

2014

M.Sc.

3rd Semester Examination

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER--BLM-302 (UNIT-19)

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 all questions.

Module — I

(Fundamental Clinical Biochemistry)

- 1. Answer any five questions of the following : 1×5**
- (a) What is the full form of SDS PAGE ?
 - (b) What is rule of 10 ?

(Turn Over)

- (c) What is the basic difference between plasma and serum ?
 - (d) Write the names of two biochemical markers of renal disease.
 - (e) Who obtained Nobel Prize for the invention of partition Chromatography ?
 - (f) Write the name of one enzyme for diagnosis of cardiac disease.
 - (g) Write the enzyme used for RT-PCR.
 - (h) Write the wavelength of UV range.
2. (a) Write the different phases of PCR in connection with DNA multiplication.
- (b) Write any two applications of PCR in 'Biomedical Laboratory Science'.
- (c) Why real time PCR is preferred over routine PCR ?
4+2+2

Or

- (a) What do you mean by double beam spectrophotometer ?
- (b) State the Beer-Lambert's law in the connection with the principle of spectrophotometer.
- (c) Write the difference between colorimeter and spectrophotometer.

2+3+3

3. (a) Differentiate between TLC and HPLC.
(b) Derive the retention factor with justification of each components of any one types of chromatography

3+4

Or

- (a) Mention the principle of electrophoresis from the angle of Columb's law.
(b) How the polyacrylamide gels used in SDS-PAGE is polymerized.
(c) Write the role of β -marcapto ethanol and SDS in PAGE.

2+3+2

Module — II*(Advanced Clinical Biochemistry)*

4. Answer any *five* questions from the following : 1×5
- (a) What is kernicterus ?
(b) Write the full form of γ -GT.
(c) What is microdiffurian technique ?
(d) What is renal clearance ?
(e) Write the full form of CPK and LDH.
(f) Write the full form of SGOT and SGPT.
(g) What do you mean by free acidity ?
(h) Write the full form of SGPT.

5. (a) Describe the mechanism of action of the formation of conjugated bilirubin in the body.
- (b) State the biochemical features of Crigle-Najar Syndrome. 6+2

Or

- (a) Write the principle of Inulin clearance test.
- (b) Describe one test for the measurement of GFR.
- (c) What are the drawbacks of CPK test for diagnosis of cardiac disease? 2+4+2
6. (a) Write the principle of detection of CO toxicity in our body.
- (b) Describe the procedure of CO toxicity assessment in qualitative aspect.
- (c) How you screen Hg and As toxicity in blood? 2+3+2

Or

- (a) Describe the assessment of exocrine part of pancreas.
- (b) How will you assess the endocrine part of pancreas in our body?
- (c) Write in brief about the gastric function test. 2+2+3