

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

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copper is used in electric motors
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as it is a good conductor of
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electricity.
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- (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

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Question 16 continues on page 26

Question 16 (continued)

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

The use of mobile phones as cameras effects: being able to take photos and send them almost instantly.

The use of the internet effects: A huge source of information, can use it to do almost anything (shopping etc).

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

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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

At service stations (or petrol stations).

In Aircraft.

End of Question 16