



University of Central Punjab

Assignment No.2

Course Code	CSSS2733	SEMESTER	Fall-22	Section	C7
Course Title	Calculus-II				
Resource Person	Tahir Rasheed				
Total Marks	20				
Instructions	<ul style="list-style-type: none">• Write your complete name, student ID, and page number on all pages.• Read questions carefully and keep in mind the marks distribution for each question.				

Q.NO.1. [10 marks] The position vector of an object is given as

$$\mathbf{r}(t) = \langle \ln(t^2 - 4), \frac{5}{7-t}, \sqrt{3-t} \rangle$$

Find the domain of $\mathbf{r}(t)$. Also find velocity vector and acceleration vector at time $t=3$.

Q.NO.2. [5 marks] Find parameterizations for the line of intersection of two planes $2x + y - z = 3, x + 2y + z = 2$. Verify your answer by Geogebra.

Q.NO.2. [5 marks] Find the point where the line passing through $P(2, 3, -2)$ and parallel to the vector $\mathbf{v} = 2\mathbf{j} - 2\mathbf{k}$ intersects the plane $6x + 3y - 4z = -12$. Also verify your answer by Geogebra.

