

BSC-MIT

JAN-2024

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 CR and DR, Write in details about the CR and DR cassettes and its working Principle?

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. What is RF coil and write the functions of RF coil?
3. What are the different parts of Gantry of Computed Tomography?
4. Draw a neat labelled diagram of the Probe of ultrasound machine?
5. What is Insonation angle? Write its significance?
6. What is the use of liquid Helium in Superconductive magnet?
7. Explain T1 and T2 relaxation processes in details?
8. Write a note on Safety in MRI?
9. In ultrasound Image quality and resolution depends on what?
10. Write the different types of image display modes?

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Define: TE, TR and FA?
12. What is pitch?
13. What are the functions of X, Y and Z Gradient coils?
14. How many basic MRI sequences are there?
15. What is Doppler Effect and what is Doppler shift or frequency shift?
16. Draw a neat labelled diagram of the Probe of ultrasound machine?
17. Write in detail about the different types of imaging modes of ultrasonography?
18. What are the components Gel used in Ultrasonography?
19. What parameters affects the T1 weighted and T2 weighted images in spin echo sequence?
20. How the CT scan Machine works?
21. What are the different types of the magnets present in the MRI machines?

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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 Hip joint in brief?

Short Essays: (Any – 8)

5 X 8 = 40 Marks

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

Short Answers: (Any – 10)

3 X 10 = 30 Marks

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

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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.

Long Questions

10X1 = 10 Marks

1. Explain about the difference between CR and DR system?

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. What are the HL-7's standard data format levels?
3. What is workstation and Explain about display workstation?
4. Explain about Teleradiology?
5. Write about Post processing technique?
6. What are the types of networking used in medical field?
7. Write about Binary coding system?
8. Explain about the Future of digital imaging?
9. What is image representation and explain its types?
10. Write the advantages and disadvantages of PACS and its types?

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. What is File Header and Data Set?
12. Define types of radiation dose?
13. Explain how to transfer the data?
14. Write about the DICOM services?
15. What is Wireless system?
16. What are different types of tools used in workstation?
17. What is image processing and write its types?
18. What is Electronic patient record?
19. What is Virus?
20. Explain how to use wireless system?
21. What is MDT and BW?

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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 about Bremsstrahlung Radiation and Characteristic Radiation in brief?

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Write the kidney function test and draw a neat labelled diagram of kidney?
3. Write the function of Step-Up and Step-down transformer in brief?
4. Enumerate different generation of CT scan and what movement is seen in each generation?
5. Draw a neat labelled diagram of female reproductive system?
6. Write the types of Synovial joints and explain the joints between them with example?
7. Write the Radiographic techniques of Scaphoid AP, and Foot AP?
8. Explain production of X-rays and write properties of X-rays?
9. Draw a neat labelled diagram of breast and write about its location?
10. Write the Radiographic techniques of Forearm AP, and Leg AP?

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Write patient preparation and position for Shoulder joint AP view?
12. What are the components of USG jelly?
13. What are the four components of PACS?
14. What is consent and write the components of consent?
15. What are the equipment's present in the X-ray room?
16. What is X-ray film and draw a neat labelled diagram of X-ray film?
17. What is anode Heel effect?
18. Draw a neat labelled diagram of Stationary anode X-ray tube?
19. Write the properties of X-ray?
20. Write advantages and disadvantages of automatic film processing?
21. What is a base of intensifying screens?