

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2013
RADIOGRAPHY - II
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. Enumerate all facial bones with their anatomical position.
- Q. 2. What is magnification radiography?
- Q. 3. Write short notes on : (3+4= 7)
- a. Skyline view
 - b. High KVP techniques
- Q. 4. What are the conditions which affect the exposure factors?
- Q. 5. Describe the X-ray chest PA view technique and its evaluation criteria.
- Q. 6. Describe the different views taken in mammography.
- Q. 7. Write short notes on : (4+3 = 7)
- a. Developer solution
 - b. BMD
- Q. 8. Write short notes on : (3+4= 7)
- a. Portable radiography
 - b. Care of patient on life supporting devices
- Q. 9. Write short notes on : (3+4= 7)
- a. X-ray cervical spine in a trauma patient
 - b. X-ray for foreign body in trachea

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2013
RADIOGRAPHY - II
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. The frontal sinuses are:
 - a. Paired
 - b. Unpaired
 - c. Both a and b
 - d. None of the above
2. Ectopic kidney is called when-
 - a. Kidney is in pelvis
 - b. Hydronephrosis
 - c. Non functional kidney
 - d. Small kidney
3. Temporo –mandibular joint X-ray is done with:
 - a. Mouth open
 - b. Mouth closed
 - c. Open and closed mouth
 - d. None of the above
4. Each pixel on CT image represent a small volume called-
 - a. Matrix
 - b. Resolution
 - c. Voxel
 - d. Contrast
5. X-ray for PNS is –
 - a. Waters view
 - b. Apicogram
 - c. Skyline view
 - d. Ball catchers view
6. In IVU prone position is done for visualization of –
 - a. Kidney
 - b. Renal pelvis
 - c. Uterus
 - d. Urinary bladder
7. In IVU the abdominal compressor is applied after-
 - a. 5 min
 - b. 10 min
 - c. 15 min
 - d. 30 min
8. Valsalva is done in –
 - a. Barium enemias
 - b. Angiography
 - c. Laryngography
 - d. Cervical spine
9. In X-ray cervical spine lateral view the chin is:
 - a. Neutral
 - b. Flexed
 - c. Extended
 - d. Rotated
10. Following are the projections to see PNS except-
 - a. Cardwell
 - b. Waters
 - c. Trendelenburg
 - d. Submentovertex
11. Intraperitoneal organs are all except-
 - a. Liver
 - b. Gall bladder
 - c. Kidney
 - d. Stomach
12. X-ray abdomen is done in:
 - a. AP position
 - b. Lateral decubitus
 - c. Standing
 - d. All of the above
13. The largest Air Sinus is:
 - a. Maxillary
 - b. Frontal
 - c. Ethmoid
 - d. Sphenoid
14. Soft tissue radiography is done to see-
 - a. Larynx
 - b. Pharynx
 - c. Soft tissue swelling
 - d. All of the above

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2013
SPECIAL PROCEDURE AND TECHNIQUES
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.** Describe the various adverse reactions of intravenous contrast agent. State the prophylactic measures as well as treatment of such reactions.
- Q. 2.** How will you set a trolley of Sialogram?
- Q. 3.** Describe the procedure of Barium meal follow through. What are the film sequences for it?
- Q. 4.** How will you prepare a patient for CT- whole abdomen?
- Q. 5.** Write briefly about post- operative T. tube cholangiogram. What are its indications?
- Q. 6.** How will you prepare the patient for intravenous urography? What are film sequences and modifications to the routine technique?
- Q. 7.** Write briefly about hystero- salpingography with its indications.
- Q. 8.** Write short notes on: (4+3=7)
- a. ERCP
 - b. 10 days rule
- Q. 9.** Write briefly about Dacrocytography with its indications.

