Code No: 56049 **Set No. 1**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III B.Tech. II Sem., II Mid-Term Examinations, April – 2014

MEDICAL IMAGINING TECHNIQUES

Objective Exam

Name: _____ Hall Ticket No. | | | | | | A | | | | |

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. Velocity at which the ultrasound energy propagates in a medium is known as [ ]
   a. invarient b. group c. shift d. phase velocity.

2. When ultrasound waves travel through_____ medium and its energy reduces with distance. [ ]
   a. heterogenous b. homegenous c. atmosphere d. gas

3. ^{99}Tc (Technetium) is a [ ]
   a. radioisotope b. radio isotone c. radio isolate d. radiotope

4. T1 is the_____ relaxation time in MRI [ ]
   a. lattice spin b. spin spin c. spin lattice d. lattice lattice

5. The magnet in an MRI machine produces a strong magnetic field that interacts with the _____ atoms. [ ]
   a. hydrogen b. oxygen c. hydrogen and oxygen d. water

6. Array of transducers are controlled by the_____ of the energizing of each element [ ]
   a. signal b. amplitude c. timing d. frequency

7. _____ imaging uses ultra-high-frequency sound waves of 3-10 MHz [ ]
   a. Ultrasound b. MRI c. SPECT d. X Ray

8. For any incident angle greater than the_____ angle there is only total reflection but no transmission. [ ]
   a. reflected b. critical c. refracted d. attenuated

9. MRI units employ either a permanent or a superconductor magnets to produce the_____ magnetic field [ ]
   a. no b. internal c. external d. hydrogen

10 _____ imaging is performed by using a gamma camera [ ]
   a. Ultra sound b. CT c. MRI d. SPECT

Cont……2

II Fill in the blanks

11. Ultrasonic tissue characterization is done by _____ , _____ and _____

12. The absorption of ultrasound energy in the biological tissue is due to phenomena of _____ and _____

13. Ultrasound is used to study_____ and _____ in the body

14. The incident and the reflected waves travels with the_____ velocity

15. _____ is useful for imaging the structure and function of the brain, heart and liver, soft tissues, and the inside of bones

16. MRI gives superior soft tissue discrimination compared with _____

17. The resonance frequency is aslo known as _____ frequency which is proportional to the main magnetic field strength

18. Units of attenuation coefficient is _____

19. _____ shadow is the opposite effect where tissues distal to gas containing areas

20. The human body contain water consisting of _____ atoms

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Code No: 56049 **Set No. 2**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III B.Tech. II Sem., II Mid-Term Examinations, April – 2014

MEDICAL IMAGINING TECHNIQUES

Objective Exam

Name: _____ Hall Ticket No. | | | | | | A | | | | |

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. T1 is the_____ relaxation time in MRI [ ]
   a. lattice spin b. spin spin c. spin lattice d. lattice lattice

2. The magnet in an MRI machine produces a strong magnetic field that interacts with the _____ atoms. [ ]
   a. hydrogen b. oxygen c. hydrogen and oxygen d. water

3. Array of transducers are controlled by the_____ of the energizing of each element [ ]
   a. signal b. amplitude c. timing d. frequency

4. _____ imaging uses ultra-high-frequency sound waves of 3-10 MHz [ ]
   a. Ultrasound b. MRI c. SPECT d. X Ray

5. For any incident angle greater than the_____ angle there is only total reflection but no transmission. [ ]
   a. reflected b. critical c. refracted d. attenuated

6. MRI units employ either a permanent or a superconductor magnets to produce the_____ magnetic field [ ]
   a. no b. internal c. external d. hydrogen

7 _____ imaging is performed by using a gamma camera [ ]
   a. Ultra sound b. CT c. MRI d. SPECT

8. Velocity at which the ultrasound energy propagates in a medium is known as [ ]
   a. invarient b. group c. shift d. phase velocity.

9. When ultrasound waves travel through_____ medium and its energy reduces with distance. [ ]
   a. heterogenous b. homegenous c. atmosphere d. gas

10. ^{99}Tc (Technetium) is a [ ]
    a. radioisotope b. radio isotone c. radio isolate d. radiotope

Cont……2

II Fill in the blanks

11. The incident and the reflected waves travels with the_____ velocity

12. _____ is useful for imaging the structure and function of the brain, heart and liver, soft tissues, and the inside of bones

13. MRI gives superior soft tissue discrimination compared with _____

14. The resonance frequency is aslo known as _____ frequency which is proportional to the main magnetic field strength

15. Units of attenuation coefficient is _____

16. _____ shadow is the opposite effect where tissues distal to gas containing areas

17. The human body contain water consisting of _____ atoms

18. Ultrasonic tissue characterization is done by _____ , _____ and _____

19. The absorption of ultrasound energy in the biological tissue is due to phenomena of _____ and _____

20. Ultrasound is used to study_____ and _____ in the body

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Code No: 56049 **Set No. 3**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III B.Tech. II Sem., II Mid-Term Examinations, April – 2014

