Assessment Toolkit for Nutrition and Dietetics

Passport of the Assessment Tools Fund for the Discipline				
№	**Topics title**	**Code of the competency**	**Planned learning outcomes of the discipline**	**Assessment tools**
1	Basics of Nutrition. Macronutrients and micronutrients	LO-7, LO-11 PC-8	❖ Explain the roles of macronutrients and micronutrients in human health. ❖ Identify dietary sources of essential nutrients. ❖ Assess nutrient intake and detect potential deficiencies or excesses.	**MCQ, CBQ, OA, Lab & Instrument Interpretation, OSCE, Role-Play / Counseling, Supplement Analysis**
2	Healthy plate model. Daily meal planning principles.	LO-7, LO-8 PC-8, PC-15	❖ Apply the healthy plate model to construct balanced meals. ❖ Plan daily meals according to energy and nutrient requirements. ❖ Adapt meal plans to individual patient needs and preferences.	**MCQ, CBQ, OA, Lab & Instrument Interpretation, OSCE, Role-Play / Counseling, Supplement Analysis**
3	Supplements, vitamins and minerals. Safety, overdose risks and label reading	LO-7, LO-11 PC-8, PC-15	❖ Evaluate dietary supplements for composition, dosage, and safety. ❖ Identify risks of overdose and potential drug-supplement interactions. ❖ Interpret supplement labels and advise patients based on evidence.	**MCQ, CBQ, OA, Lab & Instrument Interpretation, OSCE, Role-Play / Counseling, Supplement Analysis**
4	Psychology of eating. Weight loss and weight gain. Types of diet.	LO-7, LO-8 PC-8, PC-20 PC-15	❖ Recognize psychological factors influencing eating behavior.	**MCQ, CBQ, OA, Lab & Instrument Interpretation, OSCE, Role-Play /**

			❖ Develop strategies for healthy weight management. ❖ Counsel patients to support sustainable lifestyle changes.	**Counseling, Supplement Analysis**
5	Analysing of food diaries, meal planning.	LO-7, LO-8 PC-8, PC-15	❖ Analyze patient food diaries to assess nutrient intake. ❖ Identify imbalances and provide corrective recommendations. ❖ Integrate patient preferences into meal planning.	**MCQ, CBQ, OA, Lab & Instrument Interpretation, OSCE, Role-Play / Counseling, Supplement Analysis**
6	Nutrition in metabolic disorders.	LO-7, LO-8 PC-8, PC-15, PC-20	❖ Design dietary interventions for patients with diabetes, obesity, and metabolic syndrome. ❖ Monitor and evaluate the effectiveness of nutritional therapy. ❖ Educate patients on managing metabolic disorders through diet.	**MCQ, CBQ, OA, Lab & Instrument Interpretation, OSCE, Role-Play / Counseling, Supplement Analysis**
7	Nutrition in Allergic diseases.	LO-7, LO-8 PC-8, PC-15	❖ Assess nutritional risk factors for cardiovascular diseases. ❖ Design heart-healthy diets for prevention and management. ❖ Educate patients on lifestyle and dietary modifications to reduce cardiovascular risk.	**MCQ, CBQ, OA, Lab & Instrument Interpretation, OSCE, Role-Play / Counseling, Supplement Analysis**
8	Nutrition in cardiovascular diseases.	LO-7, LO-8 PC-8, PC-15, PC-20	❖ Assess nutritional risk factors for cardiovascular diseases.	**MCQ, CBQ, OA, Lab & Instrument Interpretation,**

			❖ Design heart-healthy diets for prevention and management. ❖ Educate patients on lifestyle and dietary modifications to reduce cardiovascular risk.	**OSCE, Role-Play / Counseling, Supplement Analysis**
9	Nutrition in gastrointestinal diseases	LO-7, LO-8 PC-8, PC-15	❖ Understand dietary modifications for conditions such as gastritis, IBS, and malabsorption. ❖ Provide personalized nutrition plans to alleviate symptoms. ❖ Evaluate the impact of diet on gastrointestinal health.	**MCQ, CBQ, OA, Lab & Instrument Interpretation, OSCE, Role-Play / Counseling, Supplement Analysis**
10	Nutrition in Kidney and Urinary Tract Disorders.	LO-7, LO-8 PC-8, PC-15, PC-20	❖ Design nutrition plans for patients with chronic kidney disease and urinary tract disorders. ❖ Monitor intake of protein, electrolytes, and fluids. ❖ Educate patients on diet-based risk reduction and disease management.	**MCQ, CBQ, OA, Lab & Instrument Interpretation, OSCE, Role-Play / Counseling, Supplement Analysis**
11	Sports nutrition	LO-7, LO-8 PC-8, PC-15, PC-20	❖ Explain nutrient requirements for different types of physical activity. ❖ Develop nutrition plans to optimize performance, recovery, and health. ❖ Evaluate the use of supplements in sports and educate	**MCQ, CBQ, OA, Lab & Instrument Interpretation, OSCE, Role-Play / Counseling, Supplement Analysis**

			athletes on safe practices.	

MCQ — Multiple-Choice Questions (tests theoretical knowledge), **CBQ** — Case-Based Questions (situational analysis), **OA** — Oral Assessment (structured oral questioning), **Lab & Instrument Interpretation** — Analysis of laboratory and instrumental data (nutritional markers, food diaries), **OSCE** — Objective Structured Clinical Examination (practical skills in nutrition assessment and planning), **Role-Play / Counseling** — Patient counseling and communication skills assessment, **Supplement Analysis** — Expert evaluation of dietary supplements and vitamins (composition, safety, evidence-based assessment)

Score points for the practical classes:

Student activities	Name of the tasks												
	Oral questioning or proper presentation of material				**Testing control or brainstorming**				**Practical skills (CBQ, Lab & Instrument Interpretation, OSCE, Role-Play / Counseling, Supplement Analysis e.t.c.)**				**Total points**
	1				**1**				**2**				**4**
	«4» 1	«3» 0.9-0.8	«2» 0.7-0.6	«1» Less than 0.5	«4» 1	«3» 0.9-0.8	«2» 0.7-0.6	«1» Less than 0.5	«4» 1	«3» 0.9-0.8	«2» 0.7-0.6	«1» Less than 0.5	

Assessment of students' knowledge on level tasks

Level	Name tasks	Number of tasks	**Maximum points**	Score on "5" point system
1-level	Testing control or oral survey	5(0.2 for each correct answer)	1point	«3»
2-level	Analysis, synthesis by visual material	2	1point	«4»
3-level	Evaluation	2	2point	«5»

Score points for the lecture

Student activities	Tests for the lectures				Total points
	10 tests				
	Correct answer				4
	"5" 4 (100%)	"4" 3(80%)	"3" 2 (70%)	"2" 1 (Less than 60%)	

EXAMPLE: NUTRITION IN CARDIOVASCULAR DISEASES

1. TEST CONTROL (1.0 Point)

Format: 10 Multiple Choice Questions (MCQs).

