

2006 Paper 7 Question 15

Additional Topics

- (a) (i) Briefly describe the purpose of broadband fixed wireless access (FWA) and give typical situations where it could be deployed. [4 marks]
- (ii) What advantages does radio offer over traditional wired access? [2 marks]
- (b) Explain how intersymbol interference (ISI) arises in a wireless communication system and its effect on system performance. [2 marks]
- (c) (i) Describe how
- linear equalisation
 - orthogonal frequency division multiplexing (OFDM)
- can be used to combat ISI. [4 marks]
- (ii) Highlight a problem which can occur when using linear equalisation and describe an alternative equalisation approach that can overcome this problem. What problem can occur with this alternative approach? [4 marks]
- (iii) Highlight problems that arise with the use of OFDM. In what situation is OFDM preferred over the use of equalisation? [4 marks]