q) What are the challenges facing the power sector in India? Discuss solutions for each stage of power sector development keeping in mind the future energy requirements of the country.

The present power generation capacity, according to CEC (Central Electricity Commission), is approx. 360 GW. This includes thermal power generation (~60%), hydro power generation (~13%), and renewable power generation [wind ~ 10%; solar ~ 8%].

**CHALLENGES**

- **Policy measures**
  - Policy flip-flop: coal seams, RBI circulars; cancellation of coal linkage
  - Subsidised electricity
  - Non-uniformity in plans for renewable energy state by state

- **Generation Stage**
  - Issue with coal linkages
  - Coal scarcity in domestic sphere
  - Inefficiency of thermal power plants
  - High cost of installation of wind-solar plants

- **Transmission and Distribution (T&D)**
  - 14% losses comprise around 22%
  - Poor financial conditions of DISCOMs
  - Remote areas
  - Inefficient revenue collection

- **Implementation**
  - Grid management
  - Power theft

**SOLUTIONS**

1. **Policy measures**
   1) Banking sector need to be patient with the power sector — long gestation periods
   2) Coordinated approach between government and PSUs — such policies should be long term.
   3) According to Economic Survey 2017-18, subsidised electricity given to the upper strata can be curtailed.
4. Support to solar cell production (according to WTO) can be improved.

**Generation Stage**
1. Monopoly of Coal India Ltd., and its inefficiencies thereof could be taken care of. Recent approval of 100% FDI in coal mining sector can prove to be beneficial.
2. Upgrade the thermal power plants infrastructure to supercritical version.
3. Domestic research and development - 'Make in India' for green India.

TFD

1. High voltage transmission lines across power grids. E.g. Green Energy Corridor.
2. Robust execution of UDAY schemes.
3. Smart metering and grids - help in load balancing implementation.
4. Strict monitoring of policies by state DISCOMS.
5. Pre-paid meters, smart meters, net metering - better cost collection.
6. Schemes like 24x7 power for all, Sahbhagya need better implementation.

In the wake of climate change, India's commitment to 40% extraction of power from non-fossil fuels as per the INDC targets is the need of the hour. Also, Government's policy of 175 GW by 2022 from non-renewable energy is what lies ahead.