3. SCOPE OF THE PRESENT STUDY

Hyaluronic acid is non-sulphated glycosaminoglycan having the exceptional properties and multiple applications in medical, pharmaceutical and cosmetic field. Owing to this vast application, the demand for it is tremendously increasing every year. Commercially available hyaluronic acid is more cost effective due to their source. Bearing this in mind, the current study is focused to find an alternative cheaper source from marine superstore. Hence, the present attempt was made in marine bivalves such as Meretrix casta and Amassium pleuronectus for the isolation of hyaluronic acid with following objectives.

➢ To isolate the glycosaminoglycans from the marine bivalves.
➢ To separate hyaluronic acid from the glycosaminoglycans by cellulose anion exchange resin.
➢ To purify hyaluronic acid in HPLC through amino column.
➢ To confirm the presence of hyaluronic acid through agarose gel electrophoresis.
➢ To estimate the physiochemical constituents such as uronic acid, N-acetyl D-glucosamine, carbon, hydrogen, nitrogen and optical rotation.
➢ To determinate the molecular weight in viscometer.
➢ To identify tetrasaccharide and hexasaccharide of isolated HA through HPTLC.
➢ To characterise the structure of isolated HA using FTIR and H1NMR.
➢ To evaluate its biological activities such as antioxidant and antiproliferative properties.
➢ To find out the hepatoprotective activity of isolated HA in acetaminophen induced male Wistar rats.