

S.B. Roll No.....

**ELECTRICAL POWER-I**  
**5<sup>th</sup>/Elect/EEE/2527/0752/Nov'16**

**Duration: 3hrs.**

**M. Marks =75**

**SECTION A**

**Q.1. Fill in the blanks:**

**1.5x10=15**

- a. ....cost of hydro power station is lowest.
- b. Turbine converts kinetic & potential energy of steam into ..... energy.
- c. With the increase in voltage of transmission, the area of cross section of the conductor .....
- d. Load factor is the ratio of ..... & .....
- e. A line which connects consumer to the supply is called .....
- f. An over-excited synchronous motor on NO load is called .....
- g. KVA rating of an equipment is .....proportional to power factor.
- h. Lower the power factor ..... will be the current.
- i. When all the three phases are short circuited, the fault is called ..... fault
- j. Power loss in transmission lines is due to ..... of the line.

**SECTION B**

**Q2: Attempt any FIVE questions.**

**5x6=30**

- a. What are the considerations for site selection of hydro power station?
- b. Explain the following :
  - 1) Diversity factor    2) Load factor    3) Demand factor.
- c. Explain the advantages of transmission at high voltage.
- d. What is ACSR conductor? Mention it's advantages over other types of conductors.
- e. Differentiate between feeder, distributor & service mains.
- f. What are the advantages & disadvantages of outdoor sub-station?
- g. What is power factor? Describe the disadvantages of low power factor.

**SECTION C**

**Q3: Attempt any THREE questions.**

**3x10=30**

- a. Explain various types of faults in overhead transmission system.
- b. Explain the layout of electric power system .
- c. An overhead line has a span of 150 m between two level supports, conductor weighs 0.62 kg per metre length. The allowable tension is 586 kg. Calculate the Sag if the wind pressure is 0.3685 kg per metre length .
- d. Compare the overhead & underground system of wiring
- e. i) Explain any one method of power factor improvement .  
ii) What are the factors affecting corona ?