BOARD OF STUDIES
NEW SOUTH WALES

22a)

Segment 1 — the laptop, connected to a mobile phone would use wireless radio waves as it's transmission medium. ~~Ka~~ Mobiles are wireless and send radio waves to a grid of cellular stations that would then go to the country telephone exchange.

Segment 2 — would use wireless microwave transmission between the antennaes on the 2 country telephone exchange and ~~[illegible]~~ the towers. Microwave would have to be used as cabling wouldn't be on mountains and ~~towers~~ mountains are high so allow for clear transmission of microwave waves.

Segment 3 — would use wire transmission, either coaxial or fibre optic. Due to the distance being 260km fibre optic would be best as it is not susceptible to signal loss over long distances and or affected by interference

BOARD OF STUDIES
NEW SOUTH WALES

Segment 4 - would use wire transmission, ~~either coaxial or twisted pair~~ probably twisted pair as ~~most~~ Sydney's telephone lines are twisted-pair cable. Twisted pair permits high data rates over short distances and as it is twisted, ~~not affected~~ it is less ~~susceptible~~ inclined to signal interference.

b) ~~Teresa~~ Jill using mobile technology to undertake her work has many advantages —

* reduces costs of travelling to and from office every day
* she is able to get in contact with office easily, anywhere, anytime without having to look for a phone box or wait until she is with a land line phone connection
* doesn't have to be at a hotel to connect to landline
* allows her to see her customers and work more efficiently as a "travelling"

BOARD OF STUDIES
NEW SOUTH WALES

sales representatives.

* orders can be immediatly processed in real time, not having to wait until she returns to office.

* She can recieve confermation of orders that day and access any vital information from head office that may otherwise be unknown to her without this mobile technology

c) A data dictionary would show Jill the data type of each field, allowing her to enter the correct data type into her SQL Query. The field size is also shown so Jill would know how to enter the data in the SQL she is searching for.

A data dictionary is a complete table on the nature of the database. By knowing the field name, size, type and descption she would increase the integrity and

BOARD OF STUDIES
NEW SOUTH WALES

accuracy of the data she enters into the SQL. She would know the correct names of fields to SELECT. ~~from the~~ The file name would help her correctly select WHERE the SQL is searching.

By knowing the type of data, eg. numeric for cost her SQL would be more accurate. For eg. entering the word "fifty dollars" under the cost field, which is numeric would give her an incorrect result. It should be $50.

Knowing the field size also helps. Eg. If the wine type field is Boolean to either ~~R~~ R or W (red or white) and Jill enters wine type = "red" she won't recieve the results she is looking for.