

Regn. No.....

Paper Code: BRIT- 301

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, JULY-2018
RADIOGRAPHY - II
PAPER - 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. Write the evaluation criteria for X-ray chest lateral view.
- Q. 2. What are the conditions which affect the sharpness of image?
- Q. 3. How would you take a soft tissue radiograph of nasopharynx?
- Q. 4. Describe the method of X-ray open mouth view of cervical spine and give the evaluation criteria.
- Q. 5. Describe all projections of mammography.
- Q. 6. What informations are necessary in MLC requisition form?
- Q. 7. Write the method of X-ray L.S. Spine AP/LAT for traumatic patient.
- Q. 8. Describe the Judet method for X-ray pelvis.
- Q. 9. Write short notes on:
 - i. Bone mineral density
 - ii. Computerized radiography
 - iii. 4H rule

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)**THIRD YEAR EXAMINATION, JULY-2018****RADIOGRAPHY - II****PAPER - 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. Temporo-mandibular joint is done with:
 - a. Open mouth
 - b. Open and close mouth
 - c. Close mouth
 - d. None of these
2. 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
3. Ectopic kidney is called when?
 - a. Non-functional kidney
 - b. No kidney is seen in renal area
 - c. Hydronephrosis
 - d. Kidney with calculus
4. The shorter part of the small intestine is:
 - a. Jejunum
 - b. Duodenum
 - c. Ileum
 - d. Caecum
5. Which of the following facial bones are **not** paired?
 - a. Vomer
 - b. Zygomatic
 - c. Lacrimal
 - d. Palantine
6. The scout radiograph of KUB region demonstrate the following **except**:
 - a. Counter of kidneys
 - b. Calculi
 - c. Location of kidney
 - d. Pelvis of kidney
7. Anterior oblique view for the skull is known as:
 - a. Water's view
 - b. Modified view
 - c. Stenver's view
 - d. Apicogram
8. The ethmoid bone contains how many sinus cavity?
 - a. One
 - b. Two
 - c. Multiple
 - d. None
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. Laryngography
 - c. Barium enema
 - d. IVU
11. X-ray abdomen is taken with:
 - a. Full expiration
 - b. Full inspiration
 - c. No instruction required
 - d. None of these
12. In IVU the prone position is recommended for the demonstration of:
 - a. Kidney
 - b. Ureter
 - c. Ureteropelvic junction
 - d. Bladder
13. Each pixel on CT image represent a small volume element called:
 - a. Matrix
 - b. Resolution
 - c. Voxel
 - d. Contrast
14. The largest sinuses are the:
 - a. Maxillary
 - b. Frontal
 - c. Ethmoid
 - d. Sphenoid

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B. Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, JULY - 2018
SPECIAL PROCEDURES & TECHNIQUES
PAPER - II

[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. Non-ionic contrast media.
- Q. 2. Classify I.V. contrast media. Describe various adverse reactions that are seen after intravenous iodinated contrast injection.
- Q. 3. Solography.
- Q. 4. Discuss the procedure of barium enema.
- Q. 5. Technique and indications of lateral decubitus film.
- Q. 6. Methods of contrast administration for CT angiography.
- Q. 7. Technique and indications of M.C.U.
- Q. 8. Write short note on H.S.G.
- Q. 9. Discuss the CT guided percutaneous lung biopsy and equipment used.

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B. Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)

THIRD YEAR EXAMINATION, JULY - 2018

SPECIAL PROCEDURES & TECHNIQUES

PAPER - II (MCQ)

Time allotted for MCQ-15 minutes

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

B : MCQs (Single response type):

