7.0 CONCLUSION

7.1 Main Conclusion

Peach is an important common plant, the fruit of which is an integral part of diet, being consumed as a seasonal nutritive fruit. Physico-chemical evaluation & Chemical screening of different solvents extracts showing the presence of alkaloids, glycosides, flavanoids, carbohydrates, fixed oils, steroids, tannins & phenols, amino acids & proteins. *Prunus persica* leaves are used as anthelmintic, insecticidal, sedative, diuretic, demulcent, expectorant and vermicidal ethnopharmacologically. The objective of the present study was an evaluation of anthelmintic activity of different extracts of *P. persica* leaves. Ethnopharmacological use of *P. persica* as an anthelmintic has been confirmed. All the extracts showed the anthelmintic activity. The ethanol extracts showed more potent activity as compared to ethyl acetate and petroleum ether extracts and its activity at 60 mg/ml was comparable to the reference drug, piperazine citrate at 10 mg/ml. Further studies are needed to be carried out to recognize the specific active constituent responsible for anthelmintic activity and mechanism of action. *Trichosanthes dioica* is an easily available common plant. The plant belongs to family Cucurbitaceae which has given us many important medicinal plants like *Momordica charantia*, *Citrullus colocynthis* etc. from which important pharmacological activities and markers like charantin and Cucurbitacin have been reported and isolated, hence it would not be wrong to state that still a lot has to be worked upon this important plant.

Apart from old traditional texts, like Charak Samhita mentioned the protective role of *Trichosanthes dioica* on important body organs like liver, spleen, hear etc, many of which are now scientifically proven. From the literature review it can be perceive that *Trichosanthes dioica* may play a significant role in developing formulations for geriatric care as it is having almost all the properties of pharmaceutical care designed
for the elderly i.e. antioxidant property, antidiabetic property, cholesterol lowering, & hepatoprotective etc.

*Trichosanthes dioica* seeds are mentioned in various traditional texts as a drug used for vermicidal anthelmintic, insecticidal, sedative, diuretic, demulcent, and expectorant purpose ethnopharmacologically. Objective of present study was investigation of anthelmintic activity of different extracts of *Trichosanthes dioica* seeds. Ethanopharmacological use of *T. dioica* as an anthelmintic has been confirmed. All the test extracts exhibited significant paralytic and lethal actions in a concentration dependent manner against *P. posthuma* and *A. galli*. The ethanolic extract was the most potent showing the shortest paralysis and lethal time, followed by ethyl acetate and petroleum ether extract which were least active, only at higher concentrations, exhibited most prolonged paralytic and lethal time. Further studies are needed to be carried out to recognize the specific active constituent responsible for anthelmintic activity and mechanism of action.

From the of microscopical evaluation of *T. dioica* seeds it can be concluded that there was presence of mucilaginous epidermis made up of long thin trichomes, Innermost layer of parenchyma cells and sclerotic endodermal layer. Testa is 17-23 cells thick on the sides on the seeds. Exotesta: a layer shortly columnar pulpy cells, much elongate on the sides of micropyle thin walled but with fine fibrillar thickenings (not lignified) on the radial and inner wall, the outer wall thickened and slightly lignified, first filled with starch grains. This layer is 7-11 cells thick on the sides of seeds but more thick at the obtuse edges, composed mainly cuboidal substellate cells. Endotesta: 8-10 cells thick, thin walled without starch, aerenchymatous, substellate, the outer cell layers composed of lignified smaller cells. Tegmen disappeared except for a trace at the micropyle. Vascular bundles of raphe-antiraphe are without branches. Nucellus persistent as 2-4
cell layers with thick external cuticle. Starch gains of 41.5 µ diameter, Length of unicellular trichomes 0.012mm-0.2mm.

From the of physico-chemical evaluation of *P. persica* leaves it can be concluded that ether soluble extractive value 2.08% w/w, alcohol soluble extractive value 13.30% w/w, water soluble extractive value 28.60% w/w, total ash value 10.45% w/w, acid insoluble ash value 2.53% w/w, water soluble ash value 6.08% & loss on drying 18.71% w/w etc. were found out. Chemical screening & TLC profile of different solvents extracts showed the presence of alkaloids, glycosides, Flavonoids, carbohydrates, fixed oils, steroids, tannins & phenols, amino acids & proteins. After observation of results of microbial load it can be concluded that anaerobic microbial count is lesser than aerobic microbial count in the crude drug.

The HPTLC finger print scanned at wavelength 400 nm for ethanol extract of *P. persica* leaf showed sixteen polyvalent phytoconstituents and corresponding ascending order of Rf values ranged from 0.02 to 0.98 in which highest concentration of the phytoconstituents was found to be 30.26 % and its corresponding Rf value was found to be 0.95.

The HPTLC finger print scanned at wavelength 420 nm for ethanol extract of *T. dioica* seeds revealed the presence of fourteen polyvalent phytoconstituents and corresponding ascending order of Rf values start from 0.03 to 0.95 in which highest Concentration (% area) was found to be 27.48% and its corresponding Rf value was found to be 0.15.

**7.2 Future development and scope:**

All these findings will be useful towards establishing pharmacognostic standards on identification, purity, quality and classification of the plant, which is gaining relevance.
in plant drug research, the identification and preparation of monograph of plant. HPTLC profile may help to another researcher to isolate that particular constituent of definite Rf value which showed the highest concentration in the present work. To develop & confirm the structure of molecule responsible for anthelmintic activity, preparative Chromatography may be performed for significant extract with GC-MS analysis which might provide us some important “leads/hits” in near future.