

Jan 2020

BLDE (DEEMED TO BE UNIVERSITY)

B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time: 1 ½ Hours]

[Max. Marks: 50]

I SEMESTER

PAPER – I (BASIC SCIENCES)

QP CODE: 8111

Your answer should be specific to the questions asked.

Write Question No. inside the margin.

6X3=18

Write Brief answers:

1. What are the components of blood and enumerate the cells within blood.
2. Enumerate the renal function tests. What are the normal values of serum creatinine & blood urea?
3. Enumerate hormones secreted by pituitary.
4. Enumerate 3 functions of stomach.
5. Draw a neat labeled diagram of trachea & its division into major bronchi.
6. Draw a neat labelled diagram of kidney, ureter and urinary bladder.

6X2=12

Write Short answers:

7. Which vessel is most commonly used to measure blood pressure and what is normal blood pressure level?
8. What is bleeding time and clotting time and what are their normal values?
9. Enumerate 4 symptoms caused by deficiency of vitamin B?
10. Enumerate the structures passing through diaphragm.
11. Name four lobes of brain.
12. Name carpal bones.

3X4=12

Draw labeled Diagram:

13. Draw a neat labelled diagram of femur.
14. Draw a neat labelled diagram of heart & great vessels.
15. Draw a neat labelled diagram of lumbar vertebra.

4X1=4

Write True or False:

16. Vitamin E is a fat soluble vitamin.
17. Left lobe of the lung is divided by minor fissure into upper and lower lobe.
18. Patella is a sesamoid bone.
19. Duodenum is divided into 5 parts.

4X1=4

Fill in the blanks:

20. Greater trochanter is part of _____ bone
21. _____ moisturizes the inside of the mouth and creates smoother speech
22. 10th cranial nerve is also called as _____
23. Identify the tarsal bone from the following
a) Scaphoid b) Fabella c) Talus d) Hamate

B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time: 1 ½ Hours]

[Max. Marks: 50]

I SEMESTER

PAPER – II (RADIOGRAPHIC PHYSICS & POSITIONING)

QP CODE:8112

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Brief Answer Questions:

6 x 3 = 18

Describe the X ray projections under following headings:

- a) FFD b) Centering point c) size of cassette
- d) Bucky/non-Bucky d) Position of patient e) Extent of image
- 1. Enumerate four methods to protect the radiographers in a radiography room?
- 2. Antero-posterior projection of humerus.
- 3. Lateral projection for femur.
- 4. Antero-posterior projection for tibia-fibula
- 5. Postero-anterior projection for chest.
- 6. Name two methods to reduce dose to patients and radiographers during fluoroscopy.

Short Answers Questions:

6 x 2 = 12

- 7. What is luminiscence?
- 8. Enumerate the bones forming the ankle joint?
- 9. Enumerate carpal bones.
- 10. What is the centering projection and FFD you will use for an adult X-ray AP of hip?
- 11. Draw a neat labelled diagram of radiographic film?
- 12. What is the function of intensifying screen?

Draw Labeled Diagram:

3 x 4 = 12

- 13. Draw a neat labelled diagram of shoulder joint and mention the radiographic views used for knee
- 14. Draw a labelled diagram of stomach.
- 15. Draw a neat labelled diagram of Ankle joint.

True or False:

4x1=4

- 16. There are 7 cervical vertebrae in our body
- 17. The phosphors emit light when stimulated by x-ray
- 18. Safe light used in dark room is blue in colour.
- 19. Collimation is used to prevent scattering of X rays

Fill in the blanks

4 x 1 = 4

- 20. Skyline view is used for radiography of _____.
- 21. The Centering point for AP projection of elbow joint is _____.
- 22. Any material that gives of light in response to x rays is a _____ material.
- 23. Lordotic projection of the chest is mainly used for proper visualization of _____ part of lungs.

Jan 2020

BLDE (DEEMED TO BE UNIVERSITY)

B.S.C MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

II SEMESTER

[Max.Marks : 50]

PAPER – I (GENERAL PATHOLOGY)

QP CODE: 8211

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Brief Answer Questions:

3 x 6 = 18

1. Enumerate 3 functions of blood
2. Explain in detail about Sources, functions & deficiency symptoms of vitamin D.
3. Write the classification of proteins. Give examples
4. Enumerate hormones secreted by pituitary.
5. What are the components of blood and enumerate the cells within blood.
6. Draw a neat labeled diagram of suprarenal glands.

Short Answers Questions:

2 x 6 = 12

7. Name the parts of temporal bone.
8. Name the bones forming hip joint
9. Enumerate 4 symptoms caused by deficiency of vitamin C
10. Mention any four essential amino acids
11. Mention 2 functions of saliva
12. Name four lobes of brain.

