

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

Course Name - --Conventional Radiography and Equipment

Course Code - BMRIT203

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Answer all the questions. Each question carry one mark.

9. 1.Three-phase, 12-pulse power results in only _____ ripple.

Mark only one oval.

- 14%
- 4%
- 20%
- 30%

10. 2.Rating of the X-ray tube is directly proportional to

Mark only one oval.

- kVp
- Size of the focus
- Rotation of the tube
- All of these

11. 3.The quality of X-rays depends on

Mark only one oval.

- Filtration
- mAs
- Exposure time
- None of these

12. 4.Electric current is measured in

Mark only one oval.

- Watt
- Erg
- Volt
- Ampere

13. 5.Cooling of the anode housing is described by

Mark only one oval.

- Angiographic rating chart
- Thermal characteristic chart
- Anode heating chart
- Radiographic rating chart

14. 6.The binding energy of an electron in the K-shell of the tungsten is about

Mark only one oval.

- 80 keV
- 60 keV
- 90 keV
- 70 keV

15. 7.Diagnostic X-ray tubes have an anode angle between

Mark only one oval.

- 20° to 25° angles
- 3° to 9° angles
- 12° to 15° angles
- 15° to 25° angles

16. 8.The cloud of electron is known as

Mark only one oval.

- Heel effect
- Line focus principle
- Space charge
- Effective focal spot

17. 9.Anode rotates at a speed of about

Mark only one oval.

- 100 revolution per minute (rpm)
- 10,000-20,000 revolution per minute (rpm)
- 3,000-9,000 revolution per minute (rpm)
- 18,000-25,000 revolution per minute (rpm)

18. 10.The difference between soft and hard X-rays is of

Mark only one oval.

- Velocity
- Intensity
- Frequency
- Polarization

19. 11.The shortest wavelength of X-rays emitted from X-ray tube depends on

Mark only one oval.

- The current in the tube
- Voltage applied to the tube
- The nature of the glass in tube
- The atomic number of the target material

20. 12.When high speed electrons hit target of high atomic number

Mark only one oval.

- Only heat is produced
- Only continuous X-rays are produced
- Only continuous and characteristic X-rays are produced
- Heat is produced and simultaneously continuous and characteristic X-rays are produced

21. 13.X-rays are emitted

Mark only one oval.

- From electrons clouds of an atom that has stimulated artificially
- From inside the electrons of an radioactive atom
- Both of these
- None of these

22. 14.The effective energy of the X-ray beam is increased by increasing the

Mark only one oval.

- Milliampere
- Added filtration
- Second
- None of these

23. 15.Autotransformer operates on the principle of

Mark only one oval.

- Induction
- Conduction
- Both of these
- None of these

24. 16.The voltage in autotransformer received and then it provides (the secondary voltage) is _____ proportional to the number of turns

Mark only one oval.

- Directly
- Inversely
- Both of these
- None of these

25. 17. Now a day's 3-phase generators are available to withstand a tube current of

Mark only one oval.

- 500 mA
- 800 mA
- 1000 mA
- 2000 mA

26. 18. Rectification means

Mark only one oval.

- Change AC to DC
- Increasing the voltage
- Decrease the current
- All of these

27. 19. If a circuit produces 12 pulses per cycle, it is known as

Mark only one oval.

- 3-pulse generator
- 6-pulse generator
- 9-pulse generator
- 12-pulse generator

28. 20.X-ray generator provides

Mark only one oval.

- Electric power to energize X-ray tube
- Mechanism to select technique appropriate for a given examination
- To protect X-ray tube from possible overload situation
- All of these

29. 21.Who was W.C. Roentgen

Mark only one oval.

- Canadian technologist
- Australian radiologist
- German Physicist
- Farmer

30. 22.Melting point of tungsten target is

Mark only one oval.

- 1480° C
- 2800° C
- 2000° C
- 3370° C

31. 23.The tube housing is internally shielded with

Mark only one oval.

- Aluminium
- Lead
- Nickel
- Molybdenum

32. 24.K-shell binding energies for tungsten is _____ keV

Mark only one oval.

- 1.56
- 6.04
- 37.4
- 69.5

33. 25.A relay is used to

Mark only one oval.

- Break the fault current
- Sense the fault
- Sense the fault and direct to trip the circuit breaker
- All of these

34. 26. Over current fault is most likely in

Mark only one oval.

- Transformer
- Overhead line equipment
- Alternator
- Motors

35. 27. Maximum "grid cut-off" is most common in

Mark only one oval.

- Parallel grid
- Focussed grid
- Cross grid
- Moving grid

36. 28. Mostly grids have frequencies in the range of

Mark only one oval.

- 1-50 lines per inch
- 60-110 lines per inch
- 120-160 lines per inch
- 170-210 lines per inch

37. 29. Mostly grids have line density of

Mark only one oval.

- 1-20 lines per cm
- 25-45 lines per cm
- 50-70 lines per cm
- 75-90 lines per cm

38. 30. Grids are generally used in

Mark only one oval.

- Fatty person
- Thin person
- Children
- Pregnant women

39. 31. "Grid cut-off" can be reduced

Mark only one oval.

