Board Exam Desk

Nutrition and Dietetics Reviewer

Nutrition and Dietetics Licensure Examination | PRC | 120 original questions

2026 Edition | Updated November 2026

Original board-style practice questions with an answer key.

Practice questions

Basic and Applied Nutrition

1. A packed lunch provides 45 g carbohydrate, 20 g protein and 15 g fat. Using Atwater factors, about how many kilocalories does it supply?

A. 395 kcal
B. 340 kcal
C. 455 kcal
D. 420 kcal

2. A serving of rice wine contains 14 g of ethanol and no other energy source. How much energy does the ethanol contribute?

A. 126 kcal
B. 98 kcal
C. 70 kcal
D. 56 kcal

3. A fisherman who rarely eats fruits or vegetables develops swollen, bleeding gums, tiny skin hemorrhages around hair follicles and slow wound healing. Which nutrient is most likely lacking?

A. Vitamin D
B. Vitamin B12
C. Vitamin C
D. Riboflavin

4. A preschooler has difficulty seeing at dusk and shows dry, foamy gray spots on the conjunctiva. These findings point to deficiency of which vitamin?

A. Vitamin A
B. Vitamin K
C. Vitamin E
D. Thiamin

5. Adults who subsist mainly on highly polished white rice with little meat or legumes are at particular risk of which deficiency disease?

A. Scurvy
B. Beriberi
C. Pellagra
D. Rickets

6. A man whose diet is built almost entirely on untreated maize develops sun-exposed dermatitis, diarrhea and confusion. Supplementation with which nutrient is indicated?

A. Folate
B. Pantothenic acid
C. Vitamin A
D. Niacin

7. Which fat-soluble vitamin functions chiefly as an antioxidant that protects polyunsaturated fatty acids in cell membranes from peroxidation?

A. Vitamin A
B. Vitamin E
C. Vitamin D
D. Vitamin K

8. Newborns routinely receive an injection shortly after delivery to prevent a bleeding disorder caused by low stores and sterile gut flora. Which vitamin is given?

A. Vitamin E
B. Vitamin K
C. Vitamin B6
D. Vitamin C

9. A dietitian wants to improve non-heme iron absorption from a lunch of rice and monggo. Which addition to the same meal would help most?

A. A glass of fresh cow's milk
B. A calcium carbonate tablet
C. A glass of fresh calamansi juice
D. A cup of strong black tea

10. Which food provides iron in the form that is most efficiently absorbed and least affected by other dietary components?

A. Cooked spinach
B. Lean beef
C. Fortified cereal
D. Boiled mung beans

11. Rice and mung beans eaten together provide better protein quality than either alone mainly because they compensate for each other's limiting amino acids. Which pairing is correct?

A. Rice is low in tryptophan; legumes are low in histidine
B. Rice is low in lysine; legumes are low in methionine
C. Rice is low in leucine; legumes are low in valine
D. Rice is low in methionine; legumes are low in lysine

12. During a short, intense sprint, skeletal muscle regenerates NAD+ for glycolysis by converting pyruvate to which compound?

A. Lactate
B. Acetyl-CoA
C. Alanine
D. Oxaloacetate

13. After three days of total fasting, the brain begins to rely partly on fuels produced by the liver from fatty acid breakdown. What are these fuels?

A. Glycerol phosphates
B. Free amino acids
C. Ketone bodies
D. Lactate molecules

14. A patient eats 80 g of protein in a day and has a 24-hour urinary urea nitrogen of 10 g. Using a 4 g allowance for other nitrogen losses, what is the nitrogen balance?

A. -1.2 g
B. +2.8 g
C. +1.2 g
D. -4.0 g

15. A woman weighs 68 kg and is 1.60 m tall. What is her body mass index?

A. 23.4 kg/m2
B. 26.6 kg/m2
C. 28.1 kg/m2
D. 42.5 kg/m2

16. Using the Tannhauser method (height in cm minus 100, then minus 10 percent), what is the desirable body weight of an adult who is 165 cm tall?

A. 55.0 kg
B. 61.5 kg
C. 58.5 kg
D. 65.0 kg

17. A client with high LDL cholesterol asks which type of fiber is most useful for lowering it. Which food source best fits the recommendation?

A. Oats rich in beta-glucan
B. Celery strings rich in lignin
C. Wheat bran rich in cellulose
D. Corn hulls rich in hemicellulose

18. Which pair of fatty acids cannot be synthesized by humans and must therefore be supplied by the diet?

A. Stearic and lauric acid
B. Oleic and palmitic acid
C. Arachidonic and butyric acid
D. Linoleic and alpha-linolenic acid

19. An elderly housebound woman has low calcium absorption despite adequate milk intake. Deficiency of which nutrient most likely explains this?

A. Vitamin D
B. Magnesium
C. Phosphorus
D. Vitamin K

20. A child shows growth retardation, poor appetite, reduced taste acuity and delayed wound healing. Which trace mineral deficiency best explains this cluster?

A. Zinc
B. Iodine
C. Fluoride
D. Chromium

21. A student gets bloating and diarrhea after drinking milk but tolerates aged cheese. Which enzyme is most likely deficient in the small intestine?

A. Lactase
B. Sucrase
C. Maltase
D. Lipase

22. Chemical digestion of protein begins in which part of the gastrointestinal tract?

A. Colon, through bacterial lipase
B. Duodenum, through bile salts
C. Stomach, through pepsin
D. Mouth, through salivary amylase

23. After surgical removal of the terminal ileum, which nutrient is the patient most at risk of malabsorbing?

A. Iron
B. Calcium
C. Folate
D. Vitamin B12

24. A woman planning pregnancy is advised to take a specific B vitamin before conception and in early pregnancy to reduce the risk of neural tube defects. Which vitamin is it?

