BPS1101 B

Mid Term 2 (March 7, 2018)

(1 point is given for each correct answer)

Name: _____

Student # _____

____ 1. What was the major barrier to developing Taxol as a cancer drug?

a. The high toxicity of Taxol required special dosing
b. The rarity of the Taxol tree limited the quantities available
c. Harvesting trees to extract Taxol was bad for the environment
d. Overcoming fears of genetically modified trees to produce Taxol

____ 2. Why are tumors difficult to treat with drugs?

a. Tumor cells are too similar to normal cells
b. Tumor cells are immortal and difficult to kill
c. Tumor cells metabolize drugs very quickly
d. Tumor cells grow much faster than normal cells

____ 3. What is the basis for selectivity in cancer chemotherapy?

a. Tumor cells are genetically different from normal cells
b. Tumor cells are structurally different from normal cells
c. Tumor cells are biochemically different from normal cells
d. Tumor cells grow much faster than normal cells

____ 4. Which statement about tumor formation is true?

a. A tumor requires a viral infection in order to form
b. A tumor requires about 20 years to form
c. Tumor formation is mainly due to industrial chemicals
d. Tumor formation is mainly the result of tissue damage

____ 5. Which of the following cellular systems is disabled during tumor formation?

a. Cellular respiration
b. Cellular self-destruction
c. Cellular differentiation
d. Cellular metabolism

____ 6. How was the cancer drug Cisplatin discovered?

a. Passing an electric current through bacteria stopped cell division
b. From an accidental release of chemical weapons
c. Through a large government-sponsored research effort
d. By cleverly designing drugs to selectively destroy cancer cells

____ 7. Which of the following foods, when consumed in large amounts, increases your risk of developing cancer?

a. Salad
b. Spaghetti
c. Steak
d. Sushi

___ 8. Why do some viruses cause cancer?
a. they cause cells to become immortal
b. they stimulate cell growth
c. they prevent apoptosis
d. they suppress immune function

___ 9. On average, how many mutations are required to cause cancer?
a. 10 per year
b. 10 per gene
c. 10 per cell
d. 10 per tissue

___ 10. What percentage of fatal cancers are caused by smoking?
a. 2%
b. 15%
c. 30%
d. 70%

___ 11. Which performance enhancing substance is currently the most difficult to detect?
a. Testosterone
b. Erythropoietin
c. Amphetamines
d. Tetrahydrogestrinone

___ 12. How do anabolic steroids benefit an athlete?
a. Anabolic steroids cause the body to build extra muscle cells
b. Anabolic steroids enlarge existing muscle cells
c. Anabolic steroids speed repair of damaged muscle fibers
d. Anabolic steroids protect muscle cells from damage

___ 13. Why are drugs given to horses that are involved in racing?
a. To make them run faster
b. To increase their endurance
c. To control their behavior
d. To make them run slower

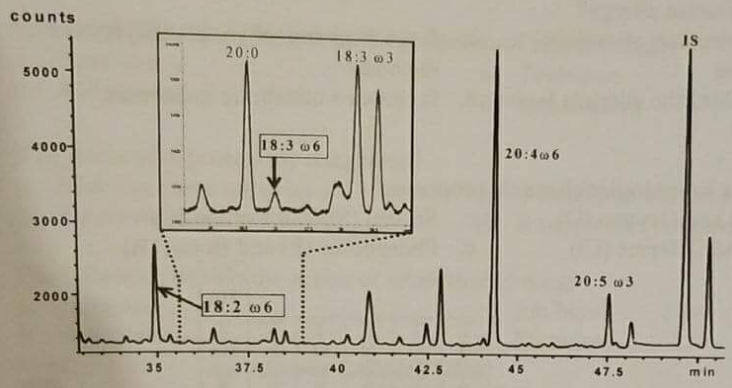
___ 14. Why were amphetamines given to allied soldiers during World War II?
a. Prevent drowsiness
b. Suppress appetite
c. Increase aggression
d. Improve strength

___ 15. Which country first used steroids for sports training?
a. U.S.A.
b. Soviet Union
c. East Germany
d. Netherlands

___ 16. How is recombinant (genetically engineered) human protein made?
a. Insert human gene into bacteria
b. Mutate human cells to produce extra protein
c. Combine human and bacterial protein
d. Alter the DNA in a human cell to make more protein

