

Printed Name: _____.

PHYSICS 331

MISSION 7: E&M WAVES AND RETARDED POTENTIALS (38+2)PTS)

Problems mentioned refer to David Griffith's *Introduction to Electrodynamics*, 5th edition. Skip two problems. Each problem worth 4pts.

Problem 66 Problem 9.4 (solving wave equation via complex math)

Problem 67 Problem 9.9 (electromagnetic plane wave)

Problem 68 Problem 9.13 (stress energy tensor for plane wave)

Problem 69 Problem 9.21 (opacity of metal, skin depth)

Problem 70 Problem 9.28 (solving some wave equations)

Problem 71 Problem 9.35 (spherical wave)

Problem 72 Problem 10.1 (space time Laplacian)

Problem 73 Problem 10.3 (gauge transformation)

Problem 74 Problem 10.4 (deriving fields from potentials)

Problem 75 Problem 10.7 (time-dependent point charge)

Problem 76 Problem 10.8 (checking equations of motion for uniform magnetic field)

Problem 77 Problem 10.11 (retarded potentials are very smart)