

CHAPTER ONE: INTRO - EVALUATION OF EVIDENCE

1. Regarding the four-level hierarchy for classifying the strength of causal influences from available evidence, Level 1 states that evidence is:
- A sufficient B suggestive but not sufficient C inadequate D not sufficient at all
2. Mode of ——— refers to the process by which an agent causes disease.
- A transference B mobility C action D movement
3. Of the 9 areas in Austin Branford Hill's criteria, number 7 is:
- A plausibility B consistency C biological gradient D coherence

CHAPTER TWO: THE CHANGING CIGARETTE

4. Before ———, only 0.6 percent of cigarettes were filtered.
- A 1930 B 1950 C 1970 D 1980
5. Cigarette smoke contains more than ——— chemicals, including at least 69 carcinogens.
- A 7,000 B 700 C 500 D 300
6. The ——— provides that premarket review of certain tobacco products by FDA is required before the products may be marketed.
- A Tobacco Control Act B Stamp Tobacco Act C Nicotine Act D Smoking Advertisement Act

CHAPTER THREE: CHEMISTRY AND TOXICOLOGY

7. Mainstream smoke (from the butt end) contains considerably more cyanide than sidestream smoke (from the opposite end) does.
- A True B False
8. The tobacco leaf contains many alkaloid chemicals; ——— is the most abundant.
- A piperidine B isoxazole C nicotine D tropane
9. (——)-nitrosamines are a class of chemical compounds containing a nitroso group attached to an amino nitrogen.
- A O B N C X D R
10. ——s are chemical compounds with two or more condensed aromatic and other cyclic rings of carbon and hydrogen atoms.
- A JKE B VTR C PAH D WSA
11. —— amines (HCAs) are a class of chemical compounds that contain at least one cyclic ring and an amine-substituted ring.
- A Heterogeneous B Helical C Heterocyclic D Hyperactive
12. In addition to lamina, cigarette filler often contains puffed or expanded tobacco, tobacco stems, humectants, and various flavor additives.
- A True B False
13. Cigarette smoking is a risk factor for bladder cancer. The increased mutagenicity of smokers' urine was first shown in:
- A 1967 B 1957 C 1987 D 1977
14. In human studies, smoking was shown to increase the frequency of HRRT mutants in peripheral blood lymphocytes by approximately:
- A 30% B 18% C 50% D 3%
15. Study findings indicate that cytotoxicity may play a role in several tobacco-related chronic diseases, including emphysema.
- A True B False

16. In one study, researchers observed nonneoplastic tumors throughout the ——— of animals exposed to smoke.
 A liver B respiratory tract C skeletal system D brain
17. Researchers demonstrated fetotoxicity from cigarette smoke exposure by reporting ——— in rats and mice exposed during gestation.
 A increased nausea B reduced fetal weight C increased fetal weight D increased mortality
18. It has been shown that direct nicotine administration to humans or animals ——— body weight and caloric intake.
 A slightly increases B sharply increases C decreases D has no effect on

CHAPTER FOUR: NICOTINE ADDICTION

19. The pharmacologic and behavioral processes that determine tobacco addiction are similar to those found in heroin and cocaine.
 A True B False
20. Researchers have used the ——— Test for Nicotine Dependence (FTND) to determine the degree of dependence in smokers.
 A Fairview B Fenabi C Ferrovie D Fagerström
21. Tobacco products contain more than ——— chemicals, some of which could contribute to dependence.
 A 4,000 B 400 C 40 D 4
22. Oral use of smokeless tobacco products results in high venous concentrations of nicotine ——— to those for use of cigarettes.
 A equal B slightly less C much less D greater
23. In behavioral psychology, a stimulus is considered ——— if it increases a response or behavior resulting in obtaining that stimulus.
 A destructive B weakening C unique D reinforcing
24. ———, regions of the chromosomes necessary for cell division, shorten each time cells divide.
 A Positive reinforcement B Negative reinforcement C Stable reinforcement D Cyclic reinforcement
25. Smoking cessation leads to an aversive withdrawal syndrome lasting ——— weeks after cessation.
 A 0.5 B one to four C eight to ten D fifteen to thirty three
26. Most estimates suggest that incidence of major depressive disorder among smokers is approximately ——— that among nonsmokers.
 A 2 to 3 times B 5 times C 7 times D equal to
27. More than ——— percent of patients with schizophrenia smoke compared with 20-30 percent of the general population
 A 50-60 B 70 C 80-90 D 25-35
28. Varenicline was approved by FDA as a treatment for smoking cessation in:
 A 2004 B 2005 C 2006 D 2007
29. There is strong evidence from studies of twins that smoking initiation and nicotine dependence are influenced by heritable factors.
 A True B False
30. One study found that the most susceptible youth lose autonomy over tobacco within ——— days of first inhaling from a cigarette.
 A 14 B one or two C 30 D 45
31. The Yale Longitudinal High-Risk Study revealed ——— association of nicotine dependence with anxiety disorder, as well as others.
 A no B a significant C a very weak D a reverse
32. One US study found that for racial and ethnic groups, the lowest prevalence of smoking was among ——— (9.6 percent).
 A Asians B African Americans C Alaska natives D Latinos

