公務員綜合招聘考試

COMMON RECRUITMENT EXAMINATION

能力傾向測試

APTITUDE TEST

模擬試卷

試題卷（附答案）

本模擬試卷由 10分鐘CRE能力傾向測試 生成，供練習用途。

35 題　45 分鐘

考生須知

(一)　本模擬卷共 35 題，全部試題均須作答。

(二)　多項選擇題每題只有一個最適切的答案；如遇非選擇題型，請將答案書寫於作答空間。

(三)　如輸出 PDF 附有答案，請於完成練習後才查看。

練習完成前
請勿查看答案

試題　(45 分鐘)

本試卷共 35 題，全部試題均須作答。每題只有一個最適切的答案。

1. 某公司在辦公室增設站立式辦公桌後，記錄到員工病假日數下降，於是認為站立式辦公桌令員工更健康。下列哪項資料最能削弱這個結論？

A. 公司增設辦公桌前，曾向員工講解正確站立姿勢

B. 部分員工表示站立工作時較容易保持專注

C. 公司同期容許輕症員工在家工作，而在家工作的日子不再記作病假

D. 新辦公桌的購置成本高於普通辦公桌

2. 請假定以下各項資訊均正確，且均描述同一個案。僅根據這些資訊，哪一項必然成立？

(1) 如果「培訓安排在上午進行」成立，則「培訓安排有導師駐場」成立。
(2) 如果「培訓安排有導師駐場」成立，則「培訓安排已獲確認」成立。
(3) 如果「培訓安排已獲確認」成立，則「培訓安排須使用錄播教材」成立。
(4) 如果「培訓安排包括外地學員」成立，則「培訓安排須使用錄播教材」不成立。
(5) 培訓安排包括外地學員。

Assume all the following information is true and refers to the same case. Which conclusion necessarily follows?

(1) If the training takes place in the morning, then the training has an instructor on site.
(2) If the training has an instructor on site, then the training arrangements are confirmed.
(3) If the training arrangements are confirmed, then the training requires recorded teaching materials.
(4) If the training includes overseas trainees, then it is not the case that the training requires recorded teaching materials.
(5) the training includes overseas trainees.

A. 「培訓安排在上午進行」不成立，而且培訓安排已獲確認。
it is not the case that the training takes place in the morning, and the training arrangements are confirmed.

B. 「培訓安排在上午進行」不成立，而且「培訓安排已獲確認」不成立。
it is not the case that the training takes place in the morning, and it is not the case that the training arrangements are confirmed.

C. 培訓安排在上午進行，而且「培訓安排已獲確認」不成立。
the training takes place in the morning, and it is not the case that the training arrangements are confirmed.

D. 培訓安排有導師駐場，而且「培訓安排須使用錄播教材」不成立。
the training has an instructor on site, and it is not the case that the training requires recorded teaching materials.

3. 以下為假設研究，請把題內及各選項的研究發現視為真。

博睿醫學研究中心針對 450 名接受「冠狀動脈橋接手術」的患者進行了一項前瞻性隊列研究。研究團隊在手術前 48 小時利用心理評估量表對受試者進行心理特徵標註，發現約 25% 的患者展現出顯著的「預期性焦慮」，對術後併發症及死亡風險表現出極度擔憂。在為期 24 個月的術後追蹤中，數據顯示這組高焦慮患者的重大心血管不良事件發生率顯著高於心理狀態平穩的對照組。研究負責人林教授據此提出待驗證的假設：患者的心理擔憂情緒是導致術後心臟功能康復受阻及病情惡化的可能誘因。

