

**M.Sc. 4th Semester Examination, 2010**  
**BIO-MEDICAL LABORATORY SCIENCE**  
**AND MANAGEMENT**

*(Image Processing & Bio-medical Instrumentation)*

PAPER—XIV(U-27)

*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*

**MODULE—1**

1. Write brief notes on any *five* of the following : 1 × 5
- (a) Piezoelectric material
  - (b) Flow cytometry
  - (c) CASA

- (d)  $\theta$  rythim of braiør
- (e) Sonicator
- (f) Attenuation in USG.
- (g) Spectro-photometer.
- (h) QRS complex in ECG.

2. (a) What is Einthovan's Triangle ?
- (b) What are the different types of leads used in modern ECG ?
- (c) Interpret normal ECG tracing. 2 + 3 + 3

*Or*

- (a) What do you mean by flow cytometry ?
- (b) Write the principle of flow cytometry.
- (c) State the application of flow cytometry. 2 + 4 + 2
3. (a) Write the working principle of C.T Scan.
- (b) Enumerate the uses of C.T. Scan.

(c) What are the risks associated with C.T. Scan ?

(d) How the risks of C.T. Scan can be avoided ?

3 + 1 + 1 + 2

Or

(a) Write the conditions for the ~~operation~~ operation of ultracentrifuge machine.

(b) State the fundamental steps for the separation of cellular organelles by sucrose density gradient centrifugation.

(c) What do you mean by centrifugal force ?

2 + 4 + 1

### MODULE-2

4. Write brief notes on any *five* of the following : 1 × 5

(a) Evoked potential

(b) Amenorrhoea

(c) Erectile dysfunction

(d) Hypercalcemia

(e) Neurobiology

(f) Sleep rhythm

(g) Manic patient

(h) Epilepsy.

5. Write short notes on :

2 × 4

(i) Nerve-tissue induction

(ii) Neuro-cardiac disease

(iii) Psychogenic Amenorrhoea

(iv) Angiography.

*Or*

Write short notes on :

2 × 4

(i) Neuro-immunological dysfunction

(ii) Parasomnia

(iii) Aminergic peptidergic axis

(iv) Endocrine control of hypertension.

6. (a) What is hallucination ?  
(b) How it differs from illusion ?  
(c) Explain about rage behaviour. 2 + 2 + 3

*Or*

- (a) Write the neural mechanism of erectile dysfunction.  
(b) State the causes of erectile dysfunction.  
(c) Why chronic diabetes may lead to loss of libido ? 3 + 2 + 2
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