

# MP Medical Science University, Jabalpur

**BXRT 1<sup>st</sup> Year Examination March– 2023**

**Paper Code – 23AP0600101631**

**Subject - BASIC RADIOLOGICAL PHYSICS**

**Time : 3 Hours**

**Maximum Marks : 100**

**Note :** (a) All questions are compulsory to answer.

(b) Draw diagram wherever necessary.

(c) Answer of question and sub question must be written strictly according to the serial order of question paper.

**Q. No. 1 Write short note on**

**(2X10=20)**

- a. Compton effect.
- b. Tube Current.
- c. Half value layer.
- d. Anode - heel effect.
- e. Inverse square law.
- f. Properties of x-ray.
- g. Ripple factor.
- h. Rotating anode.
- i. Define thermionic emission.
- j. ALARA.

**Q. No. 2 Short Answer the question (250-300 words)**

**(10X5=50)**

- a. Autotransformer
- b. Filter and Rectifier.
- c. X- ray production.
- d. Photo electric effect.
- e. Difference between CR and DR.

**Q. No. 3 Essay type answer the question (450-500 words)**

**(15X2=30)**

- a. Physics principles in design and working of x-ray tube technology.
- b. Electrical hazards and safety in x-ray tube and x-ray tube rating in imaging .