Tutorial : Geant4 Simulation of Muon Tomography

Candidate Name : _____

1. What angular distribution does cosmic muons follows ?
2. What is flux of cosmic muons at sea level?
3. What is the mean energy range of cosmic muons at sea level ?
4. What is the distribution of scattering angle of cosmic muons scattered by high Z material like Lead (Pb) ?
5. How much energy muon deposit when passes through material ?
6. What is the life time of cosmic muons ?
7. Write name of few applications of Muon Tomography ?
8. Write names of few image reconstruction algorithms used in Muon Tomography ?
9. What are decay product of muons ?
10. What is the ratio of Muon mass to that of electron mass ?
11. Can muon tomography be used to generate 3D image of volumes under test ?
12. Arrange the standard deviation of histograms of scattering angle obtained by Al, Fe and Pb in ascending order ?
13. How muon tomography can be used to distinguish between materials ?
14. Write names of few Muon Detectors ?
15. Write one advantage and one disadvantage of Point of Closest Approach (PoCA) algorithm ?
16. Can you suggest some idea to get material information from PoCA point cloud ?