USN ☐☐☐☐☐☐☐☐☐☐   **10BT763**

Seventh Semester B.E. Degree Examination, Dec.2016/Jan.2017
Health Diagnostics

Time: 3 hrs.   Max. Marks:100

**Note: *Answer FIVE full questions, selecting
at least TWO questions from each part.***

PART – A

1   a.   What are biochemical disorders? Explain briefly with an example.   **(10 Marks)**
    b.   Explain trinucleotide expansion, with a suitable example and highlight its DNA based diagnostics.   **(10 Marks)**

2   a.   Describe the fluorescent in situ hybridization technique. Explain its advantages and uses in several DNA based diagnostics.   **(10 Marks)**
    b.   Which are the different techniques by which sickle cell anemia can be diagnosed? Explain any two.   **(10 Marks)**

3   Write short notes on:
    a.   Ligase chain reaction   **(08 Marks)**
    b.   Spectral karyotyping   **(06 Marks)**
    c.   Array based diagnostics.   **(06 Marks)**

4   a.   Explain the antibody and CD-markers as cell based diagnostics.   **(10 Marks)**
    b.   Briefly explain harmoglobinopathies and mucopolysaccharidoses.   **(10 Marks)**

PART – B

5   a.   Discuss in detail, the antigen-antibody reactions in disease diagnosis.   **(10 Marks)**
    b.   Briefly enumerate the types of ELIZA. List its applications as a diagnostic tool.   **(10 Marks)**

6   a.   Discuss the causative agent, symptoms and diagnosis of malaria.   **(10 Marks)**
    b.   Explain the principle and the major pattern of waves, recorded in ECG.   **(10 Marks)**

7   Write short notes on:
    a.   Computer tomography   **(06 Marks)**
    b.   Electroencephalography   **(08 Marks)**
    c.   Magnetic resonance imaging.   **(06 Marks)**

8   a.   Define biosensors. Give an account of any one type of biosensor used in personal diabetes management.   **(10 Marks)**
    b.   Discuss the reagent formulations in immunoassays. Mention the criteria for determining the product stability.   **(10 Marks)**

* * * * *