

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2013
RADIOGRAPHIC PHOTOGRAPHY
PAPER FIRST (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. Lead equivalence of the walls of an X-ray room should be at least?
 - a. 0.5 mm
 - b. 2.5 mm
 - c. 1.5 mm
 - d. 3.0 mm
2. The colour of safe light used in X ray dark room is –
 - a. Red
 - b. Blue
 - c. Green
 - d. Orange
3. Mammography film is a –
 - a. Single screen
 - b. Double screen
 - c. Without screen
 - d. Both a & b
4. The front cover of the X-ray cassette is made of-
 - a. Aluminium
 - b. Tungsten
 - c. Lead
 - d. Iron
5. The role of intensifying screen is to –
 - a. Reduce patient dose
 - b. Improve image quality
 - c. To hold the film
 - d. All of the above
6. Rare earth phosphor IF screens are used to increase-
 - a. Contrast
 - b. Sharpness
 - c. Latitude
 - d. Speed
7. The antifogging agent used in manual processing is:
 - a. Hydroquinone
 - b. Sodium carbonate
 - c. Sodium sulfite
 - d. Potassium bromide
8. X-ray film boxes should be stored in darkroom in position-
 - a. Flat one over the another
 - b. Upright
 - c. Hanging
 - d. Tilted
9. What is produced on the image due to scattered radiation?
 - a. Unsharpness
 - b. Fog
 - c. Poor latitude
 - d. All of the above
10. Sodium sulfite in a developer is a –
 - a. Reducing agent
 - b. Activator
 - c. Preservative
 - d. Restrainer
11. The active ingredient of the radiographic emulsion is-
 - a. Silver halide
 - b. Bromide
 - c. Calcium
 - d. Iron
12. The purpose of fixing the film in film developer is –
 - a. To remove unexposed and undeveloped silver halide
 - b. To preserve the film image
 - c. To harden the emulsion
 - d. All of the above
13. Metal & hydroquinone are-
 - a. Developing agent
 - b. Preserving agent
 - c. Accelerator
 - d. Restrainer
14. Improper film-screen contact reduces-
 - a. Contrast
 - b. Resolution
 - c. Sharpness
 - d. speed

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2013
MEDICAL PHYSICS AND EQUIPMENTS
PAPER TWO

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions.

Draw suitable diagram wherever necessary.

A : Short answer questions:

(7 x 9 = 63)

Write briefly on

- Q. 1.** What produces scatter radiation? What measures are taken for its reduction?
- Q. 2.** Discuss common causes of X-ray tube faults.
- Q. 3.** What is rectification? Why it is needed in X-ray circuitry.
- Q. 4.** Write short note on mobile radiography.
- Q. 5.** Write short notes on radiation hazards and protection.
- Q. 6.** What is the basic principle of image intensifier? What is its role in fluoroscopy.
- Q. 7.** Describe the scattered radiation.
- Q. 8.** Discuss spot filming in fluoroscopy.
- Q. 9.** Write a note on transformers in X-ray circuit.

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2013
MEDICAL PHYSICS AND EQUIPMENTS
PAPER TWO (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. What is responsible for 'heel effect' in X-ray images
 - a. Focusing cup
 - b. Anode angle
 - c. Small focal spot
 - d. Added filters
2. Target material mostly used in mammography tubes is
 - a. Molybdenum
 - b. Beryllium
 - c. Pyrex
 - d. Silicon
3. W.C. Roentgen discovered
 - a. X-rays
 - b. Gamma rays
 - c. Electrons
 - d. Positrons
4. Penetration power of an X-ray beam is related to
 - a. Kv
 - b. MAs
 - c. FFD
 - d. All of the above
5. Target material used in X-ray tube is
 - a. Tungsten
 - b. Rhodium
 - c. Molybdenum
 - d. All of the above
6. Which is the ionizing radiation
 - a. X ray
 - b. Sunlight
 - c. Heat
 - d. Radiowaves
7. Grids
 - a. Reduce scatter
 - b. Increase patient dose
 - c. Contain lead
 - d. All of the above
8. Optimum lead equivalency of a lead apron
 - a. 0.5 cm
 - b. 1.0 cm
 - c. 0.5 mm
 - d. 1.0 mm
9. The phenomenon of emission of electron from a heated cathode is called
 - a. Thermionic effect
 - b. Photoelectric effect
 - c. Compton effect
 - d. Raman effect
10. Potter-bucky grid is mainly a
 - a. Moving grid
 - b. Parallel grid
 - c. Crossed grid
 - d. Focused grid
11. A dental film is a
 - a. Non screen double emulsion
 - b. Single screen double emulsion
 - c. Single screen single emulsion
 - d. Double screen double emulsion
12. The radiation dose to the patient can be reduced by
 - a. Low tube current
 - b. Use of fast screens
 - c. Use of Image intensifiers
 - d. All of the above
13. Use of rotating anode in X-ray tube is
 - a. Increase X-ray intensity
 - b. Increase target heat loading capacities
 - c. Reduce scattered radiation
 - d. Improve image gravity
14. The device used to convert alternative current to direct current is
 - a. Rectifier
 - b. Amplifier
 - c. Transformer
 - d. Oscillator

