

July-2018

# BLDE UNIVERSITY

## B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

[Max.Marks : 50]

### PAPER – I (BASIC SCIENCES)

QP CODE: 8111

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 fat soluble vitamins and what is the function of vitamin D.
2. Enumerate the types of proteins with an example of each.
3. Mention the types of White blood cells.
4. Enumerate hormones secreted by pancreas & mention one function of pancreas.
5. Name the male reproductive organs and draw a neat labelled diagram.
6. Draw a neat labelled diagram of mammary gland and its ducts.

#### Short Answers Questions:

2 x 6 = 12

1. What is the function of hemoglobin and the normal value?
2. Enumerate 4 liver function tests.
3. Enumerate 2 functions of stomach
4. Enumerate branches of arch of aorta
5. What is the use of orbito-meatal line.
6. Name the bones forming hip joint.

#### Draw Labeled Diagram:

4 x 3 = 12

1. Draw a neat labelled diagram of radius .
2. Draw a neat labelled diagram of tibia.
3. Draw a neat labelled diagram of shoulder joint.

#### Say True or False :

1 x 4 = 4

1. Serum Bilirubin is a liver function test :True/False
2. Hip joint is ball & socket type of joint. :True/False
3. There are two fissures in right lung. :True/False
4. Small intestine is divided into 3 parts. :True/False

#### Fill in the blanks

1 x 4 = 4

1. Normal RBC counts in body is \_\_\_\_\_.
2. 6th Cranial nerve is called as \_\_\_\_\_.
3. Sperms are produced by \_\_\_\_\_.
4. There are \_\_\_\_\_ phalanges for each finger.

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## B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

Max.Marks : 50]

### 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:

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  
e) Position of patient f) Extent of image

1. Open mouth view for cervical spine (C1, C2)
2. Lateral projection for lumbar spine
3. Postero-anterior projection for wrist
4. Lateral projection for forearm
5. Name the chemicals used in fixing & developing solutions.
6. Define processing of film & name its stages?

#### Short Answers Questions:

2 x 6 = 12

1. What is the Kvp range and FFD used for an adult X-ray AP of chest?
2. Name the bones forming the knee joint?
3. Name the tarsal bones?
4. What are the Protective barriers used in shielding from radiation?
5. What is the time & temperature required to process the x-ray film?
6. What is screen aging artefacts?

#### Draw Labeled Diagram:

4 x 3 = 12

1. With help of a neat labeled diagram Explain positioning, centring and equipment setting for PA chest radiograph.
2. Draw a neat labeled diagram of ulna.
3. Draw a neat labeled diagram of kidney, ureter & bladder.

#### Say True or False :

1 x 4 = 4

1. To demonstrate free air in abdomen it is desirable to take a AP upright abdomen radiograph (T/F) –
2. Liver is situated in right upper quadrant of abdomen (T/F)–
3. Spleen is situated in left lower quadrant of abdomen (T/F) -
4. Excessive drying of film can cause cracking of emulsion & there by decreasing the diagnostic quality of film (T/F) -

#### Fill in the blanks

1 x 4 = 4

1. The centring point for AP projection of the knee joint is \_\_\_\_\_.
2. The numbers of thoracic vertebrae in the spine are \_\_\_\_\_.
3. Processing film in the darkroom requires special lighting to avoid exposure of the film .This light is called as \_\_\_\_\_.
4. Removing of fixing solution from the surface of the film is done by \_\_\_\_\_

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### B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

[Max.Marks : 50]

#### PAPER – I (PARA MEDICAL SCIENCES)

QP CODE: 8211

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. Describe how X-rays are produced in a radiography room?
2. What is Clotting time? Describe the method to measure Clotting time.
3. Define Neoplasm. Enumerate two examples of Benign and Malignant Neoplasm.
4. Define frequency & wavelength of an electromagnetic radiation?
5. Radiation dose Monitoring Devices used in diagnostic imaging.
6. Enumerate the methods of sterilization.

#### Short Answers Questions:

6 x 2 = 12

7. What is the importance of the Rh blood group system?
8. Define opportunistic infection with two examples.
9. Define stochastic effect of radiation with example.
10. What are the effects of kilovoltage (kVp) on scatter radiation?
11. How will you prepare a patient for biopsy of a neoplasm in thigh.
12. What are universal donors and universal recipients in the ABO blood system?

#### Long Answers Questions

3 x 4 = 12

13. Draw a neat labelled diagram of Cathode in an X-ray tube.
14. Describe the mode of spread of an infection with a neat labeled diagram.
15. Describe the mechanism of biological effects caused by radiation and name the types of biological effects.

