

Jan-21

BLDE (DEEMED TO BE UNIVERSITY)

B.S.C 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. AP projection for abdomen.
2. Lateral projection for lumbar spine
3. Antero-posterior projection for cervical spine
4. Antero-posterior projection for femur
5. What is luminescence? Where do you get it?
6. Describe the construction of radiographic film.

Short Answers Questions:

6 x 2 = 12

7. What is meant by PA projection?
8. What are the dark room equipments?
9. Enumerate two functions of intensifying screen?
10. Define fluorescence.
11. What are the functions of cassettes?
12. Name the bones of forearm and leg?

Draw Labeled Diagram:

3 x 4 = 12

13. Draw a neat labeled diagram of 9 regions of the abdomen.
14. Draw a neat labeled diagram of ankle joint.
15. Draw a neat labeled diagram of humerus.

Say True or False:

4x1=4

16. PA projection reduces the exposure dose to gonads compared to AP
17. The general purpose of using erect position in AP abdomen is to demonstrate free air in abdomen
18. Less than 1% of the incident x-rays interact with the film to contribute to the latent image.
19. Low atomic number materials are used in intensifying screens so that x-ray absorption will be high

Fill in the blanks

4 x 1 = 4

20. Shoulder joint is an example of ball and socket type of joint in human body is _____
21. Number of carpal bones in human wrist is _____
22. "As low as Reasonably Achievable" is the best policy for _____
23. Intensifying screens emit _____ when X rays fall upon them.

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 Town's view
2. Lateral projection for knee
3. Write about how parallel grids function & where it is used?
4. Open mouth view for cervical spine (C1, C2)
5. Radiography view of optic foramen.
6. What is a semiconductor and write in brief about its types?

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

7. What is a diode?
8. What is the difference between a step up and step down transformer?
9. What is bucky factor?
10. What is charging capacitor?
11. What are the types of rectification?
12. Name the carpal bones

Draw Labeled Diagram:**3 x 4 = 12**

13. Draw a neat labelled diagram of Ankle joint
14. Draw a neat labelled diagram of humerus.
15. Draw a neat labelled diagram of hip joint and mention the radiographic views used for hip.

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

16. To demonstrate free air in abdomen it is desirable to take a AP upright abdomen radiograph .
17. For better protection from radiation, collimation of beam is required
18. PA projection reduces the exposure dose to gonads compared to AP
19. The phosphors emit light when stimulated by x-ray

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

20. The centring point for AP projection of the knee joint is _____.
21. Any material that gives off light in response to x rays is a _____ material.
22. The numbers of thoracic vertebrae are _____.
23. Example of ball and socket type of joint in human body is _____.

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B.SC 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. What are the components of blood and enumerate the cells within blood.
2. Enumerate the liver function test.
3. Enumerate 3 enzymes secreted by Liver.
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.

Short Answers Questions:

2 x 6 = 12

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 are caused by deficiency of vitamin B?
10. Enumerate the structures passing through diaphragm.
11. Enumerate the parts of hindbrain.
12. Bones forming wrist joint

Draw Labeled Diagram:

4 x 3 = 12

13. Draw a neat labelled diagram of liver & its lobes.
14. Draw a neat labelled diagram of shoulder joint.
15. Draw a neat labelled diagram of radius.

Say True or False:

1 x 4 = 4

16. Vitamin A, D, E, K are fat soluble vitamins.
17. Left lobe of the lung is divided by minor fissure into upper and lower lobe.
18. Hip joint is ball & socket type of joint.
19. The Name of 10th Cranial nerve is vagus nerve.

Fill in the blanks

1 x 4 = 4

20. _____ moisturizes inside of the mouth and creates smoother speech.
21. Greater trochanter is seen in _____ bone.
22. Normal pulse rate is _____
23. Number of carpal bones?

- a) 4 b) 6 c) 8 d) 5

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B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time: 1 ½ Hours]

[Max.Marks: 50]

III 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. Define hypertension. Enumerate two risk factors for hypertension.
2. What is difference between pleural effusion and empyema? Mention any 2 causes for each?
3. Define hypothermia? What is mechanism of heat loss in human body?
4. Define epistaxis and mention its causes.
5. What do you mean by pancreatitis and name the types of pancreatitis?
6. Define lung abscess and mention its causes.

