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BAHI-051

B.Sc. IN MEDICAL IMAGING TECHNOLOGY (BMIT)

00451

Term-End Examination

December, 2017

BAHI-051 : PHYSICS OF RADIOLOGICAL EQUIPMENT - I

Time : 3 hours *Maximum Marks : 70*

Note : Attempt any six questions in all. Question no. 9 is compulsory.

1. Explain the structure and function of grid and discuss its types, advantages and disadvantages. **2+2+2+2=8**

2. (a) Explain the principle and types of transformers. **2+6=8**

   (b) Write briefly about target and filter of a conventional mammography machine.

3. Explain Line Focus Principle in x-ray tube technology ? Write the advantages of rotating anode. **4+4=8**

4. Discuss the principle of Positron Emission Tomography. **8**

5. Explain the construction and working of Computed Radiography. **8**

6. Write in detail about Multislice Computed Tomography. 8

7. Discuss the characteristic curve for screen-film system and the digital detector. 8

8. Explain the concept of Noise, Contrast and Resolution as applicable to radiological imaging. 8

9. Write short notes on **any five** of the following . Each carries 6 marks. **5x6=30**

(a) Advantage and disadvantage of filters.
(b) Digital Subtraction Angiography
(c) High frequency generators
(d) Heal effect
(e) PACS
(f) CT Dose Index
(g) Breast compression in Mammography
(h) Effect of kVp, mAs and anode on x-ray production