Coverage: Etiology, risk factors, DASH/Mediterranean guidelines, and lipid targets.

- **Scoring:**
  - 1.0 — 90–100% correct
  - 0.8 — 80–89%
  - 0.6 — 60–79%
  - 0 — < 60%

Sample Questions:

Time Aligned: 10 Minutes | **Total:** 10 Questions | **Max Score:** 1.0 Point

1. What is the maximum recommended daily intake of sodium (NaCl) for a patient with Stage II Hypertension according to WHO/ESC guidelines?

A. 2 g

B. 5 g

C. 8 g

D. 12 g

2. Which fat source is considered the primary "cornerstone" of the Mediterranean Diet due to its high monounsaturated fatty acid (MUFA) content?

A. Grass-fed butter

B. Sunflower oil

C. Extra Virgin Olive Oil

D. Coconut oil

3. The Dietary Approaches to Stop Hypertension (DASH) diet specifically emphasizes increasing the intake of which minerals to lower blood pressure?

A. Sodium, Iron, and Zinc

B. Potassium, Magnesium, and Calcium

C. Phosphorus and Chloride

D. Selenium and Copper

4. To reduce the risk of atherosclerosis, what percentage of total daily energy intake should come from saturated fats?

A. Less than 10%

B. 20–25%

C. 30%

D. Saturated fats should be 0%

5. Which type of fiber is most effective at binding bile acids in the intestine and lowering LDL-cholesterol levels?

A. Insoluble fiber (e.g., wheat bran)

B. Soluble fiber (e.g., oats, pectin, legumes)

C. Synthetic cellulose

D. Lignin

6. For a patient with Chronic Heart Failure (CHF) and signs of fluid retention, what is the standard daily fluid restriction guideline?

A. No restriction

B. 1.5 – 2.0 Liters per day

C. Less than 500 ml per day

D. Exactly 3 Liters per day

7. Which of the following is a "hidden" source of high sodium that patients with CVD should be taught to avoid?

A. Fresh leafy greens

B. Raw almonds

C. Canned vegetables and processed meats

D. Steamed fish

8. A patient on Warfarin (anticoagulant therapy) must maintain a *consistent* intake of which nutrient to avoid fluctuations in their INR?

A. Vitamin C

B. Vitamin K

C. Vitamin D

D. Vitamin B12

9. What is the recommended frequency for consuming fatty fish (e.g., salmon, mackerel) to ensure adequate Omega-3 (EPA/DHA) intake for heart health?

A. Once a month

B. At least 2 times per week

C. Every day with every meal

D. Only if LDL is above 5.0 mmol/L

10. "Cardiac Cachexia" in advanced heart failure is characterized by the loss of:

A. Only adipose tissue (fat)

B. Lean body mass (muscle) and fat

C. Only water weight

D. Bone density only

2. STUDENT ACTIVITY & CLINICAL REASONING (1.0 Point)

Format: Oral discussion and seminar participation.

- **Participation (0.3 pts):** Active involvement in discussing the relationship between "Western Diet" and systemic inflammation.
- **Consistency of Answers (0.3 pts):** Logical flow in explaining the pathogenesis of diet-induced atherosclerosis.
- **Clinical Reasoning (0.4 pts):** Ability to justify a nutritional plan based on a patient's specific phenotype (e.g., metabolic syndrome vs. heart failure).

Discussion Topic: *"The impact of soluble vs. insoluble fiber on the enterohepatic circulation of bile acids and its role in lowering LDL-cholesterol."*

3. PRACTICAL SKILLS & SITUATIONAL TASKS (2.0 Points)

This section evaluates the transition from theory to clinical practice.

A. Lab & Instrument Interpretation (0,4 Point)

Task: The student is presented with a patient's laboratory report.

- **Data provided:** Lipid profile (Total Cholesterol: 6.8 mmol/L, LDL: 4.2 mmol/L), BMI (32 kg/m²), and a 3-day food diary.
- **Requirement:** Identify the "Atherogenic Index," calculate the daily caloric surplus, and pinpoint three dietary errors in the food diary.

B. Role-Play / Counseling & Supplement Analysis (0,4 Point)

Scenario (OSCE Style): A 60-year-old male patient with Chronic Heart Failure (NYHA Class II) complains of fatigue and leg edema. He consumes high-sodium canned foods and has a low protein intake.

- **Task 1 (Counseling):** Conduct a 5-minute counseling session. Explain the "Fluid-Sodium Balance" and suggest high-potassium food alternatives (e.g., baked potatoes, bananas, spinach).
- **Task 2 (Supplement Analysis):** Analyze a label of a Coenzyme Q10 or Omega-3 supplement. Determine if the dosage is therapeutic for a CVD patient according to current clinical guidelines.

C. Case study (0,4 Point)

A 62-year-old man with coronary artery disease and hypertension consumes a diet rich in red meat, butter, and salty foods. Blood pressure is 160/95 mmHg and LDL cholesterol is elevated.	1) Which dietary pattern is most appropriate for this patient? 2) Which specific nutrients should be restricted to reduce cardiovascular risk? 3) Which foods should be added to improve lipid profile? 4) How does sodium reduction influence blood pressure regulation? 5) Which clinical parameters should be monitored to assess dietary effectiveness?

D. Clinical Nutrition Skills Assessment: OSCE Framework (0,4 Point)

Scenario: Patient with hypertension and high LDL cholesterol.
Task: Design a low-sodium, heart-healthy menu for 1 day.
Materials: Lab results, food preferences.
Scoring:

- Sodium restriction adherence
- Fat quality
- Realistic patient plan

E. Analysis of Dietary Supplements and Vitamins – Expert Evaluation (0,4 Point)

Cardiovascular Diseases	Patient with hypertension takes omega-3 and coenzyme Q10 supplements.	Evaluate dosage, interactions with medications, assess evidence for cardiovascular benefit, recommend safe use.	Supplement labels, patient medications	- Dosage and interaction assessment - Evidence evaluation - Counseling clarity

Part 1. MCQs

1. Which macronutrient provides the highest caloric density per gram?
   A. Protein
   B. Carbohydrate
   C. Fat
   D. Fiber
2. Which micronutrient is essential for hemoglobin synthesis?
   A. Calcium
   B. Iron
   C. Zinc
   D. Selenium
3. The primary function of dietary proteins is:
   A. Energy storage
   B. Structural and enzymatic roles
   C. Insulation
   D. Osmotic regulation
4. Which carbohydrate has the lowest glycemic index?
   A. Glucose
   B. Sucrose
   C. Fructose
   D. Maltose
5. Fat-soluble vitamins include:
   A. B1, B2, B6, B12
   B. C and B-complex
   C. A, D, E, K
   D. C, D, E
6. Which mineral plays a major role in neuromuscular transmission?
   A. Iron
   B. Potassium
   C. Iodine
   D. Chromium