Select the most appropriate answer and **encircle** the alphabet against it

1. Which one of these is a nonionic monomer?
 - a. Urograffin
 - b. Visipaque
 - c. Omnipaque
 - d. Isopaque
2. Which one of these is a contraindication to HSG?
 - a. Infertility
 - b. Recurrent abortions
 - c. Pregnancy
 - d. Following tubal surgery
3. Contraindication to barium enema:
 - a. Melaena
 - b. Toxic megacolon
 - c. Obstruction
 - d. Mass
4. Indication of barium swallow:
 - a. Dyspepsia
 - b. Weight loss
 - c. Tracheo-esophageal fistula
 - d. Pain
5. On which postoperative day, T-tube cholangiogram should be performed?
 - a. 5th day
 - b. 7th day
 - c. Next day
 - d. 10th day
6. What is the first film in excretion urography?
 - a. Immediate film
 - b. Control film
 - c. Postvoid film
 - d. Release film
7. Which is not a contraindication of I.V.U?
 - a. Renal failure
 - b. Multiple myeloma
 - c. Previous anaphylactoid reaction
 - d. Jaundice
8. Microbar-HD contains:
 - a. Barium sulphate
 - b. Barium carbonate
 - c. Calcium sulphate
 - d. Barium bicarbonate
9. What is the indication of barium follow through?
 - a. Partial obstruction
 - b. Dysphagia
 - c. Pain
 - d. Jaundice
10. In I.V.U series, compression is contraindicated in case of:
 - a. Vomiting
 - b. Pain
 - c. Recent abdominal surgery
 - d. Hypertension
11. Dacrocystography is indicated for:
 - a. Biliary tract
 - b. Lacrimal apparatus
 - c. Urinary tract
 - d. Gastrointestinal tract
12. Which is **not** an indication of ascending urethrography?
 - a. Strictures
 - b. Urethral trauma
 - c. Renal stones
 - d. Fistulae or false passages
13. What is the control film taken for M.C.U?
 - a. PA view
 - b. AP view
 - c. Lateral view
 - d. Lateral oblique view
14. HSG can be performed on which day in a female with regular 28 days cycle?
 - a. 15th day
 - b. 20th day
 - c. 10th day
 - d. 18th day

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B.Sc. MEDICAL TECNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, JULY - 2018
ADVANCE TECHNIQUES & EQUIPMENTS
PAPER -III

[Time allotted : Three hours]

[Max Marks : 70]

Note: Attempt all questions
Draw suitable diagrams wherever necessary

(7 x 9 = 63)

A : Short answer questions:

- Q. 1. Discuss in detail the various generations of the CT scanners. Write a note on advantages of the multidetector CT over conventional CT.
- Q. 2. Write short notes on:
a. PACS
b. Role of ultrasound in obstetrics
- Q. 3. Compare conventional mammography with digital mammography.
- Q. 4. Write short notes on :
a. Digital subtraction angiography
b. PNDT Act
- Q. 5. Describe ultrasound transducer in detail with appropriate diagrams.
- Q. 6. Write short notes on:
a. PET scan
b. Rectilinear scanner
- Q. 7. Discuss the various safety measures taken inside MRI suit.
- Q. 8. Describe digital radiography in comparison with conventional radiography.
- Q. 9. Explain in detail physical principles of MRI.

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, JULY - 2018
ADVANCE TECHNIQUES & EQUIPMENTS
PAPER - III (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. Strongest ionizing radiation is:
 - a. Alpha
 - b. Beta
 - c. Gamma
 - d. X-Ray
2. Becquerel discovered radioactivity phenomenon in:
 - a. 1893
 - b. 1894
 - c. 1895
 - d. 1896
3. Piezo electric effect is related to:
 - a. MRI
 - b. CT scan
 - c. USG
 - d. Fluoroscopy
4. Speed of ultrasound depends upon:
 - a. Medium
 - b. Material
 - c. Amplitude
 - d. Wavelength
5. Reverberation artifact is seen in:
 - a. MRI
 - b. CT scan
 - c. USG
 - d. All of the above
6. Frequency of sound wave higher than human hearing limit is:
 - a. Ultrasonic
 - b. Infrasonic
 - c. Suprasonic
 - d. Megasonic
7. Magnetic field strength is known as:
 - a. Flux
 - b. Density
 - c. Magnetic strength
 - d. Magnetic flux density
8. MRA stands for:
 - a. Magnetic resonance amplification
 - b. Magnetic resonance angiography
 - c. Medical research assistance
 - d. None
9. Increasing magnetic field in MRI:
 - a. Provide less susceptibility artifacts
 - b. Reduces the risk of heating
 - c. Is less time consuming for radiologist
 - d. Increases signal-noise ratio
10. PACS means:
 - a. Peak attenuation cone system
 - b. Precise atomic concentric shell
 - c. Picture archival communication system
 - d. Precise academic concentric system
11. Maximum magnetic strength approved for safer imaging is:
 - a. 1.5 T
 - b. 3.0 T
 - c. 5.0 T
 - d. 7.0 T
12. Routine CT scan brain extends between vertex and:
 - a. Skull base
 - b. Mandible
 - c. Maxilla
 - d. Orbit
13. Mammography detects malignancy mostly in:
 - a. Second decade
 - b. Fourth decade
 - c. Third decade
 - d. Fifth decade and above
14. Shades of gray are used in:
 - a. A Mode
 - b. B Mode
 - c. M Mode
 - d. Both A and B Mode