哪項最直接提供由心理擔憂通往血管損傷的中介機制，以支持這項假設？

A. 長期處於擔憂狀態會誘導下丘腦-垂體-腎上腺軸過度激活，導致血液中皮質醇水平持續升高，進而引發血管內皮功能障礙及炎症反應。

B. 臨床觀察發現，對病情高度擔憂的患者往往會更嚴格地執行醫囑，包括規律服藥、控制飲食及定期回訪，以降低潛在風險。

C. 在該項研究的樣本中，高焦慮組患者在術前的冠狀動脈狹窄程度普遍比對照組嚴重，這也是導致他們產生擔憂情緒的主因。

D. 另一項針對神經系統疾病患者的研究顯示，負面情緒會干擾大腦前額葉皮層的決策功能，使其對生理疼痛的感知更加敏感。

4. 本題把「形象思維」定義為：以具體形象或感性意象作為主要媒介，透過聯想、類比或重組來思考。根據此定義，下列哪項活動的主導思維模式不屬於形象思維？

A. 林建築師在規劃新界文化中心時，從蓮花的層疊結構中獲得靈感，設計出獨特的屋頂曲線

B. 張教授在解釋經濟循環時，將貨幣流通比喻為人體的血液循環，以說明資金滯留對市場的影響

C. 李工程師分析大橋結構時，根據量得的負荷與構件截面積，利用公式計算各構件所承受的應力

D. 王導演在構思科幻電影場景時，將深海生物的發光特性與都市霓虹燈結合，創造出異星城市的視覺基調

5. 請假定以下各項資訊均正確，且均描述同一個案。僅根據這些資訊，哪一項必然成立？

(1) 以下兩項恰有一項成立：「卷宗提供電子副本」及「卷宗完成身份核對」。
(2) 如果「卷宗提供電子副本」成立，則「卷宗獲批閱覽」成立。
(3) 如果「卷宗完成身份核對」成立，則「卷宗須在現場查閱」成立。
(4) 「卷宗獲批閱覽」不成立。

Assume all the following information is true and refers to the same case. Which conclusion necessarily follows?

(1) Exactly one of the following holds: the file is provided as an electronic copy; the file passes the identity check.
(2) If the file is provided as an electronic copy, then the file is approved for consultation.
(3) If the file passes the identity check, then the file must be consulted on site.
(4) it is not the case that the file is approved for consultation.

A. 卷宗提供電子副本，而且卷宗須在現場查閱。
the file is provided as an electronic copy, and the file must be consulted on site.

B. 卷宗完成身份核對，而且「卷宗須在現場查閱」不成立。
the file passes the identity check, and it is not the case that the file must be consulted on site.

C. 卷宗完成身份核對，而且卷宗須在現場查閱。
the file passes the identity check, and the file must be consulted on site.

D. 「卷宗完成身份核對」不成立，而且「卷宗獲批閱覽」不成立。
it is not the case that the file passes the identity check, and it is not the case that the file is approved for consultation.

6. 在現代控制理論中，機器人被定義為一種超越傳統自動化的智能系統。其核心特徵在於具備高度靈活性的「閉環自適應能力」，即必須同時具備以下四項維度：
(i) 感知能力：能通過傳感器獲取外部複雜環境的非結構化數據；
(ii) 規劃能力：能針對動態變化的任務目標進行邏輯推理與路徑決策；
(iii) 動作能力：具備多自由度的物理執行機構以完成複雜空間作業；
(iv) 協同能力：能與人類或其他智能體進行意圖理解與交互協作。
根據上述嚴謹定義，下列哪一項描述最符合「機器人」的特徵？

A. 恆信精密工業安裝於固定基座上的高速封裝機械臂，能根據預設脈衝頻率，以毫秒級精度重複執行電路板焊接動作

B. 博雅科技研發的仿真導覽裝置，採用高分子材料模擬人體皮膚，當遊客觸發特定感應區時，會播放預錄的語音導覽資訊

C. 由星雲實驗室開發的無人競技系統，能在未知場地中實時識別對手位置與球徑，並自主調整策略以進行攔截與傳球協作

D. 大華物流中心的自動導引車，透過鋪設於地面的磁條軌道進行定向移動，遇障礙物時會觸發斷路器停止運作以確保安全

7. 請假定以下各項資訊均正確，且均描述同一個案。僅根據這些資訊，哪一項必然成立？
(1) 如果「培訓安排在上午進行」成立，則「培訓安排有導師駐場」成立。
(2) 如果「培訓安排有導師駐場」成立，則「培訓安排已獲確認」成立。
(3) 如果「培訓安排已獲確認」成立，則「培訓安排須使用錄播教材」不成立。
(4) 培訓安排須使用錄播教材。
Assume all the following information is true and refers to the same case. Which conclusion necessarily follows?

