

2/2/26
PM

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.

Each answer should be written on new page only.

Write Question No. in the middle of margin

Long Questions

10X1 = 10 Marks

1. Explain MRI in detail with types of MRI magnets and principles of magnetism used in MRI.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Explain concept and procedure of fluoroscopy.
3. Describe computed tomography and its clinical purpose.
4. Explain piezoelectric effect and nature of propagation of ultrasound.
5. Write a note on ultrasound probes and their types.
6. Explain A-mode and B-mode display systems.
7. Describe real time imaging and M-mode in ultrasound.
8. Explain MR active nuclei and components of MRI system.
9. Describe T1 and T2 relaxation in MRI.
10. Explain MRI hazards and MRI safety measures.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Define digital imaging.
12. What is computed tomography?
13. Define ultrasound.
14. Mention types of ultrasound probes.
15. Define Doppler mode.
16. What is permanent magnet?
17. Define diamagnetism.
18. What is precession?
19. Define Larmor equation.
20. What is radiofrequency pulse?
21. Define MRI coil.

July 2020

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IV SEMESTER

PAPER II - (Radiographic Techniques II)

QP CODE: 8426

Your answer should be specific to the questions asked.

Each answer should be written on new page only.

Write Question No. in the middle of margin

Long Questions

10X1 = 10 Marks

1. Explain anatomy, routine and special radiographic views of cervical, thoracic and lumbar spine

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Describe anatomy and basic radiographic views of pelvis.
3. Explain axiolateral projection (Danelius-Miller method).
4. Describe AP axial outlet projection (Taylor method).
5. Explain anatomy and radiographic positioning of sacrum.
6. Describe anatomy and radiographic views of skull.
7. Explain anatomy and special views of facial bones.
8. Describe radiographic views of maxilla and orbits.
9. Explain bilateral AP and PA projections used in skeletal survey.
10. Describe superoinferior axial inlet projection (Lilienfeld method).

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Define hip joint anatomy.
12. What is Friedman method?
13. Mention special views of cervical spine.
14. Define lumbar spine lateral projection.
15. What is skull PA view?
16. Define facial bones.
17. Mention views of mandible.
18. What is Hsieh method?
19. Define skeletal survey indication.
20. Mention projections of pelvis in skeletal survey.
21. What is axial outlet projection?

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IV SEMESTER

PAPER III - (Digital Imaging)

QP CODE: 8427

Your answer should be specific to the questions asked.

Each answer should be written on new page only.

Write Question No. in the middle of margin

Long Questions

10X1 = 10 Marks

1. Explain networking and interfacing in digital imaging. Discuss LAN, WAN, MAN and CAN with applications in radiology.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Explain digital imaging and radiation dose relationship.
3. Describe image file structure and magnetic domain theory.
4. Explain interface standards used in radiology departments.
5. Describe PACS and its disadvantages.
6. Explain workstation parameters and types.
7. Describe local and global image operations.
8. Explain compression techniques and types used in digital imaging.
9. Describe teleradiology, its types and benefits.
10. Explain wireless systems and computer viruses in digital imaging.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Define image file.
12. Mention types of bandwidth.
13. What is networking?
14. Define RIS.
15. What is HIS?
16. Define image pre-processing.
17. What is post-processing?
18. Mention functions of workstation.
19. Define Electronic Patient Record.
20. What is wireless system?
21. Define computer virus.

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IV SEMESTER

PAPER IV - (BMIT Directed Clinical Education - II)

QP CODE: 8428

Your answer should be specific to the questions asked.

Each answer should be written on new page only.

Write Question No. in the middle of margin

Long Questions

10X1 = 10 Marks

1. Describe imaging physics of X-ray production. Explain historical and modern X-ray tubes.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Explain anatomy of mouth, tongue and pharynx.
3. Describe urinary system functions and kidney function tests. *Attempted at Q-1*
4. Explain female reproductive organs and their functions.
5. Write a note on factors affecting film development and development time.
6. Describe advantages and disadvantages of automatic film processing.
7. Explain AP projections of wrist joint, forearm and shoulder.
8. Describe handling and storage of X-ray films.
9. Explain care of screens and cassettes.
10. Describe consent, components of consent and 10-day rule

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Mention types of synovial joints.
12. Define esophagus with neat labelled diagram.
13. What is axillary tail of Spence?
14. Define development stage in film processing.
15. What is washing stage in darkroom processing?
16. Define Caldwell's view.
17. Define Pulse recording?
18. What is characteristic radiation?
19. Define intensifying screen. *→ Attempted at 18*
20. What is medico legal case (MLC)?
21. Define blood pressure recording.