1.5 Legal, Moral, Cultural and Ethical Issues: Test Pack

OCR H446 · Calculators not allowed · about 35 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Callum Ferguson is a Year 13 student at Millbrook Academy. He watches his computing teacher type in a password and memorises it.

(a) State the name of the Act of Parliament that makes it a criminal offence to access computer material without authorisation in the UK, and give the year it was passed. **(2)**

(b) Callum uses the password, out of curiosity, to look at his own predicted exam grades before they are officially released. He changes nothing. Identify which offence under the Act applies to this action and justify your answer. **(2)**

(c) Callum then uses the same password to change one of his predicted grades from a D to an A* in the school system before it is released. Identify which (more serious) offence under the Act now applies and state the maximum prison sentence on indictment. **(2)**

(Total for Question 1 is 6 marks)

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2 Kingsmere Logistics installs software on all staff computers that records keystrokes, takes screenshots every ten minutes, and logs websites visited, including for delivery-planning staff such as Daniel Achebe.

(a) State the name of the Act that regulates surveillance and interception of communications in the UK, and identify two conditions that must be met for workplace monitoring like this to be lawful. **(3)**

(b) Identify one moral argument in favour of Kingsmere Logistics monitoring staff in this way, and one moral argument against it. **(3)**

(c) State two further safeguards Kingsmere Logistics should put in place to make its monitoring policy more ethical and lawful, explaining why each would help. **(4)**

(Total for Question 2 is 10 marks)

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3 TalentSprint is a recruitment company that uses a machine learning system to rank job applicants' CVs automatically. The system was trained on ten years of the company's past hiring data. A data analyst, Ben Okafor, notices the system consistently ranks applicants from certain universities and postcodes lower, regardless of their qualifications.

(a) Explain how algorithmic bias of this kind can occur in a machine learning system trained on historical data. **(3)**

(b) Identify and explain one piece of UK legislation, other than data protection law, that might be relevant if TalentSprint's system is found to discriminate against applicants based on characteristics correlated with race or social background. **(3)**

(c) Discuss the ethical responsibilities of TalentSprint and of individual computer professionals such as Ben Okafor in developing and using AI systems for recruitment. Evaluate whether it is enough to rely on individual professionals to identify and fix such issues, or whether wider regulation is needed. **(6)**

(Total for Question 3 is 12 marks)

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Mark scheme · 1.5 Legal, Moral, Cultural and Ethical Issues: Test Pack

Question 1

(a) Computer Misuse Act (oe) **B1**

(a) 1990 **B1**

(a) Answer: Computer Misuse Act 1990

(b) Section 1: unauthorised access to computer material (oe) **B1**

(b) Valid justification linking scenario to definition, e.g. Callum knowingly caused the computer to secure access to data (his grades) and knew this access was unauthorised, cao **B1**

(b) Answer: Section 1 offence: unauthorised access to computer material.

(c) Section 3: unauthorised act with intent to impair the operation of a computer or the reliability of data (oe, allow 'unauthorised modification of data') **B1**

(c) 10 years, cao **B1**

(c) Answer: Section 3 offence; maximum sentence up to 10 years imprisonment.

Question 2

(a) Regulation of Investigatory Powers Act (RIPA) 2000 **B1**

(a) Condition 1, e.g. staff must be informed that monitoring takes place, normally via a written policy **B1**

(a) Condition 2, e.g. monitoring must be proportionate/for a legitimate business purpose, not excessive **B1**

(a) Answer: Regulation of Investigatory Powers Act 2000; monitoring must be disclosed to staff and proportionate/for a legitimate business purpose.

(b) Argument for, e.g. protects the business from data leaks, deters misuse of company time/equipment, supports productivity **B1**

(b) Argument against, e.g. invades personal privacy, damages trust between employer and staff, may harm staff wellbeing/create a stressful environment **B1**

(b) Valid evaluative link between the two, e.g. noting the tension between business interest and individual privacy **B1**

(b) Answer: For: protects business/productivity. Against: invades privacy and erodes trust. A genuine ethical tension exists between the two.

(c) Identifies safeguard 1, e.g. a clear, written monitoring policy given to all staff **B1**

(c) Explains benefit of safeguard 1, e.g. staff cannot be surprised, reduces the sense of covert surveillance, supports the 'informed' condition of RIPA **B1**

(c) Identifies safeguard 2, e.g. limiting monitoring to work systems/work hours only, or restricting who can view the data **B1**

(c) Explains benefit of safeguard 2, e.g. reduces intrusion into private communications, keeps monitoring proportionate to the business purpose **B1**

(c) Answer: E.g. publish a clear monitoring policy (so staff are informed and trust is preserved) and restrict monitoring/access to what is proportionate for the stated business purpose.

Question 3

(a) Explains that historical training data reflects past human decisions/biases (oe) **B1**

(a) Explains that the model learns patterns in this data, including biased ones, and uses proxies (e.g. postcode, university) that correlate with protected characteristics such as race or class **B1**

(a) Explains the outcome: the biased pattern is repeated/amplified automatically at scale for every new application **B1**

(a) Answer: The model statistically reproduces patterns in the historical hiring data, including past human bias, using proxy variables such as postcode or university as stand-ins for protected characteristics.

(b) Equality Act 2010 **B1**

(b) Explains the concept of protected characteristics and/or indirect discrimination (a rule or practice applied to everyone that disproportionately disadvantages people with a protected characteristic) **B1**

(b) Links this to the scenario, e.g. postcode acting as a proxy for race or socioeconomic background counts as indirect discrimination **B1**

(b) Answer: Equality Act 2010; the system's use of postcode/university as a proxy could constitute indirect discrimination against a protected characteristic.

(c) **L1** Limited, list-like reference to responsibility (e.g. 'developers should be careful') with little explanation or evaluation. **1-2**

(c) **L2** Clear explanation of individual responsibility (e.g. professional codes of conduct, duty to report bias) and organisational responsibility (e.g. auditing systems), with limited evaluation of whether this is sufficient. **3-4**

(c) **L3** Sustained, well-balanced discussion of individual and organisational responsibility, with a clear, reasoned evaluation of the need for (or limits of) wider regulation, reaching a justified conclusion. **5-6**

(c) Indicative content:

- Individual responsibility: professional codes of conduct (e.g. BCS) require members to have due regard for the public interest and to raise concerns about harmful systems.
- Ben Okafor has an individual moral duty to report the bias he has found rather than ignore it, even if this creates internal difficulty.
- Organisational responsibility: TalentSprint should test/audit its AI system for bias before and during use, ensure diverse development teams, and be transparent with applicants about automated decision-making.
- Relying solely on individuals is risky: individuals may be overruled, may fear repercussions, or may not have the power/resources to fix systemic issues; bias can be subtle and hard for one person to detect.
- Arguments for wider regulation: external audit requirements, ICO guidance on AI and automated decision-making, Equality Act enforcement, potential for future AI-specific legislation to set enforceable standards.
- A balanced conclusion should recognise that individual ethics and organisational process are necessary but not sufficient on their own, and that regulation/external oversight provides accountability that individual responsibility cannot guarantee alone.

(c) Answer: N/A - levels-marked extended response.

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