

Nutrition - Exam #2

1. Strictly speaking, which of the following is not an example of **chemical digestion**?
 - a) The breakdown of proteins into amino acids
 - b) The breakdown of starch into monosaccharides
 - c) The passage of monosaccharides or amino acids into the bloodstream**
 - d) The breakdown of triglycerides into fatty acids and glycerol

2. Where does the vast majority of assimilation (absorption) of amino acids occur?
 - a) in the esophagus
 - b) in the stomach
 - c) in the small intestine**
 - d) in the large intestine (or colon)

3. Which of the following is **not** secreted (or produced) by the pancreas?
 - a) digestive enzymes
 - b) insulin
 - c) glucagon
 - d) stomach acid**

4. Which of the following is **not** a function of the liver?
 - a) secreting digestive enzymes**
 - b) secreting bile
 - c) storing glucose as glycogen
 - d) breaking down toxins in the bloodstream

5. What is the function of the villi and microvilli?
 - a) increasing surface area and the rate of assimilation**
 - b) secreting enzymes into the stomach
 - c) releasing wastes
 - d) mechanical digestion

6. Which of the following is NOT found in a chylomicron?
 - a) fatty acids
 - b) protein
 - c) cholesterol
 - d) sugars**

7. What is the function of bile?
 - a) to separate sugars from fats
 - b) to break down proteins
 - c) to mix oil and water**
 - d) to separate sugars from proteins

8. Which of the following chemical processes uses oxygen as a last step?
- a) glycolysis
 - b) gluconeogenesis
 - c) the Krebs (or citric acid) cycle
 - d) **the electron transport chain**
9. Which of the following is the product of glycolysis?
- a) sugar
 - b) **pyruvate**
 - c) oxygen
 - d) enzymes
10. Which of the following best describes beta-oxidation?
- a) **It is the breakdown of fatty acids into acetyl-CoA**
 - b) It is the breakdown of pyruvate into carbon dioxide
 - c) It is the production of sugar from pyruvate
 - d) It is the production of fatty acids from pyruvate
11. Which of the following can NEVER be turned into sugar by the human body?
- a) **fatty acids**
 - b) pyruvate
 - c) amino acids
 - d) starch
12. Which of the following produces the most ATP per molecule?
- a) glycolysis
 - b) **Krebs Cycle and the Electron Transport Chain**
 - c) gluconeogenesis
 - d) building proteins from amino acids
13. What is the chemical formula for water?
- a) **H₂O**
 - b) H₂O₂
 - c) HO
 - d) OH⁻
14. Which of the following is NOT an electrolyte?
- a) Na⁺
 - b) K⁺
 - c) Cl⁻
 - d) **glucose**

15. Which of the following is a good example of diffusion?
- a) All the sodium and chloride in a solution come together to form crystals of salt
 - b) Sodium ions cross a membrane, going from the less concentrated side to the more concentrated side.
 - c) Potassium ions cross a membrane, going from the less concentrated side to the more concentrated side.
 - d) **Chloride ions cross a membrane, going from the more concentrated side to the less concentrated side.**
16. What happens if you drop a human cell into a solution that is more concentrated than the cell?
- a) The cell expands
 - b) The cell explodes
 - c) **The cell shrinks**
 - d) The cell does nothing.
17. Which of the following is NOT a consequence of severe dehydration?
- a) dizziness
 - b) overheating
 - c) **sweating**
 - d) death
18. What organ produces urine?
- a) the stomach
 - b) the large intestine
 - c) the pancreas
 - d) **the kidneys**
19. Which process best describes the way that urine is made?
- a) **filtration of blood followed by re-absorption of useful components**
 - b) secretion of urine from the large intestine
 - c) secretion of urine from the liver
 - d) absorption of solids from the intercellular fluid
20. Why does the nervous system need proper osmotic (salt/water) balance?
- a) because neurons cannot work if they are wet.
 - b) **because neurons use sodium and potassium to create an electric signal**
 - c) because neurons make urine
 - d) because the brain will shrink if there is too much water in the body.
21. Why do we need to drink lots of fluids when we are sick?
- a) **because we can lose a lot of water and electrolytes via sweating, vomiting and diarrhea**
 - b) because water kills microorganisms
 - c) because we should never eat anything when we are sick
 - d) because water gives us energy

22. Which of the following is most closely associated with the production of the protein collagen?
- a) Vitamin A
 - b) Vitamin B₁₂
 - c) Vitamin C**
 - d) Vitamin D
23. Which of the following is really a hormone that tells the intestines to absorb calcium?
- a) Vitamin A
 - b) Vitamin B₁₂
 - c) Vitamin C
 - d) Vitamin D**
24. Which of the following is lipid soluble?
- a) vitamin A**
 - b) vitamin C
 - c) Vitamin B₆
 - d) Vitamin B₁₂
25. Where is most of our vitamin K absorbed?
- a) in the liver
 - b) in the stomach
 - c) in the small intestine
 - d) in the large intestine**
26. Which of the following is needed to make vitamin D in our bodies?
- a) low acidity
 - b) high acidity
 - c) ultraviolet light**
 - d) nuclear radiation
27. Which of the following is a function of vitamin E?
- a) Coenzyme needed for metabolism, protein synthesis or DNA
 - b) Needed for hemoglobin
 - c) Essential for eye sight
 - d) Defends against free radicals**
28. Which of the following is a function of most of the B vitamins?
- a) Coenzyme needed for metabolism, protein synthesis or DNA**
 - b) Needed for hemoglobin
 - c) Essential for eye sight
 - d) Defends against free radicals