7. Essential amino acids are defined as those:
   A. Synthesized in the liver
   B. Stored in muscle
   C. Required in large amounts
   D. Not synthesized by the body
8. Which nutrient is the main source of dietary fiber?
   A. Animal proteins
   B. Refined sugars
   C. Whole grains and vegetables
   D. Dairy fats
9. Which trace element is necessary for thyroid hormone synthesis?
   A. Zinc
   B. Iron
   C. Iodine
   D. Copper
10. The main function of carbohydrates in the body is:
    A. Hormone synthesis
    B. Structural support
    C. Primary energy supply
    D. Antioxidant defense

11. According to the Healthy Plate model, vegetables should occupy approximately:
    A. 25% of the plate
    B. 50% of the plate
    C. 10% of the plate
    D. 75% of the plate
12. Which food group is recommended as the main source of complex carbohydrates?
    A. Refined bakery products
    B. Sugary beverages
    C. Whole grains
    D. Processed meats
13. A balanced meal should primarily include:
    A. Only carbohydrates and fats
    B. Protein, vegetables, and whole grains
    C. Protein and sweets
    D. Fruits only
14. Which principle is essential in daily meal planning?
    A. Skipping breakfast
    B. Eating once per day
    C. Regular meal timing
    D. Eliminating fats
15. The recommended daily intake of fruits and vegetables is at least:
    A. 1 portion
    B. 2 portions
    C. 3 portions
    D. 5 portions
16. Which fat source is considered cardioprotective?
    A. Butter
    B. Lard

C. Olive oil
D. Margarine

17. Portion control is mainly important to prevent:
    A. Micronutrient deficiency
    B. Dehydration
    C. Overeating and obesity
    D. Anemia
18. Which beverage is recommended as the primary fluid source?
    A. Fruit juice
    B. Coffee
    C. Milk
    D. Water
19. A healthy breakfast should primarily contain:
    A. Simple sugars
    B. Protein and complex carbohydrates
    C. Fried foods
    D. Only fats
20. Which factor is most important when planning meals for chronic disease patients?
    A. Food color
    B. Cultural preference only
    C. Nutritional composition and energy balance
    D. Meal price

21. Which vitamin overdose most commonly causes hepatotoxicity?
    A. Vitamin C
    B. Vitamin B12
    C. Vitamin A
    D. Vitamin K
22. The tolerable upper intake level (UL) refers to:
    A. Minimum daily requirement
    B. Average intake
    C. Maximum safe daily intake
    D. Therapeutic dose
23. Which mineral excess may lead to cardiac arrhythmias?
    A. Calcium
    B. Sodium
    C. Potassium
    D. Phosphorus
24. When reading supplement labels, the %DV indicates:
    A. Drug validity
    B. Daily value percentage
    C. Dosage volume
    D. Digestive value
25. Which vitamin is most likely to cause hypercalcemia when taken in excess?
    A. Vitamin D
    B. Vitamin C
    C. Vitamin B6
    D. Vitamin E
26. Iron overdose in adults most commonly causes:
    A. Hypoglycemia

B. Liver injury
C. Renal stones
D. Osteoporosis

27. Which population group has the highest risk of fat-soluble vitamin toxicity?
A. Children
B. Elderly
C. Athletes
D. Vegetarians
28. Which statement about dietary supplements is correct?
A. They replace balanced diets
B. They are always harmless
C. They may interact with medications
D. They do not require labeling
29. Excess zinc intake may cause deficiency of:
A. Iron
B. Copper
C. Calcium
D. Magnesium
30. The most reliable source of micronutrients is:
A. Energy drinks
B. Multivitamins
C. Fortified candies
D. Balanced diet

31. Emotional eating is most commonly associated with:
A. Hunger hormones
B. Stress and negative emotions
C. Physical activity
D. Micronutrient deficiency
32. Which hormone primarily regulates satiety?
A. Insulin
B. Cortisol
C. Ghrelin
D. Leptin
33. Rapid weight loss is most often associated with:
A. Increased muscle mass
B. Sustainable fat loss
C. Loss of lean body mass
D. Improved metabolic rate
34. Which diet emphasizes high fat and very low carbohydrate intake?
A. Mediterranean diet
B. DASH diet
C. Ketogenic diet
D. Vegetarian diet
35. Weight gain occurs primarily due to:
A. Protein deficiency
B. Negative energy balance
C. Positive energy balance
D. Dehydration

36. Which psychological factor most strongly influences binge eating?
    A. Sleep duration
    B. Social pressure
    C. Anxiety and depression
    D. Physical illness
37. The Mediterranean diet is characterized by high intake of:
    A. Red meat
    B. Refined sugar
    C. Olive oil and vegetables
    D. Processed foods
38. Yo-yo dieting is associated with:
    A. Improved insulin sensitivity
    B. Stable body composition
    C. Increased metabolic efficiency
    D. Weight cycling and metabolic disturbances
39. Which diet is recommended for hypertension management?
    A. Paleo diet
    B. DASH diet
    C. Atkins diet
    D. Carnivore diet
40. Cognitive behavioral therapy in obesity management mainly targets:
    A. Basal metabolic rate
    B. Appetite suppressants
    C. Eating behavior and habits
    D. Muscle hypertrophy

41. The primary purpose of a food diary is to:
    A. Prescribe medications
    B. Diagnose infections
    C. Assess dietary patterns
    D. Measure blood glucose
42. Which parameter is essential when analyzing food diaries?
    A. Food color
    B. Cooking time
    C. Portion size
    D. Brand popularity
43. Underreporting in food diaries is most common in:
    A. Athletes
    B. Children
    C. Obese patients
    D. Pregnant women
44. A 24-hour dietary recall mainly assesses:
    A. Long-term habits
    B. Physical activity
    C. Micronutrient absorption
    D. Short-term intake
45. Which software tool is commonly used for nutritional analysis?
    A. SPSS
    B. Excel only

C. Nutrition analysis databases
D. Radiology systems

46. Meal planning aims primarily to achieve:
A. Food variety only
B. Cultural uniformity
C. Energy and nutrient adequacy
D. Minimal cost

47. Which factor is most important when planning meals for diabetics?
A. Protein taste
B. Fat color
C. Glycemic index and load
D. Water content

48. Skipping meals is most commonly associated with:
A. Improved metabolism
B. Reduced appetite
C. Increased overeating later
D. Increased muscle mass

49. Which indicator best reflects dietary adherence?
A. Body height
B. Food frequency records
C. Blood pressure
D. Heart rate