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2013
SPECIAL PROCEDURE AND TECHNIQUES
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. The amount of contrast used in Dacrocystography is:
 - a. 2-5 ml
 - b. 10-15 ml
 - c. 20-25 ml
 - d. 50-55 ml
2. Serum creatinine is done to see the function of:
 - a. Spleen
 - b. Lung
 - c. Liver
 - d. Kidney
3. Indication for Ba. Swallow is:
 - a. Dysphagia
 - b. Constipation
 - c. Haemoptosis
 - d. Respiratory distress
4. Metallic implants are contra indicated in:
 - a. CT
 - b. DSA
 - c. MRI
 - d. Ultra sound
5. Air encephalography is done in:
 - a. PNS
 - b. Mastoid
 - c. Cardiac ventricles
 - d. Brain ventricles
6. The investigation done for hepatobiliary system is:
 - a. RGV
 - b. Loopogram
 - c. T- tube cholangiography
 - d. MCU
7. To see the function of kidney we do:
 - a. MCU
 - b. RGU
 - c. IVU
 - d. Cystography
8. BaSO₄ is administered as a contrast agent through:
 - a. IV
 - b. IM
 - c. Orally
 - d. Intradermal
9. IV contrast injection is given to see:
 - a. Lymphatic system
 - b. Vascularity
 - c. Bone
 - d. None of these
10. HSG is done to see the patency of:
 - a. CBD
 - b. Pancreatic duct
 - c. Fallopian tube
 - d. Ductus deferens
11. Which of the following is negative contrast media?
 - a. Urographin
 - b. BaSO₄
 - c. Blue violet
 - d. Air
12. For lymphography contrast used is:
 - a. Ultrasound fluid
 - b. BaSO₄
 - c. Gastrographin
 - d. Gadolinium
13. BaSO₄ is used for evaluation of:
 - a. GIT
 - b. Renal system
 - c. Respiratory system
 - d. Reproductive system
14. Investigation for salivary gland is:
 - a. PTC
 - b. MCU
 - c. Sialogram
 - d. Dacrocystogram

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2013
ADVANCED TECHNIQUES & EQUIPMENT
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 types of interaction between ultrasound and matter? Describe briefly about acoustic impedance.
- Q. 2. What is Piezoelectric effect? Name the crystals used in medical ultrasound.
- Q. 3. Name the various ultrasound artifacts. Describe briefly the artifacts that can aid in diagnosis.
- Q. 4. What is Doppler Effect? Who described it and when? Write briefly about its applications.
- Q. 5. When the first CT scanner was developed and by whom? What is the difference between 3rd and 4th generation CT scanner?
- Q. 6. What is spiral CT? What are the advantages of spiral CT over conventional CT?
- Q. 7. What is the physical principle of MRI? What are the advantages of MRI over CT?
- Q. 8. Write various safety consideration required to be adopted in MRI.
- Q. 9. Name the different types of radiation emitted by radionuclides. Describe any one of them in brief.

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2013
ADVANCED TECHNIQUES & EQUIPMENT
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. Ultrasound imaging is done with beams of:
 - a. X- ray
 - b. Gamma rays
 - c. Sound
 - d. Microwaves
2. Curie temperature is related to:
 - a. Thermoionic emission
 - b. Radium absorption
 - c. Thermoluminescence
 - d. Piezoelectricity
3. "Projectile effect" is a hazard and is related to:
 - a. Ultrasound
 - b. CT
 - c. MRI
 - d. X- ray
4. "Superconductivity" is used in:
 - a. MRI
 - b. CT
 - c. Ultrasound
 - d. Nuclear medicine
5. The radiation used in nuclear medicine is:
 - a. X- ray
 - b. Gamma rays
 - c. Ultra violet rays
 - d. Micro waves
6. The presence of ferroelectric substances must be avoided near:
 - a. CT
 - b. DSA
 - c. MRI
 - d. Ultrasound
7. Radionuclides are used in:
 - a. Endoscopy
 - b. ERCP
 - c. MR contrast media
 - d. Nuclear medicine
8. The half line of technetium 99 m is:
 - a. 1 hour
 - b. 2 hours
 - c. 6 hours
 - d. 12 hours
9. Which one of the following is fluoroscopy technique?
 - a. CT
 - b. IVU
 - c. DSA
 - d. Mammography
10. Low Kv used in mammography to:
 - a. Reduce patient dose
 - b. Reduce noise
 - c. Reduce contrast
 - d. Improve sharpness
11. A photostimulable phosphor (PSP) plate is used in:
 - a. CT
 - b. Computed radiography
 - c. DR
 - d. DSA
12. In nuclear medicine, the way to administer activity to the patient can be:
 - a. Oral
 - b. Inhalation
 - c. IV
 - d. Any of them
13. The frequency used in medical ultrasound is:
 - a. 20 KHz
 - b. 2 KHz
 - c. 2 MHz
 - d. None of the above
14. B- mode ultrasound displays:
 - a. Amplitude
 - b. Brightness
 - c. Motion
 - d. Colours

