

1.2772-08.

(REVISED COURSE)

7

CO-2530

(3 Hours)

[Total Marks : 100

- N.B. : (1) Question No. 1 is **compulsory**.
(2) Attempt any **four** questions from remaining **six** questions.
(3) **Figures** to the **right** indicate **full** marks.

1. (a) What are the properties of X-rays that are useful in diagnostic medical imaging? Also, differentiate between stationary and rotating anode. 10
(b) Explain the filament circuit and high voltage circuit of X-ray generator. 10
C40
2. Explain various types of ultrasound modes of display using suitable diagram. Also, explain the diagnostic applications of each mode. 20
B411
3. (a) What do you understand by the term thermography? Explain various applications of thermography in medicine. 10
(b) Discuss in detail Digital Subtraction Angiography. 10
- 165
4. Explain in detail an X-ray image intensifier tube. Also, discuss on Brightness gain and Minification gain. 20
5. (a) Write short notes on (any **two**) :- 10
(i) Mammography
(ii) Radiation protection
(iii) Filters and collimators. (87, 297)
- (b) Write short notes on (any **two**) :- 10
(i) Doppler shift (301)
(ii) Fluoroscopy (165)
(iii) X-ray film processing. (142)
6. (a) Explain the construction and working of an Ultrasound Transducer. (337) 10
(b) Explain the controls available on Ultrasound Machine. (343) 10
7. Write short notes (any **four**) :- 20
(a) Line Focus Principle
(b) Q-factor of an Ultrasound Transducer
(c) Intensifying Screens
(d) Photoelectric Effect
(e) Radiographic Contrast.
