Phosphorous is an essential macro-element that is an integral part of the cell membranes, helps in synthesis of proteins and is required for the activation of several enzymes and is essential for both plants and animals. Plant tissues, legumes and cereals contain phosphorous in the form of phytic acid. Excessive application of phosphorus fertilizers results in accumulation of phosphorus in agricultural soils. Beside, inability of monogastric animals to hydrolyze phytate-phosphorus causes the excess releases of phosphorus in animal fecal material and unavailability of phosphorous to the animals. This indicated the two major challenges; one is to control environmental phosphorous pollution and the other to provide the sufficient amount of phosphorous to the animals. For this, it is necessary to supplement animal feeds with microbial phytases so that phytate-phosphorous can be readily available to animals without just being released unutilized in environment. To combat such issues, the corresponding gene of phytase from *Klebsiella pneumonia* was isolated. The amplified *phyk* gene was cloned in DH5α. It was transformed into pET-21a(+) expression vector and into the expression host BL21 codon plus. SDS-PAGE was done for the confirmation of phytase expression which revealed approximately 38kDa of molecular mass. The optimum temperature was recorded as 70°C and pH as 7.0. Cd^{2+}, EDTA and TritonX100 significantly inhibited the enzyme activity whereas Co^{+2}, Mn^{2+}, Zn^{2+} and Ni^{2+} also reduced the enzyme activity to certain level. *PhyK* activity was not affected by Ca^{+2}, Cu^{+2} and Mg^{2+} ions.