



Post Evaluation Medical Technology 2005



Directions For Numbers 101- 125 : Read each of the following multiple-choice items and the possible answers carefully. Mark the letter of the correct answer on your answer sheet or as instructed by your teacher. Remember: Make no marks on this test.

- 101** Which is **NOT** a common application of mathematics in medicine?
- A Predicting the spread of disease
 - B Calculating the dosages of medicine
 - C Statistically determining when to vaccinate
 - D Extracting DNA

- 102** Which is **NOT** an impact of modern medical technology on society?
- A High medical costs in advanced nations
 - B Increased human lifespan
 - C Rapid spread of the AIDS virus
 - D Elimination of smallpox

- 103** Which development of technology was **MOST** important for eliminating the “black death” (bubonic plague) in San Francisco in 1900?
- A Rat trap
 - B X-ray machine
 - C Hypodermic needle
 - D Mosquito repellent

- 104** A scientist or engineer developing medical technology equipment might use which problem solving method?
- A Build the design, determine what the problem is, and then evaluate.
 - B Define the problem, research and evaluate all solutions, use the best idea, and then evaluate.
 - C Research, evaluate, build the solution, and then brainstorm ideas.
 - D Brainstorm ideas, pick the easiest one, and then build the design.

- 105** The CT scan process is a modern development from earlier technology of simple X-rays. Which statement is **NOT** true of this new CT scan technology?
- A It can find smaller cancers.
 - B It uses safer sound waves.
 - C Its images appear as slices of the body.
 - D The scanner is computer controlled.

- 106** Advances in which technology, outside of medicine, have increased the danger of mass epidemics and made some diseases more difficult to stop?
- A Communication
 - B Manufacturing
 - C Transportation
 - D Construction

- 107** Which major advance in medical technology was developed in the 1950's?
- A CT scanner
 - B Electron microscope
 - C Laser eye surgery
 - D Polio vaccine

- 108** What is the meaning of the term triage?
- A The process of treating the most urgent cases first
 - B Archaic treatment involving drilling holes in the skull
 - C The common practice of getting three separate opinions on proposed treatments
 - D Combining three vaccines into a single shot for infants

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- 109** When a patient is given a prescription for an antibiotic drug, it is important for them to take the drug exactly as directed. Which statement is incorrect then?
- A Stop taking the drugs once you feel better.
 - B There could be side effects.
 - C Taking too much of the drug could be hazardous.
 - D By stopping your treatment earlier than prescribed, some bacteria could be left alive to make you sick again.
- 110** Which is **NOT** a topic of debate within the medical research community at the present time?
- A Fluoridation of water
 - B Frequency of the use of antibiotics
 - C Ethical practice in DNA research
 - D Pasteurization of milk products
- 111** Some technologies bring both good and bad aspects. The ultrasound machine, DNA research, cloning research, and high cost advanced procedures are all beneficial advances of medical technology, but they also share which concern?
- A Many people have had to die for each to succeed.
 - B They all cause people to live so long that they cannot help themselves.
 - C They can be used in situations that present a moral dilemma.
 - D They could cause more diseases to spread worldwide.
- 112** What must diabetics monitor periodically from samples of their blood?
- A Iron
 - B Blood pressure
 - C Blood sugar
 - D Blood platelets
- 113** Which grouping includes the primary causes of death for students in your age range?
- A Age, inherited traits, cancer
 - B Viral infections, suicide, asthma
 - C Accidents, cancer, homicide
 - D Diet, cancer, homicide
- 114** Which use of \$1000 would save the **MOST** lives immediately?
- A Buying an ultrasound machine
 - B Buying cholera vaccine
 - C Paying for ICU treatment
 - D Investing in cancer research
- 115** Which development is more important in the fight against the spread of disease?
- A Urban sewage systems
 - B Laser surgery
 - C MRI scanning
 - D EKG machines
- 116** Which action can **NOT** be performed with an optical microscope?
- A Examining blood cells
 - B Studying a virus
 - C Studying the growth of bacteria
 - D Examining a tissue culture

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117 The vitamin supplement that is added to milk to help prevent rickets disease is?

- A Vitamin A
- B Vitamin B
- C Vitamin E
- D Vitamin D

118 In diagnosing a strep throat, a doctor will check each of the following **EXCEPT**:

- A Looking deep into the back of the throat.
- B Feel for swollen glands around your neck area.
- C Extract a culture sample from your throat.
- D Take a blood sample.