A. Folic acid
B. Biotin
C. Thiamin
D. Riboflavin

25. Using the guideline of 1 mL of water per kcal consumed, how much fluid does an adult on a 2,200 kcal diet need daily?

A. 1,100 mL
B. 1,650 mL
C. 3,300 mL
D. 2,200 mL

26. Pyridoxal phosphate serves as the coenzyme for which type of reaction in amino acid metabolism?

A. Oxidative decarboxylation of glucose
B. Carboxylation
C. Transamination
D. Hydroxylation

27. Cracks at the corners of the mouth, an inflamed magenta tongue and the fact that the vitamin is easily destroyed by light point to deficiency of which nutrient?

A. Vitamin C
B. Riboflavin
C. Biotin
D. Vitamin D

28. Selenium is a structural component of which antioxidant enzyme?

A. Glutathione peroxidase
B. Superoxide dismutase only
C. Catalase only
D. Carbonic anhydrase

29. A snack bar provides 250 kcal and 10 g of fat. What percentage of its energy comes from fat?

A. 25 percent
B. 36 percent
C. 40 percent
D. 4 percent

30. Older adults with atrophic gastritis commonly have reduced absorption of vitamin B12 from food mainly because of which change?

A. Increased pancreatic secretion of protease
B. Reduced gastric acid and pepsin to release food-bound B12
C. Excess bile acid binding of the vitamin
D. Faster small bowel transit of all nutrients

Medical Nutrition Therapy

31. Using the Mifflin-St Jeor equation, what is the resting energy expenditure of a 35-year-old woman who weighs 60 kg and is 160 cm tall?

A. 1,264 kcal/day
B. 1,430 kcal/day
C. 1,182 kcal/day
D. 1,350 kcal/day

32. A newly diagnosed patient with celiac disease asks which staple she can eat freely. Which is appropriate?

A. Rye crackers
B. Whole-wheat pandesal
C. Plain steamed rice
D. Barley soup

33. A patient with chronic kidney disease who was on a low-protein diet now begins maintenance hemodialysis. How should the protein prescription change?

A. Increase protein to replace dialysis losses
B. Keep the same low-protein prescription
C. Remove protein entirely on dialysis days
D. Restrict protein further to slow uremia

34. A patient with liver cirrhosis has developed ascites. Which dietary modification is most directly indicated for the ascites?

A. Fat-free diet
B. Sodium restriction
C. Potassium restriction
D. Fluid loading

35. An infant is diagnosed with classic phenylketonuria. Which statement about the diet is correct?

A. Only fat intake needs modification
B. Phenylalanine is restricted and tyrosine becomes essential
C. All protein is eliminated until age five
D. Tyrosine is restricted and phenylalanine is added

36. A patient complains of cramping, sweating and palpitations shortly after meals following a partial gastrectomy. Which recommendation is most appropriate?

A. Liquid-only diet high in simple sugars
B. Large meals with sweetened drinks to boost energy
C. Three meals with fruit juice taken during eating
D. Small frequent meals with liquids taken between meals

37. A man with recurrent gouty arthritis asks which food he should limit most. Which is the best answer?

A. Skim milk and low-fat yogurt
B. Pork liver and other organ meats
C. Cooked white rice
D. Fresh cucumbers and lettuce

38. Which eating pattern has the strongest evidence for lowering blood pressure in adults with hypertension?

A. A pattern rich in fruits, vegetables and low-fat dairy with reduced sodium
B. A high-protein pattern based on processed meats
C. A pattern relying on salted fish and pickles for flavor
D. A very low-carbohydrate pattern high in saturated fat

39. A patient started on warfarin asks whether he must stop eating malunggay and other leafy greens. What is the best counseling?

A. Take vitamin K supplements with each dose
B. Double green vegetable intake to protect the liver
C. Avoid all green vegetables permanently
D. Keep vitamin K intake consistent from day to day

40. A patient taking a monoamine oxidase inhibitor antidepressant should be warned to avoid which food?

A. Fresh cottage cheese
B. Steamed white fish
C. Plain boiled egg
D. Aged cheddar cheese

41. A severely malnourished patient develops weakness and respiratory difficulty two days after aggressive nutrition support is started. Which laboratory finding is the hallmark of this refeeding syndrome?

A. Low serum phosphorus
B. Low serum cholesterol
C. High serum albumin
D. High serum sodium

42. Using the Curreri formula (25 kcal/kg + 40 kcal per percent total body surface area burned), estimate energy needs of a 60-kg adult with 30 percent burns.

A. 2,700 kcal/day
B. 3,000 kcal/day
C. 2,100 kcal/day
D. 2,400 kcal/day

43. A patient needs 1,800 kcal/day from a 1.0 kcal/mL enteral formula given continuously over 24 hours. What pump rate is required?

A. 75 mL/hour
B. 60 mL/hour
C. 100 mL/hour
D. 90 mL/hour

44. A tube-fed patient has repeated vomiting and documented aspiration with gastric feeding. Which feeding approach is most appropriate to consider?

A. Switching to oral clear liquids only
B. Stopping nutrition support for one week
C. Post-pyloric feeding such as a nasojejunal tube
D. Larger bolus gastric feeds given faster

45. A parenteral solution contains 1 L of 20 percent dextrose. Using 3.4 kcal/g for dextrose, how many kilocalories does it supply?

A. 680 kcal
B. 800 kcal
C. 200 kcal
D. 340 kcal

46. How many kilocalories are provided by 250 mL of a 20 percent intravenous lipid emulsion, which supplies 2.0 kcal/mL?

A. 450 kcal
B. 225 kcal
C. 275 kcal
D. 500 kcal

47. A conscious patient with diabetes has a capillary glucose of 60 mg/dL and mild shakiness. What is the recommended first action?