- High grid ratio
- Longer F.F.D when using unfocussed grids
- Shorter F.F.D when using unfocussed grids
- None of these

40. 32. Contrast can be improved by

Mark only one oval.

- Grid
- Air gap technique
- kVp
- All of these

41. 33. The function of the cone in skull radiography is

Mark only one oval.

- To limit the field of the radiation
- To reduce the exposure
- To increase the life of the X-ray tube
- All of these

42. 34. Function of the grid to

Mark only one oval.

- Absorb scatter radiation
- Transmit all primary radiation
- Both above
- None of these

43. 35. Grid lines appear on radiograph with

Mark only one oval.

- Stationary grid
- Moving grid
- Both
- None of these

44. 36. The higher the grid ratio, the _____ is the bucky factor.

Mark only one oval.

- Higher
- Lower
- Half
- No effect

45. 37. As the bucky factor increases, patient dose _____ proportionately.

Mark only one oval.

- Decreases
- Increases
- Halves
- No effect

46. 38.High-ratio grids are used for _____ examinations.

Mark only one oval.

- Low kVp
- High kVp
- Both
- None of these

47. 39.During fluoroscopy, the X-ray tube operates at

Mark only one oval.

- Less than 5 mA
- 10-15 mA
- 25-35 mA
- Above 60 mA

48. 40.Illumination level during fluoroscopy is measured in

Mark only one oval.

- Lumen per square meter or lux
- Ampere
- Watt
- None of these

49. 41.The component of X-ray image intensifier are

Mark only one oval.

- Input phosphor, photo cathode and accelerating anode
- Electrostatic focusing lines
- Output phosphor
- All

50. 42.The image intensifier tube works on the principle of

Mark only one oval.

- Thermionic emission
- Photoemission
- Multiple induction
- None of these

51. 43.The advantages of the image intensification over conventional fluoroscopy are

Mark only one oval.

- More congenial working condition with less patient dose
- Better image detail and brightness
- Possibility of attaching three viewing system
- All of these

52. 44.The brightness gain of image intensifier is due to

Mark only one oval.

- Minification gain
- Flux gain
- Both
- None of these

53. 45.Flux gain increases the brightness of fluoroscopy image by a factor of

Mark only one oval.

- Approx 10
- Approx 25
- Approx 35
- Approx 50

54. 46.The disadvantages of conventional fluoroscopy are

Mark only one oval.

- More patient dose
- Operator has to have dark adaption
- Difficulty in handling the patient
- All of these

55. 47. Fluorescent material used in fluoroscopic screen is made-up of

Mark only one oval.

- Zn cd sulphide copper activated
- Calcium tungstate
- Cesium iodide
- Zn sulphide

56. 48. In modern image intensifier, the input screen is made-up of

Mark only one oval.

- Zn cd sulphide-silver activated
- Cesium iodide
- Calcium tungstate
- Zn sulphide

57. 49. Minification gain is

Mark only one oval.

- Diameter of input phosphor divided by diameter of the output phosphor
- Diameter of the input phosphor multiplied by diameter of the output phosphor
- Diameter of the input phosphor plus diameter of the output phosphor
- Diameter of the input phosphor minus the diameter of the output phosphor

58. 50. Flux gain is

Mark only one oval.

- Number of output light photon divided by number of input X-ray photons
- Number of output light photons multiplied by number of input X-ray photons
- Number of output light photons plus number of input X-ray photons
- Number of output light photons minus number of input X-ray photons

59. 51. Which of the Following Helps in Reducing Internal Radiation Exposure?

Mark only one oval.

- Control of Contamination
- Use Proper Protective Equipment
- Good Hygiene
- All of these

60. 52. What Does the Radiation Term ALARA Stand For?

Mark only one oval.

- As Low As Reasonably Achievable
- Accepted Lowest Achievable Radiation Alarms
- As Long as Radiation is Allowable
- Allowable Levels of Accepted Radiation

61. 53.Which of the Following is Not One of the Three Major Principles Assisting the ALARA Concept?

Mark only one oval.

- Maintenance
- Distance
- Shielding
- Time

62. 54.What is the Device used for Generating Beams of Waves or Particles that Have Parallel Paths?

Mark only one oval.

- Collimator
- Echocardiography Machine
- FMRI
- Ultrasonography Machine

63. 55.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
- Cathode

64. 56.Changing from a 5:1 ratio to a 10:1 ratio grid will increase

Mark only one oval.

- Patient exposure
- Increase Image contrast
- Required KV or MAS
- All

65. 57.Factors which would be appropriate for conventional chest radiography are

Mark only one oval.

- High contrast film
- 0.1 mm focal spot
- 120 kV
- None of these

66. 58.When a geometric magnification technique is used, as in mammography, it can

Mark only one oval.

- Increase patient exposure
- Increase scattered radiation
- Decrease blurring of small objects and improve visibility of detail.
- a & c both

67. 59. Which of the following test tools is used for testing the “Congruence of optical and radiation fields”?

Mark only one oval.

- kVp meter
- Beam alignment test tool
- Focal spot test tool
- Collimator test tool

68. 60. In “congruence of optical and radiation fields” focus to film distance (FFD) is kept at

Mark only one oval.

- 75 cm
- 100 cm
- 120 cm
- 180 cm

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