Communication technologies

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| **Question** | **Answer** | **Total marks** |
| 1a | Must state the difference for a mark.  Open Wi-Fi **//** Tethering  A public wireless network that anyone can connect to without a password (e.g., in cafés, airports, libraries) // When you use your phone’s mobile data to create a personal Wi-Fi hotspot that other devices (like a laptop or tablet) can connect to.  Provided by a business, venue, or sometimes individuals **//** Controlled by the user (of that data/device)  Often unsecured, meaning hackers can intercept your data **//** More secure than open Wi-Fi because you can set your own password, but it drains your phone’s battery and data allowance.  Convenient for browsing or checking email, but not safe for sensitive tasks like banking **//** Useful for connecting securely on the go when no trusted Wi-Fi is available. | 2 |
| 1b | * Eavesdropping/Data interception * Man-in-the-middle attacks/Data interception * Malware distribution * Unauthorised access * Any other reasonable example | 2 |
| 1c | * Limited range * Shared bandwidth * Interference * Device dependency * Battery life drains quicker than usual (on mobile devices) * You may use up the monthly data limit (on mobile devices) * Difficult to monitor signal strength (on mobile devices) | 2 |
| 2 | 3 marks for positive, 3 marks for negative  Top mark band response must include impact on individuals **and** wider society.  Indicative content:  Location  Rural v City   * Positive (City): City residents benefit from quick access to online learning, remote job opportunities, entertainment, and faster communication. * Negative (Rural): Fall behind in schoolwork, face social isolation, businesses might struggle to compete online. * Wider Society: The gap creates a digital divide, where rural areas are disadvantaged in education, healthcare, and business compared to urban ones.   Developing v Developed   * Positive (Developed): Developed countries have rich educational resources, better healthcare information, and more job prospects. * Negative (Developing): Developing nations may struggle to compete globally, have fewer employment opportunities, and be excluded from digital economies. * Wider Society: This widens global inequality, but investment in mobile internet infrastructure can help close the gap by making education and services more accessible worldwide.   Infrastructure   * Positive (Modern Infrastructure): People enjoy fast, reliable services, businesses attract investment, and residents can use smart technology at home. * Negative (Old Infrastructure): Slow speeds, making remote working and online education difficult. Businesses may relocate, leaving fewer opportunities for residents. * Wider Society: Good infrastructure encourages innovation and growth, while outdated systems can hold back entire communities.   Coverage   * Positive (Good Coverage): Individuals with good signal can stay connected, use navigation apps, and access emergency services quickly. * Negative (Poor Coverage): Lack of signal causes safety concerns, prevents communication, and limits access to learning or remote work. * Wider Society: Consistent coverage supports safety, business, and education. Unequal coverage creates gaps where some communities are left behind. | 6 |