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2015
RADIOGRAPHY - II
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 evaluation criteria for X-ray chest lateral view?
- Q. 2. Describe all projections of mammography
- Q. 3. Write the method of X-ray L.S Spine AP/Lateral view
- Q. 4. What are the conditions which affect the sharpness of image?
- Q. 5. Write short notes on :
 - a. Peter's Girdle
 - b. Facial bones
- Q. 6. Write short notes on :
 - a. Macro-radiography
 - b. Soft tissue radiograph
- Q. 7. Write short notes on
 - a. Cassette
 - b. X-ray mastoid
- Q. 8. Describe in detail about the radiography in the I.C.U settings
- Q. 9. Discuss information necessary in M.L.C requisition form

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2015
RADIOGRAPHY - II
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. Tempo- mandibular joint x-rays is done with:
 - a. Open mouth
 - b. Open and closed mouth
 - c. Close mouth
 - d. None of the above
2. X ray abdomen is taken with:
 - a. Full expiration
 - b. Full inspiration
 - c. No instruction
 - d. All of the above
3. Open mouth view is done to see:
 - a. Cervical Vertebrae
 - b. Dossal Vertebrae
 - c. Lumbar Vertebrae
 - d. None of the above
4. X-ray cervical lateral view the chin is:
 - a. Neutral
 - b. Extended
 - c. Flexed
 - d. Rotated
5. Ectopic kidney is called when:
 - a. Non functional kidney
 - b. No kidney in renal fossa
 - c. Hydro nephosis
 - d. Kidney with calculus
6. Valsalva is used in:
 - a. Angio graphy
 - b. Laryngography
 - c. Barium
 - d. IVU
7. Each pixel on CT image represents a small volume called:
 - a. Matrix
 - b. Resolution
 - c. Voxel
 - d. Contrast
8. Parts of large bowel are:
 - a. Stomach
 - b. duodenum
 - c. Tram verse colon
 - d. All of the above
9. The ethmoid bone contains:
 - a. One sinus
 - b. Two sinuses
 - c. Multiple sinuses
 - d. No sinuses
10. Sacral bones are :
 - a. Temporal bones
 - b. Frontal bones
 - c. Occipital bone
 - d. All of the above
11. Radiation protection should be for:
 - a. Technologist
 - b. Patient
 - c. Patient attendant
 - d. All of the above
12. Mammography is done for :
 - a. Breast
 - b. Chest
 - c. Abdomen
 - d. None of the above
13. A patient prone with nose cheek and chin of side being examined in contact with the table is position for :
 - a. Sella Turcica
 - b. Mandible
 - c. Base of skull
 - d. None of the above
14. The largest paired para nasal sinuses:
 - a. Maxillary
 - b. Frontal
 - c. ethmoid
 - d. Mastoid

Regn. No.....

Paper Code: BR- 302...

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2015
SPECIAL PROCEDURES & TECHNIQUES
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. What are the check list for patient preparation for MRI investigation?
- Q. 2. Write in detail about Intravenous Urography (IVU).
- Q. 3. Write the preparation of a patient for CT whole abdomen.
- Q. 4. What are the indications of loopogram?
- Q. 5. Write the techniques of Barium Swallow single and double contrast. What are advantages of double contrast study?
- Q. 6. How will you prepare a patient for HSG and what is 10 days rule?
- Q. 7. Write the precaution taken for small bowel enema.
- Q. 8. What are the uses of Fluroscopy?
- Q. 9. Write short notes on :
 - a. Fistulogram
 - b. ERCP
 - c. DSA

