

00292

**B.Sc. IN MEDICAL IMAGING
TECHNOLOGY**

Term-End Examination

December, 2011

**BAHI-031 : BASICS OF RADIOLOGICAL
PHYSICS**

Time : 3 hours

Maximum Marks : 70

PART - A

1. Fill in the blanks : **1x10=10**
- (a) The skin dose to the patient is reduced by introducing _____ in the x-ray machine.
 - (b) _____ is the process of removing unexposed silver halides without damaging the image.
 - (c) The optimum temperature for developer in manual processing is _____.
 - (d) The _____ unsharpness is due to the finite size of the x-ray source.
 - (e) The recorded image in CR (Computed Radiography) is erased using _____.
 - (f) The slope of the hurter and Drif-field curve is known as _____.

- (g) The unwanted density on the film is called _____ .
- (h) The process of instantaneous emission of light when the phosphor is exposed to radiation is called as _____
- (i) The scattered radiation reaching the film can be minimised by using _____.
- (j) The photographic emulsion layer consists of _____ .

2. Write short notes on the following : 2x5=10

- (a) X-ray beam hardening.
- (b) Characteristic curve of x-ray film.
- (c) Care of intensifying screen.
- (d) Scintillation crystals.
- (e) Safe light in dark room.

PART - B

Attempt *any four* questions :

5×4=20

3. Describe in brief about the methods of silver recovery process.
4. Enlist the advantages and disadvantages of rare earth screens.
5. Describe in brief about the construction of film.
6. The common Artifacts in conventional film - screen radiography.
7. What precautions need to be taken in selecting and installing the safe light in dark room ?

PART - C

Attempt *any three* questions.

10x3=30

8. Explain about the construction, types and testing of a x-ray cassette.

 9. Describe in detail about the layout plan of a dark room.

 10. Explain the manual processing of x - ray film.

 11. Describe the construction and working of a LASER printer.
-