

CNPS

0312115

QP Code : 5153

(3 Hours)

[Total Marks : 80]

- N.B. :** (1) Question No.1 is compulsory.
 (2) Attempt any **three** from the **remaining** questions.
 (3) **Figures** to the **right** indicate **full** marks.

1. (a) Define following terms :—
- (i) Load factor 5
 - (ii) Maximum demand
 - (iii) Diversity factor
 - (iv) Demand factor
 - (v) Plant capacity factor
- (b) Explain in brief Load curve and Load duration curve. 5
- (c) Explain advantages of Solar Energy. 5
- (d) Explain nuclear fission and fusion. 5
2. (a) Explain advantages and disadvantages of Diesel power plant. 10
- (b) Explain fluidized bed combustion. 10
3. (a) Draw the layout of thermal power plant. 10
- (b) The maximum demand on power station is 200 MW. If supply following load. 10
- | Time (hrs) | 0-6 | 6-8 | 8-10 | 10-14 | 14-18 | 18-22 | 22-24 |
|------------|-----|-----|------|-------|-------|-------|-------|
| Load (MW) | 70 | 110 | 150 | 100 | 175 | 180 | 80 |
- (i) Draw Load curve and load duration curve.
 - (ii) Calculate load factor.
4. (a) Explain effects of fluctuating load on operation and design of power plant. 10
- (b) Explain PWR reactor used in nuclear power plant. 10
5. (a) Draw and explain dayout of diesel power plant. 10
- (b) What are advantages and disadvantages of hydro power plant ? 10
6. (a) Explain vertical axis and Horizontal axis wind power plant. 10
- (b) Describe operation of solar pond with layout. 10