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2015
SPECIAL PROCEDURES & TECHNIQUES
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 Enteroclysis?
 - a. Barium Meal
 - b. BMFT
 - c. Small Bowel Enema
 - d. Instant enema
2. T-Tube cholangiography is done after
 - a. 10 days
 - b. 04 days
 - c. 15 days
 - d. 21 days
3. Adverse reaction of contrast media depends on :
 - a. Osmolality
 - b. Chemotoxicity
 - c. Hypersensitivity
 - d. All of the above
4. Dacrocystography is a radiological investigation for :
 - a. Salivary glands
 - b. Lacrimal system
 - c. Biliary System
 - d. Nasopharynx
5. Sialography is a radiological investigation for :
 - a. Salivary glands
 - b. Biliary
 - c. Sinus
 - d. Bronchial tree
6. In a myelography investigation the lumbar puncture performed at the level of :
 - a. D4-D5
 - b. L5-S1
 - c. L4-L5
 - d. L2-L3
7. Baso4 is administered as a contrast agent through
 - a. IV
 - b. IM
 - c. Orally
 - d. Intradermal
8. Urograffin is generally used for :
 - a. Barium swallow
 - b. Barium Meal
 - c. Small bowel enema
 - d. Oral contrast for CT
9. A female patient of reproductive age with the LMP on 10th January, what is the safe period for X-ray examination :
 - a. 15th January
 - b. 24th January
 - c. 20th January
 - d. 04th February
10. In CT myelography amount of contrast given :
 - a. 15-20ml
 - b. 25-30ml
 - c. 6-10ml
 - d. 1-2ml
11. Non-ionic contrast is used in all except
 - a. Ultrasound
 - b. MCU
 - c. IVU
 - d. CT
12. In mammography target is made of :
 - a. Tungsten
 - b. Molybdenum
 - c. Iron
 - d. Copper
13. Xeroradiography films are made of :
 - a. Beryllium
 - b. Silver
 - c. Amorphous Selenium
 - d. Copper
14. Lymphography is done to visualize :
 - a. Lymph
 - b. Artery
 - c. Veins
 - d. Sinus

Regn. No.....

Paper Code: BR- 303...

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2015
ADVANCE TECHNIQUES & EQUIPMENTS
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 is ultrasound? How is it used for diagnostic imaging?
- Q. 2. Discuss various types of real time ultrasound transducers.
- Q. 3. Define Hounsfield unit. What is its role in computed tomography imaging?
- Q. 4. Explain image reconstruction in CT. Give an account of multislice CT.
- Q. 5. Compare digital radiography and computed radiography.
- Q. 6. Describe safety measures taken inside MRI suit.
- Q. 7. Describe with neat diagram the basic principle of Mammographic equipment.
- Q. 8. What is the basic principle behind positron emission tomography? Briefly explain the working of a PET Scanner.
- Q. 9. What is Doppler effect? How is it used in imaging?

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2015
ADVANCE TECHNIQUES & EQUIPMENTS
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 frequency of ultrasound is more than:
 - a. 20 hertz
 - b. 100 hertz
 - c. 1000 hertz
 - d. 20000 hertz
2. Lead zirconate titanate (PZT) is a material related to:
 - a. Photoelectric effect
 - b. Piezoelectricity
 - c. Thermionic emission
 - d. None
3. A fast beam is used in which CT generation:
 - a. 1st
 - b. 2nd
 - c. 3rd
 - d. 2nd & 3rd
4. In spiral CT, the patient dose is related to:
 - a. Revolutions
 - b. Interpolation
 - c. Pitch factor
 - d. None
5. MRI uses:
 - a. Ionizing radiation
 - b. Microwaves
 - c. Heat radiations
 - d. None
6. Shades of grey are used in:
 - a. A-mode
 - b. B-mode
 - c. Doppler imaging
 - d. M-mode
7. The presence of ferroelectric substances must be avoided near:
 - a. CT
 - b. DSA
 - c. MRI
 - d. US
8. "Projectile effect" is related to:
 - a. X-ray production
 - b. Real time ultrasound
 - c. CT artifact
 - d. MRI
9. Low kV is used in Mammography to:
 - a. Reduced patient dose
 - b. Improve contrast
 - c. Improve sharpness
 - d. Reduce noise
10. Radiofrequency coil is related to:
 - a. CT
 - b. DSA
 - c. MRI
 - d. US
11. The half lives are inconveniently short in case of:
 - a. Gamma emitters
 - b. Proton emitters
 - c. Positron emitters
 - d. None
12. The half life of technetium 99m is:
 - a. 1 hour
 - b. 2 hours
 - c. 4 hours
 - d. 6 hours
13. Which one of the following is a fluoroscopy technique:
 - a. CT
 - b. IVU
 - c. DSA
 - d. Mammography
14. PACS means:
 - a. Peak attenuation cone system
 - b. Precise atomic concentric shell
 - c. Piezoelectric amplifier and circle stand
 - d. Picture archival and communication system

Regn. No.....

