

Jan-26

# BLDE (DEEMED TO BE UNIVERSITY)

## B.Sc. in Medical Imaging Technology

[Time: 3 Hours]

[Max. Marks: 80]

### IV SEMESTER

#### PAPER I - (Physics & Medical Imaging - II)

QP CODE: 8425

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

#### Long Questions

**10X1 = 10 Marks**

1. What is MRI? Write in details about the instrumentation in MRI machine?

#### Short Essays: (Any – 8)

**5 X 8 = 40 Marks**

2. What is the effect of Tesla on image quality and resolution? What are the advances in MRI machines?
3. Write a note on safety in MRI?
4. What is EBCT?
5. What is CBCT?
6. What is Dual Energy or dual spectrum Computed Tomography?
7. What is color Doppler study and write its principle?
8. What are the different types of probes in ultrasound?
9. What is IR sequence?
10. What is SE sequence?

#### Short Answers: (Any – 10)

**3 X 10 = 30 Marks**

11. What is the formula of Scan time In MRI modality?
12. Which Pitch is good for image reconstruction?
13. What is Fresnel zone and what is fraunhopper zone in ultrasound energy?
14. What is the design of the continuous color Doppler probe?
15. What is MDCT, MSCT in CT scan Machines?
16. What is spiral or helical Computed Tomography?
17. What is dual source Computed Tomography?
18. What is Pixel and Voxel concept in CT/ MRI Scan?
19. How many projections or events are needed to form a CT image?
20. What are the different x-ray procedures can be performed on Computed Tomography?
21. What is MRV and MRA?

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## B.Sc. in Medical Imaging Technology

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### IV SEMESTER

#### PAPER II - (Radiographic Techniques - II)

QP CODE: 8426

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

#### Long Questions

**10X1 = 10 Marks**

1. Explain about the radiographic techniques of Skull in brief?

#### Short Essays: (Any – 8)

**5 X 8 = 40 Marks**

2. Explain the radiographic technique of Water's view?
3. Explain the radiographic technique of Mandible OPG view?
4. Explain the radiographic technique of Mastoid (Schuller's) view?
5. Explain the radiographic technique of cervical spine AP view?
6. Write the preparation and position of the Lumbar spine oblique view with diagram?
7. Explain the radiographic technique of Lumbar spine (extension/flexion) view?
8. Write the preparation and position of the Pelvis (Inlet view) with diagram?
9. Explain the radiographic technique of Sacroiliac joint Oblique view?
10. Write about the skull anatomy, Line and points on the skull with diagram?

#### Short Answers: (Any – 10)

**3 X 10 = 30 Marks**

11. Write about Mandible and write the Centering point of TMJ Closed mouth and Open mouth?
12. Write about Mandible & write the indications and contraindications of Mandible Oblique view?
13. Write about Sacrum and write the Centering point of Skull Towne's, SMV and Sella Turcica?
14. Write about Skull & write the indications and contraindications of Sella Turcica view?
15. Write about Sacrum and write the Centering point of Sacroiliac joint AP, Oblique View?
16. Write about Sacrum & write the indications and contraindications of Sacrum lateral view?
17. Write about C-spine and write the indications and contraindications of C-spine AP view?
18. Write about Thoracic spine and write the Centering point of T-spine AP, Lateral and Oblique view?
19. Write about Lumbar spine and write the indications and contraindications of L-spine oblique view?
20. Write about Hip joint & write the indications and contraindications of Hip joint AP view?
21. Write about Hip joint and write the Centering point of Hip joint AP, Lateral and Axiolateral view?

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### IV SEMESTER

### PAPER III - (Digital Imaging)

QP CODE: 8427

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

**10X1 = 10 Marks**

### Long Questions

1. Explain briefly about networking and interfacing?

### Short Essays: (Any - 8)

**5 X 8 = 40 Marks**

2. Define PACS and write its Advantages and disadvantages?
3. Write about HL-7'S standard data format levels?
4. Write about intensity projection?
5. Explain the working principle of TFT?
6. Explain the types of detectors used in DR- systems?
7. Explain about CR- system?
8. What are the workstation tools and its functions?
9. What is reconstruction? Write about back projection?
10. Write about the Rights of access for level of staff?

### Short Answers: (Any - 10)

**3 X 10 = 30 Marks**

11. What are different types of DICOM companies?
12. What is Volume rendering?
13. Explain about CCD?
14. What is Wireless system?
15. What is compression?
16. Write about Decimal system vs binary system?
17. Write about HIS vs RIS?
18. What is image representation?
19. Write about Storage system of PACS?
20. What is DICOM?
21. Write about LAN vs MAN?

Jan 26  
2023  
Medical Imaging  
Technology

**IV SEMESTER**

**PAPER IV - (BMIT Directed Clinical Education - II)**

**QP CODE: 8428**

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

**Long Questions**

**10X1 = 10 Marks**

1. Explain Rotating anode X-ray tube with labelled diagram and explain its components?

**Short Essays: (Any - 8)**

**5 X 8 = 40 Marks**

2. Write the Radiographic techniques of Hand AP, and Wrist joint AP?
3. Explain film processing technique in brief?
4. Write the liver function test and draw a neat labelled diagram of liver?
5. Write the function of Step-Up and Step-down transformer in brief?
6. Explain film processing technique in brief?
7. Explain generations of CT.
8. Write about recording of BP.
9. What are colloid fluids and crystalloid fluids?
10. Explain about PNS Water's view.

**Short Answers: (Any - 10)**

**3 X 10 = 30 Marks**

11. What are the four components of PACS?
12. What is consent and write the components of consent?
13. What is a base of intensifying screens?
14. Write advantages and disadvantages of automatic film processing?
15. Write the properties of X-ray?
16. Draw a neat labelled diagram of Stationary anode X-ray tube?
17. What is Luminescence?
18. What are the types X ray film?
19. Write about Medico Legal X rays.
20. Write about Anode Heel effect?
21. List the carpal bones.