MEDICAL IMAGINING TECHNIQUES

Objective Exam

Name: _____ Hall Ticket No. | | | | | | A | | | | |

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. Array of transducers are controlled by the_____ of the energizing of each element [ ]
   a. signal b. amplitude c. timing d. frequency

2. _____ imaging uses ultra-high-frequency sound waves of 3-10 MHz [ ]
   a. Ultrasound b. MRI c. SPECT d. X Ray

3. For any incident angle greater than the_____ angle there is only total reflection but no transmission. [ ]
   a. reflected b. critical c. refracted d. attenuated

4. MRI units employ either a permanent or a superconductor magnets to produce the_____ magnetic field [ ]
   a. no b. internal c. external d. hydrogen

5 _____ imaging is performed by using a gamma camera [ ]
   a. Ultra sound b. CT c. MRI d. SPECT

6. Velocity at which the ultrasound energy propagates in a medium is known as [ ]
   a. invarient b. group c. shift d. phase velocity.

7. When ultrasound waves travel through_____ medium and its energy reduces with distance. [ ]
   a. heterogenous b. homegenous c. atmosphere d. gas

8. ^{99}Tc (Technetium) is a [ ]
   a. radioisotope b. radio isotone c. radio isolate d. radiotope

9. T1 is the_____ relaxation time in MRI [ ]
   a. lattice spin b. spin spin c. spin lattice d. lattice lattice

10. The magnet in an MRI machine produces a strong magnetic field that interacts with the _____ atoms. [ ]
    a. hydrogen b. oxygen c. hydrogen and oxygen d. water

Cont……2

II Fill in the blanks

11. MRI gives superior soft tissue discrimination compared with _____

12. The resonance frequency is aslo known as _____ frequency which is proportional to the main magnetic field strength

13. Units of attenuation coefficient is _____

14. _____ shadow is the opposite effect where tissues distal to gas containing areas

15. The human body contain water consisting of _____ atoms

16. Ultrasonic tissue characterization is done by _____ , _____ and _____

17. The absorption of ultrasound energy in the biological tissue is due to phenomena of _____ and _____

18. Ultrasound is used to study_____ and _____ in the body

19. The incident and the reflected waves travels with the_____ velocity

20. _____ is useful for imaging the structure and function of the brain, heart and liver, soft tissues, and the inside of bones

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Code No: 56049 **Set No. 4**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III B.Tech. II Sem., II Mid-Term Examinations, April – 2014

MEDICAL IMAGINING TECHNIQUES

Objective Exam

Name: _____ Hall Ticket No. | | | | | | A | | | | |

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. For any incident angle greater than the_____ angle there is only total reflection but no transmission. [ ]
   a. reflected b. critical c. refracted d. attenuated

2. MRI units employ either a permanent or a superconductor magnets to produce the_____ magnetic field [ ]
   a. no b. internal c. external d. hydrogen

3 _____ imaging is performed by using a gamma camera [ ]
   a. Ultra sound b. CT c. MRI d. SPECT

4. Velocity at which the ultrasound energy propagates in a medium is known as [ ]
   a. invarient b. group c. shift d. phase velocity.

5. When ultrasound waves travel through_____ medium and its energy reduces with distance. [ ]
   a. heterogenous b. homegenous c. atmosphere d. gas

6. ^{99}Tc (Technetium) is a [ ]
   a. radioisotope b. radio isotone c. radio isolate d. radiotope

7. T1 is the_____ relaxation time in MRI [ ]
   a. lattice spin b. spin spin c. spin lattice d. lattice lattice

8. The magnet in an MRI machine produces a strong magnetic field that interacts with the _____ atoms. [ ]
   a. hydrogen b. oxygen c. hydrogen and oxygen d. water

9. Array of transducers are controlled by the_____ of the energizing of each element [ ]
   a. signal b. amplitude c. timing d. frequency

10. _____ imaging uses ultra-high-frequency sound waves of 3-10 MHz [ ]
    a. Ultrasound b. MRI c. SPECT d. X Ray

Cont……2

II Fill in the blanks

11. Units of attenuation coefficient is _____

12. _____ shadow is the opposite effect where tissues distal to gas containing areas

13. The human body contain water consisting of _____ atoms

14. Ultrasonic tissue characterization is done by _____ , _____ and _____

15. The absorption of ultrasound energy in the biological tissue is due to phenomena of _____ and _____

16. Ultrasound is used to study_____ and _____ in the body

17. The incident and the reflected waves travels with the_____ velocity

18. _____ is useful for imaging the structure and function of the brain, heart and liver, soft tissues, and the inside of bones

19. MRI gives superior soft tissue discrimination compared with _____

20. The resonance frequency is aslo known as _____ frequency which is proportional to the main magnetic field strength

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