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, JULY - 2019
RADIOGRAPHY - II
PAPER - 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 all projections of mammography.
- Q. 2. What are the contra-indications of iodine contrast?
- Q. 3. How would you take a soft tissue radiograph of nasopharynx ?
- Q. 4. Describe the trans-thoracic view of shoulder joint.
- Q. 5. Write the names of all cranial bones and describe their anatomical position.
- Q. 6. Write the method of X-ray cervical spine AP/LAT for traumatic patient. Define open mouth view.
- Q. 7. Write the evaluation criteria for X-ray abdomen AP view.
- Q. 8. Describe the position of X-ray open mouth view of cervical spine and give the evaluation criteria.
- Q. 9. Write short notes on:
 - a. Carpal bones
 - b. Hounsfield unit
 - c. Image resolution

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)**THIRD YEAR EXAMINATION, JULY - 2019****RADIOGRAPHY - II****PAPER - 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. Valsalva is used in:
 - a. Barium enema
 - b. Angiography
 - c. Cervical spine
 - d. Laryngography
2. In the X-ray cervical lateral view the chin is:
 - a. Neutral
 - b. Flexed
 - c. Extended
 - d. Rotated
3. Centering for the atlanto-occipital joint is:
 - a. At external auditory meatus
 - b. 2.5cm above external auditory meatus
 - c. 2.5cm below external auditory meatus
 - d. 2.5cm posterior to external auditory meatus
4. The patient prone with nose cheek and chin offside being examined in contact with the table is the position for:
 - a. Sella turcica
 - b. Mandible
 - c. Optic foramina
 - d. Base of skull
5. Following are the projection to see PNS **except**:
 - a. Caldwell
 - b. Waters
 - c. Trendelenburg
 - d. Submentovertex
6. Anterior oblique view for the skull is known as:
 - a. Water's view
 - b. Stenver's view
 - c. Modified view
 - d. Apicogram
7. Bilateral acromio-clavicular joint should be taken:
 - a. With weight
 - b. Without weight
 - c. With and without weight
 - d. Folded arm
8. Scout radiograph of KUB region demonstrates all of 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 applied after:
 - a. 5 min
 - b. 10 min
 - c. 15 min
 - d. 30 min
10. Which structure is located on the medially on an AP elbow projection?
 - a. Capitulum
 - b. Trochlea
 - c. Radial head
 - d. Both b and c
11. Coating of radiosensitive films is :
 - a. Copper
 - b. Silver bromide
 - c. Silver nitrate
 - d. Aluminium
12. Each pixel on CT image represent a small volume element called:
 - a. Matrix
 - b. Resolution
 - c. Contrast
 - d. Voxel
13. Coronoid process of ulna is a part of:
 - a. Wrist joint
 - b. Radio-ulnar joint
 - c. Elbow joint
 - d. Glenoid cavity
14. Intra-peritoneal organs are all **except**:
 - a. Liver
 - b. Rectum
 - c. Gall bladder
 - d. Ileum

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, JULY - 2019
SPECIAL PROCEDURES & TECHNIQUES
PAPER - II

[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 indications and procedure of intravenous urography (IVU).
- Q. 2. How would you prepare a patient for MRI investigation?
- Q. 3. Write the preparation of patient for CT abdomen.
- Q. 4. Describe the indication and procedures of dacrocystography (DCG).
- Q. 5. Write short notes on:
- a. Trolley setup for various procedures
 - b. I.V. contrast media
- Q. 6. What are the indication and procedure of HSG?
- Q. 7. Write short notes on:
- a. RGU
 - b. PTC
- Q. 8. Write short notes on:
- a. Angiography
 - b. Postoperative T-tube cholangiogram
- Q. 9. Write short notes on:
- a. MCU
 - b. Barium enema

