**Multiple Choice Test Question Banks**

Chapter 1

1. Which of the following is *not* a principle of scientific method:

a. explanations should be simple

b. experiments should be reproducible

c. theories should be falsifiable

d. results should be mathematically measurable

e. once proven to be fact, a scientific law should never be revised

2. The published standard of practice for radiographers includes all of the following *except*:

a. common sense

b. majority opinion

c. sound judgment

d. logical consistency

e. objective knowledge

3. In radiography, which of the following are mathematically quantifiable?

a. repeated exposures

b. image contrast

c. image distortion

d. all of the above

e. none of the above

4. Wilhelm Roentgen’s discovery of x-rays on November 8, 1895:

a. was truly accidental, as he was investigating something else

b. was the result of his own hypothesis of the existence of x-rays

c. had been preceded by other researchers looking for x-rays

d. was duplicated about the same time by Ernest Rutherford

5. Both Roentgen and Becquerel:

a. refused to publish their findings

b. refused to patent their findings

c. became wealthy from their discoveries

d. received Nobel prizes for physics

6. After x-rays were discovered, Antoine Henri Becquerel discovered which occurred

naturally:

a. cathode rays

b. x-rays

c. helium nuclei

d. the photoelectric effect

e. three types of radiation

7. Patient exposure levels for fluoroscopy were excessive until the invention in 1948 of the:

a. phototimer

b. Coolidge tube

c. Jackson focus tube

d. image intensifier tube

e. Potter-Bucky grid mechanism

8. Filtration and the first x-ray beam collimation devices were both first attributed to:

a. Rolllins

b. Edison

c. Bucky

d. Pupin

e. Rutherford

9. Who tested over 5000 chemicals to find the best material for intensifying screens, which

converted x-ray energy into fluorescent light?

a. Pupin

b. Edison

c. Potter

d. Coolidge

e. Roentgen

10. What is the latest date for which the medical application of rare earth fluorescent screens,

ultrasound, CT, MRI, CR and DR have *all* occurred:

a. 1946

b. 1966

c. 1986

d. 1996

e. 2006

11. Which digital technology had to wait for the miniaturization of electronic x-ray detector

elements that were smaller than the resolution of the human eye?

a. DR

b. CR

c. CT

d. PACS

e. teleradiology

12. Which of the following are benefits of the post-processing capability of digital imaging systems in general:

a. reduced patient exposure

b. cost savings for imaging departments

c. time efficiency for technologists and physicians

d. the ability to improve image quality without repeating an exposure

e. all of these

13. Which of the following is *not* a form of electromagnetic radiation:

a. x-rays

b. visible light

c. microwaves

d. alpha radiation

e. infrared radiation

14. All forms of radiation move from one point in space to another:

a. ionization

b. molecules

c. force

d. particles

e. energy

15. Of the following, which is the source of most radiation the average person receives each year:

a. nature

b. nuclear power plants

c. non-medical human technology

d. our own bodies

16. The types of radiation that are biologically harmful are those which are directly capable of:

a. causing fluorescence

b. ionizing atoms

c. interacting chemically

d. emitting radon

e. being breathed in

17. Classified as a “safe” profession, the average radiographer’s annual occupational exposure to

radiation is roughly equivalent to exposure received from:

a. a chest x-ray

b. other technological sources

c. nature

d. all medical procedures

e. radon

18. Sources of ionizing radiation include:

a. the environment

b. medical use of radiation

c. consumer products

d. food

e. all of the above

19. Sound waves are a good example of radiation as:

a. electromagnetic waves

b. mechanical waves in a medium

c. particles

d. natural radioactivity

20. What development revolutionized the storage, management and access of radiographic

images:

a. DF

b. DR

c. CR

d. CT

e. PACS

21. Electromagnetic waves would be best described as waves traveling:

a. in a field

b. in a medium

c. in air molecules

d. as particles

e. as light

22. The inventor who developed a means of focusing the electron stream in the x-ray tube was:

a. Crookes

b. Roentgen

c. Jackson

d. Coolidge

e. Edison