



SNS COLLEGE OF TECHNOLOGY

19MEB303 CAD/CAM and AUTOMATION

GEOMETRIC MODELING

AP/MECH V.KARTHIK
AP/MECH

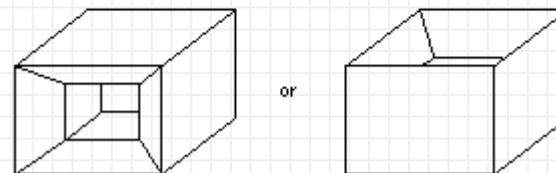
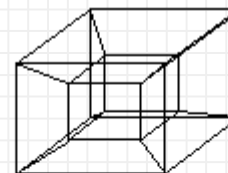
V.KARTHIK, AP/MECH



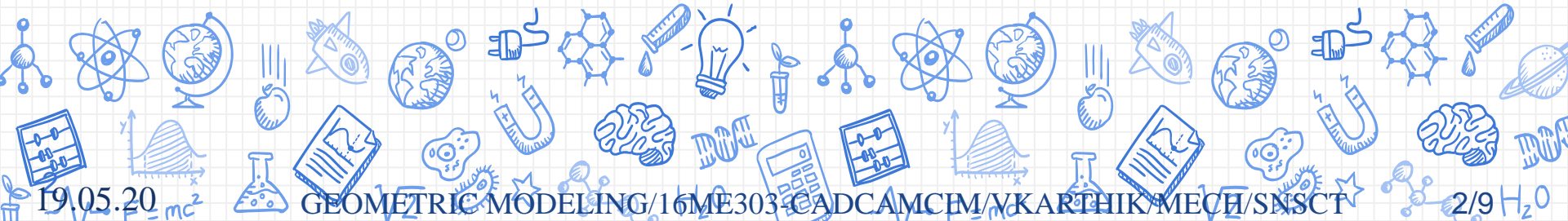


Types of Geometric modeling methods

- Wireframe modeling
- Surface modeling
- Solid modeling



Sources-Web.mst.edu

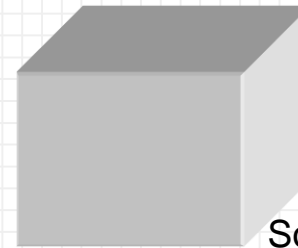
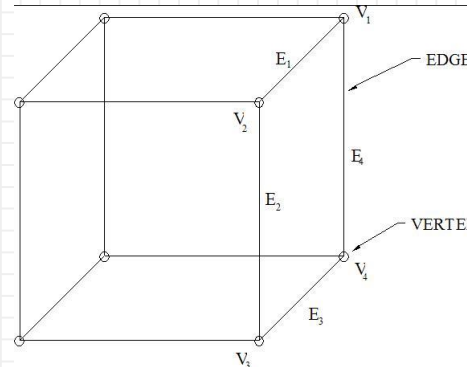
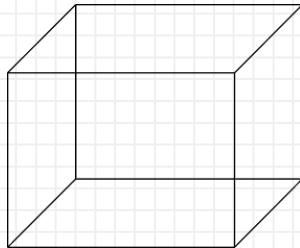




Wireframe Modeling

- Wire-frame modelling uses points and curves (i.e. lines, circles, arcs) to define objects
- The user uses edges and vertices of the part to form a 3-D object

Wireframe model



Sources-Web.mst.edu



Surface Modeling



Definition

“ A surface model represents the skin of an object, these skins have no thickness or material type ”

- Surface modeling is more sophisticated than wireframe modeling in that it defines not only the edges of a 3D object, but also its surfaces.
- In surface modeling, objects are defined by their bounding faces.



Surface Entities



Analytic entities include :

- Plane surface,
- Ruled surface,
- Surface of revolution, and
- Tabulated cylinder.

Synthetic entities include

- Hermite Cubic spline surface,
- B-spline surface,
- Bezier surface, and
- Coons patches.