A. Withhold food until the next scheduled meal
B. Give a high-fat snack and recheck in two hours
C. Give about 15 g of fast-acting carbohydrate and recheck in 15 minutes
D. Give a high-protein shake and skip the next insulin dose

48. A patient uses an insulin-to-carbohydrate ratio of 1 unit per 15 g. How much rapid-acting insulin covers a meal with 60 g of carbohydrate?

A. 3 units
B. 6 units
C. 4 units
D. 9 units

49. An older adult has asymptomatic diverticulosis found on colonoscopy. Which long-term dietary advice is appropriate?

A. A clear liquid diet for several months
B. A high-fiber diet with adequate fluids
C. A permanent low-residue diet
D. Strict avoidance of all fruits

50. A patient with Crohn's disease had about 100 cm of terminal ileum resected. Besides fat malabsorption, which deficiency should be monitored most closely?

A. Iodine deficiency
B. Vitamin B12 deficiency
C. Sodium excess
D. Vitamin C deficiency

51. A patient with chronic pancreatitis has foul, greasy stools and weight loss. Which nutrition strategy addresses this best?

A. Taking enzymes at bedtime away from food
B. Increasing alcohol to stimulate appetite
C. Pancreatic enzyme replacement with meals and medium-chain triglycerides if needed
D. High-fiber bran supplements and fat-free diet only

52. A patient with recurrent calcium oxalate kidney stones asks about calcium. Which advice is correct?

A. Increase spinach and nuts for magnesium
B. Take high-dose vitamin C daily
C. Keep normal dietary calcium and drink plenty of fluids
D. Eliminate all dairy foods permanently

53. Which recommendation is appropriate for a patient with gastroesophageal reflux disease?

A. Drink peppermint tea after every meal
B. Avoid lying down for two to three hours after eating
C. Choose fried foods to slow gastric emptying
D. Eat a large meal just before bedtime

54. A patient has an ideal body weight of 60 kg and an actual weight of 100 kg. Using adjusted body weight = IBW + 0.25 (actual - IBW), what weight should be used?

A. 70 kg
B. 65 kg
C. 75 kg
D. 80 kg

55. A ventilated patient with COPD has rising carbon dioxide levels while receiving a very high-carbohydrate formula in excess of needs. What is the main nutrition concern?

A. Overfeeding increases carbon dioxide production
B. Fat raises the respiratory quotient above 1.0
C. Vitamin deficiency causes carbon dioxide retention
D. Protein is converted directly to carbon dioxide

56. A stroke patient with dysphagia coughs and shows a wet voice when drinking water. Which modification is generally used to reduce aspiration risk?

A. Larger sips taken quickly
B. Thickened liquids
C. Ice-cold carbonated water
D. Thin liquids through a straw

57. A patient on hemodialysis has a serum potassium of 6.2 mEq/L. Which food should he limit?

A. Fresh apples
B. Cabbage
C. Ripe saba bananas
D. White rice

58. A patient has a mid-upper arm circumference of 26 cm and a triceps skinfold of 12 mm. Using MAMC = MAC - (3.14 x TSF in cm), what is the mid-arm muscle circumference?

A. About 22.2 cm
B. About 22.9 cm
C. About 18.4 cm
D. About 25.6 cm

59. A 2,000 kcal diet is planned with 15 percent of energy from protein. How many grams of protein is that?

A. 75 g
B. 50 g
C. 100 g
D. 33 g

60. A diabetic meal plan requires 6 rice exchanges at lunch. If each exchange provides 23 g carbohydrate and 2 g protein, how much carbohydrate do the rice exchanges supply?

A. 126 g
B. 115 g
C. 150 g
D. 138 g

Public Health Nutrition

61. A mother asks when she should start giving her baby food other than breast milk. What is the recommended age for introducing complementary foods?

A. At 12 months
B. At 4 months
C. At 2 months
D. At 6 months

62. Which Philippine issuance, signed in 1986, regulates the marketing and promotion of breastmilk substitutes, feeding bottles and teats?

A. Presidential Decree 491
B. Republic Act 8172, the ASIN Law
C. Executive Order 51, the Milk Code
D. Republic Act 8976

63. Which Philippine law requires that salt for human and animal consumption be iodized to eliminate iodine deficiency disorders?

A. Executive Order 51
B. Republic Act 8172
C. Republic Act 10028
D. Presidential Decree 1569

64. Under the Philippine Food Fortification Act of 2000, which staple is mandated to be fortified with iron?

A. Bottled water
B. Soy sauce
C. Coffee
D. Rice

65. Which agency serves as the highest policy-making and coordinating body on nutrition in the Philippines?

A. Bureau of Animal Industry
B. Philippine Statistics Authority
C. National Nutrition Council
D. Food and Drug Administration

66. Which agency conducts the periodic National Nutrition Survey that measures the nutritional status of Filipinos?

A. Bureau of Customs
B. Department of Agrarian Reform
C. Commission on Higher Education
D. Food and Nutrition Research Institute of DOST

67. Nutrition Month is celebrated in the Philippines every year during which month, as provided by the Nutrition Act?

A. December
B. March
C. October
D. July

68. Which program trains and deploys community volunteers at the barangay level to monitor child nutrition and deliver nutrition services?

A. Barangay Tanod Program
B. Barangay Nutrition Scholar Program
C. Rural Electrification Program
D. Day Care Worker Licensing

69. A 3-year-old has a height-for-age z-score of -2.6 but a normal weight-for-height. How is the child classified using WHO Child Growth Standards?