(1) If the training takes place in the morning, then the training has an instructor on site.
(2) If the training has an instructor on site, then the training arrangements are confirmed.
(3) If the training arrangements are confirmed, then it is not the case that the training requires recorded teaching materials.
(4) the training requires recorded teaching materials.

A. 「培訓安排在上午進行」不成立，而且「培訓安排有導師駐場」不成立。
it is not the case that the training takes place in the morning, and it is not the case that the training has an instructor on site.

B. 「培訓安排在上午進行」不成立，而且培訓安排有導師駐場。
it is not the case that the training takes place in the morning, and the training has an instructor on site.

C. 培訓安排在上午進行，而且「培訓安排有導師駐場」不成立。
the training takes place in the morning, and it is not the case that the training has an instructor on site.

D. 培訓安排已獲確認，而且培訓安排須使用錄播教材。
the training arrangements are confirmed, and the training requires recorded teaching materials.

8. 當前的火星地質環境與其遠古時期形成了極端對比。科學界普遍認為，早期火星曾擁有更為溫暖且濕潤的大氣與水文環境，這為原始生命的萌發提供了潛在條件。隨著行星環境的劇烈演變，未來的深空探測任務將重點轉向火星地層深處，旨在尋找生命存在的遺留證據，因為科學家推測，若火星曾存在生命，它們極有可能已遷移至地下環境以躲避地表的嚴酷輻射與乾旱。若要使上述論證在邏輯上成立，必須預設以下哪項前提？

A. 早期火星在環境惡化過程中，其地下空間具備支持生命持續生存或進入休眠狀態的物理化學條件

B. 火星地表當前的極端低溫與強輻射環境，是導致早期生命完全滅絕的主要物理因素

C. 在火星演化的歷史進程中，地底深處的環境變遷速度顯著慢於地表大氣環境的流失速度

D. 目前人類掌握的探測技術足以穿透火星地殼，並精確識別出數十億年前留下的生物特徵遺骸

9. Read the passage and decide whether the statement is True, False, or Can't Tell.

Passage: A department introduced flexible arrival times for a three-month trial. During the trial, late submissions fell, staff reported fewer interruptions, and the number of completed projects remained unchanged.

Statement: Flexible arrival times increased the department's total output.

A. True

B. False

C. Can't Tell

10. Read the passage and decide whether the statement is True, False, or Can't Tell, using only the information given.
只根據以下英文短文，判斷陳述是 True、False，還是 Can't Tell（資料不足）。

Passage / 短文：
At the Appeals Secretariat, an appeal can be accepted for reconsideration only if it is filed within 12 calendar days and includes the original case number. Meeting those two conditions does not by itself secure acceptance: any required fee must also have been paid. Bella filed within 12 days and supplied the case number, but the register does not record the fee status or the decision.

Statement / 陳述：
Because Bella met the deadline and supplied the case number, fee payment was irrelevant and acceptance was guaranteed.

A. True
B. False
C. Can't Tell

11. Read the passage and decide whether the statement is True, False, or Can't Tell, using only the information given.
只根據以下英文短文，判斷陳述是 True、False，還是 Can't Tell（資料不足）。

Passage / 短文：
For an 8-week pilot, Northside Reading Room extended its closing time from 7 p.m. to 9 p.m. on Tuesday and Thursday only. Visits after the former closing time increased, but total weekly visits remained unchanged. A survey of visitors who stayed after the former closing time found that most preferred the later hours. Visitors who came only at other times were not surveyed.

Statement / 陳述：
After-hours visits increased, and a majority of all visitors to Northside Reading Room preferred the later closing time.

A. True
B. False
C. Can't Tell

12. The preservation of digital integrity within financial institutions relies on a multi-layered defensive posture:
primarily, the deployment of sophisticated encryption algorithms to obfuscate sensitive transactional data;
secondarily, the continuous surveillance of network traffic to identify anomalous patterns indicative of intrusion; and
finally, the mandatory periodic training of administrative staff to recognize and neutralize social engineering tactics. Although technological vulnerabilities are often the focus of security audits, the emphasis on staff training highlights that the cognitive susceptibility of employees represents a significant weakness in the security architecture.

Based on the passage above, is the following statement true, false, or is there insufficient information to determine?

