

S.No. M22330 Course Code :

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VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM

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

**First Semester
BIOPHYSICS**

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. A charge coupled device used in digital fluoroscopy provides high _____,
_____, _____.
a. spatial resolution. b. signal-to-noise ratio.
c. detective quantum efficiency. d. All of the above.
5. Digital fluoroscopy energy subtraction has less _____ than temporal subtraction.
a. Complexity b. x-ray intensity c. kVp switching d. motion artifact
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. Developed in 1953, the 18 gauge hollow _____ needle with a stylet is used to puncture the femoral artery.
a. Judkins b. Seldinger c. Dotter d. Jones
8. The x-ray tube used for interventional radiologic procedures has a _____.
a. small diameter anode. b. small target angle.
c. large focal spot. d. low power rating.
9. Cine cameras are driven by _____ motors.
a. Induction b. Synchronous c. Unsyncronized d. direct current
10. The highest cine frame rates are required for _____ studies.
a. Cardiac b. Pulmonary c. run-off d. cerebral

(p.t.o)

II. Write Short Answers on any FIVE of the following:

(5 x 5 = 25)

11. Radiation safety
12. EMG uses
13. GM counter
14. MOSFET
15. Radiation safety procedures in Cath lab
16. Radiation dose limits
17. Biological effect of radiation

III. Write Short Essays on any TWO of the following:

(2 x 10 =

18. EPD
19. Pocket dosimetry
20. Patient dosimeter
21. Application of medical radioisotopes

IV. Write Essays on any ONE of the following:

(1 x 20 = 20)

22. EEG
23. SPET/CT ,PET,tomography

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