Short Answers Questions:

6 x 2 = 12

7. Enumerate 4 symptoms of hyperthermia?
8. Enumerate the factors maintaining the blood pressure.
9. Define systolic blood pressure. What is the normal range of blood pressure?
10. What is haemoptysis and mention any 2 causes?
11. Define anemia and any two causes?
12. Name two gram positive cocci?

Long Answer Questions:

3 x 4 = 12

13. Define appendicitis, common causes, and imaging modalities used in diagnosis of appendicitis.
14. What is angina, causes and features of angina?
15. Define blood pressure. Explain in brief the methods of indirect measurement of blood pressure.

Say True or False:

4 x 1 = 4

16. Blood in sputum is haemoptysis. (T/F)
17. Alcohol reduces risk of cirrhosis. (T/F)
18. Jaundice is caused by decreased haemoglobin levels.(T/F) -
19. Blood pressure is measured by pulse oximeter.(T/F) -

Fill in the blanks

4 x 1 = 4

20. Normal blood pressure ranges from _____ mm of Hg to _____ mm of Hg.
21. Presence of air in abdominal cavity is _____.
22. Total bilirubin contains _____ & _____.
23. Normal body temperature is maintained by _____.

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B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time: 1 ½ Hours]

[Max.Marks: 50]

III 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
f) Extent of image

1. Chest PA
2. Skull – Base of skull view.
3. Skull-Townes.
4. Scaphoid - Oblique (Ulnar deviation)
5. Sinuses-waters view.
6. Mandible – Lateral view.

Short Answers Questions:

2 x 6 = 12

7. Write in brief explaining about the procedure of IVU.
8. Mention any four indications for HSG?
9. What are the indications for Barium enema?
10. Enumerate any four common adverse reactions for IV Contrast media?
11. What are the contraindications of HSG?
12. What are the indications of Fistulogram?

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 SWALLOWS 14 BARIUM ENEMA 15. Write about various types of contrasts
reactions in IV contrast administration and its management in brief?

Say True or False:

1 x 4 = 4

16. It is not important to take the spot film prior to a barium procedure (T/F) -
17. Open mouth view is used for visualization of odontoid process (T/F) –
18. HSG is used to diagnose infertility (T/F)–
19. Town's view is used to view skull (T/F)–

Fill in the blanks

1 x 4 = 4

20. _____ is used to view blocked fallopian tube.
21. The _____ of the patient touches the image receptor in Waters view.
22. _____ & _____ are the contrast media used in the double contrast examination.
23. Water's view is used to view-_____.

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B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time: 1 ½ Hours]

[Max.Marks: 50]

IV SEMESTER

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

QP CODE: 8412

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. Draw a neat labelled diagram of neck spaces.
2. CT PNS view and Indications.
3. Pituitary gland imaging and pathology
4. Explain the anatomy of the Orbit and its contents with neat labelled diagram
5. Briefly explain about X- ray mammography.
6. X- ray view of Skull.

Short Answers Questions:

2 x 6 = 12

7. Describe in detail about parapharyngeal space and its contents.
8. What are causes of epistaxis
9. Explain Mandible and its parts with labeled diagram.
10. Arterial territories of Brain.
11. Draw the neat diagram of circle of Willis.
12. Draw cervical spine anatomy and label the parts.

Long Answer Questions:

4 x 3 = 12

13. Describe in detail about skull based anatomy with foramens and structures passing through them.
14. X-ray generations with neat diagram labeled of X-ray tube.
15. Describe in detail about CT – sections of Brain with labeled cross sectional anatomy.

Say True or False:

1 x 4 = 4

16. Thyroid gland is in neck. (T/F)
17. Para thyroid gland is a intracranial structure. (T/F)
18. Thyroid gland appears hyper dense on plain CT. (T/F)
19. Blow out fracture is a type of orbital fractures. (T/F)

Fill in the blanks

1 x 4 = 4

20. Hormones secreted by posterior pituitary are _____ and _____.
21. Hormones secreted by parathyroid are _____ and _____.
22. Branches of common carotid artery are _____ and _____.
23. Muscles of mastication are _____, _____, _____, _____.