50. Portion estimation errors most frequently occur with:
A. Fruits
B. Vegetables
C. Liquids and mixed dishes
D. Bread

51. In type 2 diabetes, dietary management primarily aims to:
A. Increase simple sugars
B. Normalize lipid intake only
C. Control glycemia and body weight
D. Eliminate proteins

52. Which carbohydrate type is preferred in insulin resistance?
A. Refined sugars
B. Simple syrups
C. Complex carbohydrates with fiber
D. Fructose-rich foods

53. Dyslipidemia management includes reduction of:
A. Polyunsaturated fats
B. Dietary fiber
C. Saturated fats
D. Plant sterols

54. Which micronutrient deficiency is associated with impaired glucose tolerance?
A. Iron
B. Magnesium
C. Sodium
D. Chloride

55. In metabolic syndrome, recommended fat intake emphasizes:
A. Trans fats

B. Saturated fats
C. Omega-3 fatty acids
D. Cholesterol-rich foods

56. Obesity-related insulin resistance is mainly caused by:
A. Vitamin deficiency
B. Chronic inflammation and lipotoxicity
C. Low protein intake
D. Dehydration

57. Which dietary pattern is most effective in metabolic syndrome?
A. High-sugar diet
B. Mediterranean diet
C. Very-low-protein diet
D. Liquid diet

58. Fructose overconsumption is associated with increased risk of:
A. Hypoglycemia
B. Hyperuricemia
C. Hypotension
D. Osteoporosis

59. Which fiber type improves postprandial glycemia?
A. Insoluble fiber only
B. Soluble fiber
C. Animal fiber
D. Synthetic fiber

60. Weight reduction of 5–10% primarily improves:
A. Vision
B. Renal clearance
C. Insulin sensitivity
D. Bone density

61. The most common food allergens in adults include:
A. Rice and corn
B. Milk, eggs, peanuts, shellfish
C. Potatoes and carrots
D. Beef and lamb

62. Elimination diets are primarily used to:
A. Increase caloric intake
B. Diagnose and manage food allergy
C. Treat obesity
D. Improve hydration

63. Oral allergy syndrome is most often associated with:
A. Fish proteins
B. Latex allergy
C. Pollen cross-reactivity
D. Milk intolerance

64. Which immunoglobulin mediates immediate food allergy reactions?
A. IgA
B. IgG
C. IgM
D. IgE

65. In atopic dermatitis, dietary management mainly aims to:
    A. Increase sodium
    B. Eliminate suspected allergens
    C. Increase saturated fat
    D. Reduce protein intake
66. Lactose intolerance is caused by deficiency of:
    A. Amylase
    B. Lipase
    C. Lactase
    D. Sucrase
67. Hypoallergenic formulas are mainly indicated for:
    A. Healthy adults
    B. Athletes
    C. Infants with cow's milk allergy
    D. Elderly patients
68. Histamine-rich foods may exacerbate symptoms in patients with:
    A. Iron deficiency
    B. Pollen allergy
    C. Histamine intolerance
    D. Celiac disease
69. The gold standard for diagnosis of food allergy is:
    A. Skin prick test only
    B. Serum IgE only
    C. Elimination diet only
    D. Double-blind placebo-controlled food challenge
70. Probiotics in allergy prevention mainly act by:
    A. Increasing allergen absorption
    B. Suppressing appetite
    C. Modulating gut immune tolerance
    D. Reducing fat digestion

71. The primary dietary goal in atherosclerosis is reduction of:
    A. Protein intake
    B. Dietary fiber
    C. Saturated fats and cholesterol
    D. Vitamin C
72. Which fat type has the strongest LDL-cholesterol lowering effect?
    A. Trans fats
    B. Saturated fats
    C. Monounsaturated fats
    D. Hydrogenated fats
73. The DASH diet is primarily designed to treat:
    A. Diabetes
    B. Obesity
    C. Hypertension
    D. Gout
74. High sodium intake mainly increases risk of:
    A. Hypoglycemia
    B. Hypertension

C. Anemia
D. Osteoporosis

75. Omega-3 fatty acids reduce cardiovascular risk primarily by:
A. Increasing LDL
B. Increasing glucose
C. Reducing triglycerides and inflammation
D. Increasing blood viscosity

76. Which food is a major source of soluble fiber beneficial for cholesterol lowering?
A. White bread
B. Red meat
C. Oats and legumes
D. Cheese

77. In heart failure, excessive fluid intake may cause:
A. Hypotension
B. Volume overload and edema
C. Hypoglycemia
D. Hypercalcemia

78. Which dietary pattern is most cardioprotective?
A. Western diet
B. High-protein diet
C. Mediterranean diet
D. Ketogenic diet

79. Plant sterols mainly act by:
A. Increasing bile synthesis
B. Blocking intestinal cholesterol absorption
C. Increasing triglyceride synthesis
D. Reducing glucose uptake

80. Weight reduction in hypertension primarily leads to:
A. Increased heart rate
B. Increased sodium retention
C. Decreased blood pressure
D. Increased LDL

81. In peptic ulcer disease, recommended diet primarily aims to:
A. Increase gastric acid
B. Reduce mucosal irritation
C. Increase fat intake
D. Eliminate proteins

82. In gastroesophageal reflux disease, patients should avoid:
A. High-fiber foods
B. Lean proteins
C. Chocolate and fatty meals
D. Complex carbohydrates

83. Celiac disease is caused by intolerance to:
A. Lactose
B. Casein
C. Gluten
D. Fructose

84. In acute pancreatitis, initial nutritional management includes:
A. High-fat oral feeding

B. Total fasting only
C. Early enteral nutrition when possible
D. High-protein parenteral nutrition only

85. Irritable bowel syndrome management often includes:
A. High-FODMAP diet
B. Low-FODMAP diet
C. High-protein diet
D. Ketogenic diet

86. In chronic liver disease, protein restriction is mainly indicated in:
A. Ascites
B. Portal hypertension
C. Hepatic encephalopathy
D. Hepatitis A

87. Which vitamin deficiency is common in fat malabsorption?
A. Vitamin C
B. Vitamin B12
C. Vitamin K
D. Folic acid

88. In inflammatory bowel disease, dietary therapy primarily aims to:
A. Increase bowel motility
B. Reduce inflammation and maintain nutrition
C. Eliminate carbohydrates
D. Increase sodium intake

89. Short bowel syndrome is mainly associated with:
A. Hyperabsorption
B. Malabsorption and nutrient deficiencies
C. Obesity
D. Hyperglycemia

90. Probiotics are mainly used to:
A. Increase gastric acid
B. Reduce fat absorption
C. Restore intestinal microbiota
D. Stimulate bile secretion

