

# Online Examinations (Even Sem/Part-I/Part-II Examinations 2020 - 2021)

Course Name - --Quality Control in Radiology and Radiation Safety

Course Code - BMRIT404

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Answer all the questions. Each question carry one mark.

9. 1. The maximum field of view which can be obtained with a specific radiographic system is generally limited by the

*Mark only one oval.*

- Focal Spot Size
- Anode size
- Anode angle
- Heel effect

10. 2. The maximum mA which can be used for a single radiographic exposure is related to the

*Mark only one oval.*

- KV
- Exposure time
- Focal spot size
- Anode rotation speed

11. 3. The primary x-ray beam penetration through a patient can be increased by increasing the

*Mark only one oval.*

- KV
- mAs
- Filtration
- Beam area

12. 4. Actual focal spot size of portable X-ray tube is

*Mark only one oval.*

- 0.5 mm
- 1 mm
- 1.5 mm
- 2 mm

13. 5. Frequency of cheaking kVP is

*Mark only one oval.*

- Yearly
- Monthly
- Once in 3 year
- Once in 2 year

14. 6. Frequency of cheaking mAs is

*Mark only one oval.*

- Yearly
- Monthly
- Once in 3 year
- Once in 2 year

15. 7. Frequency of cheaking central beam alignment is

*Mark only one oval.*

- Yearly
- Once in 3 months
- Once in 3 year
- Once in 2 months

16. 8. Frequency of checking focal spot size is

*Mark only one oval.*

- Yearly
- Once in 3 months
- Once in 3 year
- Once in 2 months

17. 9. Collimator test tool with screen film cassette is used as a QA tool for

*Mark only one oval.*

- Congruence of radiation and optical field
- Focal spot size
- kV
- mAs

18. 10. Focal spot test tool with non-screen film cassette is used for the QA of

*Mark only one oval.*

- Focal spot size
- FFD
- FID
- FOV

19. 11. In radiographic QC which of the following means that the light field seen when collimating will correspond to what will happen?

*Mark only one oval.*

- Field congruence
- Beam perpendicularity
- None
- All

20. 12. Which of the following helps in reducing internal radiation exposure

*Mark only one oval.*

- Use proper protective equipment
- Control of contamination
- Good hygiene
- All

21. 13. Which of the following is A radiographic QC procedure that is usually done once a year?

*Mark only one oval.*

- Retake analysis
- Visual inspection of cleanliness of imaging systems
- Cassette and screen cleaning
- Safelight test



22. 14. What is the device used for generating beams of waves or particles that have parallel paths?

*Mark only one oval.*

- USG machine
- FMRI
- ECG
- Collimator

23. 15. The tolerance limit of tube leakage radiation at 1 m from the focus is

*Mark only one oval.*

- >110 mR / hour
- <115 mR/hour
- >115 mR/hour
- None

24. 16. MRI phantom is made up of

*Mark only one oval.*

- Metal
- Water
- Water equivalent material
- All

25. 17. As mAs increases

*Mark only one oval.*

- Exposure time decreases
- Exposure time will not change
- Exposure time increases
- None

26. 18. The Molybdenum target allows production of low KVp radiation at

*Mark only one oval.*

- 60-90 KVp
- 26-40 KVp
- 10-20 KVp
- None

27. 19. What does CR mean?

*Mark only one oval.*

- Computed Tomography
- Computerized Radiography
- Computer Radiography
- Computed Radiography

28. 20. CT scan couch is made up of

*Mark only one oval.*

- Carbon
- Carbon fiber
- Aluminium
- Plastic

29. 21. Scintillation detector is also called as

*Mark only one oval.*

- Gas field detector
- Solid state detector
- Ionising chamber
- None

30. 22. Result of retake examination is

*Mark only one oval.*

- Radiation dose increase
- Cost increase
- All (Radiation dose increase & Cost increase)
- None

31. 23. What does the following acronym represent? ALARA

*Mark only one oval.*

- As Low As Reasonably Achievable
- As Long As Radiation Absconds
- Achievable Low Radiation Absorption
- None

32. 24. Full form of RBE

*Mark only one oval.*

- Relative Biological Effectiveness
- Relative Bio-hazards Effectiveness
- None
- All (Relative Biological Effectiveness & Relative Bio-hazards Effectiveness)

33. 25. Effective dose is define as

*Mark only one oval.*

- HT
- Sv
- mR
- Rad

34. 26. Sivert is the unit of

*Mark only one oval.*

- Effective dose
- Equivalent dose
- Absorbed dose
- None

35. 27. The Roentgen (R) exposure is measured in

*Mark only one oval.*

- Tissue
- Water
- A lab
- Air

36. 28. The unit that compares the biological effectiveness of the different types of radiation is the:

*Mark only one oval.*

- REM
- RAD
- Roentgen
- QF

37. 29. The physical effects of radiation on the body of an individual receiving the radiation are called:

*Mark only one oval.*

- Somatic effects
- Latent effects.
- Genetic effects.
- Radiosensitive effects.

