ABSTRACT

Here, the preparation and characterization of PVA-g-poly(acrylic acid)/ MMT nanoclay based hydrogels are reported.The hydrogels are prepared by aqueous polymerization process with different amount of crosslinker (Glutaraldehyde) and MMT nanoclay. The structures of the hydrogels are confirmed using Fourier Transform Infrared (FTIR), X-ray diffraction (XRD) and Scanning Electron Microscopy (SEM) study. Thermal stabilities of the copolymer hydrogels and clay incorporated nanocomposite hydrogels are investigated by Thermo gravimetric analysis. The influence of crosslinker and clay content on the swelling behaviours of the hydrogel was also investigated. The biocompatibility of the prepared hydrogels was investigated by hemolytic potentiality test. Prepared hydrogels are found to be biocompatible in nature.