Name:

Enrolment No:

UPES

End Semester Examination, May 2025

Course: Principle of Dietetics | **Semester : II**

Program: M.Sc. (Nutrition and Dietetics) | **Duration : 3 Hours**

Course Code: HSND7018 | **Max. Marks : 100**

Instructions: Read all the questions carefully.

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M = 30 Marks)	Marks	COs
Q1	Define optimal nutritional status.	1.5	CO1
Q2	Highlight the role of a dietitian in hospice care.	1.5	CO1
Q3	Fiber should be increased immediately after bowel surgery. State whether the statement is TRUE/FALSE.	1.5	CO1
Q4	What do you understand by critical care in terminally ill patients?	1.5	CO1
Q5	What does the term "NPO" mean?	1.5	CO2
Q6	Which screening tool includes questions about recent illness, appetite loss, and mobility? a) SGA b) MNA c) NRS-2002 d) FFQ	1.5	CO2
Q7	What does the Barthel Index primarily measure in individuals? a) Cognitive function b) Emotional well-being c) Activities of daily living (ADL) d) Social interaction skills	1.5	CO2
Q8	What is the primary purpose of nutrition documentation in clinical settings? a) To support legal accountability and ensure continuity of care b) To assist in meal planning for hospital cafeteria services c) To keep dietitians aware about the terminology d) To promote hospital marketing and public relations	1.5	CO2
Q9	Which of the following is a route commonly used for enteral nutrition? a) Intravenous (IV) administration b) Subcutaneous injection	1.5	CO2

	c) Nasogastric tube placement d) Intramuscular injection		
Q10	Underweight is defined as a BMI-for-age below the: a) 25th percentile b) 15th percentile c) 10th percentile d) 5th percentile	1.5	CO3
Q11	Which of the following methods measures body composition using electrical conductivity? a) DEXA b) BIA c) MRI d) Air Displacement Plethysmography	1.5	CO3
Q12	Prealbumin reflects short-term changes in visceral protein status more accurately than albumin. State whether the statement is TRUE/FALSE.	1.5	CO3
Q13	What are the potential complications associated with refeeding syndrome to malnourished individuals? a) Enhanced muscle growth and improved cognitive function b) A rapid decline in body weight c) Electrolyte imbalances and metabolic disturbances d) Reduced risk of nutrient deficiencies	1.5	CO3
Q14	A limitation of BIA includes: a) Radiation exposure b) High cost of equipment c) Accuracy affected by hydration status d) Requires specialized imaging rooms	1.5	CO3
Q15	Which of the following is a potential complication associated with enteral nutrition? a) Increased risk of catheter-related infections b) Improved gastrointestinal function c) Reduced risk of aspiration pneumonia d) Enhanced oral intake	1.5	CO3
Q16	When planning a dietary intervention, what is the most important step? a) Understanding the client's needs, preferences, and barriers b) Providing a generic diet plan c) Recommending only expensive food options d) Ignoring cultural food habits	1.5	CO3

Q17	In critically ill patients, which of the following diagnostic criteria is used to define severe malnutrition? a) Unintentional weight loss of 5% in 1 month b) Normal BMI with mild fat loss c) Decreased energy intake of <50% for 5 days d) Fluid accumulation with functional decline	1.5	CO3
Q18	The presence of bilateral pitting edema may indicate: a) Vitamin C deficiency b) Fat malabsorption c) Protein-energy malnutrition d) Iron overload	1.5	CO3
Q19	Somatic protein refers to the protein found in circulating blood proteins such as transferrin and albumin. State whether the statement is TRUE/FALSE.	1.5	CO4
Q20	A disease with an unknown cause is classified as: a) Idiopathic b) Genetic c) Iatrogenic d) Multifactorial	1.5	CO4
	Section B **(4Qx5M=20 Marks)**		
Q1	Sarah, a 55-year-old woman, is seen in the outpatient clinic for a routine check-up. She reports feeling fatigued and having low energy levels for the past few months. She also mentions experiencing occasional shortness of breath during light activities and feels more sluggish than usual. She has a history of mild hypertension and pre-diabetes, but she is not on any medication. She follows a vegetarian diet and mentions that her appetite has been reduced lately. Physical examination: • Vitals: BP 140/90 mmHg, HR 85 bpm, Respiratory Rate 18/min • Height: 5'4" (162 cm), Weight: 140 lbs (63.5 kg) • BMI: 24.8 kg/m² • Clinical Signs: Pale skin, dry hair, slight swelling of feet (pedal edema). Laboratory Results: • Haemoglobin: 9.2 g/dL (Low) • Serum Ferritin: 18 ng/mL (Low) • Serum Vitamin B12: Normal • Fasting Blood Sugar: 105 mg/dL (Slightly elevated) **Using the SOAP format, document Sarah's nutrition-related assessment for this case.**	5	CO2
Q2	A 36-year-old woman is brought to the emergency room with complaints of upper abdominal pain, bloating, and nausea. The pain is sharp, located in the	5	CO2