38. 30. HVL stand for:

*Mark only one oval.*

- Half Value Layer
- Half Value Luminescence
- Half Vetted Layer
- High Value Layer

39. 31. Materials used in shielding radiation are most effective when they

*Mark only one oval.*

- Have a small number of electrons in their atoms
- Are dense materials.
- Shield half of the radiation.
- Are light weight and portable

40. 32. When a body tissue cell is damaged by radiation

*Mark only one oval.*

- The cell may lose its ability to reproduce
- The cell may die.
- Damage is caused by knocking an electron out of the orbit of its parent atom.
- All

41. 33. The process that results in the removal of orbital electrons from atoms resulting in the formation of ion pairs is called:

*Mark only one oval.*

- Excitation
- Radioactivity
- Decay
- Pair production

42. 34. Radiation is defined as

*Mark only one oval.*

- Ionized Beta Alpha particles
- Energy in transit, either as particles or electromagnetic waves
- Heat and light emitting only from gamma sources like uranium or the sun
- Energy that does not burn or ionize

43. 35. Which of the following are examples of “non-ionizing” radiation?

*Mark only one oval.*

- Near UV and radio waves
- Visible light and Microwaves
- Infrared
- All

44. 36. Which of the following are two types of electromagnetic radiation used for industrial radiography?

*Mark only one oval.*

- X-rays and Microwaves
- Gamma and X-rays
- Gamma and Radio waves
- Infrared and UV

45. 37. Devices attached to the clothing of people working in radiation areas for measurement of radiation are called:

*Mark only one oval.*

- Survey instruments.
- G-M counters
- Personnel monitoring devices
- Portable rate meters



46. 38. Cell are mainly clasified into ..... categories?

*Mark only one oval.*

3

2

4

5

47. 39. Reproductive cell contains only ..... Chromosome?

*Mark only one oval.*

22

23

24

16

48. 40. Full form of LET

*Mark only one oval.*

Linear Energy Transfer

Low Energy Transfer

None

All (Linear Energy Transfer & Low Energy Transfer)

49. 41. Hereditary effects classified by..... categories?

*Mark only one oval.*

2

3

4

5

50. 42. Non stochastic effects also called

*Mark only one oval.*

Genetic effect

Stochastic effect

Deterministic effect

Somatic effect

51. 43. Threshold does not exist in

*Mark only one oval.*

Genetic effect

Stochastic effect

Deterministic effect

None

52. 44. Threshold exist in

*Mark only one oval.*

- Determinestic effect
- Stochastic effect
- Genetic effects.
- None

53. 45. Thyroid shielding is use during

*Mark only one oval.*

- Fluoroscopy
- Conventional X-ray
- CT scan
- USG

54. 46. Unit of exposure

*Mark only one oval.*

- Roentgen
- Rad
- Sv
- mRm

55. 47. Unit of equivalent dose

*Mark only one oval.*

- mSv
- mRem
- mR
- None

56. 48. 1 Sv =

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- 100 mSv
- 1000mSv
- 1 mRem
- None

57. 49. A scintillation detector consists of

*Mark only one oval.*

- 4 parts
- 3 parts
- 2 parts
- 5 parts

58. 50. Number of plate in TLD

*Mark only one oval.*

2

3

4

5

59. 51. NaI is used in

*Mark only one oval.*

Gas field detector

Scintillation detector

Pocket dosimeter

None

60. 52. Tissue weighting factor Lung according to ICRP 2007

*Mark only one oval.*

0.12

0.05

1

0.1

61. 53. Tissue weighting factor Gonad according to ICRP 2007

*Mark only one oval.*

- 0.08
- 0.1
- 0.09
- NONE

62. 54. Tissue weighting factor of skin according to ICRP 2007

*Mark only one oval.*

- 0.01
- 0.1
- 0.11
- 0.12

63. 55. Attenuation is

*Mark only one oval.*

- Penetration
- Absorption
- Scattering
- Asorption+ Scattering

64. 56. The radiation weighting factor depends

*Mark only one oval.*

- Only on the energy of the radiation
- Only on the particle type of the radiation
- Both on the energy and the particle type of the radiation
- None

65. 57. The equivalent dose is

*Mark only one oval.*

- The mean absorbed dose over all irradiated organs
- the product of absorbed dose and radiation weighting factor for a given tissue or organ, where the absorbed dose is averaged over the tissue or organ
- the product of absorbed dose and tissue weighting factor
- None

66. 58. The committed effective dose and committed equivalent dose are used in the case of:

*Mark only one oval.*

- External irradiation
- Internal irradiation
- Both External irradiation & Internal irradiation
- None

67. 59. The unit of the collective effective dose is

*Mark only one oval.*

person- Sv

R

Gy

Sv

68. 60. The recommended monthly limit to the emryo is

*Mark only one oval.*

0.05 mSv

0.1 mSv

0.5 mSv

None

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