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B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time: 1 ½ Hours]

[Max.Marks: 50]

IV SEMESTER

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

1. Sacroiliac joint-prone
2. Sacroiliac joint -oblique
3. Patella -skyline view
4. Knee-intercondylar notch view
5. Knee weight bearing.
6. Chest PA

Short Answers Questions:

2 x 6 = 12

7. Enumerate any four uses of IV contrast media?
8. How will you prepare a patient for enteroclysis procedure?
9. Principle of radiation protection
10. What are complications of barium meal?
11. What are the indications for HSG?
12. Procedures used during fluoroscopy

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. BMFT 14. FISTULOGRAM 15. Write in brief about Radiation monitoring devices.

Say True or False:

1 x 4 = 4

16. HSG helps in evaluation of female infertility (T/F) –
17. It is important to take the spot film prior to a barium procedure (T/F) –
18. Open mouth view is used for visualization of odontoid process (T/F) -
19. Ileo Cecal junction should be visualized in barium swallow (T/F)–

Fill in the blanks

1 x 4 = 4

20. Oblique view in chest x-ray is used in radiography of _____
21. To view jugular foramina, _____ view is used.
22. The _____ of the patient touches the image receptor in Waters view.
23. _____ & _____ are the contrast media used in the double contrast examination.

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B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

VI SEMESTER

[Max.Marks : 50]

PAPER – II (CT & MRI ADVANCES & CROSS SECTIONAL ANATOMY OF ABDOMEN & THORAX)

QP CODE: 8612

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. Compression technique used in mammography.
2. What are the disadvantages of contrast enhanced MRA over non-contrast MRA?
3. Mention indications of neurosonogram.
4. What are the disadvantages of phase contrast MR venogram?
5. Enumerate different generations of CT. What type of movement is seen in each generation?
6. Write about slip ring technology.

Short Answers Questions:

6 x 2 = 12

7. Mention the two types of pitch in MDCT.
8. Mention the types of non contrast MRA Techniques.
9. What is MRCP? Write two indications.
10. Enumerate two types MR urography techniques.
11. What are the disadvantages of contrast enhanced MRA over non-contrast MRA?
12. What are the images commonly acquired in MRI of whole body?

Draw Labeled Diagram:

3 x 4 = 12

13. Draw arterial supply of brain
14. Draw Broncho-pulmonary segments of lung.
15. Draw hepato biliary system

Say True or False:

4 x 1 = 4

16. In dual energy CT, tube operates at 80 kVp & 160kVp.
17. After administration of biphasic contrast media in MR Enteroclysis, T1 appears hyperintense & T2 appears hypointense.
18. Phase Contrast-MRA uses change in the phase of transverse magnetization of the flowing blood to produce image.
19. A good contrast agent in MR enteroclysis should provide homogenous intensity to lumen of bowels.

Fill in the blanks

4 x 1 = 4

20. Inter slice interval used in HRCT is _____.
21. Anatomic coverage of the body in whole body MRI is from _____ to _____.
22. _____ Fruit juice is used in MRCP as a negative contrast to opacify bowels.
23. Full form of TOF _____.

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B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

VI SEMESTER

[Max.Marks : 50]

PAPER – I (RADIOGRAPHY, CR/DR/PACS, ULTRASOUND & RADIATION PROTECTION)

QP CODE: 8611

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. Patella - Skyline view
2. Abdomen - Cross table view
3. Lumbar spine - Oblique view for various facet joints
4. Foot – Dorsiplantar view
5. Sacroiliac joint - Prone view
6. Knee joint - Weight bearing view

Short Answers Questions:

6 x 2 = 12

7. What is piezoelectric effect? Give one example of piezoelectric crystal.
8. Mention the standard views of mammography.
9. What is Doppler Effect? Who described it?
10. Enumerate benefits of PACS.
11. Name two precautions to be taken before mammographic imaging.
12. Mention two limitations of CR.

Draw Labeled Diagram:

3 x 4 = 12

13. Coronal section of PNS.
14. Mid sagittal section of brain.
15. Coronal section of abdomen showing abdominal organs.

Say True or False:

4 x 1 = 4

16. Skyline view is used for visualization of patella
17. NT scan is done at 11-14 weeks
18. CR is more adjustable to under and over exposure
19. In color Doppler examination, blood flow towards the probe is blue

Fill in the blanks

4 x 1 = 4

20. Full form of CR & DR _____.
21. Centering point IN Patella - Skyline view is _____.
22. Full form of PACS _____.
23. Frequency of linear probe is _____.