91. In chronic kidney disease, protein intake is usually:
A. Increased without limits
B. Eliminated completely
C. Moderately restricted
D. Replaced by fats

92. Hyperkalemia risk increases with high intake of:
A. Apples
B. White rice
C. Bananas and oranges
D. Cheese

93. Phosphorus restriction is mainly important in:
A. Acute gastritis
B. Chronic kidney disease
C. Liver cirrhosis
D. Diabetes mellitus

94. In nephrotic syndrome, dietary management includes:
    A. High sodium intake
    B. High trans fats
    C. Adequate protein and sodium restriction
    D. Carbohydrate elimination
95. Calcium oxalate kidney stones are associated with excessive intake of:
    A. Vitamin B12
    B. Oxalate-rich foods
    C. Sodium chloride only
    D. Animal fiber
96. Fluid intake in urinary tract infection is recommended to:
    A. Be minimized
    B. Be eliminated
    C. Increase diuresis and flushing
    D. Remain unchanged
97. In end-stage renal disease, potassium restriction mainly prevents:
    A. Anemia
    B. Arrhythmias
    C. Hypoglycemia
    D. Bone loss
98. Which nutrient deficiency is common in dialysis patients?
    A. Vitamin A
    B. Vitamin D
    C. Vitamin K
    D. Vitamin C only
99. Low-sodium diet primarily reduces risk of:
    A. Hypotension
    B. Hyperuricemia
    C. Edema and hypertension
    D. Kidney stones
100. Uric acid stones are associated with high intake of:
    A. Dairy products
    B. Vegetables
    C. Purine-rich foods
    D. Fiber

101. The primary energy source during high-intensity exercise is:
    A. Fat
    B. Protein
    C. Carbohydrate
    D. Ketone bodies
102. Glycogen stores are mainly located in:
    A. Liver only
    B. Adipose tissue
    C. Muscle and liver
    D. Kidneys
103. Protein requirements are increased mainly for:
    A. Endurance athletes only
    B. Strength and power athletes

C. Sedentary individuals
D. Elderly only

104. Carbohydrate loading is used primarily to improve:
A. Muscle strength
B. Fat oxidation
C. Endurance performance
D. Bone density

105. Dehydration of 2% body weight mainly reduces:
A. Appetite
B. Cognitive function only
C. Athletic performance
D. Fat mass

106. Branched-chain amino acids mainly support:
A. Lipolysis
B. Muscle protein synthesis
C. Glycogen breakdown
D. Electrolyte balance

107. Which micronutrient is critical for oxygen transport in athletes?
A. Zinc
B. Iron
C. Calcium
D. Iodine

108. Post-exercise nutrition should primarily include:
A. Fat only
B. Protein and carbohydrates
C. Fiber only
D. Alcohol

109. Creatine supplementation mainly improves:
A. Aerobic endurance
B. Flexibility
C. Short-term high-intensity performance
D. Fat loss

110. Caffeine enhances performance mainly by:
A. Increasing insulin secretion
B. Reducing glycogen stores
C. Stimulating central nervous system
D. Increasing dehydration

Part 2. Clinical Cases

№	*CASE*	*questions*
1	*A 24-year-old female presents with fatigue, hair loss, and brittle nails. Dietary history reveals low intake of red meat and legumes.*	1) Which micronutrient deficiency is most likely responsible for this condition? 2) Which laboratory parameters should be additionally

	Laboratory tests show hemoglobin 98 g/L and low serum ferritin.	assessed to confirm the diagnosis? 3) Which dietary sources should be primarily recommended to correct this deficiency? 4) How does this deficiency affect oxygen transport at the cellular level? 5) Which complications may develop if the deficiency is not corrected?
2	*A 45-year-old office worker with BMI 31 kg/m² asks for advice on daily meal planning to reduce body weight. His usual diet includes large portions, frequent fast food, and low vegetable intake.*	1) How should the Healthy Plate model be structured for this patient? 2) Which macronutrient distribution is most appropriate for weight reduction? 3) Which eating behavior changes should be recommended? 4) How should portion sizes be adjusted during meal planning? 5) Which indicators can be used to monitor adherence to the dietary plan?
3	*A 38-year-old woman takes vitamin A and vitamin D supplements daily without medical supervision. She complains of headache, nausea, bone pain, and dry skin.*	1) Which vitamin toxicity is most likely present in this patient? 2) Which laboratory investigations are necessary to confirm hypervitaminosis? 3) Which organs are primarily affected by chronic fat-soluble vitamin overdose? 4) How should supplement use be modified in this patient? 5) Which label information is essential to prevent future overdose?
4	*A 29-year-old man reports repeated cycles of strict dieting followed by uncontrolled overeating and rapid weight regain. He experiences guilt and anxiety related to eating.*	1) Which eating behavior disorder is suggested by this history? 2) What psychological factors contribute to this pattern? 3) Which dietary strategy is most appropriate for long-term weight control?

		4) What role does cognitive behavioral therapy play in management? 5) Which metabolic consequences may result from repeated weight cycling?
5	*A 52-year-old woman with type 2 diabetes presents a 3-day food diary showing irregular meals, frequent snacks, and high carbohydrate intake in the evening.*	1) Which major dietary errors are evident in this food diary? 2) Which parameters should be analyzed to assess glycemic control from the diary? 3) How should meal timing be modified for better metabolic control? 4) Which tools can be used for quantitative nutritional analysis? 5) How can patient adherence to the new meal plan be monitored?
6	*A 56-year-old man with metabolic syndrome has abdominal obesity, hypertension, fasting glucose 7.2 mmol/L, and elevated triglycerides.*	1) Which dietary pattern is most appropriate for this patient? 2) Which macronutrient modifications are necessary to improve insulin sensitivity? 3) Which fats should be limited and which encouraged? 4) How does weight reduction influence metabolic parameters in this patient? 5) Which laboratory markers should be monitored during dietary therapy?
7	*A 6-month-old infant develops eczema, vomiting, and diarrhea after feeding with cow's milk formula. Family history is positive for atopy.*	1) Which diagnosis is most likely in this infant? 2) Which immunological mechanism underlies this condition? 3) Which type of formula should be recommended? 4) Which diagnostic methods are used to confirm food allergy in infants? 5) What long-term nutritional risks should be considered in elimination diets?
8	*A 62-year-old man with coronary artery disease and hypertension consumes a diet rich*	6) Which dietary pattern is most appropriate for this patient?

