

- Q.25 Explains optical method of Blood cell counting.
 Q.26 Explain Monochromators & classify them.
 Q.27 Discuss various types of Light sources used in analytical instrumentation.
 Q.28 Explain Electrophoresis.
 Q.29 Explain Beer Lambert Law?
 Q.30 Enlist the difference between Prism & Grating.
 Q.31 Explain Microscope with neat diagram?
 Q.32 Explain Photo Multiplier tube with diagram?
 Q.33 Discuss Spectroscopy.
 Q.34 Write a note on laboratory instrumentation.
 Q.35 Explain Blood cell counter in details.

SECTION-D

Note : Long Answer type question. Attempt any two questions. (2x10=20)

- Q.36 Explain PH meter with block diagram?
 Q.37 Explain Auto Analyzer with diagram?
 Q.38 Explain Flame Photometer with diagram?

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4th Sem / Medical Electronics
Subject : Medical Laboratory Instrumentation (MLI)

Time : 3 Hrs. **M.M. : 100**

SECTION-A

Note : Multiple choice questions. All questions are compulsory. (10x1=10)

- Q.1 Which of the following is true about pH meters?
 a) The electrode should be stored in purified water
 b) They should be calibrated regularly
 c) They can be stored in really hot, humid places
 D) All answers are correct
- Q.2 Which one of the following is not a transducer?
 a) Thermocouple b) Photovoltaic
 c) Electroculogram d) Moving coil generator
- Q.3 the largest blood vessel of heart is
 a) Artery b) Aorta
 c) Vein d) None of above
- Q.4 Electroencephalogram is obtained from bioelectrical signals from the?
 a) Brain b) Heart
 c) Muscles d) Retina

- Q.5** 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
- Q.6** Leukocytes is another name for
- RBC
 - WBC
 - Platelets
 - None of the above
- Q.7** Which of the following is a laboratory instruments?
- PH Meter
 - CT Scan
 - Ventilator
 - None of the above
- Q.8** PH Calculation formula
- $\text{Log}_{10}(\text{H}^+)$
 - $-\text{Log}_{10}(\text{H}^+)$
 - $\text{Log}_2(\text{H}^+)$
 - None of above
- Q.9** Common Temperature used in autoclave is (in degree Celsius)
- 109
 - 122
 - 135
 - 142
- Q.10** Autoclave is used for
- Vulcanization
 - Heating
 - Cleaning
 - Sterilization

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11** Write names of two detectors used in analytical measurements.
- Q.12** Define Conductance.
- Q.13** What do you mean by Monochromator.
- Q.14** Define Cuvette.
- Q.15** Define PH.
- Q.16** Beer's Law.
- Q.17** Define Optical Density.
- Q.18** Explain Lambert's Law?
- Q.19** Microtome.
- Q.20** Electro Magetics Spectrum?

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21** Explain the importance of Acid Base Balance in body.
- Q.22** Explain Autoclave working with block diagram.
- Q.23** Explain Photo-Diode.
- Q.24** Explain Electric Centrifuge machine with diagram?