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| 17. Which threshold of hearing is measured by a pure –tone audiometer? (a) Air-conduction and bone-conduction thresholds of hearing (b) Speech reception thresholds for diagnostic purposes (c) Bone –conduction threshold of hearing (d) Air-conduction thresholds of hearing | 1 | K1 | CO5 |
| 18. Name the life assisting device which is used for treatment for paralysis (a)Diathermy (b) Pacemaker (c) Defibrillator (d)Nerve and muscle stimulator | 1 | K1 | CO5 |
| 19. The dialysis that can be performed even at home is _____ (a) Apheresis (b) Peritoneal Dialysis (c) Hemodialysis (d) Perfusion | 1 | K1 | CO5 |
| 20. What precaution is used in diathermy? (a) atria relax (b) ventricles contract (c) ventricles relax (d) atria contract | 1 | K1 | CO5 |

PART - B (10 × 2 = 20 Marks)

Answer ALL Questions

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| 21. Define All or nothing law. | 2 | K1 | CO1 |
| 22. Write Goldman’s equation? | 2 | K1 | CO1 |
| 23. Explain the principle of sphygmomanometer. | 2 | K2 | CO2 |
| 24. What is meant by mean arterial pressure (MAP)? | 2 | K1 | CO2 |
| 25. Define Let-go current. | 2 | K1 | CO3 |
| 26. What is the purpose of electrode paste? | 2 | K1 | CO3 |
| 27. Compare NMR X-ray and CT scan. | 2 | K2 | CO4 |
| 28. Infer the problems in implant telemetry. | 2 | K2 | CO4 |
| 29. Explain Peritoneal Dialysis. | 2 | K2 | CO5 |
| 30. What is a Defibrillator? | 2 | K1 | CO5 |

PART - C (6 × 10 = 60 Marks)

Answer ALL Questions

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| 31. a) Outline the structure of a cell and explain in detail. | 10 | K2 | CO1 |
| OR | | | |
| b) Summarize and explain the components of Biomedical Instrumentation system with neat block Diagram. | 10 | K2 | CO1 |
| 32. a) Explain Indicator Dilution method for Cardiac output measurement. | 10 | K2 | CO2 |
| OR | | | |
| b) Outline the principle construction and working of Body plethysmography. | 10 | K2 | CO2 |
| 33. a) Explain different types of electrodes in detail. | 10 | K2 | CO3 |
| OR | | | |
| b) Illustrate different devices used to protect against electrical hazards. | 10 | K2 | CO3 |
| 34. a) Infer CT scan. Give the mathematical details of obtaining a CT image. | 10 | K2 | CO4 |
| OR | | | |
| b) Outline the principle of MRI with a suitable diagram. | 10 | K2 | CO4 |
| 35. a) Explain the heart lung machine with a neat diagram. | 10 | K2 | CO5 |
| OR | | | |
| b) Summarize the different types of pacemaker with the neat diagram. | 10 | K2 | CO5 |
| 36. a) i) Explain the problem associated with implant telemetry circuits. ii) Outline the functions of nerve stimulators. | 5 | K2 | CO4 |
| | 5 | K2 | CO5 |
| OR | | | |
| b) i) Explain the principle and working of endoscopy. ii) Explain the principle construction and working of peritoneal dialysis with a suitable diagram. | 5 | K2 | CO4 |
| | 5 | K2 | CO5 |