B.Sc. IN MEDICAL LABORATORY TECHNOLOGY (BMLT)/DIPLOMA IN MEDICAL LABORATORY TECHNOLOGY (DMLT)

00201

Term-End Examination

December, 2015

BAHI-013 : AUTOMATION OF LABORATORY SERVICES

Time : 3 hours　　　　　　　　*Maximum Marks : 70*

Note :　*(i)*　*Attempt **all** questions from **Part A**. All the questions are **compulsory** from **Part A**.*

　　　　(ii)　*Follow instructions under each question.*

　　　　(iii)　*Attempt **any three** questions from **Part B**.*

PART - A

1.　Answer **True** (T) or **False** (F) of the following : **1x5=5**

　(a)　Multilayer interference filters are important components of photometers and spectrophotometers which allows band pass width 4-8 nm and peak transmittance of 60-90%.

　(b)　In colorimeters and spectrophotometers compound lenses are used to focus the light beam. The front surface mirrors are coated with thick film of magnesium fluoride to increase light scattering.

　(c)　Quantitative methods for testing any analyte gives accurate, specific and sensitive mono-multiple step technology in automation techniques.

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(d) For assessing the linearity a direct proportion between absorbance and concentration is not necessary to follow "Beer's Law" under specified conditions.

(e) Although primary standards are not needed to perform rate of reaction methods. It is necessary to use calibrators and Q.C. Sera to maintain quality control.

2. Choose the appropriate from the following (i)/(ii)/(iii) : 1x5=5

(a) Semi automated analysers :
  (i) Performs statistical analysis.
  (ii) Determines mean values, SD, CV, and Plots Levy-Jenning charts.
  (iii) All of the above.

(b) Working of autoanalysers for qualified results is based on functioning of :
  (i) Qualified laboratory technician.
  (ii) Organisation of laboratory.
  (iii) SOP of the procedures.

(c) Easy, Reliable, Assured identification of samples for investigations need :
  (i) Bar code readers requirement.
  (ii) Conventional organised methods.
  (iii) Directions of laboratory manager on daily basis.

(d) In automated digital computers :
  (i) Digital data is processed by computers.
  (ii) Micro processors perform various functions.
  (iii) All of the above is essential component for autoanalysis.

(e) Determination of Sodium, Potassium and Lithium is by sensitive, reliable, rapid methodology :
    (i) Flame photometers.
    (ii) Automated Ion selective methodology.
    (iii) None of the above.

3. Write briefly on **any five** of the following :   **5x6=30**
    (a) Automated technology of Enzyme Immuno Assays (EIA).
    (b) Random Access Analysers.
    (c) Procedures of licencing and automation requirements of blood bank.
    (d) Blood components manufacturing equipments (Automation technology).
    (e) Dry chemistry analysers.
    (f) General trends in automation.

PART-B

Answer **any three** of the following :

4. Describe the quality control measures in histopathology and cytology. Enumerate the parameters of check in above measures.
                            2.5+2.5+2.5+2.5

5. Define Total Quality Management (TQM). Describe TQM in relation to total quality control and quality leadership management.   **2+4+4**

6. What is consumer satisfaction ? Describe the role **3+7** of quality management assuring responsibilities of technical control analysis.

7. Describe the essential elements of quality **5+5** assurance programme. Enumerate preanalytical conditions or variables in quality assurance.