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2013
RADIOGRAPHY - I
PAPER THREE

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

- Q. 1.** What are the basic radiographic points you will keep in mind to produce a good x-ray of chest PA view?
- Q. 2.** How would you prepare a patient for radiological investigation?
- Q. 3.** Name the various positioning terminology used for x-ray examination. Describe any one of them.
- Q. 4.** What do you understand by word radiation protection? How will you reduce the dose of patient?
- Q. 5.** What are the various projection terminology used for radiograph of chest? Describe any one of them in brief.
- Q. 6.** How will you do the x-ray of CV junction? What are its indications?
- Q. 7.** How will you do the x-ray abdomen left lateral decubitus view? What are the indications of doing this view?
- Q. 8.** What are the common views for x-ray knee joint? How will you do the skyline view?
- Q. 9.** Write short notes on:
- a.** High KV technique
 - b.** Grid

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2013
RADIOGRAPHY - I
PAPER THREE (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. The focus film distance in the x-ray of chest PA is:
 - a. 100 cm
 - b. 120 cm
 - c. 150 cm
 - d. 180 cm
2. Stryker's view is done for:
 - a. Scapula
 - b. Elbow joint
 - c. Wrist joint
 - d. Recurrent dislocation of shoulder
3. Cone view is used in following EXCEPT:
 - a. Spine
 - b. Optic foramina
 - c. Pituitary fossa
 - d. KUB
4. Frog position is done to see both:
 - a. Wrist joint
 - b. Ankle joint
 - c. Knee joint
 - d. Hip joint
5. What is the similar terms for prone position?
 - a. Supine
 - b. Ventral decubitus
 - c. Dorsal decubitus
 - d. Lateral decubitus
6. To see the pneumoperitonium we do x-ray abdomen:
 - a. Supine view
 - b. Prone view
 - c. Lateral view
 - d. Erect view
7. X-ray calcaneum axial view is taken in:
 - a. Standing position
 - b. Supine position
 - c. Prone position
 - d. Lateral position
8. In PA view of hand the fingers are:
 - a. Closed
 - b. Extended
 - c. Separated & extended
 - d. Overlapping
9. Knee inter-condylor space radiograph is taken on:
 - a. 10 x 12 cassette
 - b. Curved cassette
 - c. Grid is required
 - d. None
10. In internally located isotopes which particles will be most hazardous to body?
 - a. Alpha particles
 - b. Beta particles
 - c. Gamma particles
 - d. X- rays
11. Penetration power of x-ray depends on:
 - a. KVP
 - b. MAS
 - c. FFD
 - d. None
12. For 100 Kv x-ray machine the protective barrier should be of:
 - a. 0.5 load equivalence
 - b. 1.5 load equivalence
 - c. 2 load equivalence
 - d. 2.5 load equivalence
13. Gonad shield is used to cover:
 - a. Thyroid
 - b. Parathyroid
 - c. Adrenals
 - d. Testis
14. What is the centering point for dorsal spine lateral view?
 - a. Spinal angle
 - b. 2.5 cms above spinal angle
 - c. 2.5 cms below the spinal angle
 - d. None of the above

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2013
RADIOGRAPHIC PHOTOGRAPHY
PAPER FIRST

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

Write briefly on:

- Q. 1.** Discuss in short the various types of films used in medical imaging.
- Q. 2.** Define intensifications factor? What does it indicate.
- Q. 3.** What is magnification ? How does it affects the image?
- Q. 4.** Write short notes on – (3+4=7)
- a.** Penumbra
 - b.** Layout of X ray dark room
- Q. 5.** Describe general types of X ray film faults and their causes.
- Q. 6.** Write about handling of films in darkroom.
- Q. 7.** Discuss various ways to increase the speed of IF screens.
- Q. 8.** What are the various constituents of a developing solution used in automatic processing?
- Q. 9.** Draw a neat diagram of the structure of an X –ray film with proper labeling.

Regn. No.....

Paper Code: BR- 201...

