

Feedback for EEE417/6041 Session: 2009-2010

Feedback: Please write simple statements about how well students addressed the exam paper in general and each individual question in particular including common problems/mistakes and areas of concern in the boxes provided below. Increase row height if necessary.

General Comments:

The paper was generally well tackled. Question one was the most popular question, with most candidates favouring it above others.

Question 1:

This was the most favoured question and was generally well answered, with high average marks. Some candidates failed to provide explanations as to the origins of attenuation. Some candidates provided detailed explanations as to the origin of dispersion which was not requested. Many candidates, having identified the limiting factor to transmission distance failed to address that factor thoroughly, providing general suggestions including addressing both loss and dispersion limited systems.

Question 2:

Candidates tended to lose focus on (a) "links" and (b) "networks". Those who maintained focus answered very well. Part c was generally answered poorly with candidates discussing dispersion effects for a standard optical communication system and not concentrating on additional crosstalk, noise and increased BER.

Question 3:

Part (a) was generally well answered, although some candidates missed the operating wavelength and provided answers for GaAs based (800-1000nm) devices. Part (b) was generally well answered but only a few candidates equated time constants to derive the equation requested. Most candidates answered (c) correctly, though some seemed to confuse photodiodes and lasers. Part (d) on APDs and impact ionization was well answered, although several candidates failed to address the effect of temperature.

Question 4:

Parts (a) and (b) were well answered. Part (c) was answered well by some candidates, although the difference between current and current density was often glossed over. Part (d) required some consideration. Gain and differential gain was confused by some candidates.