A. Normal
B. Wasted
C. Overweight
D. Stunted

70. A 20-month-old has a weight-for-length z-score of -2.4 with no edema. How is the child classified?

A. Normal nutritional status
B. Stunting only
C. Moderate acute malnutrition
D. Severe acute malnutrition

71. A health worker measures the mid-upper arm circumference of a 2-year-old as 11.0 cm. What does this indicate?

A. Mild stunting
B. Normal status
C. Severe acute malnutrition
D. Overweight

72. A 2-year-old has bilateral pitting edema of the feet, flaky-paint skin lesions and sparse, pale hair. Which condition is most likely?

A. Marasmus
B. Childhood obesity
C. Rickets
D. Kwashiorkor

73. Which feature best distinguishes marasmus from kwashiorkor?

A. Bilateral pitting edema of the feet
B. Fatty liver with a moon face
C. Severe wasting of muscle and fat without edema
D. Normal weight with skin peeling

74. In a municipal survey, 1,392 of 4,800 children under five were found to be stunted. What is the prevalence of stunting?

A. 34 percent
B. 14 percent
C. 29 percent
D. 24 percent

75. A barangay recorded 45 infant deaths among 3,000 live births in a year. What is the infant mortality rate?

A. 1.5 per 1,000 live births
B. 30 per 1,000 live births
C. 45 per 1,000 live births
D. 15 per 1,000 live births

76. A screening tool for undernutrition correctly identifies 90 of 100 truly malnourished children and misses 10. What is its sensitivity?

A. 10 percent
B. 100 percent
C. 90 percent
D. 50 percent

77. A researcher wants to estimate the usual long-term intake of fish in a large population at low cost. Which dietary assessment method is most suitable?

A. Seven-day weighed food record
B. Food frequency questionnaire
C. Single 24-hour recall
D. Duplicate portion analysis

78. Which dietary assessment method is generally regarded as the most precise for an individual's actual intake but places the greatest burden on the respondent?

A. Food frequency questionnaire
B. Weighed food record
C. Diet history interview
D. Single 24-hour recall

79. A newborn is classified as low birth weight if the birth weight is below which value?

A. 3,000 g
B. 1,500 g
C. 2,500 g
D. 2,000 g

80. The first 1,000 days, recognized as a critical window for nutrition interventions, covers which period?

A. From conception to the child's first birthday
B. From conception to the child's second birthday
C. From birth to the child's third birthday
D. From the sixth month to the child's fifth birthday

81. Which supplement is routinely given to pregnant women in the Philippines to prevent maternal anemia and support fetal development?

A. Vitamin K with calcium
B. Iron with folic acid
C. Vitamin D with zinc
D. Iodine with fluoride

82. Children aged 12 to 59 months in a vitamin A supplementation program receive a single high-dose capsule of what strength?

A. 100,000 IU
B. 50,000 IU
C. 200,000 IU
D. 500,000 IU

83. Which Philippine law expanded breastfeeding promotion by requiring lactation stations and paid lactation breaks in workplaces?

A. Republic Act 10028
B. Republic Act 8976
C. Presidential Decree 491
D. Republic Act 8172

84. A province has high rates of child stunting alongside rising adult obesity and diabetes. Which term describes this situation?

A. Acute food emergency
B. Nutrition transition reversal
C. Double burden of malnutrition
D. Hidden hunger only

85. Food security exists when all people at all times have access to sufficient, safe and nutritious food. Which set lists its four commonly cited dimensions?

A. Quality, quantity, taste and cost
B. Supply, demand, export and import
C. Availability, access, utilization and stability
D. Production, pricing, packaging and promotion

86. A nutritionist checks whether feeding sessions are being delivered as scheduled and to the intended children midway through a program. What type of evaluation is this?

A. Process evaluation
B. Summative cost-benefit analysis
C. Impact evaluation
D. Needs assessment

87. Mothers in a barangay do not believe their thin children are at risk of illness, so they ignore feeding advice. Which Health Belief Model construct should the intervention address first?

A. Self-efficacy
B. Cues to action
C. Perceived barriers
D. Perceived susceptibility

88. Which study design is used in a national nutrition survey that measures the prevalence of anemia at a single point in time?

A. Cross-sectional study
B. Prospective cohort study
C. Case-control study
D. Randomized controlled trial

89. After the start of complementary feeding at 6 months, how long is continued breastfeeding recommended?

A. Until the first tooth erupts
B. Only until 9 months
C. Until the child walks
D. Up to two years of age or beyond

90. Which Philippine law institutionalized a national feeding program for undernourished public school children and young children in child development centers?

A. Republic Act 11037
B. Republic Act 8172
C. Executive Order 51
D. Republic Act 10028

Foodservice Systems Management

91. A hospital cafeteria had food costs of 42,000 pesos and food sales of 120,000 pesos in a month. What was its food cost percentage?

A. 42 percent
B. 65 percent
C. 28 percent
D. 35 percent

92. A menu item has a raw food cost of 45 pesos per portion. The manager targets a 30 percent food cost. What should the selling price be?

A. 175 pesos
B. 150 pesos
C. 135 pesos
D. 58.50 pesos

93. A recipe needs 6 kg of edible-portion fish. If the fish has a 75 percent yield, how much should be purchased as purchased?

A. 10.5 kg
B. 8.0 kg
C. 7.5 kg
D. 4.5 kg

94. A standardized recipe for 50 portions uses 3 kg of chicken. How much chicken is needed for 120 portions?

A. 6.0 kg
B. 8.4 kg
C. 5.4 kg
D. 7.2 kg

95. A kitchen began the month with 30,000 pesos of food inventory, purchased 90,000 pesos of food and ended with 25,000 pesos in inventory. What was the cost of food used?

A. 145,000 pesos
B. 120,000 pesos
C. 95,000 pesos
D. 85,000 pesos

96. A school canteen has monthly fixed costs of 60,000 pesos. Each meal sells for 80 pesos with a variable cost of 50 pesos. How many meals must be sold to break even?