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2015
RADIOGRAPHIC PHOTOGRAPHY
PAPER FIRST

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

(7 x 9 = 63)

A : Short answer questions:

- Q. 1. Discuss the process of latent image formation.
- Q. 2. Define the characteristic curve of a radiography film. What information does it give?
- Q. 3. Draw the layout of X-ray room.
- Q. 4. On what factors scattering depends? Mention the measures taken to reduce it.
- Q. 5. What is the role of intensifying screens in X-ray imaging? Explain the methods of cleaning screens.
- Q. 6. What are the constituents of developing solution? Explain and compare manual and automatic film processing.
- Q. 7. What is geometric unsharpness? Describe its various sources.
- Q. 8. Discuss about various precautions used to handle films in darkroom.
- Q. 9. Define photographic density. What is its relation with exposure?

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2015
RADIOGRAPHIC PHOTOGRAPHY
PAPER FIRST (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. Characteristic curve of radiography is :
 - a. U-shaped
 - b. S-shaped
 - c. C-shaped
 - d. V-shaped
2. What is the function of grid:
 - a. Improving contrast
 - b. Increase sharpness
 - c. Remove scattered
 - d. Latitude radiation
3. Exposure factors that changes image quality
 - a. KVP
 - b. mAs
 - c. Distance
 - d. All of the above
4. Film fog is due to
 - a. High KVP
 - b. Poor processing
 - c. Scattered radiations
 - d. All types
5. Function of mAs :
 - a. Film density
 - b. Sharpness
 - c. Resolution
 - d. Latitude
6. The role of intensifying screens is to :
 - a. Reduced patient dose
 - b. Improve image quality
 - c. To hold the film
 - d. All
7. Ability to absorb light by colors depends on :
 - a. Tissues equivalent
 - b. Wavelength
 - c. Density
 - d. None
8. Grid density in grids used for mammography
 - a. 16:1
 - b. 2:1
 - c. 8:1
 - d. 20:4
9. Mammography films are :
 - a. Single coated
 - b. Double coated
 - c. Non coated
 - d. All of the above
10. Alternative to grid is :
 - a. Metal
 - b. Vacuum
 - c. Air
 - d. Fat Pad
11. Subtraction is done for :
 - a. To show small vessels obscured by bone
 - b. Small bowel loops
 - c. To show bones
 - d. For Para nasal sinuses
12. Photographic fog is caused by:
 - a. Light
 - b. Radiation
 - c. Chemicals
 - d. All of the these
13. Negative contrast is :
 - a. Air
 - b. Iodine
 - c. Water
 - d. Barium Sulphate
14. Which of the following is a fluoroscopy technique :
 - a. Mammography
 - b. DSA
 - c. CT
 - d. MRI

Regn. No.....

Paper Code: BR- 202...

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2015
MEDICAL PHYSICS & EQUIPMENTS
PAPER TWO

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions.

Draw suitable diagram wherever necessary.

A : Short answer questions:

(7 x 9 = 63)

- Q. 1. Draw a neat diagram of radiography x-ray tube and show its various parts.
- Q. 2. What is X-ray intensity? Mention the factors on which it depends.
- Q. 3. Describe the principle of image intensifies.
- Q. 4. Write short notes on:
- a. Mobile Radiography
 - b. Tomography
- Q. 5. What is line focus principle and why is it used?
- Q. 6. Discuss the means to prevent scattered radiation in radiography.
- Q. 7. Write short notes on:
- a. Potter – Bucky grid
 - b. Grid ratio
- Q. 8. What do you mean by self rectification? Mention the reasons for using external rectifiers in x-rays's Circuitry.
- Q. 9. Describe various health effects of ionizing radiation.

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2015
MEDICAL PHYSICS & EQUIPMENTS
PAPER TWO (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. Target material used in x-ray radiography tube is :
 - a. Tungsten
 - b. Rhodium
 - c. Molybdenum
 - d. All of the above
2. mAs is related to :
 - a. Penetration power of beam
 - b. Radiation exposure
 - c. Scatter radiation
 - d. None
3. Optimum lead equivalency of a lead apron is:
 - a. 0.5 cm
 - b. 1.0 cm
 - c. 0.5 mm
 - d. 1.0mm
4. What is responsible of "heel effect" in X-ray images?
 - a. Focusing cups
 - b. Anode angle
 - c. Small focal spot
 - d. Added filters
5. A Grid is more efficient if it has :
 - a. High grid ratio
 - b. Low grid ratio
 - c. Medium grid ratio
 - d. None of the above
6. Penetration power of X-ray beam is related to:
 - a. KV
 - b. mAs
 - c. FFD
 - d. FSD
7. Fraction of heat produced during X-ray production is:
 - a. 0.5%
 - b. 1.0%
 - c. 50%
 - d. 99%
8. Grids:
 - a. Reduces scatter
 - b. increase patient dose
 - c. Contain lead
 - d. All of the above
9. In mobile radiography an infirm patient is supported by:
 - a. Radiographer
 - b. Patient attendant
 - c. Radiography student
 - d. None of the above
10. The TV system used in fluoroscopy:
 - a. A broad casting TV
 - b. A Closed circuit TV
 - c. Either A or B
 - d. None of the above
11. Image intensifier is used in :
 - a. Mammography
 - b. Portable X-ray
 - c. C-arm
 - d. CT scanner
12. X-ray may cause:
 - a. Ionization
 - b. Luminescence
 - c. Photographic effect
 - d. All of these
13. Rotating anode is used in X-ray tubes for:
 - a. Increasing X-ray intensity
 - b. Better heat distribution
 - c. Reducing scatter radiation
 - d. Improving image quality
14. Voltage is applied to X-ray tubes through a:
 - a. Step up transformer
 - b. Step down transformer
 - c. Auto transformer
 - d. All of the above

