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Code No.: 22215 AS

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
B.E. (E.E.E.) II Year II-Semester Advanced Supplementary Examinations, June/July-2017

Power Systems-I

Time: 3 hours

Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Part-A (10 × 2 = 20 Marks)

1. Write the advantages and disadvantages of hydro power station.
2. Classify wind power stations.
3. Give the properties of conductor materials and give example for materials used.
4. Define GMR and write the equation.
5. Define diversity factor and give its significance.
6. Classify the nuclear power generating stations.
7. Explain the efficiency of a solar cell.
8. List out the different types of cables.
9. Write short notes on ACSR conductors.
10. What are the equipments for power factor improvement?

Part-B (5 × 10 = 50 Marks)

11. a) Explain GAS Power station with layout diagram. [4]
b) At a particular site the mean monthly discharge as follows [6]

Month	Discharge, m ³ /s	Month	Discharge, m ³ /s
January	100	July	1000
February	225	August	1200
March	300	September	900
April	600	October	600
May	750	November	400
June	800	December	200

Draw hydrograph and mass curve.

12. a) Describe flat plate and focusing type of collectors with neat sketches. [6]
b) At sea level and 0°C, calculate the power available in undisturbed wind with speed $V_f=10\text{m/s}$ and turbine rotor diameter is 11.28m. [4]
13. a) Explain different types of insulators and their advantages. [4]
b) Derive the expression for SAG of a line supported between two supports of the unequal height. [6]
14. a) Write short notes on Bundle conductors. [4]
b) Deduce an expression for inductance of unsymmetrical transposed 3-Ø transmission line. [6]