Plant pathogens are a major threat to biodiversity and food security worldwide. They cause severe losses or damage to crops, thereby significantly reducing the quality and quantity of agricultural commodities. Bacteria and fungi are known to have the highest negative impact on plant yield quality and quantity. Cultural and chemical methods are the most commonly applied methods of controlling these pathogens. However, many cultural methods are ineffective while chemicals are harmful to the environment and living organisms. Furthermore, plant pathogenic bacteria and fungi have acquired resistance against conventional pesticides. Xanthomonas campestris is a bacterial pathogen which causes common plant diseases like Bacterial Spot Disease, Black Rot and Xanthomonas Wilt in various crops. On the other hand, Fusarium oxysporum is a fungal pathogen which causes common diseases like Fusarium Wilt and Fusarium Crown Root Rot (FCRR). It is therefore important to develop new pathogen control strategies that embrace the use of plant phytochemicals. The aim of this study was first to determine the phytochemical composition of extracts obtained from different parts of Tamarindus indica and then evaluate their antimicrobial effect against Xanthomonas campestris and Fusarium oxysporum invitro. A phytochemical analysis of T. indica was carried out to establish the bioactive components present in different parts of the tree (leaves, bark, roots and pods). They were collected from the field and prepared for phytochemical extraction. A crude extract was obtained using different solvents (dichloromethane, methanol and acetone) and a qualitative analysis was carried out to establish the phytochemicals present. In the antimicrobial assay of the extract against plant pathogens, the pathogens were grown on media containing different concentrations of the extract and the antimicrobial effect was determined by observing the rate of inhibition. The SAS version 9.4 computer software was used to analyze the data. A two-way analysis of variance was carried out to determine the differences in the means at a 95% confidence level. A total of nine phytochemicals were identified from the stem, root, pods and leaves of T. indica. These were saponins, flavonoids, alkaloids, terpenoids, steroids, phenols, tannins, glycosides and resins. In acetone and methanol extracts, a total of seven phytochemicals were identified in all the T. indica extracts. Only four phytochemicals were detected in all dichloromethane extracts. The solvents produced different medicinally important phytochemicals with methanol exhibiting the highest concentrations. The antimicrobial tests of Tamarindus indica extracts obtained using the different solvents against Xanthomonas campestris were all negative. For Fusarium oxysporum, the percentage inhibition of acetone extract ranged from 71.042% (250 ppm) in the root to 13.551% (1000 ppm) in the leaf. Inhibition of dichloromethane extracts ranged from 68.811% in leaf extract at 500 ppm to 23.224% in pods at a concentration of 62.5 ppm. There was a significant difference (p < 0.05) in the percent of inhibition exhibited by methanol extracts against Fusarium oxysporum. The percent of inhibition was recorded at 86.953% in stem extract at 125 ppm and 75.169 % in root extract at 500 ppm. *Tamarindus indica* extracts therefore have great potential as a source of biopesticide in integrated pest management of the plant fungal pathogen Fusarium oxysporum.