No. of Printed Pages : 2 188541

Roll No. .....

DVOC (Level 4)

Sem 2nd / Medical Imaging Technology

Subject : Physics & Technology in Imaging

Time : 2 Hrs. M.M. : 50

SECTION-A

Note: Very short answer type questions . Attempt all ten questions. (10x1=10)

Q.1 Give full form of KVp.

Q.2 In X-ray imaging, tell the primary difference between bones and soft tissues in terms of contrast ?

Q.3 Tell the primary purpose of thimble ion chamber.

Q.4 _____type of radiation is used in a CT (computed tomography) scan ?

Q.5 Tell the primary purpose of a fluoroscope in medical imaging?

Q.6 _____and _____ are the radiation quantity used in diagnostic radiology.

Q.7 Give the name of three types of filtration in X-ray?

Q.8 Tell the function of chemical dosimeter.

Q.9 Give example of developers used in automatic film processing.

Q.10 Differentiate between hard and soft X - ray

SECTION-B

Note: Short answer type questions. Attempt any six questions out of Eight questions. (6x5=30)

Q.11 Tell fundamental principle behind X-ray imaging, and how does it work ? List the characteristics of X - rays

Q.12 How latent image formation does take place?

Q.13 Discuss the angiography use of grid controlled X - ray tube.

Q.14 How conversion factor does converts roentgen to rad for measurement of intensity of radiation.

Q.15 Outline the role of ionizing radiation in medical imaging techniques, and tell the associated safety considerations.

Q.16 Summarize Bremsstrahlung radiations.

Q.17 Discuss about rinsing, washing and drying of photographic films.

Q.18 Interpret the terms (a) Film dosimeter (b) Sievert

SECTION-C

Note: Long answer type questions. Attempt any one questions out of two questions. (10x1=10)

Q.19 Explain the fundamental principles of X- ray imaging, how X-rays are generated, their interaction with tissues and formation of images.

Q.20 Describe about developer and fixer for automatic film processor. Tell about the replenishment rates in automatic and manual processing .