

- C. Beryllium
D. Steel
- g)**is the most commonly used moderator **01**
A. Graphite
B. Sodium
C. Deuterium
D. Heavy water
- h)** In a pressurised water reactor (PWR)..... **01**
A. The coolant water is pressurised to work as moderator
B. The coolant water boils in the core of the reactor
C. The coolant water is pressurised to prevent boiling of water in the core
D. None of the above
- i)** The cost of fuel transportation is minimum..... **01**
A. Thermal power plant
B. Hydro-electric power plant
C. Nuclear power plant
D. None of the above
- j)** Francis, Kaplan and Propeller turbines fall under the category of..... **01**
A. Impulse turbine
B. Reaction turbine
C. Impulse reaction combined
D. Axial flow
- k)** Size of boiler tubes is specified by **01**
A. Mean diameter and thickness
B. Inside diameter and thickness
C. Outside diameter and thickness
D. Outside diameter and inside diameter
- l)** India's first nuclear power plant was installed at **01**
A. Tarapore
B. Kota
C. Kalpakkam
D. none of the above
- m)** The draught which a chimney produces is called **01**
A. Induced draught
B. Natural draught
C. Forced draught
D. Balanced draught
- n)** In India largest thermal power station is located at **01**
A. Kota
B. Sarni
C. Chandrapur
D. Neyveli



Attempt any four questions from Q-2 to Q-8

- Q-2 Attempt all questions (14)**
- a) Explain the various draught systems with a neat sketch. **07**
- b) Explain with neat sketch construction and working of Lamont Boiler. **07**
- Q-3 Attempt all questions (14)**
- a) With usual notations derive an expression of estimation of height of chimney and condition of maximum discharge. **07**
- b) Discuss different troubles caused by the impurities in water. **07**
- Q-4 Attempt all questions (14)**
- a) What are the desirable properties of a good moderator? **06**
- b) Draw neat sketches of following: **08**
- i. Gas cooled reactor
- ii. CANDU reactor
- Q-5 Attempt all questions (14)**
- a) A central power station has annual factors as follows. Load factor = 60%, capacity factor = 40% and use factor = 45%. power station has a maximum demand of 18000 KW. Determine the annual energy production, reserve capacity over and above peak load hours per year not in service. **06**
- b) What are the different methods of cooling diesel engine? Compare different methods. **08**
- Q-6 Attempt all questions (14)**
- a) A 100 MW power station delivers 100 MW for 2 hours, 50 MW for 6 hours and is shut down for the rest of each day. It is also shut down for maintenance for 45 days each year. Calculate its annual load factor **07**
- b) Write the shorts notes on: Coal handling system. **07**
- Q-7 Attempt all questions (14)**
- a) What are the advantages and disadvantages of diesel power plants? **07**
- b) Draw and explain schematic diagram of a thermal power plant. **07**
- Q-8 Attempt all questions (14)**
- a) What do you understand by nuclear fission? Give the functions and materials used for following components of nuclear reactor:
Moderator, reflector, control rod, coolant, thermal shield. **07**
- b) Explain the Cogeneration systems. **07**

