

**D.M.R.D. : WINTER - 2018**  
**SUBJECT: PAPER – I – PHYSICS APPLIED TO RADIOLOGY AND IMAGING**  
**INCLUDING CONTRAST MEDIA**

**Day:** Saturday  
**Date:** 01/12/2018

**W-2018-3612**

**Time:** 2.00 P.M. TO 5.00 P.M  
**Max. Marks: 100**

**N.B.:**

- 1) Q.No.1 and Q.No.2 are **COMPULSORY**.
- 2) Attempt **Any Seven** questions from Q.No.3 to Q. No.10.
- 3) Figures to the right indicate **FULL** marks.
- 4) Draw diagrams **WHEREVER** necessary

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- Q.1** With help of a neat diagram describe the anatomy of lower limb veins. Describe the technique of colour Doppler imaging of lower limbs in a case of deep vein thrombosis. **(15)**
- Q.2** Define Roentgen. Mention various recommendations on maximum permissible dose for patients and staff members in Radiology department. **(15)**
- Q.3** Draw a labelled diagram of the broncho-pulmonary segments on the chest PA and lateral views. What are the imaging findings in pulmonary tuberculosis? **(10)**
- Q.4** Ultrasound contrast media. **(10)**
- Q.5** Describe the basis of BOLD imaging. Write its utility and limitations. **(10)**
- Q.6** Role of elastography in various organs of the body. **(10)**
- Q.7** MRI anatomy of female genital tract. **(10)**
- Q.8** Physics of tissue harmonic imaging and its uses. **(10)**
- Q.9** Anatomy of tendons around ankle joint. **(10)**
- Q.10** MR urography. **(10)**

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