	in red meat, butter, and salty foods. Blood pressure is 160/95 mmHg and LDL cholesterol is elevated.	7) Which specific nutrients should be restricted to reduce cardiovascular risk? 8) Which foods should be added to improve lipid profile? 9) How does sodium reduction influence blood pressure regulation? 10) Which clinical parameters should be monitored to assess dietary effectiveness?
9	*A 34-year-old woman with chronic diarrhea, weight loss, and anemia is diagnosed with celiac disease after positive serology and biopsy.*	1) Which dietary intervention is mandatory for this patient? 2) Which nutrients are most commonly deficient in this condition? 3) Which complications may develop without dietary adherence? 4) How should nutritional status be monitored during treatment? 5) Which patient education strategies are essential for long-term management?
10	*A 58-year-old patient with chronic kidney disease stage 4 presents with edema, hyperkalemia, and elevated serum phosphorus.*	1) Which dietary restrictions are necessary in this stage of kidney disease? 2) Which foods should be limited to control hyperkalemia? 3) How should protein intake be adjusted in this patient? 4) What is the role of phosphorus restriction in preventing complications? 5) Which biochemical parameters require regular monitoring?
11	*A 22-year-old endurance athlete complains of fatigue and decreased performance during training. Dietary history shows low carbohydrate intake and inadequate hydration.*	1) Which nutritional error most likely explains the decreased performance? 2) How should carbohydrate intake be optimized for endurance training? 3) Which hydration strategy is recommended before and during exercise?

		4) Which laboratory parameters may indicate overtraining or nutritional deficiency? 5) How should post-exercise nutrition be organized for optimal recovery?

Part 3. Questions

1. Define macronutrients and micronutrients and describe their main physiological functions.
2. Compare the metabolic roles of carbohydrates, proteins, and fats.
3. Explain the concept of essential amino acids and essential fatty acids.
4. Describe the classification and functions of vitamins.
5. Discuss the clinical significance of trace element deficiencies.
6. Describe the structure and principles of the Healthy Plate model.
7. Explain the role of portion control in daily meal planning.
8. Discuss the principles of balanced macronutrient distribution in a healthy diet.
9. Outline the recommendations for daily intake of fruits, vegetables, and fluids.
10. Describe the importance of meal timing and regularity.

11. Define dietary supplements and their indications for clinical use.
12. Explain the concept of tolerable upper intake levels for vitamins and minerals.
13. Describe the clinical manifestations of fat-soluble vitamin toxicity.
14. Discuss potential interactions between dietary supplements and medications.
15. List the key components of a dietary supplement label and their clinical relevance.

16. Describe the main psychological factors influencing eating behavior.
17. Explain the mechanisms of weight gain and weight loss from an energy balance perspective.
18. Compare different types of diets used for weight management.
19. Discuss the phenomenon of emotional eating and its clinical consequences.
20. Explain the role of behavioral therapy in obesity management.

21. Describe the purpose and methodology of food diary analysis.
22. Explain the main sources of error in dietary assessment methods.
23. Discuss the principles of individualized meal planning.
24. Outline the parameters used to evaluate dietary adequacy.
25. Describe methods for monitoring patient adherence to dietary recommendations.

26. Describe the principles of dietary management in metabolic syndrome.
27. Explain the role of dietary fiber and complex carbohydrates in insulin resistance.
28. Discuss fat quality and its importance in dyslipidemia treatment.
29. Describe nutritional strategies for weight reduction in obesity.
30. List the main laboratory indicators used to monitor dietary therapy in metabolic disorders.

31. Describe the immunological mechanisms of food allergy.
32. Explain the principles of elimination diets in allergic diseases.
33. Discuss the diagnostic approach to food allergy and food intolerance.

34. Describe nutritional risks associated with long-term elimination diets.
35. Explain the role of probiotics and gut microbiota in allergy prevention.

36. Describe the основные принципы диетотерапии при атеросклерозе и ишемической болезни сердца.
37. Explain the role of dietary fats in cardiovascular risk modification.
38. Discuss the dietary management of arterial hypertension.
39. Describe the cardioprotective effects of the Mediterranean and DASH diets.
40. List the main dietary factors influencing lipid metabolism.

41. Describe the principles of diet therapy in gastroesophageal reflux disease and peptic ulcer disease.
42. Explain the pathophysiological basis of dietary treatment in celiac disease.
43. Discuss nutritional management in inflammatory bowel diseases.
44. Describe the role of probiotics in gastrointestinal disorders.
45. List the most common nutrient deficiencies in malabsorption syndromes.

46. Describe the principles of dietary management in chronic kidney disease.
47. Explain the role of protein restriction in renal pathology.
48. Discuss the regulation of potassium and phosphorus intake in renal failure.
49. Describe dietary strategies for prevention of kidney stone formation.
50. List the main nutritional complications in patients receiving dialysis.
51. Explain the principles of carbohydrate and protein intake in athletes.
52. Discuss hydration strategies before, during, and after exercise.
53. Describe the role of micronutrients in athletic performance.
54. Explain the principles of post-exercise nutrition and recovery.

Part 4. Interpretation of Laboratory and Instrumental Data in Nutrition

Purpose of the section:
Assessment of students' ability to interpret laboratory and anthropometric data and to formulate basic principles of diet therapy in clinical practice.

Instruction for students:
Analyze the clinical and laboratory data presented in each case and formulate the main principles of dietary management. Answers should be justified and based on pathophysiological mechanisms.

1. A 25-year-old patient presents with weakness and dizziness. Laboratory findings: hemoglobin – 102 g/L, serum ferritin – 8 ng/mL, vitamin B12 – within normal limits. Body mass index (BMI) – 19 kg/m².

Tasks:

1. Interpret the laboratory data and identify the most probable nutrient deficiency.
2. Explain the pathophysiological mechanism of the detected disorder.
3. Indicate the main dietary sources recommended for correction.
4. Formulate the basic principles of diet therapy for this patient.

2. A 48-year-old man: BMI – 32 kg/m², waist circumference – 108 cm. Fasting plasma glucose – 6.3 mmol/L, total cholesterol – 6.1 mmol/L.

Tasks:

1. Assess the patient's nutritional status and metabolic risk.
2. Interpret the anthropometric and laboratory data.
3. Propose the structure of daily meals according to the Healthy Plate model.
4. Formulate the main dietary recommendations for weight and metabolic control.

3. A 40-year-old woman has been taking vitamin D 5000 IU daily for several months without medical supervision. Laboratory data: serum calcium – 2.75 mmol/L, serum phosphorus – decreased. Complaints include nausea and bone pain.

Tasks:

1. Interpret the laboratory findings and identify the metabolic disorder.
2. Explain the mechanism of the detected abnormality.
3. Indicate potential risks of uncontrolled supplementation.
4. Propose dietary and supplementation correction principles.

4. A 30-year-old patient: BMI – 27 kg/m². Fasting glucose – 5.4 mmol/L, HbA1c – 5.8%. History reveals irregular meals and frequent evening overeating.

Tasks:

1. Assess the risk of metabolic disturbances based on the data.
2. Interpret the relationship between eating behavior and laboratory parameters.
3. Identify key nutritional errors.
4. Formulate dietary and behavioral recommendations.

