



Question One:

MCQs Questions: Choose the best of five:

Concerning plain film X-Rays, all the following are correct except:

- a) Are ionizing radiation.
- b) Need cooperation of patient.
- c) Markedly sensitive.
- d) Widely available.
- e) Inexpensive.

2) Main uses of fluoroscopy are the following except one:

- a) Barium meal studies.
- b) Hysterosalpingogram.
- c) Voiding cystourethrogram.
- d) Exploration of joints structures.
- e) Small bowel enteroclysis.

3) Concerning techniques relevant to musculo-skeletal (MSK) radiology, choose the correct answer:

- a) Radiography (routine and specialized views)
- b) CT
- c) MRI
- d) US
- e) All the above.

4) Concerning excitation and ionization, one of the following is false:

- a) In the excitation, a fraction of the energy of the radiation is transferred to the electrons of the absorbing material.
- b) In the excitation, electrons respond to radiation by jumping to another orbital level farther away from the nucleus
- c) In the ionization, the amount of energy of radiation is smaller than the binding energy of the electron.
- d) Ionization occurs when the radiation has enough energy to eject the electron completely from the atom.
- e) Ionization results in ion pairs, which made up of the ejected electron (negative ion) and the proton of the atom that remains after loss of electron (positive ion).

Course No:
Course Title: Radiology
Date: 22/11/2014
No. of Questions: (6)
Time: 1hours
Using Calculator (No)

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Using Dictionary (No)

5) Concerning tube filtration, all the following are correct except:

- a) Inherent filtration.
- b) Additional filtration.
- c) Total filtration must be > 2.5 mm Al for a > 110 kV generator.
- d) Total filtration (inherent + added), are always present.
- e) Oil metal barrier is a part of inherent filtration.

6) Regarding object contrast, one of the following is false:

- a) Density (air, bone)
- b) Thickness (microcalcifications)
- c) Atomic number
- d) kVp
- e) The higher the energy, the lesser the penetrating power of X-rays.

7) Concerning dental radiography, all the following are correct except one:

- a) Dentists use radiographs to find hidden dental structures, malignant or benign masses, bone loss, and cavities.
- b) The dosage of X-ray radiation received by a dental patient is typically small (around 0.350 mSv for a full mouth series, according to the American Dental Association website).
- c) Dental restorations (fillings, crowns) may appear lighter or darker, depending on the density of the material.
- d) Incidental exposure is further reduced by the use of a lead shield, lead apron, sometimes with a lead thyroid collar.
- e) Dental caries, infections and other changes in the bone density, and the peri-odontal ligaments, appear darker because X-rays readily penetrate these less dense structures.

8) Concerning intra-oral radiological views, all the following are true except:

- a) The objective of periapical view is to capture the tip of the root on the film.
- b) The bitewing view is taken to visualize the crowns of the posterior teeth and the height of the alveolar bone in relation to the cemento-enamel junction.
- c) Routine bitewing radiographs are commonly used to examine for interdental caries.
- d) The occlusal view is indicated when there is a desire to reveal the skeletal or pathologic anatomy of either the floor of the mouth or the palate.
- e) Routine bitewing radiograph is used to determining the cause of pain in a specific tooth, because it allows a dentist to visualize the tooth as well as the surrounding bone in their entirety.

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9) Concerning cone beam computed tomography (CBCT), one of the following is false:

- a) Is a medical imaging technique consisting of X-ray computed tomography where the X-rays are divergent, forming a cone.
- b) CBCT has become increasingly important in treatment planning and diagnosis in implanted dentistry.
- c) During dental imaging, the CBCT scanner rotates around the patient's head, obtaining up to nearly 200 distinct images.
- d) A single 200 degree rotation over the region of interest acquires a volumetric data set.
- e) Total radiation doses from dental CBCT exams are generally lower than other CT exams.

10) Regarding the methods of imaging of oral cavity and maxilla-facial region, choose the correct answer:

- a) C.T.Scan permits the visualization of anterior facial bones, the roof and floor of maxillary and frontal sinuses.
- b) For detecting nasal bone fracture, we do AP view X-Ray of nasal bone.
- c) Walter's view is demanded for exploration of sphenoidal sinuses.
- d) Sialography of sub mandibualr gland is done by injection of barium sulfate inside the opening of it's duct.
- e) MRI demonstrates chronic sinusitis less than C.T.Scan.

Question Two:

Short Notes Questions:

- Describe briefly the X-Ray tube components. (3 points)
- 2) Enumerate the radiation emitted by the x-ray tube. (2 points)
- 3) What are the effects of scattered radiation (2 points)
- 4) Enumerate briefly the advantages and disadvantages of Fluoroscopy (3 points)

End of Questions
Good Luck