___ 17. What does erythropoietin (EPO) do in the body?
a. Transports extra oxygen in the blood
b. Stimulate the manufacture of red blood cells
c. Increase the oxygen carrying capacity of red blood cells
d. Enhance uptake of oxygen by the muscles

18. What does the **size** of a peak from a Gas Chromatograph (GC) tell you?
   a. Weight of a molecule
   b. Type of molecules present
   c. Amount of molecules present
   d. Fingerprint of a molecule



19. What drug is used to mask steroid use?
   a. Androstenone
   b. Stanozolol
   c. Paracetemol
   d. Epitestosterone

20. How long does the process of blood doping take (assuming the athlete uses her own blood)?
   a. 3 weeks
   b. 1 month
   c. 3 months
   d. 1 week

21. What is the means by which sulfa drugs inhibit bacterial growth?
   a. Sulfa molecules block the assembly of bacterial cell walls
   b. Sulfa drugs become stuck in the enzyme that makes coenzyme F
   c. Sulfa drugs contain sulfur, which is toxic to bacteria
   d. Sulfa drugs react chemically with bacterial DNA

22. Which of the following statements regarding penicillin is true?
   a. The major side effect from penicillin is diarrhea
   b. Long term penicillin use can lead to calcium loss
   c. The major side effect associated with penicillin is allergy
   d. Penicillin drugs can damage the liver

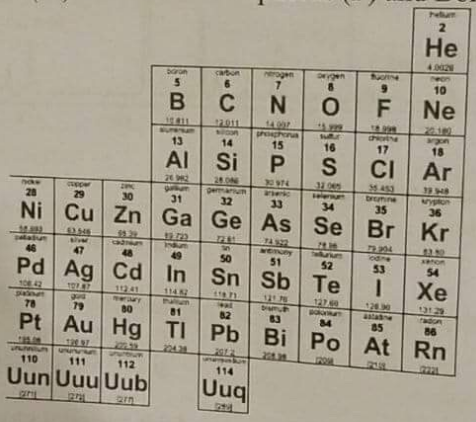
23. In the year 1900 what was the leading cause of death in Canada?
   a. Infection
   b. Heart attack
   c. Cancer
   d. Accidents

24. When were most antibiotics discovered?
   a. 1920-1939
   b. 1940-1959
   c. 1980-1999
   d. 1960-1979

___ 25. What type of microbe is affected by antibiotics?
a. Bacteria
b. Viruses
c. Fungi
d. Archaea

___ 26. Why does penicillin cause allergy?
a. The molecular structure stimulates immune function
b. The drug resembles the allergen found in peanuts
c. It reacts chemically with enzymes in the body
d. It causes a metabolic imbalance

___ 27. Which two elements have similar chemical properties?
a. Aluminum (Al) and Oxygen (O)
b. Nitrogen (N) and Chlorine (Cl)
c. Silicon (Si) and Carbon (C)
d. Phosphorus (P) and Boron (B)



___ 28. What food supply was important for large scale penicillin manufacture?
a. Milk
b. Corn steep liquor
c. Fermented molasses
d. Meat by-products

___ 29. What technique must be used to treat necrotizing fasciitis?
a. Debridement
b. Direct infusion
c. Trituration
d. Elution

___ 30. The most prevalent cause of death due to tobacco smoking is
a. Lung cancer
b. Heart attack
c. Emphysema
d. Cerebrovascular diseases

___ 31. Which of the following is caused by cigarette smoking?
a. Cervical cancer
b. Aged skin and wrinkles
c. Weight loss
d. High cholesterol

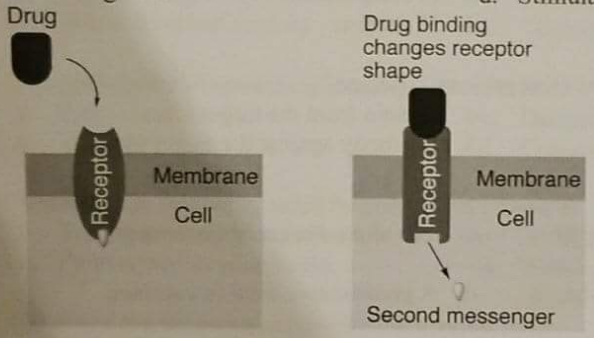
___ 32. How much nicotine is delivered to a smoker from each cigarette?
a. 2 mg
b. 6 mg
c. 20 mg
d. 60 mg

