**METHODOLOGY**

Software used – **QGIS 3.16.2**

ISRO Data used - **CartoDEM V3R1**

**Steps done:**

1. Downloaded Dem data (**CartoDEM V3R1**) from Bhuvan portal of 2 tiles covering the area.
2. QGIS software is opened and DEM data are opened. **(Layer --Add Layer –Add Raster Layer – Add the DEM datas)**
3. The Coordinate Reference System is set as WGS 84 UTM zone 43N.
4. Shape file of the area is opened. **(Layer --Add Layer –Add Vector Layer – Add district shape file)**
5. **(Raster – Miscellaneous – Merge)**
6. **(Raster –Extraction –Clip Raster by Mask Layer)**

**(Processing toolbox –SAGA --Terrain Analysis –Hydrology –Fill sinks)**

1. The major drainage channels are delineated using channel network tool.

**(Processing toolbox –SAGA --Terrain Analysis- Channels –Channel network and drainage)**

1. **(Raster –Analysis –Hillshade)**
2. Project layout is created by adding items- Title, north arrow, scale and legend.
3. Map is saved and exported.

**COMPLEXITIES**

Encountered problems while using fill sink option.

Problems encountered while Projecting Coordinate system.

**APPLICATIONS**

Major channels, National parks, Forest reserves, water reserves and cities are pointed out in the map. To get a better look at the terrain, it is possible to calculate a hillshade, which is a raster that maps the terrain using light and shadow to create a 3D-looking image. The Classes like mountain region, plains, hilly region and valleys were given.