2019

MSc

4th Semester Examination

Bio Medical Laboratory Science & Management
(Theory)

PAPER – BML_403

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their Own words as far as practicable.

Illustrate the answers wherever necessary.

Answer Q. No. 1 and any _THREE_ from the rest

1. **Answer any ten of the following:**   **1×10=10**

   a) Write the name of different limb lead of ECG

   b) Write any one application of differential centrifugation.

   c) Which stain is used to identify protein band in gel?

   d) What is montage?

   e) What is polysomnography?

   f) Write any one use of flame photometer in clinical field.

   g) Define metabolomics.

   h) What is reverse transcription?

   i) Name any one online tool for primer design.

   j) Draw a simplified diagram of Taq Man probe.

   k) What is the purpose of using 'Southern blot '?

   l) Write the proper placement zone of V_2 chest lead of ECG.

   m) What is the utility of EtBr in agarose gel electrophoresis?

   n) What is the benefit of using chemiluminescence instead of radiolabelled probe?

   o) Write the thermal cycling condition for running a PCR.

2. a) State the normal ECG wave pattern of heart along with its physiological basis. **(3+2)+3+2=10**

b) What do you mean by Einthoven's triangle?

c) If R-R interval = 4 large boxes in ECG paper then calculate the heart rate.

3. a) Briefly discuss the different components of an auto analyzer. **4+2+4=10**

b) Write any two application of auto analyzer in biomedical field.

c) Write in brief the different steps of Western blot analysis.

4. a) How do you choose solvent for column chromatography? **2+2+3+3=10**

b) What is flash column chromatography?

c) State any three application of ' Thin Layer Chromatography'.

d) Write the working principle of paper chromatography.

5. a) Differentiate between end-point and real-time PCR. **3+2+5=10**

b) What is multiplex PCR?

c) Briefly discuss about the Key components of PCR.

6. a) State why the genomics and transcriptomics are not the confirmatory diagnostic tests in laboratory medicine. **6+4=10**

b) Justify with example the acceptability and viability of metabolomics for diagnosis of disease used in laboratory medicine.