BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR

PAPER IV – FUNDAMENTALS OF ELECTRICITY AND ELECTRONICS

Q.P. Code: 802414

Time: Three Hours   **Maximum: 100 Marks**

Answer all questions

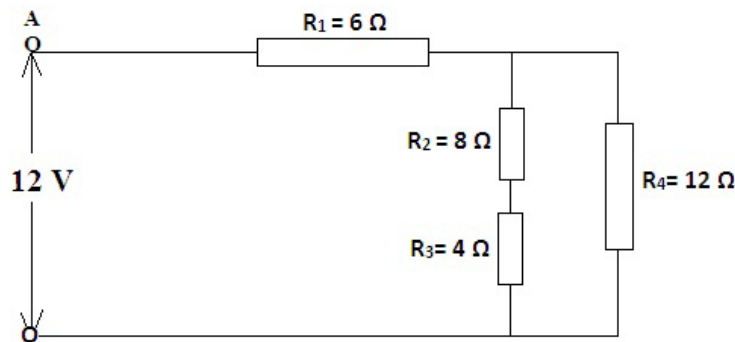## I. Elaborate on: (3 x 10 = 30)

1. Explain the principle of transformer in detail.
2. Explain operational amplifier and their ideal characteristics.
3. Explain the conduction in extrinsic semiconductors.

II. Write notes on: (8 x 5 = 40)

1. Calculate current,

2. Write the difference between intrinsic and extrinsic semiconductors.
3. Derive negative feedback equation.
4. What is transducer? Explain pressure transducers in details.
5. Explain miniature circuit breaker.
6. Explain the function of line, neutral and earth in single phase system.
7. What is sensor? Explain types of sensors.
8. Derive root mean square value (RMS) of A.C. circuit.

III. Short answers on: (10 x 3 = 30)

1. Define current and its unit.
2. What is muscle action potential?
3. Write a short note on EMG (Electromyography).
4. Give the difference between A.C circuit and DC circuit.
5. Define semiconductors.
6. What is positive and negative feedback?
7. Define microprocessor. Write it's any one application in prosthetic field.
8. What are the current practice in pin connection and their colour codes?
9. What is voltage regulator?
10. Define frequency and its unit.

******