Paper Code: BR- 301

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2016
RADIOGRAPHY - II
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. Write the name of all facial bones.
- Q. 2. Write the evaluation criteria for X-ray sellaturcica.
- Q. 3. Describe the position of X-ray open mouth view of cervical spine and give the evaluation criteria.
- Q. 4. Write the method of X-ray cervico-dorsal spine AP/LAT for traumatic patient.
- Q. 5. Describe all projections of mammography.
- Q. 6. How would you take a soft tissue radiograph of nasopharynx?
- Q. 7. What is magnification radiography? Write its advantages and two applications.
- Q. 8. What are the conditions which affect the exposure factors?
- Q. 9. Write short notes on:
 - a. Ball catching view of the hands.
 - b. High KvP techniques.

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2016
RADIOGRAPHY - II
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. In the X-ray cervical lateral view the chin is
 - a. Neutral
 - b. Extended
 - c. Flexed
 - d. Rotated
2. Centering for the atlanto-occipital joint is at
 - a. AM
 - b. 2.5cm EAM
 - c. 2.5cm below EAM
 - d. 2.5cm Posterior to EAM
3. Ectopic kidney is called when
 - a. Non functioning kidney
 - b. No kidney is seen in renal area
 - c. Hydronephrosis
 - d. Kidney with calculus
4. The patient prone with nose cheek and chin of side being examined in contact with the table is the position for
 - a. Sellaturcica
 - b. Mandible
 - c. Optic foramina
 - d. Base of skull
5. Temporo-mandibular joint is done with
 - a. Open mouth
 - b. Open and close mouth
 - c. Close mouth
 - d. None of these
6. Anterior oblique view for the skull is known as
 - a. Water's view
 - b. Modified view
 - c. Stenver's view
 - d. Apicogram
7. The degree of dorsiflexion in chest lordotic view is generally
 - a. 10-20
 - b. 20-30
 - c. 30-40
 - d. 40-50
8. The scout radiograph of KUB region demonstrate the following except
 - a. Contour of kidney
 - b. Calculi
 - c. Location of kidney
 - d. Pelvis of kidney
9. In IVU investigation the abdominal compression is released in
 - a. 5 minutes
 - b. 15 minutes
 - c. 10 minutes
 - d. 25 minutes
10. In IVU the prone position is recommended for the demonstration of
 - a. Kidney
 - b. Ureter
 - c. UPJ
 - d. Bladder
11. Valsalva is used in
 - a. Angiography
 - b. Barium Enema
 - c. Laryngography
 - d. IVU
12. What is used as double contrast
 - a. Urograffin 60%
 - b. Air
 - c. Urograffin 76%
 - d. Conray 280
13. Each pixel on CT image represent a small volume element called
 - a. Matrix
 - b. Resolution
 - c. Voxel
 - d. Contrast
14. X-ray abdomen is taken with
 - a. Full expiration
 - b. Full inspiration
 - c. No instruction required
 - d. None of these

Regn. No.....

Paper Code: BR- 302...

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2016
SPECIAL PROCEDURES & TECHNIQUES
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 advantages, disadvantages and indications of computed tomography?
- Q. 2. Write short notes on:
 - a. Barium Swallow
 - b. Sinogram
- Q. 3. Write short notes on:
 - a. Patient preparation for ultrasound abdomen.
 - b. Barium meal
- Q. 4. Write short notes on:
 - a. Intravenous contrast media
 - b. Cystography
- Q. 5. Write in detail about Intravenous Urography (IVU).
- Q. 6. Write differences in tabulated form between MRI and Computed Tomography (CT).
- Q. 7. Enumerate the investigations for hepato-biliary system. Write about T-Tube cholangiogram.
- Q. 8. Write short notes on:
 - a. Macro-radiography
 - b. RGU
- Q. 9. Write short notes on:
 - a. CT 3D face
 - b. ERCP

