



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Sc.(MRIT)-2022

Course Name – Radiographic Techniques of Mammography, DEXA, Oral
Radiography with Image Interpretation

Course Code - BMRITC301

(Semester III)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Explain how is the anode-heel effect addressed in mammography X-ray tubes
 - a) By increasing the tube current
 - b) By using a larger focal spot size
 - c) By placing the thickest part of the breast at the anode end
 - d) By applying additional filtration
- (ii) Identify the primary purpose of mammography
 - a) Detection of lung diseases
 - b) Assessment of bone density
 - c) Screening and diagnosis of breast cancer
 - d) Examination of the gastrointestinal tract
- (iii) Identify the modalities used for dental radiography
 - a) EBCT
 - b) HRCT
 - c) CBCT
 - d) All of these
- (iv) Identify the type of dental radiograph provides a comprehensive view of both upper and lower jaws in a single image.
 - a) Bitewing radiograph
 - b) Periapical radiograph
 - c) Panoramic radiograph
 - d) Occlusal radiograph
- (v) Which of the following is the most common technique to measure the bone density?
 - a) USG
 - b) MRI
 - c) DEXA
 - d) All of these
- (vi) Select the correct statement about Bitewing radiographs
 - a) Useful in monitoring the progression of Periodontal disease.
 - b) Useful in monitoring the progression of Orthodontic treatment.
 - c) Useful in monitoring the progression of Root canal therapy.
 - d) Useful in monitoring the progression of Dental implants.
- (vii) Choose the modalities used in bone density measurement
 - a) QCT
 - b) QUS
 - c) DEXA
 - d) All of these

- (viii) Which of the following densitometry modalities used radioisotopes?
- Single photon absorptiometry
 - Double photon absorptiometry
 - Both 1 & 2
 - None of these
- (ix) Select the purpose of Occlusal radiographs
- Occlusal radiographs are useful for assessing
 - Dental caries
 - Tooth impactions
 - Root canal therapy
- (x) The grid ratio can vary in modern mammography units. Select the common grid ratio used in mammography
- 8:1
 - 6:1
 - 5:1
 - 2:1
- (xi) Tell the role of compression during a mammogram.
- It brings lesions closer to the detector for more accuracy when evaluating fine detail.
 - It reduces the possibility of motion by immobilizing the breast during the exposure
 - Both 1 and 2
 - To optimize X-ray exposure based on breast thickness
- (xii) Identify the correct statement regarding T-Score
- A T-score represents how many standard deviations (SD) a person's BMD is above or below the average BMD of a young, healthy adult population of the same sex.
 - The reference population for T-scores is typically composed of young adults, usually between the ages of 20 and 30.
 - T-scores are used primarily for diagnosing osteoporosis and assessing fracture risk.
 - All of these
- (xiii) Label the primary use of DEXA scans
- Bone density
 - Muscle mass
 - Lung function
 - Brain activity
- (xiv) What does a BIRADS 2 category represent?
- High likelihood of breast cancer
 - Benign findings
 - Indeterminate findings
 - Malignant findings
- (xv) Omit the correct indication of Mammography
- Lactating Women
 - Nipple Retraction
 - Pregnancy
 - All of the above

Group-B

(Short Answer Type Questions)

3 x 5=15

- What is the difference between T-score and Z-score in DEXA scan reports? (3)
- Explain the advantages of Breast Compression (3)
- Describe Beam-Restricting Devices in Mammography (3)
- Why is mammography important for breast health? (3)
- Explain focal spot size of mammographic also describe the factors Affecting focal spot size in Mammography (3)

OR

Explain the essential image criteria of CC Projection in Mammography.

(3)

Group-C

(Long Answer Type Questions)

5 x 6=30

- Write a short note on CC projection of mammography (5)
- Write in detail about advantages and disadvantages of dental radiography (5)
- Write notes on the T & Z Score in DEXA. (5)

10. Write short not on DEXA equipment. (5)
11. Distinguish between Direct and Indirect Digital Mammography (5)
12. Discuss the challenges and limitations of breast biopsy procedures. (5)

OR

Explain routine mammography projection with patient position technique. (5)
