S.No. M22332 Course Code : 30217105

VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM

B.Sc(ALLIED HEALTH SCIENCES) DEGREE EXAMINATIONS - Feruary 2020

First Semester

PHYSICS OF RADIOLOGY, RADIATION PHYSICS & MEDICAL PHYSICS

Three Hours Maximum: 100 marks

SECTION - A

I. Choose the Best Answer : (10 x 1 = 10)

1. The monitoring and measuring of a person's exposure to radiation is called:
   a. Densitometry b. Dosimetry c. Sensitometry d.ALARA

2. The primary purpose for using personal monitoring is to:
   a. protect the radiographer
   b. calculate the total amount of radiation a radiographer delivers
   c. monitor a radiographer's repeat rate
   d. indicate a radiographer's occupational exposure

3. The cardinal rules of radiation protection recommended the use of
   a. maximum exposure time, distance and shielding
   b. automatic exposure control, fast imaging systems, and maximum shielding
   c. minimum exposure time, maximum distance, and appropriate shielding
   d. maximum beam restriction, minimum exposure time, and maximum distance

4. Digital fluoroscopy uses ____ monitors. a. 1 b. 2 c. 3 d. 4

5. Energy subtraction technique takes advantage of the difference in _____ during contrast injection.
   a. tissue density b. K-edge absorption
   c. Compton scatter d. patient thickness

6. Digital fluoroscopy systems with hybrid capabilities use both _____.
   a. interlace and progressive modes.
   b. high mAs and low mass techniques.
   c. temporal and energy subtraction.
   d. charge coupled devices and TV monitors.

7. Teleradiology refers to _____ of images.
   a. long-term storage b. realtime viewing
   c. remote transmission d. telephone transmission

(p.t.o)

8. The most common risk for the angiography patient is _____.
   a. bleeding at the puncture site. b. arterial puncture or tear.
   c. drug reaction to contrast. d. blood-clot formation.

9. The power rating for an interventional radiography tube should be at least _____ kW.
   a. 20 b. 40 c. 80 d. 100

10. Cine cameras are driven by _____ motors.
    a. induction b. synchronous
    c. unsynchronized d. direct current

II. Write Short Answers on any FIVE of the following: (5 x 5 = 25)

11. Define Radiation.
12. Define Half life.
13. Explain about TLD.
14. Photoelectric effect
15. X-ray circuits
16. Write short notes on single and double coated film.
17. Write short notes on properties of X-Ray film .

III. Write Short Essays on any TWO of the following: (2 x 10 = 20)

18. Write the short notes on production of x-ray.
19. Biological effect of radiation.
20. Write about film reader system properties of x-ray film.
21. Application of contrast medium.

IV. Write Essays on any ONE of the following: (1 x 20 = 20)

22. Write short notes on biological effect of radiation Explain about fluoroscopic procedures.
23. Explain about mammogram .

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