#### Say True or False :

4 x 1 = 4

16. AB positive blood group is the universal recipient blood group. (T/F) –
17. Proton is negatively charged particle (T/F) -
18. The electrons are emitted from the cathode of an X-ray tube. (T/F)
19. X-rays are ionising radiation and are biologically harmful. (T/F) –

#### Short Answer Questions

4 x 1 = 4

20. Define Parasite.
21. Define Bacteria.
22. What is a Neutron?
23. What is FNAC?



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## B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

[Max.Marks : 50]

### PAPER – II (IMAGING PHYSICS & 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) Centring point c) size of cassette

d) Bucky/non-Bucky d) Position & immobilization of patient e) Parts demonstrated

1. Skull X ray –Lateral cross table view
2. Skull X ray –open mouth views for odontoid.
3. Cervical spine lateral view
4. Antero-posterior projection of shoulder joint.
5. What are different types of transformers ? Which one is ideal & why ?
6. Enumerate detectors used in phototimers? Explain any one.

#### Short Answers Questions:

6 x 2 = 12

7. What are the uses of oil in transformers?
8. Name any four highly radiosensitive organs in human body ?
9. What is stochastic effect of radiation exposure?
10. Name 3 beam restricting devices?
11. What is maximum permissible dose?
12. What are the types of exposure timers?

#### Long Answers Questions

3 x 4 = 12

13. Draw neat labelled diagrams of star type & delta type circuits?
14. What is ALARA and describe the various factors for achieving ALARA ?
15. Write briefly about the construction of autotransformer and its uses?

#### Say True or False :

4 x 1 = 4

16. Step up transformer is used to heat the filament in x-ray tube (T/F)- F
17. The central ray for AP foot is directed towards base of 2nd metatarsal (T/F)- F
18. Lead is preferred over plywood for better shielding from xrays.(T/F)- T
19. Compton effect decreases with increase in kVp (T/F)- F

#### Fill in the Blanks

4 x 1 = 4

20. The \_\_\_\_\_ of the patient touches the x-ray table in Waters view.
21. To view jugular foramina \_\_\_\_\_ view is used.
22. Exposure timer is located on the \_\_\_\_\_ side of the high voltage transformer.
23. The SID should be maintained at \_\_\_\_\_ inches in cervical spine lateral view.

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## B.SC MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

[Max.Marks : 50]

### III<sup>rd</sup> 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) Centring point c) size of cassette d) Bucky/non-Bucky d) Position of patient

e) Extent of image

1. Scaphoid view-

2. Skull –Towne's view

3. PNS – Water's view

4. Mastoid – Schuller's view

5. Chest – Lordotic view.

6. C spine – Swimmer's view for C7-T1.

#### Short Answers Questions:

2 x 6 = 12

7. What is difference between single and double contrast barium enema?

8. How & what are the films taken for Small bowel enteroclysis?

9. Enumerate the indications and contraindications for IVU?

10. What are the various types intravascular of contrast media used in radiodiagnosis?

11. What are various positions used in barium swallow for filming?

12. What is sialography procedure and mention its indications?

#### 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. HSG (Hysterosalpingography). 14. FISTULOGRAM. 15. BMFT. (Barium Meal Follow Through)

#### Say True or False:

1 x 4 = 4

16. For TM Joint open and close mouth views are taken (T/F)–

17. Pregnancy is not a contraindication for barium meal(T/F)–

18. Hydrocortisone is given for adverse contrast reactions in IVP(T/F) -

19. Closed mouth view is used for visualization of odontoid process (T/F) -

#### Fill in the blanks

1 x 4 = 4

20. The tube tilt for parotid sialography procedure is \_\_\_\_\_.

21. \_\_\_\_\_ catheter is used for performing enteroclysis.

22. \_\_\_\_\_ & \_\_\_\_\_ are the contrast media used in the double contrast examination of stomach.

23. "Y" view is used in radiography of \_\_\_\_\_

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## B.S.C MEDICAL IMAGING TECHNOLOGY EXAMINATION

[Time : 1 ½ Hours]

[Max.Marks : 50]

### III<sup>rd</sup> 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. Explain in brief about the Auscultatory method of measuring blood pressure.
2. Define hyperthermia. What are various types of thermometers?
3. What is difference between pleural effusion and empyema. Mention any 2 causes for each?
4. Define pneumonia and which radiological investigation is done to confirm it.
5. What is lung abscess and enumerate its causes.
6. What are the clinical symptoms and laboratory findings in a patient suffering from jaundice?

