the muscle develops tension but does not shorten is termed as _____.

a) Isotonic	b) Isometric
c) Symmetric	d) None Of Above
- 6) A contraction in which the muscle shortens but retains constant tension is said to be _____.

a) Symmetric	b) Isometric
c) Isotonic	d) None Of Above

- 7) Carbohydrate solutions of pure glucose, at about _____ calories per 8 ounces is the easiest to stomach.
 - a) 30
 - b) 40
 - c) 50
 - d) 60
- 8) ACCORDING TO Sheldon Ectomorphic means _____.
 - a) Slim body type
 - b) Fat body type
 - c) Muscular body type
 - d) Malnourished body type
- 9) _____ is the rate at which body expends energy for maintenance activities, such as keeping body alive, organ function etc.
 - a) B M I
 - b) N P U
 - c) B M R
 - d) None of the above
- 10) _____ gives us a way to measure the relative amounts of fats, carbohydrates and protein being burned for energy.
 - a) Oxidative quotient
 - b) Metabolic quotient
 - c) Respiratory quotient
 - d) Anaerobic quotient

B) Fill in the blanks OR write true/false:

06

- 1) The brain can use _____ cal/day of glucose from liver glucogen.
 - a) 200
 - b) 400
 - c) 600
 - d) 500
- 2) 1 gram of glycogen is stored with about 3 gm of _____.
 - a) Lipid
 - b) Amino acid
 - c) Glucose
 - d) Water
- 3) _____ primary role of transportation of fatty acids into mitochondria.
 - a) L Carnitine
 - b) L arginine
 - c) L Valine
 - d) L tyrosin
- 4) _____ includes the chemical reactions that continue different biomolecules to create larger more complex one.
 - a) metabolism
 - b) Anabolism
 - c) Catabolism
 - d) None of above
- 5) _____ describe athletic performance enhancing substances and training techniques.
 - a) Performance aids
 - b) Strength aids
 - c) Ergogenic aids
 - d) None of above
- 6) What is the lean factor percent body fat level for normal women?
 - a) 14-18 %
 - b) 18-28 %
 - c) 28-38 %
 - d) Above 38%

- Q.2 Answer the following: 16**
- a) Caffeine.
 - b) Sodium bicarbonate.
 - c) Catabolism and anabolism.
 - d) Common supplements fat loss aids.
- Q.3 Answer the following: 16**
- a) Write a note in muscle fiber types and function along with muscular hypertrophy and mechanics of muscular contraction?
 - b) Write note on nutrient timing?
- Q.4 Answer the following: 16**
- a) Describe digestion and absorption in athletes?
 - b) Write a note on Aerobic system changes and Anaerobic system changes
- Q.5 Answer the following: 16**
- a) Write a note on anaerobic immediate energy sports and plan a sample menu.?
 - b) Describe briefly importance of water and oxygen in athletes?
- Q.6 Answer the following: 16**
- a) Write a note on anaerobic oxidative sports and plan a sample menu?
 - b) Write a note on Glycemic index and glycemic load with exapmles of low G I foods
- Q.7 Answer the following: 16**
- a) Write a note on anaerobic glycolytic energy sports and plan a sample menu?
 - b) Enhancing performance by carbohydrate loading and sports benefitted?