

2010**M.Sc.****1st Semester Examination****BIO-MEDICAL LABORATORY SCIENCE AND MANAGEMENT****PAPER—102 (UNIT—IV)***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.*

Answer all questions.

Module—I**(Hormone assay technique)**

[Marks : 20]

1. Answer any five of the following : 1×5
- (a) Write the nature of the Graph of C-ELISA.
 - (b) Write the full form of CLIA and TMB.
 - (c) What do you mean by hot antigen and cold antigen ?
 - (d) What do you mean by cross reaction in hormone assay ?
 - (e) Define non-competitive immunoassay.
 - (f) Write the names of any two tracer molecules used for labelling of antigen in RIA.

(Turn Over)

- (g) Write the names of any two fluorescent molecules.
 (h) What do you mean by B|Bo?

2. (a) Write the principle of direct and indirect ELISA.
 (b) State the fundamental steps adopted in s-ELISA
 (c) What do you mean by liquid phase immunoassay?

$$(1\frac{1}{2}+1\frac{1}{2})+4+1$$

Or

- (a) Write the techniques for the radiolabelling of antigen.
 (b) State the principle of RIA of hormone. 5+3

3. (a) Define fluorescence.
 (b) State the principle of FIA.
 (c) Why CLIA is preferred over FIA? 2+2+3

Or

- (a) Why serum is preferred for hormone assay over plasma?
 (b) Write the different steps of 'Checker Board' study for the selection of dilution of conjugate in ELISA.
 (c) What are the criteria for a good quality of hormone assay kit in ELISA. 2+3+2

Module—II**(Pathophysiology of Endocrine Glands)**

[Marks : 20]

4. Answer any *five* of the following : 1×5
- (a) What do you mean by primary hypothyroidism ?
 - (b) What are the causes of IDDM ?
 - (c) Write the names of any two goitrogens.
 - (d) What do you mean by positive feedback system ?
 - (e) Define long loop feed-back system.
 - (f) What do you mean by HbA_{1C} ?
 - (g) Write the difference between Pre-Pro-insulin and ~~Pro-~~ Pro-insulin.
 - (h) Define infertility.
5. (a) What are the causes of primary hyperthyroidism?
- (b) State the pituitary-thyroid axis status in primary hyperthyroidism.
- (c) Write the major symptoms of primary hyperthyroidism.
- (d) What is secondary hyperthyroidism ? 2+3+2+1

Or

- (a) Write the major causes of female infertility.
- (b) State the principle of clomiphene test.
- (c) Write the method of the test. 3+2+3

6. (a) Write the causes of cranial and renal diabetes insipidus.
- (b) State the water deprivation test for screening of specific type of diabetes insipidus. 3+4

Or

- (a) Why plasma insulin is not considered as sensitive bio-sensor for the screening of diabetes mellitus?
 - (b) Why HbA_{1C} is considered as sensitive bio-sensor for diagnosis of diabetes as per WHO?
 - (c) Why plasma C-peptide level is considered as indicator for the assessment of pancreas activity? 2+3+2
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