#### Short Answers Questions:

6 x 2 = 12

7. Enumerate the factors maintaining the blood pressure.
8. What are the DO's & DON'T'S in DOG BITE?
9. What are the DO's & DON'T'S in FRACTURES?
10. Name two gram negative organisms.
11. Name two gram positive organisms.
12. What is empyema ?

#### Long Answer Questions

3 x 4 = 12

13. What are the common causes, clinical symptoms and imaging modality of choice in a patient of ca stomach?
14. Define heart rate, what is the normal heart rate & mention in brief the components of cardiac monitoring.
15. What is Ghons focus, causative organism for tuberculosis and radiological methods for diagnosis of TB?

#### Say True or False:

4 x 1 = 4

16. Intercostal drainage tube is placed with negative pressure.
17. Smoking reduces risk of lung carcinoma (T/F).
18. Bronchogenic Ca is most common lung ca (T/F)
19. Systolic blood pressure above 180 mm of Hg is hypertensive emergency.

#### Fill in the blanks

4 x 1 = 4

20. Blood pressure is measured by \_\_\_\_\_ apparatus.
21. Normal pulse rate is \_\_\_\_\_
22. Tachycardia is heart rate above \_\_\_\_\_ bpm
23. Normal diastolic blood pressure ranges from \_\_\_\_\_ mm of Hg to \_\_\_\_\_ mm of Hg.



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**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. Ankle joint – Lateral view
  2. Hip joint – AP view
  3. Si joint – Oblique view
  4. Patella – Skyline view
  5. Knee joint – Intercondylar notch view
  6. Foot – Dorsiplantar view

**SHORT ANSWERS QUESTIONS:**

**2 X 6 = 12**

7. Write in brief about patient preparation before barium enema?
8. Name the instruments used in HSG?
9. What are the indications of Barium meal follow through?
10. Name few positive contrast media used in radiodiagnosis?
11. What are indications of Angiography?
12. Write in brief about the procedure to insert Bilbao-dotter catheter used in Enteroclysis?

**LONG ANSWER QUESTIONS:**

**4 x 3 = 12**

A. Describe the procedures under following headings:

- e) 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. IVU.                      14. FISTULOGRAM.                      15. RGU

**SAY TRUE OR FALSE :**

**1 X 4 = 4**

16. HSG helps in evaluation of male infertility(T/F) –
17. Ileo Cecal junction should be visualized in barium meal(T/F)–
18. Infraorbitometal line is perpendicular to cassette in Skull AP view (T/F) -
19. Angiography is a non invasive& completely risk free procedure.(T/F) -

**FILL IN THE BLANKS**

**1 X 4 = 4**

20. Y view is used for visualization of \_\_\_\_\_.
21. Schuller's view is used for visualization of \_\_\_\_\_
22. Central ray in AP view of Knee joint is directed to \_\_\_\_\_.
23. Co2 is \_\_\_\_\_ type of contrast.

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**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 labelled diagram showing cross sectional anatomy of External Ear
2. Draw a neat labelled diagram of Fourth ventricle.
3. Draw a neat labelled diagram of Mandible.
4. Draw a neat labelled diagram of Ventricular system of the brain.
5. Draw labelled diagram showing Cisterns of the Brain.
6. Draw a neat labelled diagram of cerebellum.

**SHORT ANSWERS QUESTIONS:**

**6 X 2 = 12**

7. Mechanism of biological effects due to radiation.
8. What are 3 effective strategies for dose reduction ?
9. ALARA means ?
10. What are various sources of radiation ?
11. Draw a neat labelled diagram of Cochlea.
12. Enumerate the parts of the temporal bone?

**LONG ANSWER QUESTIONS:**

**3 x 4 = 12**

13. Draw a neat labelled diagram of Pituitary gland in Sagittal & Coronal section.
14. Explain in detail about the radiation protection in Fluoroscopy.
15. Draw a neat labelled diagram of axial section of brain at Basal Ganglia level.

**SAY TRUE OR FALSE:**

**4 X 1 = 4**

16. Frontal lobe is supratentorial structure (T/F) –
17. GM counter is a radiation protection device (T/F)–
18. Cochlea is seen middle ear cavity (T/F) -
19. Fourth ventricles are seen in the posterior cranial fossa (T/F) -

**FILL IN THE BLANKS**

**4 X 1 = 4**

20. Coronoid process is a part of \_\_\_\_\_ bone.
21. Sievert is a unit of \_\_\_\_\_.
22. Mastoid is a part of \_\_\_\_\_ bone.
23. \_\_\_\_\_ is a connection between the hemispheres of the brain above lateral ventricle.