33. It is estimated that ——— of all cigarettes sold in the US are consumed by people with mental illnesses or substance abuse disorders.
 A 5-7 percent B 12 percent C 28 percent D nearly one half
34. Every year ——— of daily smokers in the US stop smoking for 24 hours, but only 5 percent or less achieve long-lasting abstinence.
 A 20 percent B 32-35 percent C about 45 percent D 5 percent
35. One study found that roughly ——— percent of those who have ever smoked eventually become long-term former smokers.
 A 30 B 15 C 50 D 85
36. Regarding relapse to smoking, on average, a second lapse occurs within ——— of the first lapse.
 A 3 days B 1 week C 1 month D 24 hours

CHAPTER FIVE: CANCER

37. The metabolic activation of carcinogens results in formation of ——— adducts, which are absolutely central to the carcinogenic process.
 A DNA B enzyme C cytochrome D plastid
38. Researchers have used the ——— (NPRO) test to compare endogenous nitrosation in smokers and nonsmokers.
 A N-nitrosoproline B N-nitropresoline C N-nitropiridoline D N-nitropirelliossification
39. Ethylene oxide reacts directly with DNA to form ——— -(2-hydroxyethyl)guanine and other adducts.
 A 5 B 7 C 3 D 15
40. ———, encoded by CYP genes, are microsomal enzymes that catalyze the oxidation of many of the carcinogens in cigarette smoke.
 A S-563s B R-553s C P-450s D D-280s
41. Researchers believe that aromatic amines in tobacco smoke contribute to smoking-related ——— cancer.
 A pancreatic B colon C bladder D thyroid
42. Researchers have established cigarette smoking as a major cause of lung cancer: more than ——— of cases are attributable to smoking.
 A 50 percent B 65 percent C 73 percent D 85 percent
43. The GSTM ——— enzyme is important in detoxifying carcinogens..
 A 1 B 2 C 3 D 4
44. Tobacco smoke is lacking in reactive oxygen species that can oxidize DNA bases.
 A True B False
45. The ——— assay measures the expression level of damaged reporter genes, which are involved in reactivation of the host cell.
 A TLR B HCR C RRY D OIC
46. The RAD23B gene is an evolutionary, well-conserved gene with ——— exons.
 A 8 B 4 C 25 D 10
47. The ——— is the kneecap and articulates with the distal femur.
 A patella B tibia C fibula D tarsal bone
48. The most frequently inactivated tumor-suppressor gene in lung cancer is:
 A IU89 B TP53 C RR34 D BN21
49. ——— gene expression is common in lung cancer.
 A Slight decreased B Increased C Marked decreased D An absence of

50. In oral cancers, it is shown that the TP53 mutation has ——— in the prevalence of mutations among heavy smokers versus nonsmokers.
 A a 7 increase B an almost 4 fold increase C a 2 fold increase D an 8 fold increase
51. Apoptosis was first described in 1972. The term “apoptosis” is from the Greek word for “———.”
 A breaking down B bringing together C falling off D building around the center
52. Activation of the RAS pathway sends a strong anti-apoptotic signal, and the constitutive activation of RAS can ——— normal cells.
 A dissolve B speed up the duplication of C do no damage to D transform
53. Cigarette smoke ——— COX-2 expression by lung fibroblasts in vitro.
 A increases B slightly decreases C markedly decreases D has no effect on
54. COX-2 over-expression in lung cancer is associated with tumor angiogenesis and survival and proliferation of tumor cells.
 A True B False
55. More than ——— genes are inactivated by gene promoter hypermethylation in lung cancer.
 A 12 B 22 C 42 D 50
56. A hallmark of the ——— cell is the ability to disrupt the tightly regulated cell-cycle control and enable the cell to bypass checkpoints.
 A cardiac muscle B pulmonary tissue C neoplastic D hepatic tissue
57. Smoking and exposure to asbestos interact synergistically to increase the risk for lung cancer.
 A True B False

