Q. 1 A local spatial average of a power delay profile is shown in Fig. 1.

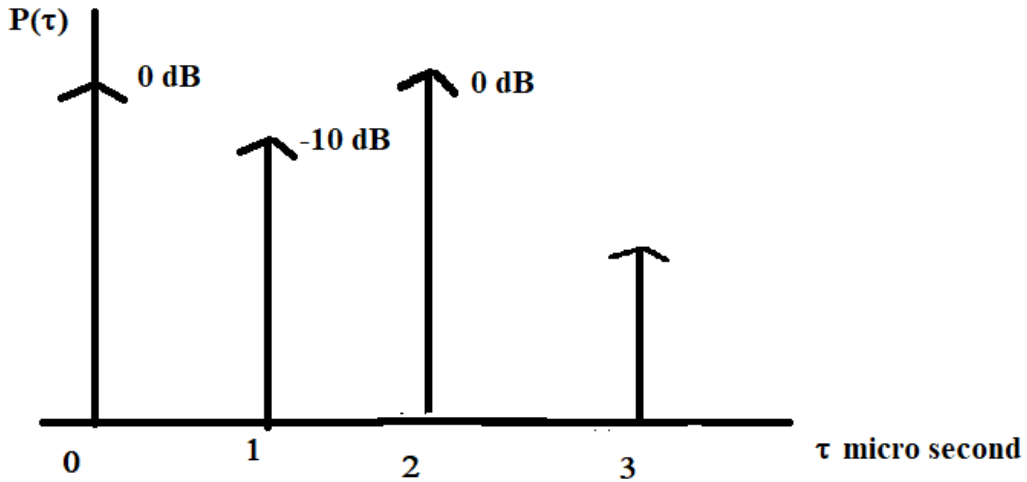

Fig. 1

Amplitude of an impluse function at 3μs= -20 dB.

(i) Determine the RMS delay spread and mean access delay for the channel. **4 marks**

(ii) If the channel is to be used with a modulation that requires an equalizer whenever the symbol duration T is less than 10 $\sigma_{\tau,}$ determine the maximum RF symbol rate that can be supported without requiring an equalizer. **3 marks**

(iii) If a mobile traveling at 30 km/hr receives a signal through the channel, determine the time over which the channel appears stationary (or at least highly correlated). **3 marks**