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**DHANALAKSHMI SRINIVASAN COLLEGE  
OF ARTS & SCIENCE FOR WOMEN  
(AUTONOMOUS)**

(For Candidates admitted from 2020-2021 onwards)

**PG DEGREE EXAMINATIONS APRIL - 2021**

**M.Sc., – BIOCHEMISTRY**

**BIOMEDICAL INSTRUMENTATION**



**Time: 3 Hrs**

**Max.Marks: 75**

**PART - A**

**CHOOSE THE CORRECT ANSWER**

**(10X1=10)**

- Electroencephalogram (EEG) is used in the diagnosis of the:
  - Heart
  - Tumour
  - Neuromuscular diseases
  - Brain
- The following are methods of blood flow measurement, except?
  - Magnetic blood flow measurement
  - Coriolis blood flow measurement
  - Ultrasonic blood flow measurement
  - Radiographic blood flow measurement
- Which of the following is used in electron microscope?
  - Electron beams
  - Magnetic fields
  - Light waves
  - Electron beams and magnetic fields
- Negative Staining is used for examining \_\_\_\_\_
  - Virus particles
  - protein molecules
  - Bacterial flagella
  - virus particles, protein molecules and bacterial flagella
- In liquid scintillation counter, which of the following is a fluorescent substance?
  - Solvent
  - Solute
  - Crystal
  - Reagent
- What does "MRI" stand for?
  - Medical Radiometry Instrument
  - Magnetic Resonance Imaging
  - Maximal Radiology Imaging
  - Magneto-Ray Idometry
- Pure-tone audiometers usually generate test tones in octave steps from \_\_\_\_\_
  - 125 to 800 Hz
  - 125 to 8000 Hz
  - 25 to 8000 Hz
  - 15 to 800 Hz
- What does haemodialysis removes other than harmful wastes?
  - Protein
  - Salt
  - Insulin
  - Glycogen
- What is the name of the group of muscles at the FRONT of your thigh?
  - Quardriceps
  - Hamstrings
  - Calves
  - Pectprals

10. Which of these is NOT a piece of physio equipment?

- a) Gym/Swiss ball      b) Medicine ball      c) Stability disc      d) Kettle

**PART- B**

**ANSWER ALL THE QUESTIONS**

**(5X7=35)**

11. a) Explain in detail principle and working of NMR.

**(OR)**

b) Explain the description of an Electroencephalograph.

12. a) Elaborate on Phase-Contrast microscopy.

**(OR)**

b) Explain in detail about the Spirometry.

13. a) Write short note on principle, advantages and disadvantage of GM counter.

**(OR)**

b) How to detect Radiation? Explain any one types of detector.

14. a) Write notes on audiometers describing all aspects.

**(OR)**

b) What is a Pulse sensor? Write short note on Pulse sensor.

15. a) Briefly explain the Electro diagnostic apparatus.

**(OR)**

b) Elaborate on principle and application of short-wave diathermy.

**PART-C**

**ANSWER ANY THREE QUESTIONS**

**(3X10=30)**

16. Explain different electrodes used in ECG.

17. Explain about different fixation and staining techniques for EM

18. Elaborate on Echocardiogram.

19. Explain the principle of haemodialysis and various types of haemo dialysers.

20. Describe in detail about pain relief through electrical stimulation.