A. 1,200 meals
B. 2,000 meals
C. 3,000 meals
D. 750 meals

97. A foodservice produced 1,200 meals using 150 labor hours in one day. What was its productivity in meals per labor hour?

A. 12 meals per labor hour
B. 10 meals per labor hour
C. 6 meals per labor hour
D. 8 meals per labor hour

98. A department schedules 360 paid labor hours per week. If one full-time equivalent works 40 hours per week, how many FTEs does this represent?

A. 10 FTEs
B. 9 FTEs
C. 8 FTEs
D. 12 FTEs

99. A storeroom uses 20 cans of tomato sauce per day. The supplier needs 4 days to deliver and the manager keeps a safety stock of 30 cans. What is the reorder point?

A. 110 cans
B. 150 cans
C. 50 cans
D. 80 cans

100. Storeroom staff place newly delivered canned goods behind older stock so that the older items are issued first. Which practice is this?

A. Just-in-time ordering
B. Perpetual inventory
C. Last in, first out
D. First in, first out

101. Within which temperature range do most foodborne bacteria multiply most rapidly, making it the range to minimize time in?

A. 0 degrees C to 4 degrees C
B. 65 degrees C to 100 degrees C
C. 5 degrees C to 60 degrees C
D. -18 degrees C to 0 degrees C

102. A cook needs to cool 20 liters of hot chicken stock quickly and safely. Which method is best?

A. Place the full deep pot directly in the freezer
B. Let it cool at room temperature until lukewarm
C. Leave the full pot covered on the counter overnight
D. Divide it into shallow pans and use an ice bath

103. In a HACCP plan, what is the first principle that must be carried out?

A. Conduct a hazard analysis
B. Establish verification procedures
C. Establish record-keeping procedures
D. Set corrective actions

104. A step at which control can be applied and is essential to prevent, eliminate or reduce a food safety hazard to an acceptable level is called a what?

A. Critical control point
B. Control measure log
C. Critical limit
D. Prerequisite program

105. A central kitchen prepares meals in bulk and transports them to several satellite school canteens for final service. What type of foodservice system is this?

A. Commissary system
B. Conventional system
C. Ready-prepared system for one site
D. Assembly-serve system

106. A hospital buys fully prepared frozen entrees and only needs to heat and serve them, with minimal on-site production. Which system does it use?

A. Conventional system
B. Commissary system
C. Cook-serve system
D. Assembly-serve system

107. A menu planner prepares a set of menus that is rotated at a definite interval, such as every three weeks. What type of menu is this?

A. Static menu
B. Single-use menu
C. A la carte menu
D. Cycle menu

108. A manager prepares the annual budget, sets objectives and decides which menu changes to implement next year. Which management function is she performing?

A. Controlling
B. Staffing
C. Planning
D. Directing

109. A manager believes employees naturally dislike work and must be closely supervised and controlled. Which management theory reflects this view?

A. McGregor's Theory X
B. Herzberg's motivators
C. McGregor's Theory Y
D. Maslow's self-actualization

110. A written document lists the skills, education and experience a person must have to fill a cook position. What is this document called?

A. Work schedule
B. Job description
C. Performance appraisal
D. Job specification

111. Several guests became ill with vomiting two to four hours after eating ham sandwiches prepared by a food handler with an infected cut on his hand. Which organism is most likely responsible?

A. Clostridium botulinum
B. Staphylococcus aureus
C. Clostridium perfringens
D. Hepatitis A virus

112. A large batch of beef stew was cooled slowly overnight in a deep pot and served the next day, causing diarrhea and cramps among diners. Which organism is classically associated with this scenario?

A. Listeria monocytogenes
B. Vibrio cholerae
C. Staphylococcus aureus
D. Clostridium perfringens

113. Cooked rice left at room temperature for many hours and then quickly stir-fried caused vomiting in customers. Which organism is most likely involved?

A. Clostridium botulinum
B. Campylobacter jejuni
C. Salmonella Typhi
D. Bacillus cereus

114. In a three-compartment sink, what is the correct sequence for manual warewashing?

A. Sanitize, wash, rinse
B. Wash, sanitize, rinse
C. Wash, rinse, sanitize
D. Rinse, sanitize, wash

115. The appealing brown crust on grilled meat results mainly from a reaction between which compounds?

A. Fatty acids and water
B. Reducing sugars and amino acids
C. Vitamins and minerals
D. Starch and salt

116. Sliced bananas turn brown when exposed to air. Which practice best slows this change?

A. Sprinkling the slices with baking soda
B. Leaving the slices at warm room temperature
C. Cutting the slices with a rusty knife
D. Dipping the slices in calamansi juice

117. When cornstarch is heated in water, the granules absorb water, swell and thicken the mixture. What is this process called?

A. Caramelization
B. Gelatinization
C. Retrogradation
D. Denaturation

118. Green vegetables simmered for a long time in a covered pot with vinegar turn olive-drab. What causes this color change?

A. Alkali converts carotene to xanthophyll
B. Heat converts anthocyanin to chlorophyll
C. Acid converts chlorophyll to pheophytin
D. Iron converts flavones to carotenoids

119. Red cabbage turns bluish when cooked in water containing baking soda. Which pigment is responsible for this change?

A. Chlorophyll
B. Beta-carotene
C. Anthocyanin
D. Lycopene

120. To what temperature should a freezer be maintained for safe long-term storage of frozen foods?

A. 4 degrees C or lower
B. -5 degrees C or lower
C. 0 degrees C or lower
D. -18 degrees C or lower

Answer key

Nutrition and Dietetics

1. A. 395 kcal

45 x 4 = 180, 20 x 4 = 80 and 15 x 9 = 135 kcal, for a total of 395 kcal.