Regn. No.....

Paper Code: BR- 203...

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2015
RADIOGRAPHY - I
PAPER THREE

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

- Q. 1. What are the precautions to prepare a patient with past history of allergy for IVU examination ?
- Q. 2. What is the magnification radiography? Write its advantages and two applications.
- Q. 3. Write the method of X-ray dorso-lumbar spine LAT view of traumatic patient.
- Q. 4. Describe the check list for an X-ray unit to perform speedy investigation.
- Q. 5. How would you prepare a patient for radiological investigation?
- Q. 6. Describe the position of X-ray chest left lateral and right decubitus view.
- Q. 7. What is the magnification radiography? Write its advantages and two applications.
- Q. 8. How would you perform radiological investigation of MLC patient?
- Q. 9. Write short notes on:
 - a. High kV technique
 - b. Radiation protection
 - c. Film processor

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2015
RADIOGRAPHY - I
PAPER THREE (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. X-ray PNS is done for:
 - a. Head
 - b. Breast
 - c. Paranasal sinuses
 - d. Orbits
2. X-ray TM joint is done :
 - a. Open Mouth
 - b. Closed mouth
 - c. Either of the two
 - d. None
3. Frog position is done for :
 - a. Wrist joint
 - b. Ankle joint
 - c. Knee joint
 - d. Hip joint
4. Stykers view is done for
 - a. Scapula
 - b. Patella
 - c. Radius
 - d. Recurrent dislocation of shoulder
5. In oblique view of scaphoid the hand and wrist are laterally rotated by how much degrees :
 - a. 10
 - b. 40
 - c. 45
 - d. 25
6. X-rays are used in:
 - a. CT
 - b. MRI
 - c. USG
 - d. Gamma Camera
7. Caldwell view is :
 - a. AP view
 - b. PA view
 - c. Lateral view
 - d. None
8. Optimum lead equivalency of a lead apron is :
 - a. 0.5cm
 - b. 1.0cm
 - c. 0.5mm
 - d. 1.0mm
9. In submento-occipital view centering is done at :
 - a. External auditory meatus
 - b. Canthomeatal line
 - c. Midpoint of line joining
 - d. Foramen magnum
10. Radiation used in nuclear medicine is :
 - a. X-ray
 - b. Infrared rays
 - c. U.V rays
 - d. Gamma rays
11. X-ray chest PA view is generally done in :
 - a. Full inspiration
 - b. Full Expiration
 - c. Either (a) or (b)
 - d. Mid inspiration
12. X-ray abdomen can be taken in:
 - a. Supine position
 - b. Standing Position
 - c. Decubitus
 - d. All of the above
13. Lateral decubitus means
 - a. Lying on back
 - b. Lying face down
 - c. Lying on side
 - d. Semi recumbent position
14. Stenver's view is for:
 - a. Sinuses
 - b. Sella Turcica
 - c. Orbits
 - d. Mastoid

Regn. No.....

Paper Code: BR- 201...

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2016
RADIOGRAPHIC PHOTOGRAPHY
PAPER FIRST

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

- Q. 1. What is the radiographic latent image? How is it formed?
- Q. 2. How many types of films are used in X-ray imaging? Write one example for each.
- Q. 3. Mention the safety requirement for keeping radiographic films in the darkroom.
- Q. 4. Discuss the features of H & D curve for a radiographic film.
- Q. 5. What is luminescence? Where is it used in radiography?
- Q. 6. Why are screens used in radiography? Define intensification factor of a radiographic screen.
- Q. 7. What are various constituents of a developing solution used in automatic processing?
- Q. 8. Write a short note on the layout and location of an X-ray darkroom.
- Q. 9. What is the influence of kilovoltage on image quality? Give appropriate examples in support of your answer.