5. A 55-year-old woman with type 2 diabetes. Fasting glucose – 8.1 mmol/L, HbA1c – 8.4%. Food diary shows skipped breakfasts and high-carbohydrate dinners.

Tasks:

1. Interpret the laboratory indicators of glycemic control.
2. Identify the main dietary mistakes based on the food diary.
3. Propose principles of meal timing correction.
4. Formulate basic dietary recommendations for glycemic control.

6. A 58-year-old man: BMI – 34 kg/m², waist circumference – 112 cm. Triglycerides – 3.2 mmol/L, HDL cholesterol – 0.9 mmol/L, fasting glucose – 7.4 mmol/L.

Tasks:

1. Assess the presence of metabolic syndrome.
2. Interpret lipid and carbohydrate metabolism parameters.
3. Identify major nutritional risk factors.
4. Formulate principles of diet therapy for metabolic correction.

7. A 12-month-old infant with atopic dermatitis. Laboratory data: ferritin – 9 ng/mL, total protein – decreased. Cow's milk products have been excluded from the diet.

Tasks:

1. Interpret the laboratory signs of nutritional deficiency.
2. Identify possible consequences of long-term elimination diet.
3. Indicate nutrients at risk of deficiency.
4. Propose principles of nutritional correction.

8. A 65-year-old man with coronary artery disease and arterial hypertension. Total cholesterol – 7.0 mmol/L, LDL cholesterol – 4.8 mmol/L, triglycerides – 2.1 mmol/L. Blood pressure – 155/95 mmHg.

Tasks:

1. Interpret the lipid profile and cardiovascular risk.
2. Identify the main dietary risk factors.
3. Propose dietary modifications for lipid and blood pressure control.
4. Formulate principles of cardioprotective nutrition.

9. A 36-year-old woman with chronic diarrhea and weight loss. Hemoglobin – 95 g/L, serum folates – decreased, albumin – 30 g/L. Diagnosis: malabsorption syndrome.

Tasks:

1. Interpret the laboratory signs of malnutrition.
2. Identify the main nutrient deficiencies.
3. Propose the principles of therapeutic nutrition.
4. Indicate methods for monitoring nutritional status.

10. A 60-year-old patient with chronic kidney disease stage 4. Creatinine – 320 μmol/L, potassium – 5.8 mmol/L, phosphorus – increased, serum albumin – decreased.

Tasks:

1. Interpret the disturbances of electrolyte and protein metabolism.
2. Identify dietary restrictions required in this patient.
3. Propose principles of renal diet therapy.
4. Indicate laboratory parameters for further monitoring.

11. A 23-year-old endurance athlete complains of fatigue and reduced performance. Hemoglobin – 110 g/L, ferritin – 10 ng/mL. Body composition analysis shows low fat mass (8%) and reduced muscle mass.

Tasks:

1. Interpret laboratory and body composition data.
2. Identify probable nutritional causes of decreased performance.
3. Propose principles of dietary correction.
4. Indicate nutritional strategies for recovery and performance improvement.

Part 5. Clinical Nutrition Skills Assessment: OSCE Framework

Structure of the Chapter

1. **Introduction**
    - Purpose of OSCE in nutrition education
    - Competencies assessed (clinical reasoning, evidence-based nutrition, patient safety, communication)
2. **Instructions for Students and Examiners**
    - Time per station: 5–7 minutes
    - Materials provided (patient case, lab results, food diary, supplement label)
    - Assessment criteria (clinical logic, guideline adherence, safety, communication)
3. **OSCE Stations by Topic**
    - Each station: topic, scenario, task, materials, scoring criteria

1. Scenario: Patient complains of fatigue and poor diet.
Task: Identify potential macronutrient and micronutrient deficiencies based on 3-day food diary.
Materials: 3-day food diary, lab results.
Scoring:

- Correct identification of deficiencies (0,8 points)
- Explanation of role of nutrients (0,8 points)
- Recommendations for balanced intake (0,4 point)

2. Scenario: Healthy adult asks for advice to optimize meals.
Task: Construct a 1-day meal plan using the healthy plate model.
Materials: Meal plan template.
Scoring:

- Correct portions of protein, carbs, fats, fruits/vegetables
- Energy adequacy
- Variety and balance

3. Scenario: Patient brings a multivitamin supplement.
Task: Analyze the label, identify overdose risk, and give safety advice.
Materials: Supplement label.
Scoring:

- Identification of active ingredients
- Correct risk assessment
- Patient counseling recommendations

4. Scenario: Patient reports frequent overeating and emotional eating.
Task: Identify eating behavior type and propose behavioral strategies.
Materials: Short questionnaire, patient history.
Scoring:

- Identification of psychological factors
- Strategy appropriateness
- Safety and feasibility

5. Scenario: Patient asks about a ketogenic diet for weight loss.
Task: Evaluate suitability and risks for patient with hyperlipidemia.
Materials: Patient lab data, diet description.
Scoring:

- Risk-benefit analysis
- Evidence-based advice
- Patient communication

6. Scenario: Patient provides a 7-day food diary with nutrient deficiencies.
Task: Identify imbalances and propose corrections.
Materials: Food diary, nutrient tables.
Scoring:

- Correct identification of deficiencies/excesses
- Proposal of practical meal adjustments

7. Scenario: Patient with Type 2 Diabetes.
Task: Design a 1-day meal plan with carbohydrate control and explain rationale.
Materials: Lab data, patient preferences.
Scoring:

- Carb counting accuracy
- Consistency with guidelines
- Safety

8. Scenario: Child with confirmed cow's milk allergy.
Task: Suggest dietary alternatives ensuring calcium and protein adequacy.
Materials: Allergy test results, food list.
Scoring:

- Correct substitution
- Adequacy of nutrients

9. Scenario: Patient with hypertension and high LDL cholesterol.
Task: Design a low-sodium, heart-healthy menu for 1 day.
Materials: Lab results, food preferences.
Scoring:

- Sodium restriction adherence
- Fat quality
- Realistic patient plan

10. Scenario: Patient with chronic gastritis and dyspepsia.
Task: Recommend dietary modifications to reduce symptoms.
Materials: Symptoms diary, lab results.
Scoring:

- Symptom-targeted recommendations
- Nutritional adequacy
- Safety

11. Scenario 1: CKD stage 3 patient.
Task: Design a low-protein, potassium-controlled menu.
Scenario 2: Amateur athlete wants pre/post workout meals.
Task: Suggest nutrition plan for energy and recovery.
Materials: Lab data, training schedule.
Scoring:

- Nutrient control (CKD: protein, K, P; athlete: carbs, protein)
- Safety and feasibility

