

Engineering Studies

Section II (continued)

Marks

Question 16 — Telecommunication (15 marks)

- (a) (i) The telecommunications industry uses copper and fibre optics for transmission of data. State a different application for each of these materials, and explain, in terms of their properties, why they are used for this application. 4

Copper is a good conductor for telecommunications and electricity. electricity is use far all around the household for many uses. TV, VCR, DVD, computer ~~sp~~ equipment all have some copper in them somewhere.

- (ii) Cold drawing is used to form copper into electrical wire. Describe TWO problems associated with the use of the process. Describe a subsequent process that will reduce these problems. 3

~~e~~ The copper over time becomes corroded by weather changes. ~~#~~ And if bending in same position over time it will break.

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Question 16 (continued)

- (b) Identify TWO technological changes in the telecommunications industry. Discuss the effects that these changes have had on society. 4

The telephone have changed the way from circular number dialing to touch buttons. The components inside have gone down in size.

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- (c) (i) Describe the transmission of data from a mobile phone to another mobile phone. 2

The transmission is sent from a mobile to a receiver to a transmitter then to another mobile phone.

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- (ii) Explain the effect that mobile phone communications may have on other electronic systems. State TWO situations where this effect could endanger lives. 2

When getting a scan of something the phone may head signal and make the machine malfunction.

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End of Question 16