2. B. 98 kcal

Ethanol yields about 7 kcal/g, so 14 g x 7 = 98 kcal.

3. C. Vitamin C

Ascorbic acid is needed for collagen synthesis; its deficiency (scurvy) causes gum bleeding, perifollicular hemorrhages and poor wound healing.

4. A. Vitamin A

Night blindness and Bitot's spots are classic early signs of vitamin A deficiency (xerophthalmia).

5. B. Beriberi

Milling removes the thiamin-rich bran and germ; inadequate thiamin causes beriberi.

6. D. Niacin

Dermatitis, diarrhea and dementia are the features of pellagra, caused by niacin (and tryptophan) deficiency, historically linked to maize diets.

7. B. Vitamin E

Alpha-tocopherol is the main lipid-soluble chain-breaking antioxidant in membranes.

8. B. Vitamin K

Vitamin K is needed for carboxylation of clotting factors; newborns have low stores, so prophylaxis prevents vitamin K deficiency bleeding.

9. C. A glass of fresh calamansi juice

Ascorbic acid in citrus enhances non-heme iron absorption, while tea polyphenols and calcium inhibit it.

10. B. Lean beef

Meat supplies heme iron, which is absorbed more efficiently than non-heme iron and is less influenced by inhibitors.

11. B. Rice is low in lysine; legumes are low in methionine

Cereals are typically limited by lysine and legumes by sulfur amino acids such as methionine, so the combination is complementary.

12. A. Lactate

Under anaerobic conditions lactate dehydrogenase reduces pyruvate to lactate, regenerating NAD+ so glycolysis can continue.

13. C. Ketone bodies

In prolonged fasting the liver converts acetyl-CoA from fatty acid oxidation into ketone bodies, which the brain can oxidize.

14. A. -1.2 g

Nitrogen intake = 80 / 6.25 = 12.8 g; losses = 10 + 4 = 14 g; balance = 12.8 - 14 = -1.2 g.

15. B. 26.6 kg/m2

BMI = 68 / (1.60 x 1.60) = 68 / 2.56 = 26.6 kg/m2.

16. C. 58.5 kg

165 - 100 = 65 kg; 65 - 6.5 (10 percent) = 58.5 kg.

17. A. Oats rich in beta-glucan

Viscous soluble fibers such as oat beta-glucan bind bile acids and modestly lower LDL cholesterol; insoluble fibers have little effect.

18. D. Linoleic and alpha-linolenic acid

Humans lack the desaturases to insert double bonds at the n-6 and n-3 positions, so linoleic and alpha-linolenic acids are essential.

19. A. Vitamin D

Calcitriol, the active form of vitamin D, induces the intestinal proteins needed for active calcium absorption; housebound elders often lack sun exposure.

20. A. Zinc

Zinc is needed for growth, taste perception (gustin) and tissue repair; deficiency produces this combination of signs.

21. A. Lactase

Lactase deficiency leaves lactose undigested; aged cheese contains little lactose, so it is better tolerated.

22. C. Stomach, through pepsin

Pepsinogen is activated to pepsin by gastric acid and begins protein hydrolysis in the stomach.

23. D. Vitamin B12

The vitamin B12 and intrinsic factor complex is absorbed in the terminal ileum.

24. A. Folic acid

Adequate folate around conception lowers the risk of neural tube defects because the neural tube closes within the first month.

25. D. 2,200 mL

At 1 mL per kcal, 2,200 kcal x 1 mL = 2,200 mL per day.

26. C. Transamination

Pyridoxal phosphate, the active form of vitamin B6, is the coenzyme for aminotransferases that move amino groups between molecules.

27. B. Riboflavin

Riboflavin deficiency causes angular stomatitis, cheilosis and glossitis; the vitamin is light-sensitive.

28. A. Glutathione peroxidase

Glutathione peroxidase is a selenoenzyme that reduces hydrogen peroxide and lipid hydroperoxides.

29. B. 36 percent

10 g x 9 kcal = 90 kcal; 90 / 250 = 0.36, or 36 percent.

30. B. Reduced gastric acid and pepsin to release food-bound B12

Gastric acid and pepsin are needed to free B12 from food proteins; low acid secretion in atrophic gastritis impairs this step.

31. A. 1,264 kcal/day

Women: 10 x 60 + 6.25 x 160 - 5 x 35 - 161 = 600 + 1,000 - 175 - 161 = 1,264 kcal/day.

32. C. Plain steamed rice

Celiac disease requires lifelong avoidance of gluten from wheat, barley and rye; rice is naturally gluten-free.

33. A. Increase protein to replace dialysis losses

Hemodialysis removes amino acids and increases catabolism, so protein needs rise to about 1.2 g/kg compared with the predialysis restriction.

34. B. Sodium restriction

Sodium restriction (commonly about 2 g/day) is the cornerstone of dietary management of ascites.

35. B. Phenylalanine is restricted and tyrosine becomes essential

Phenylalanine hydroxylase deficiency blocks conversion of phenylalanine to tyrosine, so phenylalanine is limited and tyrosine must be supplied.

36. D. Small frequent meals with liquids taken between meals

Early dumping is reduced by small frequent meals, limiting simple sugars and separating liquids from solids.

37. B. Pork liver and other organ meats

Organ meats are very high in purines, which are metabolized to uric acid; low-fat dairy may even lower gout risk.

38. A. A pattern rich in fruits, vegetables and low-fat dairy with reduced sodium

The DASH approach, emphasizing produce and low-fat dairy and combined with sodium reduction, produces meaningful blood pressure reduction.