Draw Labeled Diagram:

4 x 3 = 12

13. Draw a neat labelled diagram of femur.
14. Draw a neat labelled diagram of heart.
15. Draw a neat labelled diagram of elbow joint.

Say True or False:

1 x 4 = 4

16. Lemon is a source of vitamin D.
17. Serum bilirubin is a liver function test
18. Lateral malleolus is part of tibia.
19. Duodenum is divided into 5 parts.

Fill in the blanks

1 x 4 = 4

20. Patella is a _____ bone.
21. Normal creatinine level is _____
22. 5th cranial nerve is also called as _____
23. Male genital organ is _____

a) Thyroid b) Testis c) Uterus d) Seminal vesicles

Jan 2020

BLDE (DEEMED TO BE UNIVERSITY)

B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

II SEMESTER

[Max.Marks: 50]

PAPER – II (IMAGING PHYSICS & RADIOGRAPHIC POSITIONING)

QP CODE: 8212

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Brief Answer Questions:

6 x 3 = 18

Describe the X ray projections under following headings:

- a) FFD b) Centering point c) size of cassette d) Bucky/non-Bucky e) Position of patient
- f) Extent of image
1. Lateral projection for cervical spine
2. Lateral projection for knee
3. Postero-anterior projection for chest..
4. Name two methods to reduce dose to patients and radiographers during fluoroscopy
5. Define processing of film & name its stages?
6. Anteroposterior view of tibia & fibula.

Short Answers Questions:

6 x 2 = 12

7. Enumerate 4 steps of film processing.
8. Name 4 types of artifacts in radiography with example.
9. What is the Kvp range and FFD commonly used for an adult X-ray AP of chest?
10. What are the types of doors for dark room?
11. What is the time & temperature required to process the x-ray film?
12. Name the bones of forearm and arm

Draw Labeled Diagram:

3 x 4 = 12

13. Draw a neat labelled diagram of Ankle joint
14. Draw a neat labelled diagram of ulna.
15. Draw a neat labelled diagram of knee joint and mention the radiographic views used

Say True or False:

4 x 1 = 4

16. For a lateral view of elbow it is necessary to flex the elbow at 90o
17. For better protection from radiation, collimation of beam is required
18. Less than 1% of the incident x-rays interact with the film to contribute to the latent image.
19. Liver is situated in left upper quadrant of abdomen.

Fill in the blanks

4 x 1 = 4

20. The centring point for PA projection chest is _____.
21. "As low as Reasonably Achievable" is the best policy for _____.
22. The number of cervical vertebrae is _____.
23. If the film is not properly washed, it will show _____ artifact

B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

[Max.Marks : 50]

IIIrd SEMESTER

PAPER – I (SPECIAL RADIOGRAPHIC POSITIONS)

QP CODE: 8311

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Brief Answer Questions:

3 x 6 = 18

Describe the X - Ray projections under following headings

- a) FFD b) Centering point c) Size of cassette d) Bucky/non-bucky
e) Position of Patient e) Extent of image
1. Atlanto axial joint – open mouth view
 2. Base of skull view
 3. Mastoid – Schuller's view
 4. Scapula – Y view
 5. Hand – Scaphoid view
 6. C spine – Swimmer's view for C7 – T1

Short Answers Questions:

2 x 6 = 12

7. What are the contrast media used for the IVU? What is the dosage administered?
8. What are complications of HSG?
9. What is the positioning given for taking films in Barium swallow procedure?
10. What are complications of Barium enema?
11. What is immediate management of hypotension when IV contrast media is administered?
12. What is double contrast barium procedure & its utility ?

Long Answer Questions

4 x 3 = 12

Describe the procedures under following headings:

- a) Definition b) Preparation of patient c) Indications d) Contraindications
e) Contrast used f) Instruments used g) Specific positions used for procedure
h) Procedure in brief
13. BARIUM MEAL 14. SIALOGRAPHY 15. SMALL BOWEL ENTEROCYLSIS

Say True or False:

1 x 4 = 4

16. IVU is performed when serum creatinin is very high(T/F) –
17. Bowel perforation is an indication for bowel enema(T/F)–
18. Open mouth view is used for visualization of odontoid process (T/F) -
19. It is not important to take the spot film prior to a barium procedure(T/F) -

Fill in the blanks

1 x 4 = 4

20. The _____ of the patient, touches the image receptor in Waters view.
21. To view optic foramina, _____ view is used.
22. _____ view is used to visualize C7- T1 vertebrae in lateral projection
23. Sims speculum is used in _____ radiological procedure.

