Mammography Imaging

1. How many women were diagnosed with breast cancer internationally in 2008?
   a. 1.25 million
   b. 1.30 million
   c. 1.38 million
   d. 1.40 million

2. Which of the following is a common view in a typical screening mammogram?
   a. Lateral view
   b. Cranial-caudal view
   c. Mediolateral oblique
   d. B & C

3. True or false. The mammography unit consists of an x-ray tube and an image receptor mounted on opposite sides of a mechanical assembly.
   a. True
   b. False

4. The nominal focal spot size for mammography is _____.
   a. 0.3 mm
   b. 0.4 mm
   c. 0.5 mm
   d. 0.6 mm

5. Most mammography tubes use _____ exit windows between the evacuated tube and the atmosphere.
   a. Glass
   b. Copper
   c. Tungsten
   d. Beryllium

6. For mammography, it is suggested the optimum energy for film imaging is between _____ and _____ keV.
   a. 15, 20
   b. 18, 23
   c. 20, 23
   d. 22, 27

7. Digital mammography machines have a target made of _____.
   a. Glass
   b. Copper
   c. Tungsten
   d. Rhodium

8. In mammography, a molybdenum anode x-ray tube commonly has a molybdenum filter that is _____ thick.
   a. 25-27 µm
   b. 30-35 µm
   c. 37-40 µm
   d. 45-50 µm

9. What is the typical focused linear grid ratio used in mammography?
   a. 3:1 to 3.5:1
   b. 3.5:1 to 5:1
   c. 4:1 to 5:1
   d. 5:1 to 5.5:1

10. What is the benefit of magnification mammography?
    a. Increased SNR
    b. Improved spatial resolution
    c. Dose efficient scatter rejection
    d. All the above
11. What year was digital mammography introduced?
    a. 1995
    b. 1997
    c. 2000
    d. 2002
12. True or false. In digital mammography, image acquisition, processing, display, and storage are performed independently, allowing optimization of each.
    a. True
    b. False
13. At the time the text was written, what type of monitors were recommended to view digital mammograms?
    a. One 5 megapixel monitor
    b. Two 5 megapixel monitors
    c. Two 7 megapixel monitors
    d. Two 9 megapixel monitors
14. Which of the following **is not** a potential benefit of CAD systems?
    a. Potential to reduce the cancer miss rate
    b. Reduce the variability among radiologists
    c. Improve the consistency of a single radiologist
    d. Make the radiologist less productive
15. Stereotactic biopsy systems use _____ digital detectors.
    a. 3 cm × 5 cm
    b. 3.5 cm × 5 cm
    c. 4.5 cm × 5 cm
    d. 5 cm × 5 cm
16. Which of the following is the primary interest regarding the risk of radiation-induced cancer in breast imaging?
    a. Incident air kerma
    b. Entrance surface air kerma
    c. Mean glandular dose
    d. A & B