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B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)

THIRD YEAR EXAMINATION, JULY - 2019

SPECIAL PROCEDURES & TECHNIQUES

PAPER – II (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. Best investigation for the detection of bone metastases is:
 - a. X-ray
 - b. CT scan
 - c. MRI
 - d. Bone scan
2. All of the following are complication of contrast except:
 - a. Contrast allergy
 - b. Contrast media extravasation
 - c. Infant diarrhea
 - d. Thyrotoxicosis
3. Contrast should **not** be administered in screening of which condition?
 - a. Tumor
 - b. Trauma
 - c. Tuberculosis
 - d. Inflammatory granulomas
4. Investigation of choice for subarchnoid hemorrhage:
 - a. MRI
 - b. CE MRI
 - c. CT scan
 - d. Angiography
5. Best investigation for temporal bone fracture is done with:
 - a. MRI
 - b. CT scan
 - c. X-ray
 - d. Ultrasound
6. Disease most commonly known to cause contrast induced thyrotoxicosis is:
 - a. Simple goiter
 - b. Multinodular goiter
 - c. Hashimoto disease
 - d. Thyroid abscess
7. Most sensitive modality for ureteric stones in patient with acute colic is:
 - a. MRI
 - b. CT scan
 - c. X-ray
 - d. Ultrasound
8. Which of the following structure is avoided in CT head:
 - a. Olfactory epithelium
 - b. Orbit
 - c. Maxillary sinus
 - d. Tongue
9. The most sensitive tissue is:
 - a. Nervous tissue
 - b. Bone
 - c. Kidney
 - d. Orbit
10. Contrast should be cautiously performed on cases of:
 - a. Multiple myeloma
 - b. Bone secondaries
 - c. Neuroblastoma
 - d. Leukemia
11. Objects commonly causing metallic artifacts are all **except**:
 - a. Pacemaker
 - b. Dental filling
 - c. ET tube
 - d. Intravascular stent
12. The most common source of bleed in epidural hematoma is :
 - a. Cerebellar artery
 - b. Pontine artery
 - c. Middle meningeal artery
 - d. Vertebral artery
13. Which of the following is **not** an occupational lung disease?
 - a. Silicosis
 - b. Tuberculosis
 - c. Asbestosis
 - d. ILD
14. CBCT stands for:
 - a. Coil beam CT
 - b. Combined beam CT
 - c. Cone-beam computed tomography
 - d. Circular beam CT

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Paper Code: BRIT 303

**B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, JULY - 2019
ADVANCE TECHNIQUES & EQUIPMENTS
PAPER - III**

[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. Briefly discuss about various safety measures taken in MRI.
- Q. 2. Briefly discuss different modes of ultrasound imaging.
- Q. 3. Briefly write the basic principle of MRI.
- Q. 4. Compare digital radiography and computed radiography.
- Q. 5. Define 'CT number'. Mention its role in computed tomography imaging.
- Q. 6. Describe the working principle of a gamma camera by giving a neat diagram of it.
- Q. 7. Describe various factors which need consideration during mammography imaging.
- Q. 8. Digital subtraction angiography (DSA).
- Q. 9. Outline the difference between axial and helical CT.

