



**Section – B (5 marks \* 4 = 20 Marks)**

**Answer all questions from this section:**

**(CO1)**

11. Briefly explain the following along with their impact on the economics of power generation:
- a) PLF
  - b) Availability
  - c) Heat rate
  - d) Specific fuel consumption

**Section – C (10 marks \* 3 = 30 Marks)**

**Answer any three questions from this section:**

**(CO2)**

12. Discuss the merits and demerits of nuclear power plants.
13. From the perspective of satisfying the electricity needs of a country like India, it is unfair to compare 1 MW of thermal power (coal or gas based) capacity with 1 MW of renewable power (solar or wind) capacity. Justify.
14. Operation and maintenance of a hydro power plant is much simpler as compared to that of a coal fired power station. Justify.
15. Discuss the following data on cost of power supply and revenue realization in India and explain its impact on power sector:

Year	Average cost of supply(ACS) (paise/unit)	Average Revenue Realization(paise/unit)	Gap ACS-ARR (on subsidy received basis) paise/unit
2013-14	519.03	441.31	77.72
2014-15	520.57	462.11	58.46
2015-16	530.57	482.55	48.02
2016-17	538.01	500.78	37.23
2017-18	550.06	519.81	30.26
2018-19	599.93	548.36	51.57

**Section – D (30 marks \* 1 = 30 Marks)**

**Answer any one question from this section:**

**(CO3)**

16. Explain the challenges faced by India's power sector and suggest remedial measures.

OR

17. Renewables, electricity storage mechanisms and electric vehicles are changing the landscape of power sector like never before. In light of these technology interventions, discuss the future of Indian power sector.

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