BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – B.Physiotherapy-2021
Course Name – Introduction to Diagnostic Radiology
Course Code - BPTS503
(Semester V)

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) Choose the primary goal of radiology
a) Identify diseases b) Choose treatment options
c) Select the best imaging equipment d) Infer patient demographics

(ii) Identify the imaging technique that is best suited for evaluation of tumors or masses within the body
a) Ultrasound b) CT scan
c) Mammography d) Echocardiography

(iii) Select who is often credited with the discovery of X-rays in 1895
a) Thomas Edison b) Wilhelm Roentgen
c) Marie Curie d) Albert Einstein

(iv) Select which imaging technique uses radio waves and a strong magnetic field to create detailed images of the body\'s internal structures
a) X-ray b) CT scan
c) Ultrasound d) MRI

(v) List type of transducer is most commonly used in medical ultrasound imaging
a) Magnetic transducer b) Piezoelectric transducer
c) Capacitive transducer d) Inductive transducer

(vi) List the type of radiation commonly used in hand radiography
a) Ultraviolet radiation b) Infrared radiation
c) X-rays d) Gamma rays

(vii) Identify which chamber of the heart pumps oxygenated blood to the systemic circulation
a) Right atrium b) Right ventricle
c) Left atrium d) Left ventricle

(viii) Cite the radiographic view of the skull for best visualizing the sella turcica and pituitary fossa

a) Waters view
b) Caldwell view
c) Lateral view
d) Towne view

(ix) Select who is credited with the discovery of computed tomography

a) Edwin Hubble
b) Sir Godfrey Hounsfield
c) Enrico Fermi
d) Robert H. Goddard

(x) List the primary use of mammography

a) Detecting lung cancer
b) Screening for breast cancer
c) Diagnosing heart disease
d) Evaluating kidney function

(xi) Cite which of the following is NOT a safety concern when undergoing an MRI scan

a) Claustrophobia
b) Magnetic field interactions with metal objects
c) Exposure to ionizing radiation
d) Hearing damage due to loud noises

(xii) Distinguish among the following which is a potential risk associated with CT contrast agents

a) Decreased radiation exposure
b) Allergic reactions to contrast dye
c) Improved image quality
d) Reduced scan time

(xiii) List the type of radiation commonly used in general diagnostics

a) Infrared radiation
b) X-rays
c) Gamma rays
d) Ultraviolet radiation

(xiv) Quote in a CT scan report, what does \"ROI\" stand for

a) Region of Interpretation
b) Radiographic Order and Imaging
c) Region of Interest
d) Radiographic Observation Index

(xv) Select the component of an ultrasound machine that produces sound waves

a) Transducer
b) Monitor
c) CPU
d) Printer

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Define radiology. (3)
3. describe the working of magnetic resonance imaging (MRI) (3)
4. Describe specific anatomy and structures are evaluated in a hand radiograph (3)
5. Enumerate the basic views of mammography (3)
6. State some common indications for ordering a forearm X-ray (3)

OR

Describre the anatomical structures visible in a standard forearm X-ray (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Explain about the interaction of ultrasound with matter (5)
8. Write about the ankle Mortise view with its indications and technical considerations (5)
9. Explain the importance of breast compression in mammography and how it affects image quality (5)
10. Discuss the standard radiographic projections used for humerus imaging, including the anteroposterior (AP) and lateral views. What specific anatomical structures are visualized in these projections (5)

11. Differentiate between screening and diagnostic mammography (5)
12. Write the patient positioning of AP and PA views of chest and also discuss their significance and anatomy included (5)

OR

Write about the basic projections of the abdomen (5)

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