

## Chapter 2: Quality Management Tools and Procedures

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### MULTIPLE CHOICE

1. Which of the following is a pictorial representation of a frequency distribution?
  - a. Pareto chart
  - b. Fishbone chart
  - c. Histogram
  - d. Scatter plot

ANS: C

Rationale: A histogram is a data display tool in the form of a bar graph that often plots the most frequent occurrence of a quantity in the center.

REF: 23

2. The range of variation around the mean is called
  - a. variance.
  - b. standard deviation.
  - c. percentile.
  - d. range.

ANS: B

Rationale: The standard deviation is the range of variation or dispersion of a set of values surrounding the mean.

REF: 21

3. The number of items actually measured from a population is called a
  - a. sample.
  - b. data set.
  - c. frequency.
  - d. range.

ANS: A

Rationale: A sample is the number of items actually measured from a population.

REF: 20

4. The FDA uses how many classifications of medical devices?
  - a. One
  - b. Two
  - c. Three
  - d. Four

ANS: C

Rationale: Class I are general controls, class II are special controls, and class III are pre-market approval.

REF: 30

5. What is the average amount of background radiation per year in the United States?
- 100 mrem
  - 250 mrem
  - 360 mrem
  - 480 mrem

ANS: C

Rationale: 360 mrem (3.6 mSv) per year is the average background exposure for the United States.

REF: 29

6. Any activity that costs a facility either money or its reputation is known as
- risk management.
  - risk assessment.
  - risk analysis.
  - loss potential.

ANS: D

Rationale: Loss potential refers to any activity that costs a facility either money or its reputation.

REF: 29

7. Which federal agency is responsible for establishing standards for safety and for monitoring the workplace environment?
- NRC
  - OSHA
  - FDA
  - NCRP

ANS: B

Rationale: The Occupational Safety and Health Administration is responsible for monitoring the workplace environment.

REF: 28

8. Members of the general public who may be exposed to frequent or continuous exposure from artificial sources other than medical exposure have a recommended maximum effective dose equivalent of \_\_\_\_\_ rem/year.
- 0.1
  - 0.5
  - 1.0
  - 5.0

ANS: A

Rationale: For members of the general population who may be exposed to frequent or continuous exposure from artificial sources other than medical irradiation (this includes radiography students younger than the age of 18), the NCRP recommends a maximum effective dose equivalent limit of 0.1 rem (1 mSv) per year.

REF: 29

9. The maximum dose to the fetus of an occupational worker for the entire gestation period is \_\_\_\_\_ rem.
- a. 0.05
  - b. 0.1
  - c. 0.5
  - d. 5.0

ANS: C

Rationale: The embryonic/fetal dose of occupational workers should not exceed 0.0025 millirem (0.025 mSv) per day, 0.05 rem (0.5 mSv) in any 1 month of the 9-month gestation period and 0.5 rem (5 mSv) for the entire gestation period.

REF: 32

10. The minimum thickness of lead aprons worn by occupational workers during diagnostic procedures is \_\_\_\_\_ mm of lead equivalence.
- a. 0.25
  - b. 0.5
  - c. 1.0
  - d. 1.5

ANS: A

Rationale: Lead aprons must have a minimum lead equivalent thickness of at least 0.25 mm and cover 75% to 80% of the active bone marrow of the person wearing it.

REF: 33