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Q1: Describe ten advantages of digital radiography over screen film radiograph.

Ans: ADVANTAGES:

1: it is the increased dynamic range.

2: the linear response of images.

3: this availability of the post processing are functions.

4: they easy to archive since image are in a digital format.

5: they lead to a high patient to a through put.

6: these are separating of a image capture, processing and display process which mean optimized are individually.

7: they are reduced the patient exposure.

8: it is the ability to manipulate image.

9: they are no chemical processing.

10: they can be remote consultation.

Screen Film Radiography:

1: This radiographic screen are scintillator that is emit light in response to an x-ray interaction.

2: the screen film that are loaded into darkroom and are processing.

3: A screen film that are image to receptor are not reseable.

5: In the film are processing wet the film.

6: it is the latent image a formation.

7: that are unexposed film use.

8: the cassette can be take to the darkroom.

9: A screen film can be absorb 20 – 40 times more x-ray then film alone.

10: it is the increased gamma.

Q2: Differentiate between direct digital radiography and indirect digital radiography.

Ans: Direct Digital Radiography:

It is composed of amorphous selenium semi-conductor.

It is the amorphous selenium is direct with digital radiograph are process.

That is in the direct digital radiograph of the X-ray are converted into the electric signal.

That is called direct because no scintillation are the phosphor is involved.

These capture in element of the direct digital radiograph is are the amorphous selenium.

This is the coupling element of the direct digital radiograph is also are the amorphous selenium.

Indirect Digital Radiograph:

Indirect system are composed of three main layer.

1: scintillator 2: photodiode layer 3: thin flat panel transistor.

The two types are the modilities are present on the basis of a collecting devices used.

They are having good spatial resolution.

That are the coupliry element with the fiber optic for indirect digital radiograph.

The X-ray in an indirect are the first converted into the light and then into the electric signal.

This cesium iodide in a charge couple device for the indirect digital radiograph.

It is the capturing element is a cesium iodide for the indirect digital radiograph.

Q3: why is fill factor important?

Ans: In the smaller are the pixel size, the X-ray are intensity much increase but the fill factor is lowered, lower fill factor requires increased pt.dose because of the increase X-ray intensity required.

OR

The percentage of the pixel face which are sensitive to the X-ray is called fill factor.

Importance:

This fill factor allow they are conversion of the incident X-ray beam into light, the fill factor is nearly 80% therefore about 20% of the x-ray is not taking part in the images. Where the fill factor are not present.

The fill factor is also reduced and these ray intensity must can be increased to the maintain in the adequate signal strength.

Q4: What are the consequences of producing flat panel digital image receptors with smaller pixels?

Ans: The resulting image will have an increased amount of noise.

OR

The consequence of a producing flat panel are digital image receptor with the small pixel are in the noisy image.

Explanation:

The noisy image is that the fluctuation are the optical density of the radiograph and this fluctuation in this may be caused due to low radiation dose now in the from here we know that the consequence of producing flat panel digital image with the receptor in the small pixall will result in the noisy image.

Q5: Discuss the relevant features of a storage phosphor imaging plate.

Ans: The relevant feature of the storage phosphor imaging plate are following.

Computed radiography uses storage phosphor imaging plate for the digital imaging. Absorbed are the x-ray energy is stored in the crystal defect. Out there energy is set free as the blue photon upon on the optical stimulation. The photostimulated mechanism of the current commercial storage phosphor, it is demonstrated that the morphology of the phosphor crystal in they are the CR imaging plates has a very significant impact of its performance.