Diversity Receiver: Diversity scheme is applied at the receiving end of the antenna is an effective technique for reducing the multipath fading. when the fading reduces, the reception level can be increased

The diversity schemes can be classified as

a) Polarisation diversity
b) Field Component Energy density
c) Space diversity
d) Frequency diversity
e) Time diversity
f) Angle diversity

→ The performance obtained from any of the diversity scheme is same and that is the Correlation Coefficient of the two received signals becomes zero.

→ The performance can also vary with different diversity combiner techniques

a) The maximal ratio Combiner: is the best performance Combiner

b) The Equal gain Combiner : has 0.5 dB degradation as Compared with the maximal ratio Combiner.

c) The Selective Combiner : has 2 dB degradation as Compared with the maximal ratio Combiner.

→ At the Cell site : the Correlation Coefficient $\rho \leq 0.7$ should be used for two branch space diversity, with this Coefficient the Separation of two antennas at the Cell site meets the requirement of $\frac{h}{d} = 11$

where h is the antenna height

d is the antenna Separation

→ At the mobile unit : the Correlation Coefficient is Equal to zero for best diversity antenna, with a Separation of $d = 0.5\lambda$