Syllabus and sample questions for AE - Electrical and Electronics

The topics to be covered in the recruitment examination are listed below. Please note that the level of the questions will be commensurate to the B.Tech. level syllabus in each of these topics as per the Visvesvaraya Technological University (VTU) curriculum.

List of topics:

1. Engineering Mathematics
2. Engineering Physics
3. Engineering Chemistry
4. Introduction to Computer Programming
5. Basic Electronics
6. Electronic Circuits
7. Electric Power Generation
8. Electrical and Electronic Measurements and Instrumentation
9. Network Analysis
10. Logic Design
11. Microcontrollers
12. Control Systems
13. Field Theory
14. Power Electronics
15. Transformers and Induction Machines
16. Signals and Systems
17. Transmission and Distribution
18. DC machines and Synchronous Machines
19. Linear IC's and Applications
20. Control Theory
21. Power System Analysis and Stability
22. Switchgear and Protection
23. Electrical Machine Design
24. Digital Signal Processing
25. Computer Aided Electrical Drawing
26. Computer Techniques in Power System Analysis
27. Electrical Power Utilization
28. High Voltage Engineering
29. Industrial Drives and Applications
30. Electrical Design, Estimation and Costing
31. Power System Operation and Control
32. Reactive Power Management
33. Data Base Management Systems
34. Renewable Energy Sources
35. Energy Auditing & Demand Side Management
36. Electrical Power Quality
37. Electrical Distribution Systems
38. HVDC Transmission
39. Artificial Neural Networks
40. Digital System Design with VHDL
41. Power System Planning
42. Computer Control of Electrical Drives
43. VLSI Circuits and Design
44. Electromagnetic Compatibility

Sample Questions

1. Which of the following is used to measure resistance?
   A. Volts
   B. Watts
   C. Ohms$
   D. Hertz

2. The number of kilowatts in 135 milliwatts is
   A. 0.135 kW
   B. 0.0135 kW
   C. 0.00135 kW
   D. None of these$

3. If a pulse waveform has a high time of 8 ms and a pulse width of 32 ms, what is the value of duty cycle?
   A. 2.5%
   B. 25%$
   C. 50%
   D. 75%

4. When a fourth resistor is connected in series with three resistors, the total resistance will
   A. Increase$
   B. Decrease
   C. Remains the same
   D. Cannot say unless we know the exact parameters of the 4 resistors

5. Which of the following is true when one of three series resistors is removed from a circuit and the circuit is reconnected,
   A. The current increases$
   B. The current decreases
   C. The current remains the same
   D. Cannot say unless we know the exact parameters of the resistors