B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

[Max.Marks : 50]

IIIrd SEMESTER**PAPER – II (CLINICAL SCIENCES)****QP CODE: 8312**

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Brief Answer Questions:**6 x 3 = 18**

1. What do you mean by pancreatitis and name the types?
2. What are various sites of temperature measurements in human body?
3. What are various symptoms of hyperthermia?
4. Explain in brief about the auscultatory method of measuring blood pressure.
5. Define hypotension. Enumerate four causes of hypotension.
6. What is the commonest malignancy of the lung? enumerate various causes & radiological investigations performed to diagnose it..

Short Answers Questions:**6 x 2 = 12**

7. What is diastolic blood pressure? What is the normal range of blood pressure?
8. What is a Intercostal drainage (ICD) tube and its optimum position?
9. Name four most common small bowel diseases?
10. Enumerate imaging modalities used in a patient of chronic pancreatitis?
11. Define hypothermia? What is normal human temperature?
12. What is hemoptosis and mention 2 causes?

Long Answer Questions**3 x 4 = 12**

13. What are the common causes, clinical symptoms and imaging modalities used to diagnose a patient of ca liver?
14. What is mechanism of thermoregulation in human body? What are various types of thermometers?
15. Write about pneumothorax, causes and types, and radiological investigations performed to diagnose.

Say True or False:**4 x 1 = 4**

16. Endotracheal tube is inserted in the trachea.
17. Hypotension is defined as SBP <90 mm of Hg & DBP <60 mm of Hg.
18. Hypothalamus is the centre for temperature regulation in human body.
19. Peptic ulcer is due to break in the continuity of the gastric mucosa.

Fill in the blanks**4 x 1 = 4**

20. Normal Heart rate is _____
21. Normal creatinine level is _____
22. Hyperthermia is _____.
23. Normal WBC count is _____.

Jan 2020

BLDE (DEEMED TO BE UNIVERSITY)
B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

IV SEMESTER

[Max.Marks : 50]

PAPER – I (SPECIAL RADIOGRAPHIC POSITIONS & PROCEDURES)

QP CODE: 8411

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

BRIEF ANSWER QUESTIONS:

3 X 6 = 18

Describe the X ray projections under following headings:

- a) FFD b) Centring point c) size of cassette
d) Bucky/non-Bucky d) Position of patient e) Extent of image
1. Sternum – Lateral view
 2. Hip joint – AP view
 3. Knee joint – Intercondylar notch view
 4. TMJ – Open mouth view
 5. SI joint - Oblique view.
 6. Atlanto axial joint – Lateral view

SHORT ANSWERS QUESTIONS:

2 X 6 = 12

7. Write in brief explaining about the patient preparation for barium meal?
8. Mention four indications for IVP?
9. What are the indications for Angiography?
10. Enumerate four common adverse reactions for IVcontrast media?
11. How will you prepare an infant for enteroclysis procedure?
12. What are complications of barium enema?

LONG ANSWER QUESTIONS:

4 x 3 = 12

Describe the procedures under following headings:

- c) Definition b) Preparation of patient c) Indications d) Contraindications
e) Contrast used f) instruments used g) specific positions used for procedure
h) Procedure in brief.

13. BARIUM SWALLOW. 14. IVU. 15. FISTULOGRAM.

SAY TRUE OR FALSE :

1 X 4 = 4

16. In chest xray AP view central ray is directed at T7 vertebra (T/F) –
17. In schuller view of mastoid X-ray beam is directed at 30° oblique plain (T/F)–
18. Fistulogram is performed to look for excretory function of the kidneys(T/F) -
19. Rectal enema is given on the day before performing Enteroclysis(T/F) -

FILL IN THE BLANKS

1 X 4 = 4

20. Sacro iliac joint is formed by _____ bones.
21. To view jugular foramina, _____ view is used.
22. ____ & _____ are immediately given for management of allergic contrast reaction on table.
23. A double contrast examination uses _____ & _____ media.

Jan 2020

BLDE (DEEMED TO BE UNIVERSITY)

B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

IV SEMESTER

[Max.Marks : 50]

PAPER – II (RADIATION PHYSICS & CROSS SECTIONAL ANATOMY OF HEAD NECK & SUPEX)

QP CODE: 8412

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

BRIEF ANSWER QUESTIONS:

6 X 3 = 18

1. Draw a neat labelled diagram of cavernous sinus.
2. Draw a neat labelled diagram of sagittal section of the sphenoid sinuses.
3. Draw a neat labelled diagram of Ventricular system of the brain.
4. Draw a neat labelled diagram of cerebellum.
5. Draw a neat labelled diagram of Mandible.
6. Draw labelled diagram showing cross sectional anatomy of Inner ear.

