

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. Describe the following in detail:
 - a) Arterial blood gas
 - b) Pulse oximetry
 - c) Bag mask ventilation – label and techniques
2. Non invasive blood pressure monitoring - principles, advantages and pitfalls in monitoring.
3. How do you evaluate and monitor a patient with sudden loss of conscious in ICU?

II. Write notes on:

(8 x 5 = 40)

1. Management of hyperkalemia.
2. Inductance and transformers.
3. Alveolar gas equation.
4. Dead space.
5. Shunt.
6. V/Q mismatch.
7. PaO₂/ FiO₂ ratio.
8. Factors that affect oxygen consumption.

III. Short answers on:

(10 x 3 = 30)

1. Endoscopy.
2. Three symptoms of hypoglycemia.
3. Classify medical instruments.
4. Three causes of upper respiratory bleeding.
5. Three causes of respiratory acidosis.
6. What is pleural effusion?
7. Draw ETCO₂ trace of a situation with air leak in the circuit.
8. List 3 hypoxemia.
9. Apnoea alarm.
10. Complications of arterial line.
