

Con. 5735-09.

(OLD COURSE)

Biom

16/12/09

SP-7516

(3 Hours)

[Total Marks : 100

- N.B. (1) Question No.1 is compulsory.
 (2) Attempt any four questions out of the remaining six questions.
 (3) Figures to the right indicate full marks.

- (a) What are the types of blood cell counter? Explain the principle and working of coulter counter with suitable diagram. 10
 (b) Draw and explain the block diagram of finger tip oximeter. 10
- (a) What is cardiac output? Explain any one non-invasive method of cardiac output measurement. 10
 (b) Explain the block diagram of evoked response audiometry. 10
- (a) Explain the working principle of colorimeter with suitable diagram. 10
 (b) Define following terms and state approximate values :— 10
 (i) Tidal volume
 (ii) Residual volume
 (iii) Vital capacity
 (iv) Total lung capacity. 10
- (a) Explain the basic principle of electromagnetic blood flow meter with constructional diagram and suitable waveforms. 10
 (b) Explain the basic principle of ultrasonic Doppler shift flow velocity meter with necessary formula. 10
- (a) Explain the basic principle of impedance plethysmography. Derive the relationship between change in volume and impedance of a body part under observation. 10
 (b) Draw the main block of anesthesia machine and explain them. 10
- (a) What is Spirometry? Explain the basic principle of wedge spirometer. 10
 (b) Explain the block diagram of complete blood gas analyzer. 10
- Write short notes on any five of the following :— 20
 (a) Gas Chromatography
 (b) Electrophoresis
 (c) Centrifuge
 (d) ELISA Reader
 (e) Auto Analyser.