

## QUESTIONS

EXUDYN GENERAL	
1	What is Exudyn and what are its primary applications?
2	Who developed Exudyn?
3	What can you model with Exudyn?
4	Which programming language is used with Exudyn?
5	How do you install Exudyn on a Mac OS system ?
6	What are the system requirements for installing and running Exudyn?
7	Name five important Items for multibody simulations in Exudyn.
8	What types of analysis can you perform with Exudyn?
9	Describe the process of setting up a multibody system simulation in Exudyn, including the definition of bodies, joints, and forces.
10	Can you name at least three important dynamic mechanical principles utilized in Exudyn ?
EXUDYN SETTINGS	
11	How can you configure the simulation environment in Exudyn?
12	What settings must be adjusted to change the integrator type in Exudyn?
13	How can you modify the initial step size for simulations in Exudyn?
14	How can I adjust Newton settings in Exudyn?
15	How can I adjust the recordImagesInterval parameter in Exudyn structure SolutionSettings to record images at a specific interval during solving?
16	What is the purpose and function of the sensorsStoreAndWriteFiles parameter in the Exudyn structure SolutionSettings?
17	What happens if the sensorsAppendToFile parameter is set to true?
18	How many maximum iterations can be performed in Exudyn's Newton settings before the solver refines the step size or stops with an error?
19	What happens when the adaptiveStep parameter in Exudyn's TimeIntegrationSettings is set to True?
20	What happens when the parameter jacobianConnectorDerivative in the Exudyn structure NumericalDifferentiationSettings is set to True?
21	What is the purpose of the writeInitialValues parameter in Exudyn structure SolutionSettings, and how does it affect the exporting process?
22	What is the purpose of the pauseAfterEachStep parameter in the Exudyn simulation settings, and how does it affect the simulation process?
23	What happens when the parameter taskSplitTasksPerThread reaches its maximum limit of 100?
24	What happens when you set the showNumbers parameter in Exudyn structure VSettingsConnectors to true?

EXUDYN GENERAL	
25	What does the parameter <code>showCurrent</code> in Exudyn structure <code>VSettingsSensorTraces</code> do?
26	Can you provide more information about the parameter <code>exportAlgebraicCoordinates</code> in the Exudyn package?
BASIC CODE IN EXUDYN	
27	How do you define a simple mass point in Exudyn?
28	What are the steps to apply forces to a rigid body in Exudyn? Provide code only!
29	How do I create a new system with Exudyn ? Provide code only!
30	How do I set up a <code>SpringDamper</code> in Exudyn? Provide code only!!
31	What are the steps to create a rigid body in Exudyn? Provide code only!
32	How do I set up a <code>SphericalJoint</code> in Exudyn? Provide code only!
EXTENSIVE QUESTIONS (HARDER TO ANSWER)	
33	Create a mass point at <code>[1,0,0]</code> with 5 kg mass and add a distance constraint of 1 meter to ground at <code>[0,0,0]</code> . Subject the mass to gravity and set up a dynamic simulation for 5 seconds.
34	Create a simulation model in Exudyn to simulate the dynamics of mass-spring-damper system with the following properties: mass $m = 4$ kg, stiffness $k = 2500$ N/m, and damping $d = 25$ Ns/m. The force applied to the mass is $f = 50$ N.
RANDOM QUESTIONS (NOT ABOUT EXUDYN)	
35	How do you create a 4x4 matrix in NumPy?
36	How do you calculate the mean of an array in NumPy?
37	How do you create a line plot using Matplotlib?
38	How do you generate random numbers in NumPy?
39	How do you install the SciPy library in Python?
40	How do you read a CSV file using Pandas?