2003 HIGHER SCHOOL CERTIFICATE EXAMINATION Engineering Studies

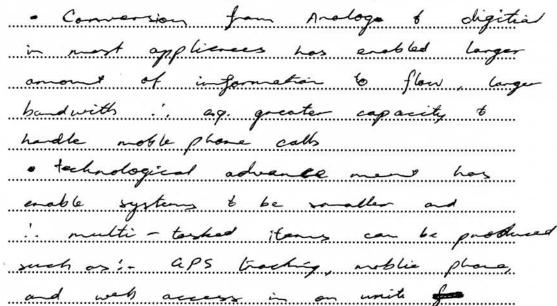
Section II (continued)

Quest	ion 10	6 — Telecommunication (15 marks)	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 - connection plates in	
		current resistance to electricated	¢
		Fibre opties - glass fibre > fibre	glass
		protective coverings, light and	
		water proof able the hopes	
		to any design, does not been down early in atmosphere	ζ.
	(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
		· The wire is hard and brittle	i.
		ad will brake easily due t	
		flex to flexality	
		· Electrical sonductivity decre	ege,
		due to cold working process	
		- Wire should be hot drawn	
		es dul 6 recycrysthisation	
		the wire will be I electrical condu	
		Question 16 continues on page 26 and due	like

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

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

mobile phone.

The boarmismon for the rabile phone (nino waves) are recieved by the rearest reception tower which by fibre again or satelite shall bransfer the signal to the corresponding tower of phone digitally

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

through transmission signals the of the mobile phase it may interest the agentian of other applicances. Eq. Controles of a accoplance and their fifther faithers which way be keeping someone alive.

End of Question 16