

S.B. Roll No.....

BASIC ELECTRICAL ENGINEERING
2nd Exam/ECE/ECE-II/ETV/COMP/IT/CSc/EEE/0064/May'18

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Do as directed.

10x1.5=15

- a. Unit of resistance is _____.
- b. Define ohms law.
- c. In domestic installation all the electrical appliances are connected in _____
- d. Constant voltage source has _____ internal impedance as compared to external load impedance.
- e. Unit of magnetic flux density is _____
- f. The specific gravity of fully charged cell is _____
- g. Draw sinusoidal AC waveform w.r.t. angle.
- h. At resonance in series RLC circuit, $X_L =$ _____
- i. The formula for calculating the capacitive reactance $X_c =$ _____
- j. Fuel used in thermal power plant is _____

SECTION-B

Q2. Attempt any six questions.

6x5=30

- i. Define Resistance. On which factor resistance depends discuss.
- ii. Resistance of 2ohm, 3ohm and 6ohm are connected in parallel and the combination is connected in series with a resistance of 1 ohm across a battery with an E.M.F. of 44V. find
 - a. Potential difference across 1ohm resistance.
 - b. Potential difference across parallel circuit.
 - c. Current in each resistor.
- iii. Discuss comparison between magnetic and electric circuit.
- iv. Write a short note on a) Cycle b) Time period c) Frequency d) Amplitude e) Phase
- v. Discuss resistance inductance and capacitance in series
- vi. What do you mean by Q factor of a parallel circuit? What is its importance?
- vii. Discuss nuclear power station with neat diagram
- viii. Discuss Kirchhoff's voltage law.

SECTION-C

Q3. Attempt any three questions.

3x10=30

- a. State and explain the venin's theorem.
- b. Explain the construction and working of Lead acid battery.
- c. Explain the steam power plant with neat diagram
- d. Explain the generation of alternating voltage with diagram and discuss e.m.f. equation.