Section-D

Note: Long answer questions. Attempt any two question out of three Questions. (2x8=16)

Q.23 Draw a block diagram of pH meter and describe its parts.

Q.24 Explain continuous flow analyzer and discrete automatic analyzer in detail.

Q25 Explain the working principle of haemoglobinometer and draw its block diagram.

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5th Sem./ Medical Electronics
Subject : Medical Laboratory Instruments

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 Which of the following is a key benefit of laboratory services in patient care?

a) They provide timely and accurate diagnostic information

b) They reduce the need for healthcare providers.

c) They eliminate the need for imaging studies

d) They focus solely on outpatient care.

Q.2 Which principle does a photo colorimeter operate on?

a) Light refraction b) Light reflection

c) Light diffusion d) Light absorption

Q.3 What is the typical range of pH values that a digital pH meter can measure?

a) 0 to 7 b) 0 to 14

c) -1 to 15 d) 1 to 10

Q.4 Which of the following features is typically found in fully automatic analyzers?

a) Manual sample handling

b) Single use cartridges only

c) Built in quality control systems

d) Paper records for all results

Q.5 Which type of microscope uses visible light and lenses to magnify specimens?

a) Electron microscope

b) Scanning probe microscope

c) Light microscope

d) Fluorescence microscope

Q.6 Which parameter is NOT typically measured by a blood cell counter?

a) Hemoglobin concentration

b) Blood pH level

c) White blood cell differential

d) Platelet count

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 _____ electrode is used in pH meter.

Q.8 _____ is a cell of blood.

Q.9 One method for blood cell counting is _____.

Q.10 Write one component of Microscope.

Q.11 Write one application of flame photometer.

Q.12 Write one component of photo colorimeter.

Section-C

Note: Short answer type Question. Attempt any eight questions out of Ten Questions. (8x4=32)

Q.13 Draw the block diagram of flame photometer.

Q.14 Write four applications of fully automatic analyzer.

Q.15 Write a short note on electrical conductivity method.

Q.16 Write a short note on electrophoresis.

Q.17 Write four differences between semi and fully automatic analyzer.

Q.18 Write a short note on buffer solution.

Q.19 Draw the block diagram of pH meter.

Q.20 Explain role of medical laboratory services in healthcare.

Q.21 Write a short note on chromatography.

Q.22 Write a short note on ethics of medical laboratory.