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, JULY - 2019
ADVANCE TECHNIQUES & EQUIPMENTS
PAPER - III (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. Speed of ultrasound in tissue is:
 - a. 336 m/s
 - b. 551 m/s
 - c. 1024 m/s
 - d. 1540 m/s
2. In which one of the following method, a single probe has two different transducer elements?
 - a. A-mode
 - b. B-mode
 - c. Real time US
 - d. Continuous wave Doppler
3. CT number of water is:
 - a. 1000
 - b. -1000
 - c. 0
 - d. None of the above
4. Which one of the following is related to patient dose in CT?
 - a. Number of detectors
 - b. Size of detectors
 - c. Radius of gantry
 - d. Pitch factor
5. Nuclear precession is used in:
 - a. Ultrasound imaging
 - b. CT scanning
 - c. Nuclear medicine
 - d. MR imaging
6. 3rd generation CT is also known as:
 - a. Translate-rotate
 - b. Translate-fix
 - c. Rotate-fix
 - d. Rotate-rotate
7. Slip rings are used in:
 - a. 4th generation
 - b. Electron beam CT
 - c. Spiral CT
 - d. All of the above
8. Property of certain crystals to convert electric pulses into sound wave is called:
 - a. Piezoelectric effect
 - b. Photoelectric effect
 - c. Compton effect
 - d. None of the above
9. Free induction decay is related to:
 - a. Ultrasound
 - b. Axial CT
 - c. MDCT
 - d. NMR
10. Which imaging technique uses ionizing radiation?
 - a. Ultrasound
 - b. MRI
 - c. CT
 - d. Endoscopy
11. Which type of magnet is most suitable for MR imaging?
 - a. Permanent magnet
 - b. Resistive coil air core magnet
 - c. Superconducting magnet
 - d. None of them
12. "Claustrophobia" is related to:
 - a. CT
 - b. Fluoroscopy
 - c. DSA
 - d. MRI
13. Fourth generation of CT is called:
 - a. Translate-rotate
 - b. Rotate-rotate
 - c. Rotate-fixed
 - d. None of the above
14. Gamma camera is used in:
 - a. Diagnostic radiology
 - b. Radiotherapy
 - c. Nuclear medicine
 - d. Cathlab

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B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, AUGUST - 2020
RADIOGRAPHY - II
PAPER - I

[Time allotted: Two hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagrams wherever necessary

A : Short answer questions:

(10 x 06 = 60)

- Q. 1.** Describe the radiographic view for knee joint.
- Q. 2.** Name the bones of pelvis. Draw diagram.
- Q. 3.** Name the basic part of MRI scanner. Draw a diagram.
- Q. 4.** Write about all the views of mammography.
- Q. 5.** What are MR artifacts?
- Q. 6.** How would you do the x-ray cervical spine of traumatic patient?

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, AUGUST - 2020
RADIOGRAPHY - II
PAPER – I (MCQ)

Time allotted for MCQ - 15 minutes

B: MCQs (Single response type):

(01 x 10 = 10)

Select the most appropriate answer and **encircle** the alphabet against it.

1. Intra-peritoneal organs are all **except**:
 - a. Liver
 - b. Rectum
 - c. Gall bladder
 - d. Ileum
2. In the x-ray cervical lateral view the chin is:
 - a. Neutral
 - b. Flexed
 - c. Extended
 - d. Rotated
3. Centering for the Atlanto-occipital joint is at:
 - a. External auditory meatus
 - b. 2.5cm above external auditory meatus
 - c. 2.5cm below external auditory meatus
 - d. 2.5cm posterior to external auditory meatus
4. The patient prone with nose cheek and chin offside being examined in contact with the table is the position for:
 - a. Sella turcica
 - b. Mandible
 - c. Optic foramina
 - d. Base of skull
5. All of the following are the projection to see PNS **except**:
 - a. Caldwell
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 - c. Trendelenburg
 - d. Submentovertex
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 - a. Water's view
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 - d. Apicogram
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 - a. With weight
 - b. Without weight
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 - a. Contour of kidney
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 - c. Location of kidney
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 - a. 5 min
 - b. 10 min
 - c. 15 min
 - d. 30 min
10. Valsalva is used in:
 - a. Barium enema
 - b. Angiography
 - c. Cervical spine
 - d. Laryngography

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, AUGUST - 2020
SPECIAL PROCEDURES & TECHNIQUES
PAPER - II

[Time allotted: Two hours]**[Max Marks: 70]****Note:** Attempt all questions

Draw suitable diagrams wherever necessary

A : Short answer questions:**(10 x 06 = 60)**

Q. 1. Describe the barium meal follow through in adults under the following headings:

- a. Indications and contraindications
- b. Patient preparation
- c. Radiographic technique

