VRM-204 Dark Room Techniques

Objective - The main objective is to aware the student about the conventional technique of radio imaging technique like (manual image processing & fluoroscopy / dynamic imaging) along with the image formation, developing and reading.

UNIT - 1 Dark room design and accessories Site, Layout and safe light compatibility X-Ray film and Image processing Composition of single and double coated radiographic films, structure of emulsion, film characteristics (speed, base + fog, gamma, latitude) ; effect of grain size on film response to exposure, interpretation of characteristics curve. Latent image formation

UNIT – 2 process of film developing (composition of fixer, developer and other processing solution), common errors and faults while processing (densitometry), automatic processing (processing cycle), developer replenishment, silver recovery and economics. Image intensifiers and cassettes (structure and function) ; types of image intensifiers and relative advantage, loading and unloading of cassettes and their care/maintenance ; effects of kV and mA on variation of emitted radiation intensity, determination of relative speeds, film contrast, film screen contact. Film storage, handling.

UNIT - 3 Cassettes Structure and function Types - single, gridded, film holder. Design features and consideration with loading/unloading Care and maintenance (cleaning) Grid Purpose and function, effect on radiation exposure, use of grid, structure and material, stationary, parallel, focused, cross-hatch Moving grids. Purpose, advantages, disadvantages.

UNIT – 4 Intensifying screens Structure and functions, common phosphors used for determination of relative speeds, types, screen mounting, care and maintenance of film screen contact.

Recommended Books:

- Fundamentals of diagnostic radiology by Brant, William E
- Grainger & Allison's Diagnostic Radiology E-Book. Elsevier Health Sciences.
- X ray equipment for student radiographers- Third edition