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2016
RADIOGRAPHIC PHOTOGRAPHY
PAPER FIRST (MCQ)

Time allotted for MCQ- 15 minutes

(½ x 14= 7)

B : MCQs (Single response type):

Select the most appropriate answer and encircle the alphabet against it

1. Lead equivalence of the walls of an X-ray room should be at least
 - a. 0.5mm
 - b. 1.5mm
 - c. 2.5mm
 - d. 3.0mm
2. Latent image on a film is formed of the clumps of
 - a. Calcium
 - b. Potassium
 - c. Sodium
 - d. Silver
3. The radio-sensitive material in an X-ray film is
 - a. Gelatin
 - b. Protective coat
 - c. Silver halide
 - d. Base
4. Film contrast and latitude are
 - a. Directly proportional
 - b. Inversely proportional
 - c. Exponentially related
 - d. Not related
5. The back side of an X-ray cassette is made of
 - a. Aluminum
 - b. Tungsten
 - c. Lead
 - d. Molybdenum
6. A film characteristic curve does not give information about
 - a. Contrast
 - b. Speed
 - c. Latitude
 - d. kV
7. The phosphor in an intensifying screen contains
 - a. Water
 - b. Hydrogen
 - c. Helium
 - d. Tungsten
8. By increasing kV, contrast on the image
 - a. Reduces
 - b. Increases
 - c. Varies randomly
 - d. Remains unaffected
9. This is an antifogging agent used in manual processing
 - a. Hydroquinone
 - b. Sodium carbonate
 - c. Sodium sulfite
 - d. Potassium bromide
10. Development is based on
 - a. Oxidation
 - b. Reduction
 - c. Neutralization
 - d. Halogenation
11. The position of the boxes of X-ray films stored in the darkroom should be kept
 - a. Flat
 - b. Upright
 - c. Hanging
 - d. Tilted
12. Noise is related to
 - a. mAs
 - b. kV
 - c. FFD
 - d. Heel effect
13. "Hypo" is a
 - a. Developing agent
 - b. Fixing agent
 - c. Preservative
 - d. Restrainer
14. Lanthanum oxybromide is a
 - a. TLD material
 - b. Film emulsion
 - c. Rare earth phosphor
 - d. None of these

Regn. No.....

Paper Code: BR- 202...

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2016
MEDICAL PHYSICS & EQUIPMENTS
PAPER TWO

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions.

Draw suitable diagram wherever necessary.

A : Short answer questions:

(7 x 9 = 63)

- Q. 1.** Write the factors that affect X-ray tube life.
- Q. 2.** Discuss the requirement and role of rectification in X-ray circuitry.
- Q. 3.** What are the factors affecting the intensity of an X-ray beam?
- Q. 4.** Define (i) Grid ratio (ii) Potter bucky grid
- Q. 5.** Discuss the effect of scattering on image quality and dose to workers.
- Q. 6.** Mention the role of image intensifier in fluoroscopy.
- Q. 7.** State various radiation safety measures used by a radiographers in mobile radiography.
- Q. 8.** What is the role of a radiographer in the quality assurance process in a radiography department?
- Q. 9.** Briefly discuss the health effect of ionizing radiation.

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2016
MEDICAL PHYSICS & EQUIPMENTS
PAPER TWO (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. Target material used in X-ray tubes is:
 - a. Tungsten
 - b. Rhodium
 - c. Molybdenum
 - d. All of these
2. Voltage is applied to X-ray tubes through a:
 - a. Step-up transformer
 - b. Step-down transformer
 - c. Auto transformer
 - d. All the these
3. Penetration power of an X-ray beam is related to:
 - a. kV
 - b. mAs
 - c. FFD
 - d. All of these
4. A personnel monitoring film is a:
 - a. Non screen double emulsion
 - b. Single screen double emulsion
 - c. Single screen single emulsion
 - d. Double screen double emulsion
5. Fraction of energy of electron utilized during X-ray production is:
 - a. 0.5%
 - b. 1.0%
 - c. 50%
 - d. 99%
6. In portable radiography the distance of the radiographer from the patient should be at least:
 - a. 2 feet
 - b. 3 feet
 - c. 1 meter
 - d. 2 meter
7. The variation of X-ray intensity along the length of X-ray tube is called:
 - a. Edison effect
 - b. Piezoelectric effect
 - c. Doppler effect
 - d. Heel effect
8. Grid cut-off is mainly seen in:
 - a. Parallel grids
 - b. Focused grids
 - c. Stationary grids
 - d. Moving grids
9. Use of rotating anode in X-ray tubes is to:
 - a. Increase X-ray intensity
 - b. Increase target heat loading capacities
 - c. Reduce scattered radiation
 - d. Improve image quality
10. In a fluoroscopy ii the image is carried from the input phosphor to the output phosphor by:
 - a. Protons
 - b. X-ray photons
 - c. Light photons
 - d. Electrons
11. The device not used to reduce patient dose is:
 - a. IF screen
 - b. Collimator
 - c. Filter
 - d. Grid
12. Molybdenum target is mainly used in X-ray tubes of:
 - a. Radiography
 - b. Dental radiography
 - c. Fluorocopy
 - d. Mammography
13. Optimum lead equivalency of lead apron is:
 - a. 1.0mm
 - b. 0.5mm
 - c. 1.0cm
 - d. 0.5cm
14. Stationary anode X-ray tubes are used in:
 - a. Angiography
 - b. Radiography
 - c. Mammography
 - d. Dental radiography

