**PHY103 Practice Quiz –2 27.08.15**

**Solution**

1.  



[ 1 for values and 1 for drawing]

1. Electric field at P
2. 

away from the center. [2]

1. The potential at the outer surface of the shell is zero. Outside, there is no charge. So the potential will be zero everywhere so field at  [1]
2. Zero, As these is no field outside and  [1]
3. The charge on the inner surface will remain undistributed. Charge +q will appear on the outer surface, uniformly distributed there.
4. Field at  [2]
5. Field at  [2]

(e)



1 mark for drawing lines inside with arrow and no lines outside. 2 marks for more density on right to q/3, less density on left side. 2 mark for terminating the lines normally on the surface. Total 5 marks.