39. D. Keep vitamin K intake consistent from day to day

Warfarin antagonizes vitamin K; consistent intake keeps the INR stable, whereas sudden changes alter anticoagulation.

40. D. Aged cheddar cheese

Aged cheeses are high in tyramine, which can trigger a hypertensive crisis when MAO is inhibited.

41. A. Low serum phosphorus

Insulin release on refeeding drives phosphate into cells, and hypophosphatemia is the hallmark of refeeding syndrome.

42. A. 2,700 kcal/day

25 x 60 = 1,500 kcal; 40 x 30 = 1,200 kcal; total 2,700 kcal/day.

43. A. 75 mL/hour

1,800 kcal / 1.0 kcal/mL = 1,800 mL; 1,800 / 24 hours = 75 mL/hour.

44. C. Post-pyloric feeding such as a nasojejunal tube

Placing the tube beyond the pylorus reduces the risk of reflux and aspiration while maintaining enteral nutrition.

45. A. 680 kcal

20 percent dextrose = 200 g per liter; 200 g x 3.4 kcal/g = 680 kcal.

46. D. 500 kcal

250 mL x 2.0 kcal/mL = 500 kcal.

47. C. Give about 15 g of fast-acting carbohydrate and recheck in 15 minutes

Mild hypoglycemia is treated with about 15 g of rapidly absorbed carbohydrate, with glucose rechecked after about 15 minutes.

48. C. 4 units

60 g / 15 g per unit = 4 units of rapid-acting insulin.

49. B. A high-fiber diet with adequate fluids

In uncomplicated diverticulosis, a high-fiber diet with fluids softens stool and lowers colonic pressure; low residue is used only during acute flares.

50. B. Vitamin B12 deficiency

The terminal ileum is the site of B12 absorption, so ileal resection commonly leads to B12 deficiency requiring parenteral replacement.

51. C. Pancreatic enzyme replacement with meals and medium-chain triglycerides if needed

Steatorrhea reflects lipase deficiency; enzymes taken with meals and MCT, which need little lipase, improve fat absorption.

52. C. Keep normal dietary calcium and drink plenty of fluids

Normal calcium intake binds oxalate in the gut and reduces stone risk; low calcium diets raise urinary oxalate. High fluid intake dilutes urine.

53. B. Avoid lying down for two to three hours after eating

Remaining upright after meals reduces reflux; large late meals, peppermint and high-fat foods tend to worsen symptoms.

54. A. 70 kg

Adjusted weight = 60 + 0.25 x (100 - 60) = 60 + 10 = 70 kg.

55. A. Overfeeding increases carbon dioxide production

Excess energy, especially from carbohydrate (RQ 1.0 and above with lipogenesis), raises CO_2 production and ventilatory demand.

56. B. Thickened liquids

Thin liquids flow fast and are most easily aspirated; thickening slows flow and allows safer swallowing.

57. C. Ripe saba bananas

Bananas are high in potassium; rice, apples and cabbage are comparatively low and are usually allowed in potassium-controlled diets.

58. A. About 22.2 cm

TSF 12 mm = 1.2 cm; 3.14 x 1.2 = 3.77 cm; 26 - 3.77 = 22.2 cm.

59. A. 75 g

2,000 x 0.15 = 300 kcal from protein; 300 / 4 = 75 g.

60. D. 138 g

6 exchanges x 23 g = 138 g carbohydrate.

61. D. At 6 months

Exclusive breastfeeding is recommended for the first 6 months, with nutritionally adequate complementary foods starting at 6 months.

62. C. Executive Order 51, the Milk Code

Executive Order 51 of 1986, the Philippine Milk Code, implements the International Code of Marketing of Breastmilk Substitutes.

63. B. Republic Act 8172

RA 8172, the Act for Salt Iodization Nationwide (ASIN Law) of 1995, mandates salt iodization.

64. D. Rice

RA 8976 mandates fortification of rice with iron, wheat flour with vitamin A and iron, and refined sugar and cooking oil with vitamin A.

65. C. National Nutrition Council

The National Nutrition Council, created under PD 491 (Nutrition Act of the Philippines), formulates nutrition policy and coordinates programs.

66. D. Food and Nutrition Research Institute of DOST

DOST-FNRI conducts the National Nutrition Survey, the main source of national nutrition statistics.

67. D. July

PD 491 declares July of every year as Nutrition Month.

68. B. Barangay Nutrition Scholar Program

The Barangay Nutrition Scholar Program, established under PD 1569, places trained volunteers in barangays for nutrition and related services.

69. D. Stunted

Height-for-age below -2 SD indicates stunting, reflecting chronic undernutrition; normal weight-for-height means no wasting.

70. C. Moderate acute malnutrition

Weight-for-length between -3 and -2 SD without edema is moderate acute malnutrition (moderate wasting).

71. C. Severe acute malnutrition

For children 6 to 59 months, MUAC below 11.5 cm indicates severe acute malnutrition.

72. D. Kwashiorkor

Bilateral pitting edema with skin and hair changes is characteristic of kwashiorkor, a form of severe acute malnutrition.

73. C. Severe wasting of muscle and fat without edema

Marasmus presents with extreme wasting of muscle and subcutaneous fat but no edema; edema defines kwashiorkor.

74. C. 29 percent

1,392 / 4,800 = 0.29, or 29 percent.

75. D. 15 per 1,000 live births

IMR = 45 / 3,000 x 1,000 = 15 per 1,000 live births.

76. C. 90 percent

Sensitivity = true positives / (true positives + false negatives) = 90 / 100 = 90 percent.

77. B. Food frequency questionnaire

A food frequency questionnaire captures habitual intake over months and is inexpensive for large samples; a single recall reflects only one day.

78. B. Weighed food record

Weighing all foods consumed gives precise quantities but is burdensome and may lead respondents to change their usual eating.

