

B.Sc. CRITICAL CARE TECHNOLOGY
(New Syllabus 2014-2015 & 2015-2016)

SECOND YEAR

**PAPER III – ICU MONITORING I (BASIC) AND
BIOMEDICAL ENGINEERING**

Q.P. Code: 801218

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. What is Hyperthermia? What are some causes? What are the physiological effects of hyperthermia?
2. End Tidal CO₂ monitoring- Principles, advantages and pitfalls in monitoring.
3. Non Invasive Blood Pressure monitoring: Principles, advantages and pitfalls in monitoring.

II. Write notes on:

(8 x 5 = 40)

1. Need of checking cuff pressure in ICU.
2. PaO₂/ FiO₂ ratio.
3. Factors that affect oxygen consumption.
4. Work of breathing.
5. Importance of monitoring lung volume in ICU patients.
6. CVP wave form.
7. Importance of Monitoring of level of sedation in ICU.
8. Factors affecting urine output in ICU patients.

III. Short answers on:

(10 x 3 = 30)

1. Classify intra-abdominal hypertension.
2. List factors that cause increased airway resistance in ventilated patients.
3. List factors that increase ICP.
4. List 3 factors that cause damping of arterial trace and their management steps.
5. List methods of measuring cardiac output in ICU.
6. Draw ETCO₂ trace of a situation with air leak in the circuit.
7. List 3 hypoxemia.
8. List 3 causes of hypercapnoea.
9. List 3 causes of shock in ICU.
10. Mention 3 causes of drowsiness in ICU patients.