Regn. No.....

Paper Code: BR- 203...

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2016
RADIOGRAPHY - I
PAPER THREE

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

- Q. 1.** What are the conditions which affect the exposure factors?
- Q. 2.** How would you prepare a patient for radiological investigation?
- Q. 3.** Describe the check list for an X-ray unit to perform speed investigation.
- Q. 4.** Write the method of X-ray cervico-dorsal spine LAT view of a traumatic patient.
- Q. 5.** What are the precautions to prepare a diabetic patient for IVU examination?
- Q. 6.** Describe the position of X-ray shoulder lateral and superio-inferior view.
- Q. 7.** What is the magnification radiography? Write its advantages and two applications.
- Q. 8.** Write about the views of knee joint X-ray and describe any one.
- Q. 9.** Write short notes on:
 - a.** Exposure factor.
 - b.** Angiography

B.R.I.T. SECOND YEAR EXAMINATION, JUNE/JULY - 2016
RADIOGRAPHY - I
PAPER THREE (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

($\frac{1}{2} \times 14 = 7$)

Select the most appropriate answer and encircle the alphabet against it

1. Stryker's view is done for:
 - a. Scapula
 - b. Wrist joint
 - c. Elbow joint
 - d. Recurrent dislocation of shoulder
2. The focus film distance in the X-ray of heart and aorta is:
 - a. 120 cm
 - b. 100 cm
 - c. 150 cm
 - d. 180 cm
3. Skyline view is done for:
 - a. Hip joint
 - b. Spine
 - c. Knee joint
 - d. Ankle joint
4. The line from the lowest point on inferior orbital margin to upper border of external auditory meatus is called:
 - a. Auricular line
 - b. Inter-orbital line
 - c. OMB line
 - d. Anthropological base line
5. What is the centering point for dorsal spine lateral view?
 - a. 2.5 cm below spinal angle
 - b. Spine angle
 - c. 2.5 cm above spinal angle
 - d. 4.0 cm below spinal angle
6. Cone view is specially used in the following X-ray except:
 - a. Spine
 - b. Optic foramina
 - c. Mastoid
 - d. KUB
7. Frog position is done to see both:
 - a. Wrist joint
 - b. Ankle joint
 - c. Knee joint
 - d. Hip joint
8. Single hip lateral X-ray is taken by rotating the patient:
 - a. 250 to the side being examined
 - b. 250 anteriorly.
 - c. 450 to the side being examined
 - d. 250 posteriorly.
9. In AO view of sternum, the patient is rotated to:
 - a. 100
 - b. 200 to 300 either side
 - c. 200 left
 - d. 150 right
10. Knee inter-condylar space radiograph is taken on:
 - a. 10x12 cassette
 - b. Curved cassette
 - c. Single screen cassette
 - d. Grid is required
11. X-ray calcaneum axial view is taken in:
 - a. Standing
 - b. Supine
 - c. Supine AP
 - d. Lateral
12. In AO view of scaphoid the hand and wrist are laterally rotated by:
 - a. 100
 - b. 400
 - c. 450
 - d. 250
13. What is the similar terms of prone position?
 - a. Supine
 - b. Ventral decubitus
 - c. Dorsal decubitus
 - d. Semi- recumbent
14. In PA view of X-ray hand the fingers are:
 - a. Closed
 - b. Extended
 - c. Separated and extended
 - d. Overlapping

Regn. No.....

Paper Code: BRIT- 201...

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY AND IMAGING)
SECOND YEAR EXAMINATION, JUNE/JULY - 2017
RADIOGRAPHIC PHOTOGRAPHY
PAPER FIRST

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

- Q. 1. What are different layers contained in a radiography film? Write the function of each.
- Q. 2. Write short notes on:
- a. Characteristic curve
 - b. Intensifying screen
- Q. 3. Write short notes on:
- a. X-ray cassette
 - b. X-ray fixer
- Q. 4. Write short notes on:
- a. Dry view cameras
 - b. Viewing accessories
- Q. 5. Discuss various types of film fault and their causes.
- Q. 6. What is replenishment in film processing? Why it is needed?
- Q. 7. What is magnification? How does it affect the image?
- Q. 8. Define optical density. Discuss its relation with radiation exposure.
- Q. 9. What is geometric un-sharpness? Describe its various sources.

