

BASIC ELECTRICAL ENGG

2nd/ECE/ETV/EMP/ECEII/COMP/CSE/IT/EEE/0064/Nov'15

Duration: 3 Hrs

M.Marks=75

SECTION A

Q. 1. Fill in the blanks:-

1x15=15

- a. One KWH is equal to _____ K cal.
- b. The unit of conductivity is _____.
- c. An electrolyte used in a Nickel- cadmium cell is _____.
- d. A Practical current source has _____ internal resistance.
- e. All electrical equipments are connected in _____ to the supply.
- f. Tesla is the unit of _____.
- g. The power factors of a pure inductive circuit will be _____.
- h. Relative Permeability of vacuum is _____.
- i. The maximum value of power factor is _____.
- j. Unit of magnetic flux is _____.
- k. For battery charging _____ supply is required.
- l. Form factor is defined as the ratio of _____ and _____.
- m. _____ converts mechanical energy into electrical energy.
- n. The ratio of true power to apparent power is called _____.
- o. The unit of electric potential is _____.

SECTION B

Q2 Attempt any FIVE questions

5x6=30

- a) Give the merits and demerits of nuclear power plant
- b) State and explain Kirchoff's current and voltage laws
- c) Compare series and parallel resonant circuit
- d) State and explain Thevenin's theorem
- e) Explain faraday's law of electromagnetic induction
- f) Give the difference between AC and DC
- g) What is Cell? What is the difference between primary and secondary cells?
- h) State and explain Ohm's law

SECTION C

Q3 Attempt any THREE questions

3x10=30

- a. How current will build up in an R-L circuit?
- b. What is power factor and how to improve the power factor?
- c. Explain construction and working of solar cell.
- d. What do you understand by Self and Mutual induced emf?
- e. An alternating current is given by the equation $I = 10 \sin 314 t$, find
 - a) Max value of current
 - b) frequency
 - c) Time period
 - d) Value of current after, 0.01 sec.