CHAPTER SIX: CARDIOVASCULAR DISEASES

58. In a US CDC 2008 report, smoking accounted for 33 percent of all deaths from CVD in persons older than ——— years of age.
 A 20 B 27 C 35 D 54
59. The risks of MI and death from CHD are ——— among former smokers than among continuing smokers in many studies.
 A slightly higher B lower C much higher D about equal
60. The ——— study is a case-control investigation of acute MI in 52 countries around the world, including North and South America.
 A ALLHEART B INTERHEART C PERIHEART D BIGHEART
61. In regular smokers, carboxyhemoglobin levels average about ——— percent, compared with 10 percent or higher in heavy smokers.
 A 8 B 5 C 12 D 15
62. In one study, intravenous nicotine, nicotine nasal spray, and nicotine chewing gum all increased the heart rate up to ——— per minute.
 A 2 beats B 7 beats C 10 to 15 beats D 21 beats
63. Smoking impairs the ability of the endothelium to resist thrombosis.
 A True B False
64. Administration of vitamin ——— reverses the impairment of endothelium-mediated vasodilation in smokers.
 A D B K C A D C
65. Studies have reported that sudden cardiac death is ——— times higher in smokers than in nonsmokers.
 A 2 B 1.5 C 2.5 D 3.5
66. Study findings indicate that circulating levels of ——— increase in smokers and decrease with smoking cessation.
 A red cells B white cells C white cell antibodies D fibrinogen

67. In one study, it was found that insulin sensitivity was significantly lower (by 10 to ——— percent) in smokers versus nonsmokers.
 A 15 B 20 C 30 D 40
68. One study showed that the albumin excretion rate was ——— times higher in smokers than in nonsmokers, after statistical corrections.
 A 2.8 B 2.1 C 1.5 D 1.3
69. Cigarette smoking is thought to raise the LDLc to HDLc ratio by ——— percent.
 A 5 B 10 to 12 C 15 to 20 D 35
70. ——— standard markers of lipids may be altered in cigarette smokers.
 A Only LDLc B Only serum triglyceride levels C Numerous D Only HDLc
71. Smoking cessation after MI reduces the risk of cardiovascular morbidity and mortality by ——— percent.
 A 17 to 19 B 36 to 50 C 22 D 5
72. Even with the most successful counseling interventions, at least 40 percent of smokers who have cardiac disease resume smoking within:
 A 1 year B 5 years C 3 years D 7 years

CHAPTER SEVEN: PULMONARY DISEASES

73. Natural respiratory defenses are critical because of the substantial volume of air inhaled daily: about ——— liters per day.
 A 75 B 100 C 1,000 D 10,000
74. Emphysema was first described by ——— in 1834 on the basis of observations made on the cut surface of postmortem human lungs.
 A René Laënnec B Ronaldo Rossellini C Brian Cartwright D Giuseppe Vitorelli
75. The ——— cells covering the lung surface are a key in defending the lung against inhaled gases and particles.
 A epithelial B prokaryotic C erythroid D bristle
76. The epithelium that covers the follicles in lung tissue contains ——— cells that transport antigens from the lumen to the lamina propria.
 A specialized Q B specialized L C specialized M D specialized R
77. Free radicals are molecules with at least ——— unpaired electron(s).
 A four B three C two D one
78. Catalase is a tetrameric ——— that undergoes oxidation and reduction at its active site in the presence of H₂O₂.
 A eosinophil B hemoprotein C platelet D carbohydrate
79. ——— trapping, a technique in which a radical reacts with a more stable molecule, can be used to measure oxidants in biologic systems.
 A Spin B Turn C Flip D Reverse
80. ———, the major thiol antioxidant in the lungs, rapidly decreases in the lung tissue of rats after exposure to cigarette smoke.
 A TTR B GSH C RUI D BEW
81. After just one cigarette has been smoked, nitrite, nitrate, and cysteine ——— in peripheral blood.
 A become slightly elevated B greatly increase C decrease D levels are maintained
82. In animal models, markers of oxidative stress generally increase during the first ——— hours after exposure to cigarette smoke.
 A 2 B 4 C 6 D 17

83. ——— refers to cellular death, which is organized and noninflammatory.
- A Necrosis B Flat-lining C Lytic adhesion D Apoptosis
84. Inflammatory cells linked to the development of emphysema include neutrophils, macrophages, and lymphocytes.
- A True B False
85. The BAL (Bronchoalveolar ———) technique samples cells and mediators from the lower respiratory tract.
- A Latency B Lancaster C Lavage D Lipid
86. ——— terminal air spaces are the hallmark of emphysema
- A Enlarged B An increase of C Miniscule D A decrease of
87. ——— from exposure to tobacco smoke has a role in the pathogenetic process leading to chronic obstructive pulmonary disease.
- A Mental stress B Oxidative stress C Muscular stress D Neural stress