Q. 2. Write short notes on:

- a. T tube cholangiogram
- b. Loopogram

Q. 3. Describe the lumbar myelography under the following headings:

- a. Preparation of patient
- b. Trolley setting
- c. After care of patient

Q. 4. Write short notes on:

- a. Negative contrast media and their uses
- b. 10 day's rule

Q. 5. Describe ascending urethrography in male with its indications and technique.

Q. 6. Write short notes on:

- a. DSA
- b. CT enteroclysis

B.Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING)
THIRD YEAR EXAMINATION, AUGUST - 2020
SPECIAL PROCEDURES & TECHNIQUES
PAPER - II (MCQ)

Time allotted for MCQ - 15 minutes

B : MCQs (Single response type):

(01 x 10 = 10)

Select the most appropriate answer and encircle the alphabet against it

1. Characteristic for noninvasive diagnostic procedure is:
 - a. Require insertion of catheter in vessel
 - b. Require surgical aseptic technique
 - c. Uses standard USG to view internal organs
 - d. Require anaesthetic monitoring
- ✓ 2. Gall stones are diagnosed by:
 - a. Barium enema
 - b. Cholangiography
 - c. IVP
 - d. Stereoscopy
3. Which procedure is done for spinal cord compression?
 - a. Retrograde pyelography
 - b. USG
 - c. Myelography
 - d. Mammography
4. Technique used to diagnose upper GI bleed:
 - a. Gastrointestinal angiography
 - b. Retrograde pyelogram
 - c. USG
 - d. Stereoscopy
- ✓ 5. Sensitivity of mammography is low in young female because of:
 - a. Less glandular tissue
 - b. Less cooperative female
 - c. More dense breast tissue
 - d. Less fat content
6. Barium meal is contraindicated in:
 - a. Upper abdominal mass
 - b. Gastrointestinal hemorrhage
 - c. Dyspepsia
 - d. Complete large bowel obstruction
7. Femoral artery catheter insertion is done by:
 - a. Seldinger technique
 - b. Wilson technique
 - c. Sujuka technique
 - d. Nobosuki technique
8. Which is **not** a complication of angiography?
 - a. Embolus formation
 - b. Vessel dissection
 - c. Hypertension
 - d. Contrast media reaction
9. Major health concern with MRI is:
 - a. Drug reaction
 - b. Hypothermia
 - c. Radiation hazard
 - d. Localized burn due to implant
10. In ultrasonography transducer converts:
 - a. Electric energy to mechanical energy
 - b. Mechanical energy to electrical energy
 - c. Both a & b above
 - d. None of the above

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THIRD YEAR EXAMINATION, AUGUST - 2020
ADVANCE TECHNIQUES & EQUIPMENTS
PAPER - III**

[Time allotted: Two hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagrams wherever necessary

A : Short answer questions:

(10 x 06 = 60)

- Q. 1. Describe various properties of ultrasound? What is piezoelectricity?
- Q. 2. Discuss the basic principle of nuclear magnetic resonance.
- Q. 3. Define CT number. What is its role in computed tomography imaging?
- Q. 4. Describe continuous wave doppler ultrasound.
- Q. 5. Write the principle of spiral CT scanner. Mention its merits over conventional CT scanner.
- Q. 6. Write short notes on:
a. Gamma imaging
b. Digital radiography

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(MCQ)

Time allotted for MCQ - 15 minutes

B : MCQs (Single response type):

(01 x 10 = 10)

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 of the above
3. A fan beam is used in which CT generation:
 - a. 1st
 - b. 2nd
 - c. 3rd
 - d. 3rd & 4th
4. In spiral CT, the patient dose is related to:
 - a. Revolutions
 - b. Interpolation
 - c. Pitch factor
 - d. None of the above
5. MRI uses:
 - a. Ionizing radiation
 - b. Microwaves
 - c. Heat radiations
 - d. None of the above
6. The suitable material for MRI is:
 - a. Water
 - b. Lead
 - c. Wood
 - d. Radium
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. Radio nuclides are used in:
 - a. Ultrasound
 - b. Endoscopy
 - c. MR contrast media
 - d. Nuclear medicine
10. The half-lives are inconveniently short in case of :
 - a. Gamma emitters
 - b. Proton emitters
 - c. Positron emitters
 - d. None of the above