**BBDNITM**

**MECHANICAL DEPARTMENT**

**SESSION(2018-19)**

**COMPUTER AIDED DESIGN [NME-701]**

**ASSIGNMENT No. 3**

Q 1. Find the equation r(u) of a Hermite Cubic Spline that passes through points

(1,2) and (3,4) and whose tangent vectors are the two lines connecting these

two points with point (2,7).

Q 2. Why Bezier Splines are highly useful and convenient for curve and surface

design ? What are the design techniques used in Bezier curves ? Draw a

Bezier curve with following control points (1,2), (3,4),(6,-6),(10,8).

Q 3. Find the equation of a Hermite Cubic Spline that passed through points (1,3)

& (3,5) & whose tangent vectors are the two lines connecting these two points

with point (2,5).

Q 4. Generate a 3-D Bezier curve using the following control points (5,4,2),

(6,2,3), (3,-2,4) & (6,-4,3).

Q 5. What is the difference between Interpolation and Approximation ?

Q 6. What do you understand by Analytic curves and Synthetic curve ?

Q 7. Generate a Bezier curve using the control points (2,0), (4,3), (5,2), (4,-2),

(5,-3) & (6,-2).

Q 8. What do you mean by Order of Continuity of curves ?

Q 9. Describe the differences between Bezier curve and Cubic Spline curve.

Q 10. How the B-spline surface is generated ? What are the continuity conditions

that are required for a B-Spline patch ?