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2016
SPECIAL PROCEDURES & TECHNIQUES
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. Serum creatinine is done to see the function of:
 - a. Liver
 - b. Spleen
 - c. Kidney
 - d. Heart
2. Metal which is compatible with MRI is:
 - a. Iron
 - b. Titanium
 - c. Both
 - d. None of the above
3. Investigation for lacrimal sac:
 - a. Sialogram
 - b. PTC
 - c. MCU
 - d. None of these
4. T-tube cholangiogram is done:
 - a. Pre operative
 - b. Post operative
 - c. Per operative
 - d. None of these
5. Myelography is done to see:
 - a. Spinal cord
 - b. Vertebrae
 - c. Parotid duct
 - d. None of the above
6. The amount of contrast used in sialography is:
 - a. 10ml
 - b. 20ml
 - c. 50ml
 - d. 02ml
7. The contrast used in Barium Meal:
 - a. Non-ionic iodinated contrast media
 - b. Barium
 - c. Both the above
 - d. None of the above
8. Investigation done for abdomen pathology:
 - a. Ultrasound
 - b. CT
 - c. MRI
 - d. All of the above
9. Kidneys are:
 - a. Intra-peritoneal
 - b. Retroperitoneal
 - c. Both A & B
 - d. None of the above
10. Iodinated contrast is used in:
 - a. CT
 - b. IVU
 - c. MRI
 - d. Both A & B
11. Indication for HSG are:
 - a. Infertility
 - b. Recurrent abortion
 - c. Congenital uterine anomaly
 - d. All of the above
12. Arteries are best evaluated in:
 - a. CT
 - b. MR
 - c. Ultrasound
 - d. DSA
13. The investigation done for urinary bladder:
 - a. RGU
 - b. Cystogram
 - c. Loopogram
 - d. Sinogram
14. Lung biopsy can be done under guidance of:
 - a. Ultrasound
 - b. CT
 - c. Both of the above
 - d. Non of the above

Regn. No.....

Paper Code: BR- 303...

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2016
ADVANCE TECHNIQUES & EQUIPMENTS
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. Discuss the physical principle of ultrasound imaging.
- Q. 2. Briefly describe the types of real time transducers.
- Q. 3. Outline the difference between third and fourth generation CT scanners.
- Q. 4. What is the principle of spiral computed tomography? Mention three important advantages of spiral CT over axial CT.
- Q. 5. Briefly write the basic principle of MRI.
- Q. 6. Write the advantages of using a superconducting magnet over other type of magnets in MRI.
- Q. 7. Discuss two main properties of radiopharmaceuticals required for nuclear medicine imaging.
- Q. 8. Write a short note on gamma imaging.
- Q. 9. Write the basic principle of positron emission tomography. Also mention its demerits

B.R.I.T. THIRD YEAR EXAMINATION, JUNE/JULY - 2016
ADVANCE TECHNIQUES & EQUIPMENTS
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. Ultrasound imaging is done with beams of
 - a. X-rays
 - b. Gamma rays
 - c. Sound
 - d. Microwaves
2. Curie temperature is related to
 - a. Thermoionic emission
 - b. Thermoluminescence
 - c. Radiation absorption
 - d. Piezoelectricity
3. B-mode ultrasound images display
 - a. Amplitude
 - b. Brightness
 - c. Motion
 - d. All of them
4. Phased array transducers are used in
 - a. Real time imaging
 - b. B-mode
 - c. A-mode
 - d. Doppler imaging.
5. A fan beam configuration is used in this generation of computed tomography:
 - a. 1st
 - b. 2nd
 - c. 3rd
 - d. None
6. The slip ring technology is used in which type of CT scanner?
 - a. 3rd generation
 - b. 4th generation
 - c. Spiral
 - d. All of them.
7. Patient dose in CT is related to
 - a. CT number
 - b. Pitch factor
 - c. Interpolation technique
 - d. None of these
8. MRI uses
 - a. Stable magnet
 - b. Magnetic pulse
 - c. Magnetic gradient fields
 - d. All of these
9. "Projectile effect" is a hazard and is related to
 - a. Ultrasound
 - b. CT Scanner
 - c. X-ray
 - d. MRI
10. "Superconductivity" is used in
 - a. MRI
 - b. CT Scanner
 - c. Ultrasound
 - d. Nuclear Medicine
11. The radiation used in nuclear medicine is
 - a. X-rays
 - b. Gamma rays
 - c. Ultra violet rays
 - d. Microwaves
12. In nuclear medicine, the way to administer activity to the patient can be
 - a. Oral
 - b. Inhalation
 - c. Intravenous
 - d. Any of them
13. The detector used in gamma camera is
 - a. Scintillation detector
 - b. Ion chamber`
 - c. GM counter
 - d. Any of them
14. The phenomenon "Pair annihilation" is used in
 - a. X-ray imaging
 - b. Gamma camera
 - c. PET
 - d. SPECT

