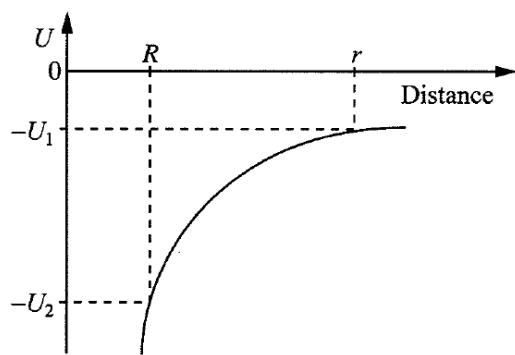


- 11 The graph below shows the variation of the gravitational potential energy  $U$  with the distance from the Earth's centre for a spacecraft. The radius of the earth is  $R$ .



If the spacecraft is orbiting the earth in an orbit of radius  $r$ , the total energy of the spacecraft is

- A**  $-\frac{1}{2}U_1$       **B**  $-\frac{1}{2}U_2$       **C**  $-2U_1$       **D**  $-2U_2$