SHORT ANSWERS QUESTIONS:

6 X 2 = 12

7. What is permissible dose limits ?
8. What are 3 effective strategies for dose reduction ?
9. Importance of shielding in radiation protection?
10. Enumerate four important structures in the temporal bone?
11. Enumerate the paranasal sinuses?
12. Enumerate the structures in the inner ear?

LONG ANSWER QUESTIONS:

3 x 4 = 12

13. Draw a neat labelled diagram of Pituitary gland in Sagittal & Coronal section.
14. What is ALARA and describe the various factors for achieving ALARA.
15. Draw a neat labelled diagram of Mandible & Temporo-mandibular joint.

SAY TRUE OR FALSE:

4 X 1 = 4

16. Midbrain is a part of frontal lobe (T/F) –
17. Fourth ventricle is rhomboid in shape(T/F)–
18. TLD is used for radiation monitoring(T/F) -
19. Gonadal shielding is not required for every patient (T/F) -

FILL IN THE BLANKS

4 X 1 = 4

20. Equivalent dose is _____.
21. Expand GM counter _____.
22. _____ cone appearance is seen in normal ossicular chain on axial section of temporal bone.
23. External auditory canal is made up of _____ by cartilage & _____ by bone.

BLDE (DEEMED TO BE UNIVERSITY)

Jan 2020

B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time: 1 ½ Hours]

[Max. Marks: 50]

V SEMESTER

PAPER – I (RADIOGRAPHY & SPECIAL PROCEDURES)

QP CODE: 8511

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Brief Answer Questions:

3 x 6 = 18

Describe the X ray projections under following headings:

- a) FFD b) Centering point c) size of cassette
d) Bucky/non-Bucky e) Position of patient f) Extent of image

1. Optic canal view
2. Mandible oblique view
3. Chest PA view
4. Water's view of skull
5. Sternum lateral view.
6. TM joint open mouth view.

Short Answers Questions:

2 x 6 = 12

7. Name the views used for sternum.
8. Name commonly used phosphor in CR system?
9. Name the X ray views for paranasal sinuses & mention which sinuses are best visualized in each view.
10. Write two advantages of DR over CR?
11. Name four components of PACS.
12. Write two limitations of conventional radiography?

Draw Labeled Diagram:

4 x 3 = 12

13. Draw neat labelled diagram of coronal section of thorax
14. Draw neat labelled diagram of coronal section of abdomen and label important organs
15. Draw coronel section of head showing para nasal sinus

True or False :

1x4 = 4

16. In PA chest view centering point is D8 vertebral body(T/F) –
17. In scaphoid view hand is placed in radial deviation (T/F)–
18. Lordotic chest view is taken for better visualization of apices of lungs(T/F) -
19. Caldwell's view is best for visualization of frontal sinuses(T/F) -

Fill in the blanks

1 x 4 = 4

20. Full form of DICOM is _____.
21. The centering point in scaphoid view of wrist is _____.
22. In carpal tunnel view, wrist is dorsiflexed to _____ degrees.
23. Schuller's views for better visualisation of _____.

B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time: 1 ½ Hours]

[Max. Marks: 50]

V SEMESTER
PAPER – II (MRI)
QP CODE: 8512

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Brief Answer Questions:

6 x 3 = 18

1. What are the different sequences used in MRI spine.
2. What is T1 and T2 relaxation time?
3. Write its salient features of T1 relaxation time.
4. Define TR & TE.
5. What is a coil? What are types of coils?
6. What is shading artefact in MRI? How it can be corrected?

Short Answers Questions:

6 x 2 = 12

7. Enumerate various parts of MRI machine.
8. Name the phases used in liver CECT.
9. Enumerate the sequences used in MRI brain study.
10. What are the differences between T1 & T2 image?
11. How does fluid appear on T1, T2 and FLAIR sequences?
12. What is DWI sequence? Where it is used?

Draw Labeled Diagram:

3 x 4 = 12

13. Draw & label cross sectional anatomy of lungs.
14. Draw & label cross sectional anatomy of KUB.
15. Draw & label cross sectional anatomy of stomach.

Say True or False:

4x1=4

16. FFE sequence is used for identification of fat (T/F) –
17. T1 is about 2 times longer than T2 (T/F) –
18. Fluid appears bright on T2 (T/F) -
19. Stomach has greater and lesser curvatures (T/F) -

Fill in the blanks

4 x 1 = 4

20. Full form of PDW is _____.
21. FFE sequence is for identification of _____ & _____.
22. Water appears bright on _____ sequence.
23. Pulmonary veins arises from _____ chamber of heart.