CHAPTER EIGHT: REPRODUCTIVE AND DEVELOPMENTAL EFFECTS

88. Tobacco smoke contains ——— compounds, some of which are known to have toxic effects on reproductive health.
- A between 100 and 200 B almost 95 C nearly 800 D thousands of
89. The PCASRM has estimated that ——— percent of infertility may be attributable to smoking.
- A 5 B 8 C 10 D 13
90. Epidemiologic studies have consistently reported a(n) ——— risk of placenta previa among smokers.
- A increased B mildly reduced C unaffected D greatly reduced
91. Preterm delivery complicated ——— percent of pregnancies in the United States in 2003.
- A 8.4 B 12.3 C 3.2 D 1.2
92. The highest quality studies indicate birth weight decrements of 15 to ——— g from exposure to secondhand smoke.
- A 35 B 50 C 100 D 245
93. Many studies have found a slightly increased risk of approximately ——— for stillbirth or neonatal mortality associated with smoking.
- A 20 to 30 percent B 8 to 10 percent C 5 percent D 44 percent
94. ——— studies show that smokers have lower circulating levels of estriol and estradiol than do nonsmokers.
- A Very few B No C Several D Only Asian-based
95. The ——— is an in vivo target of cigarette smoke and its components.
- A pancreas B urinary bladder C oviduct D distal small bowel
96. The fetus of a smoker develops under conditions of ——— partial pressure of O₂.
- A slightly increased B greatly increased C an unaffected D reduced
97. Smoking acutely increases the heart rate and blood pressure of smokers, particularly after ——— smoking.
- A a period of abstinence from B a long period of C completely quitting D changing cigarette brands in
98. A study of more than 5,000 participants found that smokers tended to have a lower mean diastolic blood pressure of ——— of mercury.
- A 8 to 10 millimeters B 1 to 3 millimeters C 5 to 7 millimeters D 8 to 9 millimeters
99. A large study, with 67 pregnant smokers, found a significant increase of ——— in maternal heart rate immediately after smoking.
- A 3 percent B only 1 percent C 6 percent D 4 to 5 percent

100. Regarding most studies for maternal blood pressure, increases of less than ——— percent were observed.
 A 12 B 15 C 9 D 5
101. A reactive NST (——— nonstress test) is a sign of fetal well-being.
 A nominal B nosocomial C neural D noninvasive
102. The embryo is most easily disturbed during the organogenesis period, from day 15 to day ——— after conception.
 A 20 B 35 C 45 D 60
103. Epidemiologic studies show that offspring of maternal smokers have abnormal lung function.
 A True B False
104. ———, smoking appears to have immunosuppressive effects.
 A In 100 percent of cases B In general C In no studies D In very few studies
105. ——— is formed as a by-product of combustion and is thus present in tobacco smoke.
 A CO₂ B H C CO D H₂O₂
106. The dose of the toxin, CO, per cigarette is ——— times the dose of nicotine.
 A 5 B 12 C 10 to 20 D 3
107. The binding of CO to hemoglobin is tenacious, with a half-life of ——— hours.
 A five to six B around two C four D over eleven
108. ———, the principal alkaloid in tobacco, is a major contributor to the addictive properties of smoking.
 A Irritant bases B Nicotine C CO D Tar
109. Regarding tobacco smoke studies, arsenic was detectable but not quantifiable (limit of quantitation = ——— ng per cigarette).
 A 1.2 B 2.7 C 5.4 D 12.8
110. ——— metals can influence electron-exchange reactions and oxidative stress within cells.
 A Interim B Terminal C Transition D Alkaloid
111. Researchers have investigated ——— as the agent in cigarette smoke responsible for LBW in newborns of smokers.
 A cadmium B technetium C promethium D astatine
112. The most commonly observed effects of PAHs in animal studies are growth retardation and:
 A anemia B chronic elevated BP C physical malformations D fetal mortality
113. Cigarette smoke inhibits the growth of the chick chorioallantoic ——— (CAM).
 A membrane B mitosis C melamine D menthanol
114. ——— of women who smoke during the first pregnancy also smoke during the second.
 A One-half B Two-thirds C One-fifth D One-fourth

CHAPTER NINE: A VISION FOR THE FUTURE

115. The ——— Health Organization (WHO) has called tobacco use “the single most preventable cause of death in the world today”.
 A Washington B Willoughby C World D Warren
116. Smokers who quit after the age of ——— years continue to have excess risk for tobacco-related diseases.
 A 25 B 32 C 37 D 44

117. If the population ceased smoking, this single behavior change would be tantamount to a vaccine against ——— of cancer deaths.

- A one-eighth B one-fifth C one-fourth D one-third

118. Data indicate that less than ——— percent of smokers are offered assistance in quitting annually.

- A 45 B 55 C 30 D 62

119. The federal excise tax on cigarettes rose from \$0.24 to ——— on April 1, 2009.

- A \$1.01 B \$0.52 C \$0.49 D \$0.88

120. Both active and involuntary smoking are the cause of at least ——— types of cancer.

- A 15 B 7 C 4 D 12

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1		25		49		73		97	
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9		33		57		81		105	
10		34		58		82		106	
11		35		59		83		107	
12		36		60		84		108	
13		37		61		85		109	
14		38		62		86		110	
15		39		63		87		111	
16		40		64		88		112	
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