____ 33. Why is carbon monoxide (CO) dangerous?
a. It blocks nerve impulses
b. It impedes metabolism
c. It suppresses immune function
d. It interferes with oxygen transport

____ 34. Which is NOT part of the **scientific** definition of addictiveness?
a. Dependence
b. Withdrawal
c. Tolerance
d. Intoxication

____ 35. Why is nicotine potentially dangerous?
a. It blocks nerve impulses
b. It stimulates the heart
c. It interferes with oxygen transport
d. It suppresses immune function

____ 36. The following depicts the action of what kind of drug?
a. Agonist
b. Antagonist
c. Inhibitor
d. Stimulant



____ 37. What substance in e-cigarettes is probably the most dangerous?
a. Nicotine
b. Carbonyls
c. Glycerol
d. Acrolein

____ 38. What happens when a messenger binds to a receptor?
a. the receptor changes shape
b. the receptor becomes energized
c. the receptor moves to a different location
d. the receptor releases energy

____ 39. Which of the following is NOT a component of e-fluid?
a. Solvent
b. Artificial Flavor
c. Artificial Color
d. Nicotine

____ 40. What do antibodies stick to?
a. Epitopes
b. Allosterics
c. Agostic sites
d. Leukocytes

____ 41. What kind of cell carries an IgM antibody?
a. Mast cell
b. B cell
c. Helper T cell
d. Killer T cell

____ 42. What is displayed on the outside of a killer T cell?
a. CD8 antibody
b. CD8 receptor
c. CD4 receptor
d. CD4 antibody

____ 43. What do most vaccines contain?
a. Similar species microbe to the disease microbe
b. Genetically altered microbes
c. Dead or attenuated disease microbe
d. Small amount of disease microbe

____ 44. What metabolic product is squalene converted into in the human body?
a. Steroids
b. Neurotransmitters
c. Prostaglandins
d. Histamine

____ 45. What is in a genetically engineered (recombinant) vaccine?
a. Gene from the target virus
b. Genetically modified virus
c. Protein from the target virus
d. Antibody against the target virus

____ 46. What is thimerosal?
a. Substance that produces stronger immunity after vaccination
b. Substance used to alter microbes in vaccines
c. The altered organism in a vaccine
d. A preservative used in vaccines

____ 47. What is the function of the adaptive immune system?
a. Provide an immediate and specific response to microbes
b. Provide a delayed and specific response to microbes
c. Provide a delayed but nonspecific response to microbes
d. Provide an immediate but nonspecific response to microbes

____ 48. How does the immune system "recognize" virally infected cells?
a. T cells stick to MHC molecules carrying viral protein
b. B cells stick to MHC molecules carrying viral protein
c. T cells stick to MHC molecules carrying viral DNA
d. B cells stick to MHC molecules carrying viral DNA

____ 49. Which of the following disorders was blamed on the MF59 vaccine additive?
a. Gulf war syndrome
b. Stockholm syndrome
c. Rye syndrome
d. Tourette syndrome

50 What type of cancer can be prevented with a vaccine?
a. Cervical
b. Brain
c. Lung
d. Pancreatic

___ 51. What type of vaccine leaves a scar?
a. Measles
b. Polio
c. Influenza
d. Smallpox

___ 52. What factor tends to **vastly** inflate our perception of risk?
a. Toxicity
b. Dread
c. Probability
d. Prior experience

___ 53. What two factors contribute to risk from drugs?
a. Exposure and toxicity
b. Side effects and toxicity
c. Exposure and side effects
d. Toxicity and hazards

___ 54. The probability of something causing harm is called?
a. Risk
b. Hazard
c. Danger
d. Concern

___ 55. Which of the following could be considered a hazard?
a. Taking prescription medication
b. Paint stored in your house
c. Drinking water
d. Walking in the sunlight

___ 56. Which of the following represents the greatest risk?
a. Living near an industrial area
b. Driving in your car
c. Getting vaccinated
d. Eating genetically modified food