79. C. 2,500 g

Low birth weight is defined as less than 2,500 g regardless of gestational age.

80. B. From conception to the child's second birthday

The first 1,000 days spans about 270 days of pregnancy plus the first 730 days of life, ending at age two.

81. B. Iron with folic acid

Daily iron-folic acid supplementation during pregnancy is a standard intervention to prevent iron deficiency anemia.

82. C. 200,000 IU

High-dose vitamin A supplementation gives 100,000 IU to infants 6 to 11 months and 200,000 IU to children 12 to 59 months.

83. A. Republic Act 10028

RA 10028, the Expanded Breastfeeding Promotion Act of 2009, requires lactation stations and lactation periods for working mothers.

84. C. Double burden of malnutrition

The double burden of malnutrition is the coexistence of undernutrition with overweight, obesity or diet-related noncommunicable diseases.

85. C. Availability, access, utilization and stability

The four dimensions of food security are availability, access, utilization and stability.

86. A. Process evaluation

Process evaluation examines how a program is implemented, such as reach, fidelity and delivery, while it is running.

87. D. Perceived susceptibility

Perceived susceptibility is a person's belief about the likelihood of being affected; mothers must first see their children as at risk.

88. A. Cross-sectional study

A cross-sectional design measures exposure and outcome at one time, making it suited to estimating prevalence.

89. D. Up to two years of age or beyond

Breastfeeding should continue alongside complementary foods up to two years of age or beyond.

90. A. Republic Act 11037

RA 11037, the Masustansyang Pagkain para sa Batang Pilipino Act of 2018, institutionalizes school-based and supplementary feeding.

91. D. 35 percent

Food cost percentage = 42,000 / 120,000 = 0.35, or 35 percent.

92. B. 150 pesos

Selling price = food cost / target percentage = 45 / 0.30 = 150 pesos.

93. B. 8.0 kg

AP = EP / yield = 6 / 0.75 = 8 kg.

94. D. 7.2 kg

Conversion factor = 120 / 50 = 2.4; 3 kg x 2.4 = 7.2 kg.

95. C. 95,000 pesos

Cost of food used = beginning inventory + purchases - ending inventory = 30,000 + 90,000 - 25,000 = 95,000 pesos.

96. B. 2,000 meals

Break-even = fixed costs / (price - variable cost) = 60,000 / 30 = 2,000 meals.

97. D. 8 meals per labor hour

1,200 meals / 150 labor hours = 8 meals per labor hour.

98. B. 9 FTEs

360 hours / 40 hours per FTE = 9 FTEs.

99. A. 110 cans

Reorder point = daily usage x lead time + safety stock = 20 x 4 + 30 = 110 cans.

100. D. First in, first out

FIFO stock rotation ensures older products are used before newer ones, reducing spoilage and waste.

101. C. 5 degrees C to 60 degrees C

The temperature danger zone of about 5 to 60 degrees C supports rapid bacterial growth, so foods should pass through it quickly.

102. D. Divide it into shallow pans and use an ice bath

Shallow containers and ice baths increase surface area and heat transfer so the stock passes through the danger zone quickly.

103. A. Conduct a hazard analysis

HACCP begins with a hazard analysis; CCPs, critical limits, monitoring, corrective actions, verification and records follow.

104. A. Critical control point

A critical control point is a step where control is essential to manage a significant hazard; critical limits are the values set at that step.

105. A. Commissary system

A commissary has a central production kitchen that distributes food to remote serving units.

106. D. Assembly-serve system

Assembly-serve systems rely on fully processed foods requiring only storage, assembly, heating and service.

107. D. Cycle menu

A cycle menu is a series of menus repeated at set intervals, which simplifies purchasing, forecasting and production.

108. C. Planning

Planning involves setting objectives and determining in advance the course of action to achieve them.

109. A. McGregor's Theory X

Theory X assumes workers avoid work and need close control; Theory Y assumes workers are self-motivated.

110. D. Job specification

A job specification states the qualifications required of the worker; a job description lists the duties of the job.

111. B. Staphylococcus aureus

S. aureus from skin lesions produces a heat-stable toxin in handled foods, causing vomiting within about 1 to 6 hours.

112. D. Clostridium perfringens

C. perfringens spores survive cooking and germinate in large meat dishes that are cooled slowly, typical of institutional outbreaks.

113. D. Bacillus cereus

B. cereus spores survive cooking of rice and produce an emetic toxin that withstands reheating.

114. C. Wash, rinse, sanitize

Items are washed in detergent, rinsed to remove residue, then sanitized before air drying.

115. B. Reducing sugars and amino acids

The Maillard reaction between reducing sugars and amino groups produces brown color and flavor compounds.

116. D. Dipping the slices in calamansi juice

Enzymatic browning by polyphenol oxidase is inhibited by acid such as citrus juice; alkali, warmth and iron promote it.

117. B. Gelatinization

Gelatinization is the swelling of starch granules in hot water, which thickens the liquid; retrogradation occurs on cooling and storage.

118. C. Acid converts chlorophyll to pheophytin

Acids released or added during prolonged covered cooking replace magnesium in chlorophyll, forming olive-green pheophytin.

119. C. Anthocyanin

Anthocyanins are red in acid and shift toward blue or purple in alkaline conditions.

120. D. -18 degrees C or lower

Frozen storage at -18 degrees C or lower stops microbial growth and maintains quality.

Topics to review

• Nutrition assessment and nutrient requirements

• Medical nutrition therapy and menu planning

• Community nutrition programs

• Foodservice production and safety

Online question banks and study resources

Nutrition and Dietetics - Pass Harbor (Question bank)

Official PRC board information

Current PRC exam programs

Independent study material prepared by Board Exam Desk.