119 In 1816, Laennec invented a device that we still use today in a more modern form. His name for the invention translates into "I see the chest." What important device of medical technology did he invent?

- A X-ray machine
- B Ultrasound machine
- C Stethoscope
- D Endoscope

120 What is the controversy surrounding the long established procedure of using amalgam fillings in dental cavities?

- A The cost of silver is high
- B There is fear of mercury poisoning
- C The fillings rot out quickly
- D There is fear of overexposure to the cement

121 What "miracle drug" invented in 1897 could have saved thousands of lives earlier that century in the mid 1800s because of its ability to reduce high fever?

- A Aspirin
- B Milk of magnesia
- C Pepto-Bismol
- D Benedryl

122 One child dies and 50 more are injured every day in bicycle accidents. Helmets could reduce these risks by 85%. If everyone wore their helmet, how many days would it take to save 85 lives?

- A 2
- B 50
- C 100
- D 365

Venn Diagram of Human Blood Type

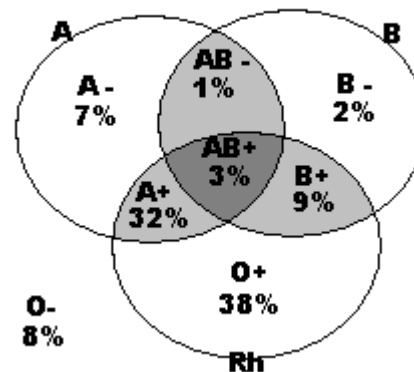


Fig.MT08.01

123 According to Fig.MT08.01, what is the **MOST** common blood type in humans?

- A AB+
- B O+
- C Rh
- D Cannot be determined from the diagram

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124 According to Fig.MT08.01, what percentage of the population is Rh+?

- A 3%
- B 38%
- C 82%
- D 92%

125 According to Fig.MT08.01, which blood type can donate to all of the others (universal donor)?

- A A-
- B B-
- C AB+
- D O-

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?	⊙	Answer/ Scale	Objective	?	⊙	Answer/ Scale	Objective
101	101	D	MT08.01 Math	114	114	B	MT08.03 Technology
102	102	C	MT08.03 Technology	115	115	A	MT08.03 Technology
103	103	A	MT08.03 Technology	116	116	B	MT08.03 Technology
104	104	B	MT08.03 Technology	117	117	D	MT08.02 Science
105	105	B	MT08.03 Technology	118	118	D	MT08.02 Science
106	106	C	MT08.03 Technology	119	119	C	MT08.02 Science
107	107	D	MT08.03 Technology	120	120	B	MT08.02 Science
108	108	A	MT08.03 Technology	121	121	A	MT08.02 Science
109	109	A	MT08.03 Technology	122	122	C	MT08.01 Math
110	110	D	MT08.03 Technology	123	123	B	MT08.01 Math
111	111	C	MT08.03 Technology	124	124	C	MT08.01 Math
112	112	C	MT08.03 Technology	125	125	D	MT08.01 Math
113	113	C	MT08.03 Technology				

Minimum points
required to achieve
mastery category

Total questions on test: 25

Objectives measured: 3	Items	Points	●	◐	Questions measuring this objective
MT08.01 Math	5	5	4	3	101 122 123 124 125
MT08.03 Technology	15	15	11	10	102 103 104 105 106 107 108 109 110 111 112
MT08.03 Technology					113 114 115 116
MT08.02 Science	5	5	4	3	117 118 119 120 121
Totals		25	19	16	

MT08

? = Test Question Number ⊙ = line on GP Form

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Items used in test

?	Item name	?	Item name	?	Item name
101	MT08.01.00.05	110	MT08.03.00.14	118	MT08.02.00.02
102	MT08.03.00.06	111	MT08.03.00.12	119	MT08.02.00.03
103	MT08.03.00.13	112	MT08.03.00.03	120	MT08.02.00.04
104	MT08.03.00.02	113	MT08.03.00.04	121	MT08.02.00.05
105	MT08.03.00.05	114	MT08.03.00.07	122	MT08.01.00.04
106	MT08.03.00.10	115	MT08.03.00.11	123	MT08.01.00.01
107	MT08.03.00.09	116	MT08.03.00.01	124	MT08.01.00.03
108	MT08.03.00.15	117	MT08.02.00.01	125	MT08.01.00.02
109	MT08.03.00.08				

MT08

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