29. Which of the following is a major function of dietary iron?
- a) Coenzyme needed for metabolism, protein synthesis or DNA
 - b) Needed for hemoglobin**
 - c) Essential for eye sight
 - d) Defends against free radicals
30. Which of the following is a function of iodine?
- a) Needed to make a hormone that is needed for metabolism**
 - b) Needed to make hemoglobin
 - c) Needed to make many co-enzymes
 - d) Needed for vision
31. Which of the following processes does NOT need calcium?
- a) muscular contraction and heartbeat
 - b) glycolysis**
 - c) building bones and teeth
 - d) blood clotting
32. When are you most likely to need dietary supplements?
- a) When you cannot get an adequate diet**
 - b) When you have a cold
 - c) When you feel tired
 - d) All the time
33. Which of the following has been banned by the FDA because it causes heart problems and death?
- a) Diphenhydramine (a powerful antihistamine)
 - b) Magnesium hydroxide (a powerful antacid)
 - c) DHEA (a sex hormone)
 - d) *Ephedra* (a plant that can be brewed like tea)**
34. Which of the following best describes the way that the FDA regulates dietary supplements?
- a) Supplement manufacturers need to prove them safe and effective.
 - b) Supplement manufacturers need to prove them safe.
 - c) Supplement manufacturers need to prove them effective.
 - d) Supplement manufacturers don't need to prove anything, but the FDA can ban a supplement if it turns out to be dangerous.**
35. How large is a "standard drink" that contains ethanol?
- a) 1.5 ounces
 - b) 5 ounces
 - c) 8 ounces
 - d) It depends on the concentration of ethanol in the drink.**

36. Which of the following contains the most ethanol?
- a) 100 ounces of a drink that contains 1% ethanol
 - b) 20 ounces of a drink that contains 5% ethanol
 - c) 5 ounces of a drink that contains 20% ethanol
 - d) **16 ounces of a drink that contains 10% ethanol**
37. Which of the following produces most of the ethanol that we drink?
- a) **yeast**
 - b) bacteria
 - c) worms
 - d) pharmaceutical companies
38. At what blood alcohol level do all US states declare a person unfit to drive?
- a) 0.02%
 - b) **0.08%**
 - c) 0.16%
 - d) 0.2%
39. How does the body metabolize alcohol?
- a) **alcohol -> acetaldehyde -> acetic acid -> acetyl-CoA (which can be "burned" or turned into fat)**
 - b) alcohol -> acetaldehyde -> acetic acid -> acetyl-CoA (which can be turned into sugar)
 - c) alcohol -> acetic acid -> acetaldehyde (which builds up in the body over time)
 - d) alcohol -> acetic acid (which makes your urine smell sour)
40. Which of the following is a NOT benefit of moderate use of alcohol, especially red wine?
- a) increased levels of HDL
 - b) reduction of blood-clotting factors
 - c) protection against certain kinds of cancer
 - d) **reverses depression**
41. Which of the following consists of living cells with no nucleus?
- a) **bacteria**
 - b) viruses
 - c) eukaryotic parasites
 - d) mold
42. How cold does your refrigerator need to be?
- a) always below 32 degrees F
 - b) **always below 40 degrees F**
 - c) always below 45 degrees F
 - d) always below 50 degrees F

43. What is the "danger zone" for the temperature of foods, especially meats?
- a) 30° F - 130° F
 - b) 40° F - 140° F**
 - c) 50° F - 150° F
 - d) 30° F - 150° F
44. Which of the following is a FALSE statement about food irradiation?
- a) It kills food-borne diseases
 - b) It preserves most or all of the food's nutrients
 - c) It prolongs shelf-life of foods, including uncooked fruits and vegetables
 - d) It makes food radioactive**
45. Why is refrigeration effective for keeping foods safe?
- a) viruses grow slowly at cold temperatures
 - b) bacteria grow slowly at cold temperatures**
 - c) free radicals do not form at cold temperatures
 - d) botulin toxin is ineffective at cold temperatures
46. Generally speaking, if you eat more calories than you use in a day, what happens to the excess?
- a) It gets turned into fat.**
 - b) It gets burned.
 - c) It gets turned into ATP
 - d) It gets removed from the body.
47. Imagine a patient in a coma who is fed through a food tube. Which of the following quantities are equal to zero for this patient?
- a) Resting Energy Expenditure
 - b) Thermic Effect of Food
 - c) Total Energy Expenditure
 - d) Energy due to physical activity**
48. A patient weighs 100 kilograms, and is 2 meters tall. What is his/her BMI?
- a) 10
 - b) 25**
 - c) 35
 - d) 50
49. Which of the following is the healthiest BMI for a full grown adult male?
- a) 10
 - b) 25**
 - c) 35
 - d) 50

50. Which of the following is the most accurate way to measure body composition?
- a) BMI
 - b) skin folds
 - c) Bioelectrical Impedance Analysis
 - d) Underwater weighing.**