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C16-EE-402

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BOARD DIPLOMA EXAMINATION, (C-16)

JUNE/JULY—2022

DEEE - FOURTH SEMESTER EXAMINATION

POWER SYSTEM - I (G & P)

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. State the advantages of non-conventional energy sources.
2. List the different methods of energy conservation.
3. List the types of cooling towers.
4. List the requirements for site selection of hydro power plant.
5. List the risks involved in using nuclear energy.
6. State the working principle of wind mill.
7. Differentiate between isolated power station and integrated operation of power station.
8. Define switch gear and classify it.
9. State the probable faults in alternator stator and rotor.
10. State the basic requirements of relay.

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PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain the principle of working of each component of thermal station with line diagram.
12. Explain the working of high head hydro power station with line diagram.
13. Explain the working of a moderate type nuclear power station with a block diagram.
14. Explain the working of roof top solar power generation with a block diagram.
15. The following is the load demand of a residential consumer :

S.No	Time	Load in kW
1	12 Midnight - 05 A.M	50
2	05 A.M - 09 A.M	80
3	09 A.M - 01 P.M	120
4	01 P.M - 05 P.M	100
5	05 P.M - 09 P.M	90
6	09 P.M - 12 Midnight	-60

Plot the load curve and determine (a) maximum demand, (b) average load, (c) load factor and (d) diversity factor.

16. (a) Explain about power factor tariff.
(b) Explain about thyrite type lightning arrester.
17. Explain the working of minimum oil circuit breaker with a neat diagram.
18. Explain the differential protection for transformer.

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