VIT

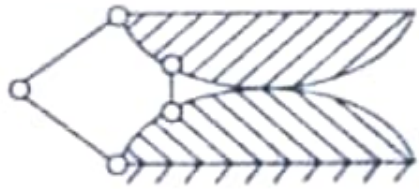
Vellore Institute of Technology

Continuous Assessment Test-I– January -2023

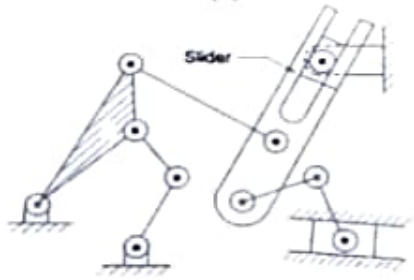
Programme	:	**B.Tech (Mechanical Engineering) & B.Tech (Mechantronics and Automation)**	Semester	:	**Winter - 22-23**
Course Title	:	**Kinematics and Dynamics of Machines**	Code	:	**BMEE207L**
			Class Nbr	:	**CH202223500130 CH202223500131**
Faculty	:	**Dr. T. Christo Michael Dr. Tapan Kumar Mahanta**	Slot	:	**C1+TC1**
Time	:	**1 ½ hours**	Max. Marks	:	**50**

Answer all the Questions (50 marks)

1. Find the degrees of freedom for the given kinematic linkages.



(a)



(b)

What do you understand by inversion of a mechanism? Explain any one inversion of the single slider crank mechanism with example.

*In a four bar chain **PQRS**, link **PS** is fixed and the crank **PQ** rotates at **100 rpm** clockwise. Lengths o the links are **PQ = 50 mm; QR = 95 mm; RS = 75 mm; SP = 110 mm**. When angle **SPQ = 55°** fin he angular velocities and angular accelerations of **QR** and **RS**.*

.....All the Best.....