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY AND IMAGING)
SECOND YEAR EXAMINATION, JUNE/JULY - 2017
RADIOGRAPHIC PHOTOGRAPHY
PAPER FIRST (MCQ)

Time allotted for MCQ - 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. Lead equivalence of the walls of an X-ray room should be at least:
 - a. 0.5mm
 - b. 1.5mm
 - c. 2.5mm
 - d. 3.0mm
2. Latent image on a film is formed of the clumps of:
 - a. Calcium
 - b. Potassium
 - c. Sodium
 - d. Silver
3. The radio sensitive material in an X-ray film is:
 - a. Gelatin
 - b. Protective coat
 - c. Silver halide
 - d. Base
4. By increasing Kv, contrast on the image:
 - a. Reduces
 - b. Increases
 - c. Varies randomly
 - d. Remains unaffected.
5. The back side of X-ray cassette is made of :
 - a. Aluminum
 - b. Tungsten
 - c. Lead
 - d. Molybdenum
6. What is produced on the image due to scattered radiation:
 - a. Un-sharpness
 - b. Fog
 - c. Poor latitude
 - d. All of these
7. "Hypo" is a:
 - a. Developing agent
 - b. Fixing agent
 - c. Preservative
 - d. Restrainer
8. Mammography film is a :
 - a. Single screen
 - b. Double screen
 - c. Without screen
 - d. All types
9. Rare earth phosphor IF screen are used to increase:
 - a. Contrast
 - b. Sharpness
 - c. Latitude
 - d. Speed
10. Characteristic curve of radiography film is:
 - a. "U" shaped
 - b. "V" shaped
 - c. "S" shaped
 - d. "C" shaped
11. Which process is acidic in nature:
 - a. Development
 - b. Replenishment
 - c. Fixation
 - d. None of these
12. Lanthanum oxybromide is a:
 - a. TLD material
 - b. Film emulsion
 - c. Rare-earth phosphor
 - d. None of these
13. Magnified image are:
 - a. More unsharp
 - b. Less unsharp
 - c. Depends on tissue density
 - d. Neither
14. The image unsharpness is caused by:
 - a. Geometry
 - b. Movement
 - c. Absorption
 - d. All of the above

B. Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
SECOND YEAR EXAMINATION, JUNE/JULY - 2017
MEDICAL PHYSICS & EQUIPMENTS

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions.

Draw suitable diagrams wherever necessary.

A : Short answer questions:

(7 x 9 = 63)

- Q. 1.** Draw a neat diagram of radiography X-ray tube and show its various parts.
- Q. 2.** Define grid ratio. What it represents? Why kilo voltage is varied with grids of different grid ratios?
- Q. 3.** What is X-ray intensity? Mention the factors on which it depends.
- Q. 4.** Discuss the means to prevent scattered radiation in radiography.
- Q. 5.** What is the role of transformer in X-ray production? Mention different types of transformers.
- Q. 6.** Describe the principle of image intensifier.
- Q. 7.** What is the importance of quality assurance in diagnostic radiography? Describe any three quality control tests performed on X-ray machines.
- Q. 8.** Write short notes on:
- a. Mobile radiography
 - b. Tomography
- Q. 9.** Write short notes on:
- a. Self-rectification of X-ray tube
 - b. Common X-ray tube faults

B. Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
SECOND YEAR EXAMINATION, JUNE/JULY - 2017
MEDICAL PHYSICS & EQUIPMENTS
(MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

($\frac{1}{2} \times 14 = 7$)

