

P# 1

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Assignment := CR and DR.

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Q No 1.

Digital subtraction angiography := (DSA)

The angiography provides the detection of problems in blood flow of brain blood vessels is known as DSA.

Procedure :- It having cathater passers on the artery of legs to the vessels of brain.
(P.T.O)

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and thus gives image of
brain and brain vessels.

Principal:

The combination of
the improvement of digital
subtraction angiography and have
introduction of one roentage which
is the quantity of x-ray

producing a charge.
Condition: DSA is carried on the
static condition.

|||*#

|||*#

Q No 2:

Artifacts: The any false features
in a medical image that
(P.T.O)

P#3

stimulates tissue is called
artifacts

DR image receptor have unique
artifacts associated with pixel

* Common artifacts ^{failure}:-
The DR artifacts are
divided into the following
three artifacts.

i# Image receptor artifacts:-

This artifacts are produced
due to dust, scratches and
rough handling is called
Image receptor artifacts.

* Avoided by:-

* Proper cleaning
* Smooth handling

(P.T.O)

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Digital radiographic image receptor have unique artifact associated with pixel failure.

environmental radiation can be contribute to ghost artifact.

2# Software artifact:-

The artifact obtained as raw data set of Histograms. ranges and scaling is called Software artifact.

* Avoided by:-

* By flatfielding which is the correction that performed to equalized the response of each pixel. (P.T.O)

3# Object artifact:-

The artifact obtained from the radiologist error in patient positioning, beams of x-rays & histogram selection is called

- object artifact.
- * Avoided by:-
- * Proper knowledge of the Patient positioning.
 - * Proper histogram using etc.

Q No 2:- 3

Disadvantages of DR:-

The DR having many disadvantages, but some are the followings (P.T.O)

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- * The cost of replacing existing radiographic equipments.
- * digital imaging will required to think about aspects of information,
- # lower the spatial resolution
- # exposure to DR for long time can cause harmful biological change.
- # DR also cause mutation.
- # due to lowering of spatial resolution the image will be much blur.
- # DR some time also caused breast cancer in women

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Breast cancer sometime also cause death.

DR some time also damage the tissues and cells.

long terms exposor to DR lead demaging of germs cells which effect next generation.

long terms exposor to DR lead demaging of body sys.
e.g.: Reproductive, digestive etc.

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Q no 4

Image Quality of Screen film & DR:
DR image is limited by one.
(P.T.O)

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deficiency when compared with
Screen film radiography
the some are the main
Comperision

- * Digital image obtained faster than screen film
- * Digital image can viewed by multiple observer at multiple location but screen film viewed at a single location,
- * Digital image are transeferred by electronically while screen films does not transeferred.
- * Digital images having wider dyna-mic range than Screen films

(P.T.O)

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Digital images having better contrast resolution than screen films.

Superior: DR are superior than the screen film radiography.

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Q No 5

* Image receptor used in CR:

- * CR used as an image receptor an x-ray sensitive plate,
 - * CR is a form of DR
 - * CR response to x-ray interaction is seen as trapped electrons in high energy unstable state.
- (P.T.O)

P#10

- # europium is used as a PSL
- # PSP ^{in CR} is converted into latent image
- # Dark room is unnecessary
- # PSP of CR is unloaded in dark room.

Image receptor used in DR:

The image receptor is most same as a CR and also having slightly difference

DR also used an image receptor an x-ray sensitive plate.

Imaging plates thus formed is similar in appearance to intensifying screen used in CR

(P.T.O)

P# 11.

★ Sensors are the receptors for the digital image instead of using traditional x-rays films.

Conversion of Screen film radiography to DR is continuous while digital imaging is began with CT and MRI.

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