M.Sc. 1st Semester Examination, 2019

BIO-MED. LAB. SCI. & MGT.

PAPER – BLM-104

Full Marks : 40

Time : 2 hours

The figures in the right hand margin indicate marks

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

Illustrate the answers wherever necessary

1. Answer any *four* : 2×4

   (*a*) What do you mean by competitive and non-competitive ELISA ?

   (*b*) What do you mean by auto-immuno goitre ?

   (*c*) What is IRMA ?

   (*d*) Define Intra-assay and Inter-assay variation.

   (*e*) What is cross reaction ?

(*f*) Write the principle of 'FIA'.

(*g*) What do you mean by hot and cold antibody ?

(*h*) Write the conditions for using β-counter and *Y*-counter in RIA.

2. Answer any *four* of the following : 4×4

(*a*) 'Goitre is primary hypothyroidal condition in chronic basis'– Justify the statement. 4

(*b*) Write the steps of coating of monoclonal antibody at the inner surface of ELISA microwells. 4

(*c*) Write the thyroid profile in secondary hyperthyroidism. State the mode of action of ClO_4^- for interfering thyroid activity. 3 + 1

(*d*) Classify immunoassay on the basis of platform of immunoreaction with example. 3 + 1

(*e*) Write the differences between cranial and renal diabetes insepidus. Why is ketosis noted in diabetes mellitus ? 2 + 2

(*f*) State the principle of RIA. Write the process of radiolabelling of hormone. 2 + 2

(*g*) "CLIA is more sensitive technique than ELISA"– Justify the statement. 4

(*h*) Define sensitivity of hormone assay technique. Write the factors that influence the sensitivity of immunoassay. 1 + 3

3. Answer any *two* of the following : 8 × 2

(*a*) State the preferance of ELISA over RIA. Write the protocol of e-ELISA. 5 + 3

(*b*) What is e-peptide ? Why is C-peptide considered as sensor for β-cell status assessment. Write the causes of type-2 diabetes. 2 + 3 + 3

(*c*) Write the protocol of CLIA for hormone assay. State the principle of scintillation counter. 4 + 4

(*d*) Discuss the technique for the assessment of pituitary-ovarian axis status of reproductive woman. Why stress results infertility in male and female. 4 + (2 + 2)
