

- Q.26 Write a short note on the operation of electric centrifuge.
- Q.27 Write a short note on photodiode.
- Q.28 Write the significance of pH measurement w.r.t. blood in a short note.
- Q.29 Explain the microscopic method of blood cell counting.
- Q.30 Write the working principle of centrifuge.
- Q.31 A short note on acid base balance.
- Q.32 Write a short note on optical filters.
- Q.33 Explain the importance of autoclave in health care.
- Q.34 Explain the process of sterilization.
- Q.35 Explain Beer Lambert law.

#### Section-D

**Note: Long answer questions. Attempt any two question out of three Questions. (2x10=20)**

- Q.36 Explain the working principle of colorimeter with a neat and labeled block diagram.
- Q.37 Draw the block diagram of the pH meter and explain its working principle.
- Q.38 Explain the working principle of spectrophotometer and draw its block diagram.

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**4th Sem. / Medical Electronics  
Subject : Medical Laboratory Instruments /  
Analy Inst. (BM)**

Time : 3 Hrs.

M.M. : 100

#### SECTION-A

**Note: Multiple type Questions. All Questions are compulsory. (10x1=10)**

- Q.1 A \_\_\_\_\_ is an instrument used to measure absorbance at various wavelengths.  
a) Xray                      b) USG  
c) Spectro photo meter    d) Microscope
- Q.2 \_\_\_\_\_ is an electronic instrument used for measuring the pH (acidity or alkalinity) of a liquid.  
a) Defibrillator              b) MRI  
c) Spectrophotometer        d) pH Meter
- Q.3 This is an instrument which uses a complex system of lens to magnify the size of object  
a) Mircoscope                b) CT  
c) USG                        d) X Ray
- Q.4 An apparatus with a chamber used to provide controlled and contaminant-free environmental conditions is known as  
a) MRI                        b) Laboratory incubator  
c) USG                        d) X Ray

- Q.5 Select the method of blood cell counting  
 a) Microscopic method  
 b) Automated optical method  
 c) Electrical conductivity method  
 d) All of the above
- Q.6 A \_\_\_\_\_ is an instrument which measures the hydrogen - ion activity in solutions, indicating the acidity or basicity.  
 a) Flame photo meter    b) pH meter  
 c) Blood cell counter    d) USG
- Q.7 It is a laboratory instrument used for separation of the materials through filtration and sedimentation  
 a) Centrifuge              b) Microscope  
 c) Oven                      d) Incubator
- Q.8 \_\_\_\_\_ is an instrument that can count the number of the cells and check the size of the cells in per unit of volume of blood  
 a) CT                      b) X-Ray  
 c) Blood Cell counters    d) MRI
- Q.9 Which one is the part of an auto analyser  
 a) Sampler                b) Mixer  
 c) Heater                 d) All
- Q.10 In this method of sterilization some gases and vapors are used  
 a) Sterilization by disinfectant  
 b) Gaseous sterilization  
 c) Sterilization by radiation  
 d) Moist Heat sterilization

### Section-B

**Note: Objective type questions. All questions are compulsory. (10x1=10)**

- Q.11 Write the definition of an electrode.
- Q.12 Write one use of microscope.
- Q.13 Write the full form of RBC.
- Q.14 Write one use of a photo calorimeter.
- Q.15 Write the definition of sterilization.
- Q.16 Expand LPG.
- Q.17 Write full form of MLI.
- Q.18 Write one application of Oven.
- Q.19 Write name of one Medical Laboratory Instrument.
- Q.20 The pH of distilled water is \_\_\_\_\_.

### Section-C

**Note: Short answer type Question. Attempt any twelve questions out of fifteen Questions. (12x5=60)**

- Q.21 Write name of five parts of pH meter.
- Q.22 Draw a well labelled diagram of auto analyser.
- Q.23 Write a short note on the operation of chromatography.
- Q.24 Explain the types of monochromators used in the photo colorimeter.
- Q.25 Explain the working principle of incubators.