

**BAPURAO DESHMUKH COLLEGE OF ENGINEERING, SEVAGRAM**  
**DEPARTMENT OF ELECTRICAL ENGINEERING**

Name of the Course: Advanced Electrical Engineering  
Semester: II Sem (CBS)  
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**Assignment – I**

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**Unit-I : Introduction to Electrical Power System**

1. Draw a 'Single Line Diagram' of a power system showing various stages of generation, transmission & distribution clearly indicating their voltage levels.
2. Draw a neat schematic diagram & explain working of thermal electric power station.
3. Write comparison between overhead and underground distribution system.
4. What do you mean by Fuse? Explain Rewirable and HRC fuses.
5. Explain Online & Off line UPS.

**Unit II: DC machines**

6. Derive the emf equation of dc generator.
7. Why is it necessary to use a starter for starting a d.c motor
8. Draw and explain electrical characteristics of DC series motor, necessary equation & applications.
9. State the functions of following DC machine parts.
  - 1) Commutator
  - 2) Yoke
  - 3) Armature winding
10. A 4 pole, 1200 rpm DC generator has a lap wound armature having 60 slots & 12 conductors per slot. If flux per pole is 0.02 Wb, determine the emf induced in the armature. Also calculate emf generated for wave wound armature