Part 6 Patient Counseling in Clinical Nutrition: Practical Role-Play Assessment

Structure of the Chapter

I. **Introduction**

- Purpose of counseling OSCE: assess communication, reasoning, and risk prevention
- Competencies: patient education, evidence-based recommendations, motivational interviewing

II. **Instructions for Students and Examiners**

- Role-play duration: 5–7 minutes per station
- Roles: student = nutritionist, examiner/student = patient
- Assessment criteria: communication, argumentation, risk prevention

III. **Role-Play OSCE Stations by Topic**

1. Scenario: Patient asks which nutrients are most important for energy and health.
Task: Explain macronutrients and micronutrients in simple terms, suggest dietary sources.
Assessment:

- Clear, accurate explanation
- Practical examples given
- Encourages patient adherence

2. Scenario: Patient wants to follow a healthy diet but is unsure how to balance meals.
Task: Teach healthy plate model and help patient plan a sample meal.
Assessment:

- Communication clarity
- Patient-tailored advice
- Safety and feasibility

3. Scenario: Patient asks if they need vitamin supplements for immunity.
Task: Explain benefits, risks, potential overdoses, and label interpretation.
Assessment:

- Evidence-based counseling
- Risk communication
- Patient understanding check

4. Scenario: Patient wants rapid weight loss using fad diets.
Task: Discuss risks, set realistic goals, motivate sustainable change.
Assessment:

- Motivational communication
- Correct risk explanation
- Patient-centered goal setting

5. Scenario: Patient follows keto / paleo / intermittent fasting diet.
Task: Evaluate appropriateness for their condition, explain pros and cons.
Assessment:

- Risk-benefit discussion
- Personalized advice
- Clear, understandable explanation

6. Scenario: Patient provides a 7-day food diary and asks for feedback.
Task: Identify imbalances and suggest realistic corrections.
Assessment:

- Accurate analysis

- Practical, patient-friendly advice
- Encourages adherence

7. Scenario: Patient with Type 2 Diabetes asks about meal planning.
Task: Explain carbohydrate management and healthy choices.
Assessment:

- Clarity and accuracy
- Risk prevention (hypoglycemia, complications)
- Motivation for self-management

8. Scenario: Parent asks how to feed child with cow's milk allergy.
Task: Provide alternatives ensuring nutritional adequacy and safety.
Assessment:

- Correct dietary alternatives
- Clear communication to parent
- Emphasis on safety and avoidance of allergens

9. Scenario: Patient with hypertension and hypercholesterolemia wants diet advice.
Task: Counsel on low-sodium, heart-healthy diet, explain risks of unhealthy choices.
Assessment:

- Evidence-based advice
- Communication clarity
- Patient understanding and motivation

10. Scenario: Patient with chronic gastritis asks about safe foods.
Task: Provide symptom-targeted nutrition advice and explain reasoning.
Assessment:

- Accurate, condition-specific recommendations
- Clear, patient-centered communication
- Risk prevention (ulcer aggravation, intolerance)

11. Scenario 1: Patient with CKD asks about protein and potassium limits.
Scenario 2: Amateur athlete wants pre/post workout nutrition.
Task: Counsel patient on appropriate diet, explain rationale and risks.
Assessment:

- Condition-specific advice

- Clear explanation of rationale
- Encouragement for adherence

Part 7: Analysis of Dietary Supplements and Vitamins – Expert Evaluation

№	Topic	Scenario	Task	Materials	Scoring Criteria
1	Basics of Nutrition	Patient buys a multivitamin claiming "all essential nutrients for energy."	Identify included macronutrients and micronutrients, check intake vs RDI, advise on safety and potential deficiencies.	Supplement label	- Correct identification of nutrients (0,8 pts)- Identification of over- or under-dosing risks (0,8 pts)- Clear patient advice (0,4pt)
2	Healthy Plate Model & Meal Planning	Patient wants to replace meals with a "meal replacement shake."	Evaluate nutrient composition vs healthy plate, identify imbalances, recommend safe daily use.	Shake nutrition label, meal plan template	- Identification of nutrient imbalances - Appropriateness to daily requirements Practical advice
3	Supplements, Vitamins & Minerals	Patient takes high-dose vitamin D and calcium supplements.	Assess total intake, identify risk of overdose/hypercalcemia, advise on safe dosing.	Supplement labels, lab values	- Dosage calculation - Risk identification - Patient counseling
4	Psychology of Eating, Weight Loss & Gain	Patient buys a "fat burner" to lose weight quickly.	Analyze ingredients for efficacy and safety, identify psychological risks, advise evidence-based alternatives.	Supplement label, patient history	- Safety assessment - Risk of misuse/psychological impact - Alternative recommendations
5	Types of Diet	Vegan patient uses a "plant-based protein supplement."	Evaluate protein content and amino acid completeness, check for missing micronutrients, provide counseling.	Supplement label, diet record	- Protein adequacy check - Micronutrient gaps identified - Practical advice
6	Food Diary & Meal Planning	Patient presents 7-day food diary and several supplements.	Determine necessity of supplements, identify over-supplementation, recommend adjustments.	Food diary, supplement labels	- Identification of unnecessary supplements - Risk of excess intake - Correct adjustment advice
7	Metabolic Disorders	Patient with Type 2 Diabetes uses supplement claiming to "normalize blood sugar."	Evaluate ingredients for efficacy and safety, identify interactions with medications, give evidence-based advice.	Supplement label, lab data, medications	- Evidence-based assessment- Interaction identification- Patient counseling
8	Allergic Diseases	Child with multiple food allergies uses	Check allergen content, assess nutritional adequacy for growth,	Supplement label, allergy report	- Allergen risk identification-

		a “nutritional powder.”	advise on safe alternatives.		Nutritional adequacy - Safety advice
9	Cardiovascular Diseases	Patient with hypertension takes omega-3 and coenzyme Q10 supplements.	Evaluate dosage, interactions with medications, assess evidence for cardiovascular benefit, recommend safe use.	Supplement labels, patient medications	- Dosage and interaction assessment - Evidence evaluation - Counseling clarity
10	Gastrointestinal Diseases	Patient with IBS takes a fiber + probiotic supplement.	Evaluate appropriateness for IBS type, identify side effects, advise on safe integration.	Supplement label, symptom diary	- Correct matching to IBS type - Risk/side effect identification - Practical counseling
11	Kidney & Urinary Tract Disorders / Sports Nutrition	1) CKD stage 3 patient takes high-protein powder. 2) Athlete uses pre-workout supplement with stimulants.	CKD: Assess protein, potassium, phosphorus; advise safety. Athlete: Check stimulant content, cardiovascular risk; evaluate efficacy.	Supplement labels, lab data, training schedule	- CKD: nutrient assessment and safety - Athlete: risk & efficacy assessment - Clear patient recommendations