

B. Solar power generation	ii.80%
C. Tidal power generation	iii.33% -48%
D. Steam Power generation	iv. 25% -36%

A B C D

- a) IV II I III
b) III I IV III
c) IV I II III
d) III IV II III

5. Assertion (A): As the load factor of the power plant increases, the cost per kWh of the energy generated decreases. CO3 [K₁]

Reason (R): Higher load factor means greater average load, resulting in large number of units generated for a given maximum demand or capacity, and thus there is a distribution of standing charges over a large number of units supplied and therefore reduction in unit cost.

- a) Both A and R are true and R is correct explanation of A b) Both A and R are true and R is not correct explanation of A
c) A is true R is false d) A is false but R is true

6. The penalty for low power factor is imposed on CO3 [K₁]

- a) Domestic consumers b) Medium industrial consumers
c) Bulk suppliers d) Municipal loads

7. Which of the following distribution system is preferred for good efficiency and high economy? CO4 [K₂]

- a) Single phase -2 wire b) Two phase -3 wire
c) Three phase -3 wire d) Three phase -4 wire

8. The concept of an electrically short, medium and long line is primarily based on the CO4 [K₃]

- a) Nominal voltage of the line b) Physical length of the line
c) Wavelength of the line d) Power transmitted over the line

9. Which of the following falls under category of fusion or non pressure welding? CO5 [K₁]

- a) Resistance welding b) Metal arc welding
c) Ultrasonic welding d) Explosive welding

10. While selecting a motor for air conditioner the feature of utmost importance is CO5 [K₂]

- a) Type of enclosure b) Type of bearing
c) Noise d) Power transmission arrangement

PART B (10 x 2 = 20 Marks)

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| 11. What is High level waste in nuclear power plant? What it contains? | CO1 | [K ₂] |
| 12. Why gas turbine plants are used for supplying peak loads? | CO1 | [K ₂] |
| 13. The propeller type rotor is best suitable for power generation. Justify your answer. | CO2 | [K ₂] |
| 14. Huge amounts of fossil fuels are used in the manufacture of the solar cells. When disposal of solar panels which emits toxic material to land. So whether solar is natural friendly or not? Justify your answer. | CO2 | [K ₃] |
| 15. List the information supplied by load curves. | CO3 | [K ₂] |
| 16. Define base load and peak load | CO3 | [K ₂] |
| 17. Transmission line carrying current under no load condition. State the reason | CO4 | [K ₂] |
| 18. How power factor impacts efficiency of transmission line? | CO4 | [K ₂] |
| 19. What are the main guiding factors for selection of motor. | CO5 | [K ₂] |
| 20. Define candle power. | CO5 | [K ₂] |

PART C (10 x 5 = 50 Marks)

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| 21. Name the fuels used for combustion in steam generating plants? Classify coals in the order of heat value. | CO1 | [K ₂] |
| 22. Explain the challenges in nuclear power plants. Name nuclear plants in india. | CO1 | [K ₂] |
| 23. What are the important factors needed to absorb tidal power into the grid supply? Draw a load duration curve in support of your answer. | CO2 | [K ₃] |
| 24. Discuss the different technologies to produce biogas. | CO2 | [K ₃] |
| 25. Explain various types of tariffs , which are commonly used . | CO3 | [K ₂] |
| 26. Explain different methods of power factor improvement. | CO3 | [K ₂] |
| 27. Compare EHVAC and HVDC Transmission system. | CO3 | [K ₂] |
| 28. Explain different bus bar schemes with neat diagram. | CO4 | [K ₂] |
| 29. Explain various types of electric lamps. | CO5 | [K ₂] |
| 30. Explain the factors considered while designing of lighting schemes. | CO5 | [K ₂] |

PART D (2 x 10 = 20 Marks)

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| 31. Design thrust , Torque and Solidity on turbine rotor of wind mill. | CO2 | [K ₃] |
| 32. Explain the various problems associated with reactive power transmission and how to overcome it. | CO4 | [K ₃] |
