Using a Green's function approach, we study phonon-mediated superconducting pairing symmetries that may arise in bilayer graphene where the monolayers are displaced in-plane with respect to each other. We consider a generic coupling potential between the displaced graphene monolayers, which is applicable to both shifted and commensurate twisted graphene layers; study intralayer and interlayer phonon-mediated BCS pairings; and investigate AA and AB (AC) stacking orders. Our findings demonstrate that at the charge neutrality point, the dominant pairings in both AA and AB stackings with intralayer and interlayer electron-electron couplings can have even-parity s-wave class and odd-parity p-wave class of symmetries with the possibility of invoking equal-pseudospin and odd-frequency pair correlations. At a finite doping, however, the AB (and equivalently AC) stacking can develop pseudospin-singlet and pseudospin-triplet d-wave symmetry, in addition to s-wave, p-wave, f-wave, and their combinations, while the AA stacking order, similar to the undoped case, is unable to host the d-wave symmetry. When we introduce a generic coupling potential, applicable to commensurate twisted and shifted bilayers of graphene, d-wave symmetry can also appear at the charge neutrality point. Inspired by a recent experiment where two phonon modes were observed in a twisted bilayer graphene, we also discuss the possibility of the existence of two-gap superconductivity, where the intralayer and interlayer phonon-mediated BCS picture is responsible for superconductivity. These analyses may provide a useful tool in determining the superconducting pairing symmetries and mechanism in bilayer graphene systems.