**B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION
JUNE/JULY - 2017
RADIOGRAPHY - II
PAPER FIRST**

[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. Enumerate the reasons for performing mammography with compression.
- Q. 2. Discuss about the precautions used while handling a geriatric patient.
- Q. 3. Write the evaluation criteria of tissue radiography of naso-pharynx.
- Q. 4. Describe the principal of tomography.
- Q. 5. How would you perform X-ray L. S. spine AP/LAT for traumatic patient?
- Q. 6. Write the technique of intra oral occlusal radiography.
- Q. 7. Discuss different conditions grid decentering and their effects on radiographs.
- Q. 8. What are general measures taken in operation theatres as regard to radiation safety.
- Q. 9. Write short notes on:
 - a. Optic foramina
 - b. Fixer solution

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION
JUNE/JULY - 2017
RADIOGRAPHY - II
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. Ectopic kidney is called when:
 - a. There is a non-functioning kidney
 - b. No kidney is seen in renal area
 - c. There is hydronephrosis
 - d. There is a kidney with calculus
2. Centering for the atlanto-occipital joint is at:
 - a. AM
 - b. 2.5 cm EAM
 - c. 2.5 cm below EAM
 - d. 2.5 cm posterior to EAM
3. In the X-ray cervical lateral view, the chin is:
 - a. Neutral
 - b. Extended
 - c. Flexed
 - d. Rotated
4. Temporomandibular joint is done with:
 - a. Open mouth
 - b. Open and closed mouth
 - c. Closed mouth
 - d. None of these
5. The patient prone with nose, cheek and chin of side being examined in contact with the table is the position for:
 - a. Sellaturcica
 - b. Mandible
 - c. Optic foramina
 - d. Base of skull
6. Anterior oblique view for the skull is known as:
 - a. Water's view
 - b. Modified view
 - c. Stenver's view
 - d. Apicogram
7. The degree of dorsiflexion in chest lordotic view is generally:
 - a. 10 - 20
 - b. 20 - 30
 - c. 30 - 40
 - d. 40 - 50
8. The scout radiograph of KUB region demonstrates the following **except**:
 - a. Contour of kidney
 - b. Calculi
 - c. Location of kidney
 - d. Pelvis of kidney
9. In IVU investigation the abdominal compression is released in:
 - a. 5 minutes
 - b. 15 minutes
 - c. 10 minutes
 - d. 25 minutes
10. Valsalva is used in:
 - a. Angiography
 - b. Barium enema
 - c. C. Laryngography
 - d. IVU
11. In IVU the prone position is recommended for the demonstration of:
 - a. Kidney
 - b. Ureter
 - c. UPJ
 - d. Bladder
12. X-ray abdomen is taken with:
 - a. Full expiration
 - b. Full inspiration
 - c. No instruction required
 - d. None of these
13. Each pixel on CT image represents a small volume element called:
 - a. Matrix
 - b. Resolution
 - c. Voxel
 - d. Contrast
14. What is used as double contrast?
 - a. Urograffin 60%
 - b. Air
 - c. Urograffin 76%
 - d. Conray 280

B. Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, JUNE/JULY - 2017
SPECIAL PROCEDURES & TECHNIQUES

[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. How will you set a trolley for sialogram?
- Q. 2. Write the precaution taken for small bowel enema.
- Q. 3. What is the radiographic procedure for dacrocystogram?
- Q. 4. How will you prepare a patient for barium meal investigation?
- Q. 5. What are the indications of loopogram?
- Q. 6. Write the preparation of a patient for CT whole abdomen.
- Q. 7. How will you prepare a patient for HSG and what is 10 days rule?
- Q. 8. What is the check list for patient preparation for MRI investigation?
- Q. 9. Write short notes on:
 - a. Fistulogram
 - b. ERCP
 - c. DSA

B. Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)**THIRD YEAR EXAMINATION, JUNE/JULY - 2017****SPECIAL PROCEDURES & TECHNIQUES****(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. In a myelography investigation the lumbar puncture performed at the level of:
 - a. D4-D5
 - b. D12-L1
 - c. L4-L5
 - d. S1-S2
2. Air encephalography is done to see:
 - a. Mastoid
 - b. PNS
 - c. Ventricles and brain
 - d. Ventricles and heart
3. Macro-radiography is used to see:
 - a. Joint space
 - b. Bone outline
 - c. Modified view
 - d. Magnified view
4. Serum creatinine level shows the functioning of :
 - a. Liver
 - b. Spleen
 - c. Kidney
 - d. Heart
5. Baso4 is administered as a contrast agent through:
 - a. IV
 - b. IM
 - c. Orally
 - d. Intradermal
6. Urograffin is used for:
 - a. Barium swallow
 - b. Barium meal
 - c. Small bowel enema
 - d. Oral contrast for CT
7. Delayed phase is taken in CT scan after:
 - a. 2 Minutes
 - b. 5 Minutes
 - c. 15 Minutes
 - d. 45 Minutes
8. Long hair can produce artifacts in X-ray:
 - a. Skull
 - b. Knee joint
 - c. Chest PA view
 - d. Chest LAT
9. X-ray chest PA showing the lung fields upto the level of 5th rib is:
 - a. Full expiration film
 - b. Expiratory film
 - c. Non centered film
 - d. Over exposed film
10. An iron object with the patient is contra-indicated for:
 - a. CT
 - b. MRI
 - c. DSA
 - d. Ultrasound
11. I.V. contrast injection is given to see:
 - a. Lymphatic system
 - b. Vascularity
 - c. Bone
 - d. None of these
12. Water is used as an oral contrast in:
 - a. X-ray
 - b. MCU
 - c. MRI
 - d. CT
13. Patient needed NPO for the following investigation **except**:
 - a. CECT Brain
 - b. IVP
 - c. Chest PA
 - d. Ultrasound
14. High penetration films of Chest AP is required to see:
 - a. Cardiac silhouette
 - b. Fracture of ribs
 - c. Lung fields
 - d. Cervical ribs

Regn. No.....

Paper Code: BRIT- 303...

**B.Sc. MEDICAL TECNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, JUNE/JULY - 2017
ADVANCE TECHNIQUES & 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. Discuss the properties of ultrasound and its interaction with tissue.
- Q. 2. What is Doppler effect? How it is utilized in medical imaging?
- Q. 3. Discuss various generation of CT scanners with depicting suitable line diagrams.
- Q. 4. What is spiral CT? What are its advantages over conventional CT?
- Q. 5. Discuss various types of magnets used in magnetic resonance imaging.
- Q. 6. Describe safety measures taken inside MRI suit.
- Q. 7. Explain why compression techniques are used in mammography.
- Q. 8. Write short notes on:
 - a. Gamma camera
 - b. Digital subtraction angiography
- Q. 9. Compare digital radiography and computed radiography.

B.Sc. MEDICAL TECNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, JUNE/JULY - 2017
ADVANCE TECHNIQUES & EQUIPMENTS
(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 frequency of ultrasound used in medical imaging is above:
 - a. 20 hertz
 - b. 100 hertz
 - c. 20 kilo hertz
 - d. 2 mega hertz
2. Lead zirconate titanate (PZT) is a material related to:
 - a. Photoelectric effect
 - b. Piezoelectricity
 - c. Thermionic emission
 - d. None
3. Shades of grey are used in:
 - a. A-mode
 - b. B-mode
 - c. Doppler imaging
 - d. M-mode
4. Which of the following is related to patient dose in spiral CT?
 - a. Revolutions
 - b. Interpolation
 - c. Pitch factor
 - d. None
5. Ionizing radiation is used in:
 - a. MRI
 - b. Endoscopy
 - c. Cath lab
 - d. Ultrasound
6. The suitable material for MRI is:
 - a. Water
 - b. Lead
 - c. Wood
 - d. Radium
7. Radiofrequency coil is related to:
 - a. CT
 - b. DSA
 - c. MRI
 - d. US
8. Unsealed radionuclides are used in:
 - a. Nuclear medicine
 - b. Real time ultrasound
 - c. Radiotherapy
 - d. MRI
9. Photostimulable phosphor plate is used in:
 - a. MR spectroscopy
 - b. Fluoroscopy
 - c. Computed radiography
 - d. Nuclear medicine
10. Positron emitters generally possess:
 - a. Short half-life
 - b. Long half-life
 - c. No half-life
 - d. Random half-life
11. Technetium 99 m is a:
 - a. Ferromagnetic substance
 - b. Piezoelectric substance
 - c. Superconducting substance
 - d. Radioactive substance
12. Which one of the following is a fluoroscopy technique?
 - a. CT
 - b. IVU
 - c. DSA
 - d. Mammography
13. PACS means:
 - a. Peak attenuation cone system
 - b. Precise atomic concentric shell
 - c. Piezoelectric amplifier and circle stand
 - d. Picture archival and communication system
14. Low kv is used in mammography to:
 - a. Reduce patient dose
 - b. Improve contrast
 - c. Improve sharpness
 - d. Reduce noise