Select the most appropriate answer and encircle the alphabet against it

1. Target material used in X-ray radiography tubes is:
 - a. Tungsten
 - b. Rhodium
 - c. Molybdenum
 - d. All of these
2. mAs is related to:
 - a. Penetration power of the beam
 - b. Radiation exposure
 - c. Scatter radiation
 - d. None
3. Beryllium widow is used in:
 - a. Radiography tubes
 - b. CT tubes
 - c. Portable X-ray tubes
 - d. Mammography tubes
4. What is responsible of 'Heel effect' in X- ray images?
 - a. Focusing cups
 - b. Anode angle
 - c. Small focal spot
 - d. Added filters
5. A grid is more efficient if it has:
 - a. High grid ratio
 - b. Low grid ratio
 - c. Medium grid ratio
 - d. No grid ratio
6. Grid cut-off is mainly noticed in:
 - a. Focused grids
 - b. Crossed grids
 - c. Moving grids
 - d. Parallel grids
7. X-ray circuitry employs:
 - a. Auto transformer
 - b. Step-up transformer
 - c. Step-down transformer
 - d. All of them
8. Optimum lead equivalency of a lead apron is:
 - a. 0.5cm
 - b. 1.0cm
 - c. 0.5mm
 - d. 1.0mm
9. Image intensifier is used in:
 - a. C-arm machines
 - b. CT scanners
 - c. Mammography machines
 - d. None
10. In mobile radiography an infirm patient is supported (if required) by:
 - a. Radiographer
 - b. Patient's attendant
 - c. Radiography student
 - d. No one
11. Which generator gives lowest ripple?
 - a. Single phase
 - b. Three phase
 - c. Constant potential
 - d. Self rectified
12. Penetration power of X-ray beam is related to:
 - a. kV
 - b. mAs
 - c. FFD
 - d. FSD
13. During portable X-rays the distance of the radiographer from the patient should be at least:
 - a. 2 feet
 - b. 3 feet
 - c. 1 meter
 - d. 2 meters
14. Intensifying screens are used to:
 - a. Reduce scatter
 - b. Reduced patient dose
 - c. Improve information
 - d. Improve image quality

Regn. No.....

Paper Code: BRIT- 203...

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
SECOND YEAR EXAMINATION, JUNE/JULY - 2017
RADIOGRAPHY - I

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagrams wherever necessary

A : Short answer questions:

(7 x 9 = 63)

- Q. 1. Describe the position of X-ray chest left lateral and right decubitus view.
- Q. 2. What is the magnification radiography? Write its advantages and two applications.
- Q. 3. What are the precautions to prepare a patient for IVU examination with past history of allergy?
- Q. 4. How would you perform radiological investigation of MLC patient?
- Q. 5. Write the precautions while handling a geriatric patient.
- Q. 6. Describe the check list for an automatic processor to perform speedy investigation.
- Q. 7. Write the method of X-ray cervical spine LAT view of traumatic patient.
- Q. 8. Write the name of all pelvis bone and describe its radiological anatomy.
- Q. 9. Write short notes on:
 - a. Four densities in X-ray evaluation.
 - b. Radiation protection.
 - c. CT Abdomen.

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
SECOND YEAR EXAMINATION, JUNE/JULY - 2017
RADIOGRAPHY - I
(MCQ)

Time allotted for MCQ - 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. The spine of the scapula is on which side:
 - a. Lateral
 - b. Medial
 - c. Posterior
 - d. Inferior
2. The line from the lowest point on inferior orbital margin to upper border of external auditory meatus is called:
 - a. Articular line
 - b. Inter-orbital line
 - c. OMV line
 - d. Anthropological line
3. What is the centering point for dorsal spine lateral view?
 - a. 2.5 cm below spinal angle
 - b. 2.5cm above spinal angle
 - c. Spine angle
 - d. 4.0cm below spinal angle
4. Cone view is specially used in the following X-ray except:
 - a. Spine
 - b. Optic foramina
 - c. Mastoid
 - d. KUB
5. Frog position is done to see both:
 - a. Wrist joints
 - b. Ankle joints
 - c. Hip joints
 - d. Knee joints
6. Rotation of the forearm show the palm faces down is called:
 - a. Hyperflexion
 - b. Inversion
 - c. Supination
 - d. Pronation
7. Stryker's view is done for:
 - a. Scapula
 - b. Wrist joint
 - c. Elbow joint
 - d. Recurrent dislocation of shoulder
8. Single hip lateral X-ray is taken by rotating the patient:
 - a. 25° to the side being examined
 - b. 25° anteriorly
 - c. 45° to the side being examined
 - d. 25° posteriorly
9. Which projection shows the coronoid process free of superimposition?
 - a. AP elbow
 - b. Lateral oblique elbow
 - c. Medial oblique
 - d. AP forearm
10. What is the similar term of prone position?
 - a. Supine
 - b. Ventral decubitus
 - c. Dorsal decubitus
 - d. Semi-recumbent
11. Knee inter-condylar space radiograph is taken on:
 - a. 10 x 12 cassette
 - b. Curved cassette
 - c. Single screen cassette
 - d. Grid is required
12. In PA view of X-ray hand the fingers are:
 - a. Closed
 - b. Extended
 - c. Separated and extended
 - d. Overlapping
13. Skyline view is done for:
 - a. Hip joint
 - b. Spine
 - c. Knee joint
 - d. Ankle joint
14. The wrist bones are known as:
 - a. Carpals
 - b. Metacarpals
 - c. Tarsals
 - d. Phalanges