Plane surface

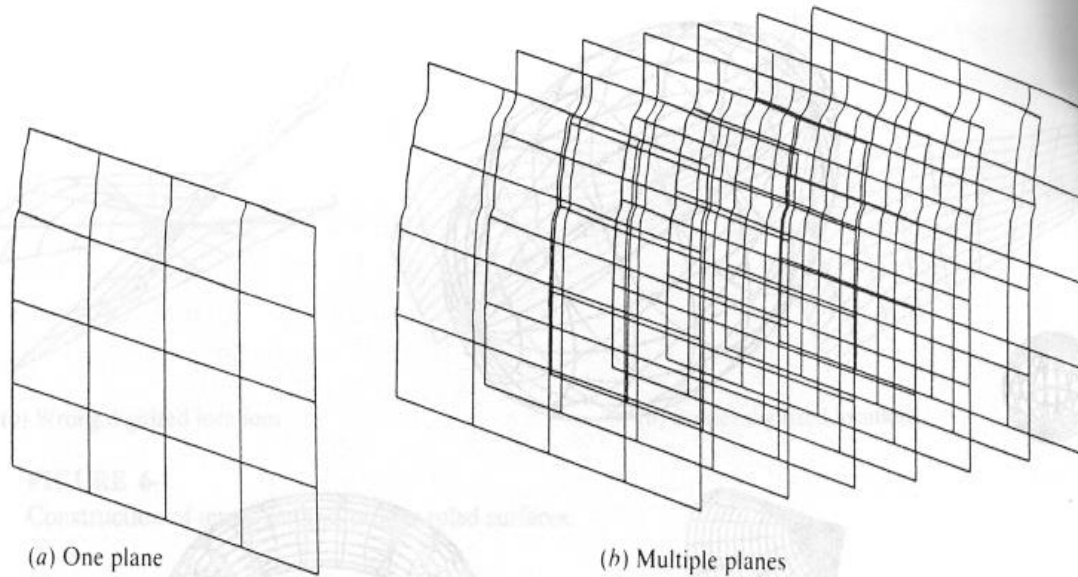


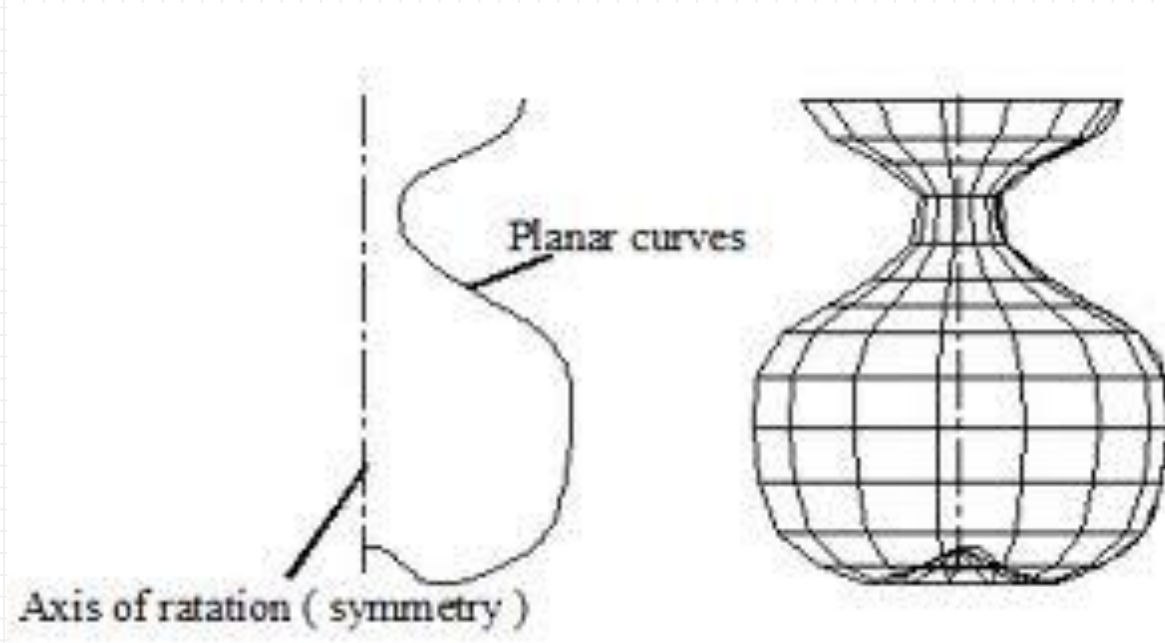
FIGURE 6-4
Plane surface.

Sources-Slideshare.net



Surface of revolution

This is an axisymmetric surface that can model axisymmetric objects. It is generated by rotating a planar wireframe entity in space about the axis of symmetry a certain angle.



Sources-Slideshare.net



QUESTIONS

1. What are the types of Geometric modelling?
2. Difference between wireframe modelling and surface modelling.
3. What is meant by surface entities?

