

Errata for Electric Machinery and Power System Fundamentals 1/e (Current at 20 October 2001)

Please note that some or all of the following errata may be corrected in future reprints of the book, so they may not appear in your copy of the text.

1. Page 55, Problem 1-19, parts (a) and (b) should end "... power being supplied by the *source*" instead of "... power being supplied by the *load*".
2. Page 156, Problem 3-5, the 120-V side of the transformer should have *500* turns, and the 240-V side of the transformer should have *1000* turns. These numbers are reversed.
3. Page 157, Problem 3-10, should read "A Y-connected bank of three identical 100 kVA, 7967/277-V transformers...".
4. Page 158, Problem 3-10c, states "Assume that the primary voltage of this transformer is a constant 7967 V, and plot the secondary voltage...". It should be corrected to read "Assume that the primary *line* voltage of this transformer *bank* is a constant 13.8 kV, and plot the secondary *line* voltage...".
5. Page 190, Problem 4-2, should be modified as follows "A three-phase two-pole winding is installed in six slots on a stator. There are 80 turns of wire in each slot of the windings. All coils in each phase are connected in series, and the three phases are connected in Δ . The flux per pole in the machine is 0.060 Wb, and the speed of rotation of the magnetic field is 3600 r/min."
6. Page 256, Problem 5-2, the synchronous reactance should be 0.25 Ω and the armature resistance should be 0.03 Ω . Also, parts *a* and *c* refer to a voltage of 2300 V. In each case, the voltage should be 480 V.
7. Page 258, Problem 5-13, add the following comment at the end of the problem: (*Note:* You may ignore R_A to make this calculation easier.)
8. Page 259, Problem 5-17, delete part *d*.
9. Page 263, Problem 5-28, the torque angle δ should be 28° instead of 20°.
10. Page 263, Problem 5-29, the armature resistance should be 0.22 Ω .
11. Page 286, Problem 6-5, should read as follows: "Generators 1 and 2 have a characteristic power-frequency slope s_p of 2.5 MW/Hz, and generator 3 has a slope of 3 MW/Hz."
12. Page 350, Problem 7-12, should refer to Equations (7-38) and (7-42).
13. Page 350, Problem 7-13, should state that the elements are in *series*, not parallel.

14. Page 489. For Problems 9-3 to 9-7, the line spacing should be **2 m**.
15. Page 491. For Problems 9-16, calculate the voltage at the *sending* end. Also, the power delivered is 150 MW, not 50 MW.
16. Page 491. For Problems 9-17, the power supplied is 60 MW, and the shunt admittance is 6×10^{-6} S/mile.
17. Page 509, Problem 10-5, the impedance of the transmission line is $j10 \Omega$, not 50Ω as stated.
18. Page 509, Figure P10-1, the transmission line impedance is $5 + j20 \Omega$ per phase.
19. Page 510, Problem 10-6, the load is 200Ω per phase.
20. Page 510, Problem 10-7, for Line 2, $R = 5 \Omega$, not 5 V.
21. Page 521, Example 11-2, the real and reactive loads should be: $P_2 = 0.2$ pu , $Q_2 = 0.15$ pu , $P_3 = 0.3$ pu , $Q_3 = 0.15$ pu , $P_4 = 0.2$ pu , and $Q_4 = 0.10$ pu .
22. Page 551, caption in Figure P11-1 should refer to Problems 11-4 to 11-8.
23. Page 552, Figure P11-2, the transmission line impedance is $5 + j20 \Omega$ per phase.
24. Page 553, Table 11-10, should be as follows:

Table 11-10: Typical nighttime bus data for the power system in Figure P11-3.

Bus Name	Type	V (pu)	Generation		Loads	
			P (MW)	Q (Mvar)	P (MW)	Q (Mvar)
1	SL	$1 \angle 0^\circ$				
2	PV	$1 \angle 0^\circ$	100		40	25
3	PQ	$1 \angle 0^\circ$			30	20
4	PQ	$1 \angle 0^\circ$			50	35
5	PQ	$1 \angle 0^\circ$			15	5
6	PQ	$1 \angle 0^\circ$			30	15

25. Page 587, Problem 12-2, $X_{S,G1} = 1.0$ pu, $X_{S,G2} = 1.2$ pu, $X_{S,G3} = 1.0$ pu. Also, $R_{\text{line}} = 8 \Omega$ and $X_{\text{line}} = 40 \Omega$ for all transmission lines.
26. Page 589, Figure P12-2, $R_{\text{line}} = 15 \Omega$ and $X_{\text{line}} = 75 \Omega$ for the transmission line.
27. Page 648, Problem 13-6, $R = 8 \Omega$, $X_1 = X_2 = 40 \Omega$, $X_0 = 80 \Omega$ for all transmission lines.

28. Page 649, Figure P13-2, $R_{\text{line}} = 15 \Omega$, $X_{1,\text{line}} = X_{2,\text{line}} = 75 \Omega$, and $X_{0,\text{line}} = 125 \Omega$ for the transmission lines.
29. Page 650, Table 13-1, $X_{\text{SE,pu}} = 0.011$ for line 1, from Bunya to Mulga.
30. Page 650, Table 13-2, $X_{n,\text{pu}} = 0.40$ for both generators.