	upper right quadrant, and radiates to her back. She mentions the pain started after a heavy, fatty meal. On examination, she has a low-grade fever and mild jaundice. Blood tests show elevated liver enzymes and bilirubin levels. An abdominal ultrasound indicates gallstones and inflammation of the gallbladder. **Identify the signs, symptoms, and laboratory findings in this case.**		
Q3	James, a 78-year-old male, was admitted to a long-term care facility following a stroke that has affected his mobility and speech. He has a history of hypertension and type 2 diabetes. During the nutrition assessment, the dietitian notes that James has difficulty feeding himself and often consumes less than half of his meals. His daughter reports he has lost about 10 pounds in the last 2 months. His BMI is 18.2 kg/m², and recent labs reveal low serum albumin and slightly elevated blood glucose levels. On examination, signs of muscle wasting and mild dehydration are evident. **Create a PES statement based on James's nutritional assessment to assess his nutritional risk.**	5	CO2
Q4	a) Explain the concept of Refeeding Syndrome. Discuss its causes and clinical manifestations. (2.5 marks) b) Describe and provide three nutrients that should be monitored in critically malnourished patients. (2.5 marks)	5	CO3
Section C (2Qx15M=30 Marks)			
Q1	Mr. Raj, a 62-year-old male, has recently undergone major abdominal surgery and is now in the surgical ICU. Due to poor gastrointestinal motility and risk of aspiration, he is being fed through a **nasogastric tube with a semi-elemental enteral formula** that includes hydrolyzed proteins, minimal fiber, and a lipid blend containing MCTs and omega-3 fatty acids. After 48 hours, his tolerance improves, and the healthcare team considers transitioning him to a standard polymeric formula with added fiber. a. Compare polymeric (intact protein) and semi-elemental (peptide-based) formulas. In which clinical situations is each more appropriate? (5 marks) b. Discuss the clinical benefits of including MCTs and omega-3 fatty acids in enteral feeding, particularly in post-surgical or critically ill patients. (5 marks) c. Describe the types of fiber commonly used in enteral formulas and the impact of fiber on gastrointestinal tolerance. When should fiber be limited or avoided? (5 marks)	15	CO3
Q2	a. A 66-year-old homeless male, with a height of 6 feet and weight of 54 kg, has been hospitalized for 48 hours. He is currently NPO and receiving only IV fluids. Due to a nonfunctional gastrointestinal tract, enteral nutrition is not feasible. **Discuss the rationale for initiating parenteral nutrition (PN) in this patient and suggest the most appropriate vascular access route, considering his current clinical status.** (5 marks)	15	CO3

	b. List five factors that might influence selection of an enteral formula (e.g., viscosity). Explain how each factor impacts formula choice. (5 marks) c. Differentiate between bolus and continuous feeding. (5 marks)		
Section D (2Qx10M=20 Marks)			
Q1	Discuss the various texture modifications in therapeutic diets while managing specific medical conditions.	10	CO1
Q2	a. Which biochemical measurements are collected for nutritional assessment? (5 marks) b. Using the Health Belief Model, explain how you would encourage an obese college going student to adopt a healthy eating pattern to prevent lifestyle-related diseases. Briefly describe how each component of the model applies to this behavior change. (5 marks)	10	CO4