

28/5/14

Electrical/III C B S G S / conv. & Non-conv.
Power Gen QP Code : NP-18672

(3 Hours)

[Total Marks : 80]

- N.B. :** (1) Q. No. 1 is compulsory.
 (2) Attempt any three from remaining question.
 (3) Figure to the right indicate full marks.
 (4) Assume data if necessary & Justify.

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| 1. | (a) Explain in brief solarpond. | 5 |
| | (b) Explain (i) Plant use factor | 5 |
| | (ii) Load factor | |
| | (iii) Utilization factor | |
| | (c) Explain (i) Radio active decay | 5 |
| | (ii) Half life. | |
| | (d) Explain (i) Hydrologic cycle | 5 |
| | (ii) Flow duration curve | |
| 2. | (a) Explain various factors and effect of fluctuating load on operation of power plant and also explain method to meet fluctuating load. | 10 |
| | (b) Explain induced drought and forced drought fans in thermal power plant. | 10 |
| 3. | (a) With a neat diagram explain pulverized coal burners and Fluidised Bed combustion system in thermal power plant. | 10 |
| | (b) Draw a neat layout of Hydroelectric power plant and explain in brief | 10 |
| | (i) Reservoir (ii) Dam (iii) Penstock (iv) Surge tank | |
| 4. | (a) Draw a neat diagram of nuclear reactors and explain in brief essential components of nuclear reactor. | 10 |
| | (b) State advantages and disadvantages of Gas turbine power plant. | 10 |
| 5. | (a) How are Solar collectors classified give brief description of flat plate collector. | 10 |
| | (b) What are the advantages and disadvantages of wind energy & hence explain factors which governs the selection of site for a proposed wind turbine generating system. | 10 |
| 6. | Write short notes on :— | 20 |
| | (1) Ash handling system | |
| | (2) Principle of operation of fuel cell | |
| | (3) Diesel power plant | |
| | (4) Boiling water reactor (B.W.R.) | |