

7. A 4-pole generator has a wave-wound armature with 722 conductors, and it delivers 100 A on full load. If the brush lead is 8° , calculate the armature demagnetising and cross-magnetising ampere turns per. [802, 37/8]
8. An 8-pole generator has an output of 200 A at 500 V, the lap-connected armature has 1280 conductors, 160 commutator segments. If the brushes are advanced 4-segments from the no-load neutral axis, estimate the armature demagnetizing and cross-magnetizing ampere-turns per pole. [800, 1200]
9. Determine per pole the number (i) of cross-magnetising ampere-turns (ii) of back ampere-turns and (iii) of series turns to balance the back ampere-turns in the case of a d.c. generator having the following data. 500 conductors, total current 200 A, 6 poles, 2-circuit wave winding, angle of lead = 10° , leakage coefficient = 1.3. [2,778, 1390, 9]
10. A 400-V, 1000-A, lap-wound d.c. machine has 10 poles and 860 armature conductors. Calculate the number of conductors in the pole face to give full compensation if the pole face covers 70 % of pole span. [3,010]