(3) How large, in order of magnitude, is the deflection of a light ray that grazes a neutron star? That grazes a galaxy?

The answer can only depend on G, c, the impact parameter b, and the mass M of the attractor. A nonrelativistic calculation for a particle of mass m moving at practically constant speed v on a practically straight path that passes a distance b away from a mass M easily yields for the transverse momentum acquired $2mMG/bv$. The resulting small deflection of the trajectory is $2MG/Bv^2$. If we naively replace v^2 by c^c we ought to get at least the right order of magnitude for the deflection of the light ray. As many readers will recall, Einstein's correct formula predicts a deflection just twice as great, $4MG/bc^2$. I'll use the correct formula. For a typical neutron star radius and mass I'll take 10 km and 10^{33} g. For a galaxy, I'll assume for b and M 10^{23} cm and 10^{44} g. Then the ray grazing the neutron star is deflected by 0.3 radians while the deflection of a ray "grazing" a galaxy is a million times smaller, 3×10^{-7} radians.