



# RAMA UNIVERSITY

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## FACULTY OF ENGINEERING & TECHNOLOGY

BCS -504 Computer Graphics &  
Multimedia

Lecture-22

Mr. Dilip Kumar J Saini

Assistant Professor

Computer Science & Engineering

- **3D Modelling System**
- **Advantage**
- **Disadvantage**
- **Wireframe Models**

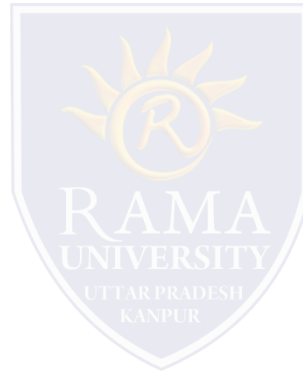


# 3D Modelling System

It is a 2D modeling system plus the addition of some more extra primitives. 3D system includes all types of user-defined systems. The standard coordinate system used is called a world coordinate system. Whereas the user-defined coordinate system is called a user coordinate system.

It is of three types

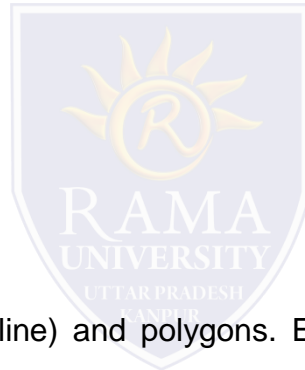
1. Solid Modelling System
2. Surface Modelling System
3. Wireframe Models



# 3D Modelling System

**Wireframe Models:** It has a lot of other names also i.e.

1. Edge vertex models
2. Stick figure model
3. Polygonal net
4. Polygonal mesh
5. Visible line detection method



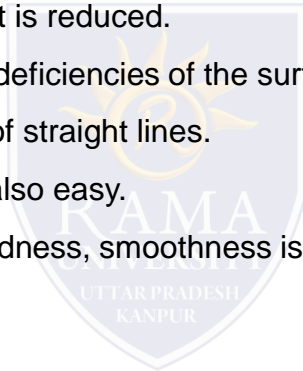
Wireframe model consists of vertex, edge (line) and polygons. Edge is used to join vertex. Polygon is a combination of edges and vertices. The edges can be straight or curved. This model is used to define computer models of parts, especially for computer-assisted drafting systems.

Wireframe models are Skelton of lines. Each line has two endpoints. The visibility or appearance or look of the surface can be should using wireframe. If any hidden section exists that will be removed or represented using dashed lines. For determining hidden surface, hidden lines methods or visible line methods are used.

# Advantage

## Advantage

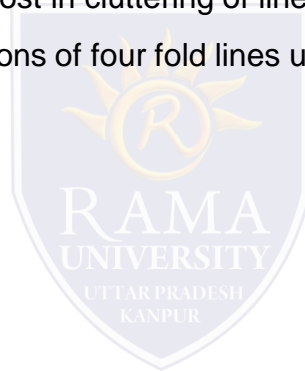
1. It is simple and easy to create.
2. It requires little computer time for creation.
3. It requires a short computer memory, so the cost is reduced.
4. Wireframe provides accurate information about deficiencies of the surface.
5. It is suitable for engineering models composed of straight lines.
6. The clipping process in the wireframe model is also easy.
7. For realistic models having curved objects, roundness, smoothness is achieved.



# Disadvantage

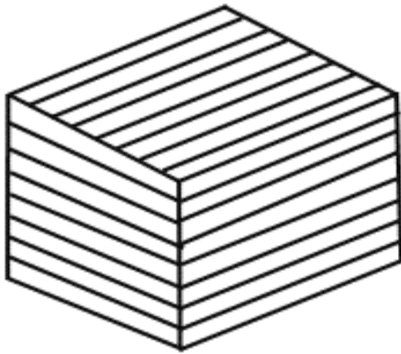
## Disadvantage

1. It is given only information about the outlook if do not give any information about the complex part.
2. Due to the use of lines, the shape of the object lost in cluttering of lines.
3. Each straight line will be represented as collections of four fold lines using data points. So complexity will be increased.



# Wireframe Models

Following figure shows wire frame model



(a) Wireframe of Block



(b) Wireframe model of cylinder

# Multiple Choice Question

## MUTIPLE CHOICE QUESTIONS:

Sr no	Question	Option A	Option B	OptionC	OptionD
1	.....also performs many other functions such as generating various line styles	Desktop processor	Display processor	image processor	none of these
2	Display processor also performs many other functions such as generating various line styles are .....	dashed	dotted	solid	All of these
3	Reduce memory requirements in.....methods have been devised for organizing the frame buffer as a line list and encoding the intensity information.	rasterization scan system	random scan system	raster scan system	none of these
4	This digitalization process is called.....	scan conversion	modify conversion	All of these	none of these
5	Display processor also performs many other functions such as generating various.....	line styles	point styles	paragraph styles	none of these



# REFERENCES

- <http://www.engppt.com/search/label/Computer%20Graphics>

