

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

**Term-End Examination**

**December, 2012**

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

*Time : 3 hours*

*Maximum Marks : 70*

- Note :**(i) *This question paper consists of two parts A and B. Part A contains two parts : 1 part contain 10 fill in the blanks. 2 part contains 6 questions answer any 4 questions.*
- (ii) *Part B contains 5 questions - answer 3 questions.*

**PART - A**

- 1. Fill in the blanks :** **10x2=20**
- (a) The developer is a \_\_\_\_\_ agent
- (b) The speed of two different films can be compared using a \_\_\_\_\_.
- (c) The base of the film is made using a \_\_\_\_\_/\_\_\_\_\_.
- (d) Reduction of radiation dose is possible by using \_\_\_\_\_ speed films.
- (e) When we use a grid, the exposures should be \_\_\_\_\_.
- (f) The light used in the dark room is called \_\_\_\_\_.
- (g) The pH value of developer is\_\_\_\_\_.

- (h) The temperature of the developer solution should be maintained at \_\_\_\_\_ °C.
- (i) \_\_\_\_\_ is used as the suspending medium and binding agent for silver lactide crystals.
- (j) \_\_\_\_\_ are used to absorb scatter radiation to the film to increase the image quality.

2. Write short notes on *any four* questions : **4x5=20**

- (a) Beam limiting device
- (b) Intensifying screen
- (c) CR Imaging plate
- (d) Gridded cassette
- (e) Light leakage test of cassette
- (f) Replenisher.

## PART - B

Answer *any three* questions :

**3x10=30**

3. (a) List the constituents of manual processing developer solution and explain the functions of each.  
(b) What are the factors that affect the developing time ?
  
  4. (a) Describe the structure of Intensifying screen and function of each layer.  
(b) Explain the various types of Intensifying screens.
  
  5. (a) What is H D Curve ?  
(b) Draw and explain H D curve.
  
  6. Describe in detail, the structure of dark room including walls, floor, entrance and layout of equipment.
  
  7. (a) How will you store the exposed X-ray films ?  
(b) Explain the Image Readout process in C.R.
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