

- Q.27 Write name of five laboratory instruments.
- Q.28 Explain the operation of electrophoresis in brief.
- Q.29 Write a short note on the incubator.
- Q.30 Write a short note on the working of flame photometer.
- Q.31 Write a short note on photodiode.
- Q.32 Explain monochromators in a short note.
- Q.33 Write the working principle of centrifuge.
- Q.34 Explain the importance of acid base balance.
- Q.35 Explain the microscopic method of blood cell counters in a short note.

#### **SECTION-D**

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

- Q.36 Draw the block diagram of flame photo meter and explain its various parts.
- Q.37 Draw the block diagram of auto analyser and explain its various sections.
- Q.38 Explain in details the following methods of blood cell counting
- Automated optical method
  - Electrical conductivity method

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**4th Sem.  
Branch : Med. Eltx.  
Sub.: Medical Laboratory Instruments / Analy Inst. (BM)**

Time : 3 Hrs. M.M. : 100

#### **SECTION-A**

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

- Q.1 \_\_\_\_\_ consists of mobile phase and stationary phase for the separation of a mixture
- Oven
  - X ray
  - Microscope
  - Chromatography
- Q.2 Select the device which is used for the sterilization process
- X ray
  - Autoclave
  - Ventilator
  - USG
- Q.3 An instrument that can count the number of the cells and check the size of the cells in per unit of volume of blood.
- Ventilator
  - USG
  - X-Ray
  - Blood Cell Counter
- Q.4 The principle of the centrifugation technique is to separate the particles present in liquid medium with the help of a \_\_\_\_\_.
- Gravitational pull
  - Electric field
  - Centrifugal field
  - Magnetic field

- Q.5 Electrophoresis is a process which separates charged particles in a fluid with the help of \_\_\_\_\_.  
 a) Electrical charge      b) Gravity  
 c) Magnet      d) None
- Q.6 The steam pressure autoclave is one of the most effective methods of \_\_\_\_\_.  
 a) pH Measurement      b) Sterilization  
 c) Blood cell counting      d) BP measurement
- Q.7 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) Ventilator      b) Blood Cell Counter  
 c) X-Ray      d) USG
- Q.8 A \_\_\_\_\_ involves measurement of the emitted light intensity when a metal is introduced into the flame.  
 a) X-Ray      b) Ventilator  
 c) CT      d) Flame Photometer
- Q.9 Which one of these is laboratory instrument?  
 a) X-Ray      b) MRI  
 c) Blood cell Counter      d) USG
- Q.10 It magnifies the size of the object by using a complex system of lens arrangement.  
 a) MRI      b) Microscope  
 c) X-Ray      d) USG

### **SECTION-B**

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

- Q.11 Write full form of HPLC.
- Q.12 Write one use of electrophoresis.
- Q.13 Name one part of autoclave.
- Q.14 Write one use of photo calorimeter.
- Q.15 Write the pH of blood.
- Q.16 Write name of one method of blood cell counting.
- Q.17 State Lambert's law.
- Q.18 \_\_\_\_\_ is a part of auto analyzer.
- Q.19 Write full form of WBC.
- Q.20 Write one use of autoclave

### **SECTION-C**

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

- Q.21 Draw the block diagram of spectrophotometer.
- Q.22 Write a short note on the optical filters used in the flame photo meter.
- Q.23 Write a short note on the operation of chromatography.
- Q.24 Explain the working of a microscope in a short note.
- Q.25 Describe working of atomizer in flame photo meter in a short note.
- Q.26 Write a short note on the principle of photo colorimeter.