

M.Sc. 4th Semester Examination, 2011

BIOMEDICAL LAB. SCI & MGM.

PAPER—XIV (Unit - 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. Answer any *five* of the following : 1 × 5
- (a) Define characteristic impedance.
 - (b) What is Wecnhback phenomena ?
 - (c) Write down the range of medical ultrasound.

(Turn Over)

- (d) What is polygraph ?
- (e) Write any one function of CT Scan.
- (f) What are different types of EEG signals along with their frequency range ?
- (g) What do you mean by 2D – Xray ?
- (h) What do you mean by 3D – CT Scan ?
2. (a) Explain ECG signal in context to cardiac cycle, stating the normal amplitude and time periods of a normal adult male.
- (b) Explain the details of endoscopy. 4 + 4

Or

- (a) Explain in details the basic principle of NMR.
- (b) State Einthoven Law. 4 + 4
3. (a) Why 'g' is more important than 'rpm' in case of operating a centrifuge ?

- (b) Describe the working principle of flame photometer instrument.
- (c) Show the schematic diagram of a flow cytometric system. 2 + 3 + 2

Or

- (a) Explain the working principle of visible spectroscopy.
- (b) State the advantages of Laparoscopy. 4 + 3

MODULE – 2

4. Answer any *five* of the following : 1 × 5
- (a) What is depolarisation ?
- (b) What do you mean by secondary hypertension ?
- (c) Define amenorrhoea.
- (d) What is sleep bundle ?
- (e) Write the names of any two brain monoamines.

- (f) What is epilepsy ?
- (g) Define hypermania.
- (h) What is the role of PTH on blood calcium level ?

5. (a) State the different types of epilepsy ?
- (b) What are the causes of grandmal epilepsy ?
- (c) Write the electroneural features of EEG in grandmal epilepsy. 2 + 4 + 2

Or

- (a) What do you mean by aminenergic-peptidergic axis for the regulation of hypothalamic endocrine functions ?
- (b) Describe the different avenues of interaction between brain monoaminergic neurones and peptidergic neurones in hypothalamas. 4 + 4

6. (a) What do you mean by sleep cycle.
- (b) State restless leg syndrome.

(c) Describe neuro-chemical regulation of sleep.

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

Or

(a) Define erectile dysfunction.

(b) State the neurological basis of erectile dysfunction.

(c) What do you mean by physiological amenorrhea ?

$2 + 3 + 2$