Statement: The passage suggests that the psychological manipulation of employees can lead to breaches in a financial institution's security.

A. True
B. False
C. Can't Tell

13. The 1963 Supreme Court decision in Brady v. Maryland established the 'Brady rule,' which mandates that the prosecution must disclose any evidence favorable to the accused that is material to either guilt or punishment. This constitutional duty applies regardless of whether the defense requests such information and extends to evidence that could impeach the credibility of government witnesses. Legal experts note that evidence is considered 'material' only if there is a reasonable probability that its disclosure would have altered the trial's outcome. While the rule aims to ensure a fair trial, it does not require the prosecution to provide its entire case file to the defense; rather, it focuses specifically on exculpatory or impeaching data. A failure to disclose such evidence constitutes a due process violation, potentially leading to the reversal of a conviction, provided the withheld information meets the threshold of materiality.

Based on the passage provided, evaluate the following statement:

Under the Brady rule, the prosecution is constitutionally required to provide the defense with all evidence contained within the government's investigative file to prevent a due process violation.

A. True
B. False
C. Can't Tell

14. Read the passage and decide whether the statement is True, False, or Can't Tell, using only the information given.
只根據以下英文短文，判斷陳述是 True、False，還是 Can't Tell（資料不足）。

Passage / 短文：
Only staff with a valid certificate and at least 3 observed field visits may lead the response rehearsal. Meeting both conditions does not guarantee a lead role, because each scheduled session has only one leader. Some qualified staff remain assistants. Sana is listed as the morning leader; colleague Rowan meets both conditions, but Rowan's role in the separately rostered afternoon session is not shown.

Statement / 陳述：
Rowan's qualifications guarantee the afternoon response rehearsal lead role, and a qualified employee cannot serve as an assistant.

A. True
B. False
C. Can't Tell

15. A logistics company is tracking a cargo ship traveling a distance of 600 miles. Which combination of the following pieces of information is sufficient to determine the exact time the ship will reach its destination?
(1) The ship maintains a constant speed of 25 mph for the journey, excluding the final 100 miles.
(2) The ship departed from the origin at exactly 6:00 AM.
(3) The ship must stop for a scheduled maintenance check for exactly 3 hours mid-journey.
(4) The ship covers the first 300 miles in exactly 12 hours.
(5) Due to heavy currents, the ship's speed is reduced to 20 mph for the final 100 miles of the trip.

A. (1) and (2) only
B. (2) and (4) only
C. (1), (2), (3), and (5) only
D. (2), (3), and (4) only
E. None of the above combinations are sufficient

16. A marketing survey categorized 500 respondents based on their usage of Platform A and Platform B.

The following information is provided:

(1) Exactly 320 respondents use Platform A.
(2) Exactly 210 respondents use Platform B.
(3) Exactly 115 respondents use neither Platform A nor Platform B.
(4) At least 60% of the respondents use Platform A.
(5) 42% of the total respondents use Platform B.

Which of the following combinations of information is SUFFICIENT to determine exactly how many respondents use BOTH platforms?

A. (1) and (2) only
B. (1), (2), and (3) only
C. (2) and (3) only
D. (3) and (5) only
E. (1) and (5) only

17. For this exercise, turnover rate = separations during the year ÷ the annual time-average headcount × 100%. Only hires and separations change the headcount.

An HR Director needs to calculate the 'Employee Turnover Rate' for the IT department over the last calendar year. Which TWO pieces of information are sufficient to determine this percentage?

(1) The department began the year with 150 employees.
(2) Exactly 24 employees resigned or were terminated during the year.
(3) The department hired 44 new employees throughout the year.
(4) The average number of employees in the department over the year was 160.
(5) The department ended the year with 170 employees.

A. (1) and (2) only
B. (2) and (4) only
C. (1), (2), and (5) only
D. (3) and (5) only
E. (1) and (4) only

18. A logistics company distributes its annual fuel allowance among three departments: Delivery, Warehouse, and Administration. If the Delivery department is allocated exactly 15,000 liters, which of the following pairs of information is sufficient to determine the specific fuel allowance for the Administration department?
(1) The Delivery department's allowance is greater than the Administration department's allowance.
(2) The Administration department's allowance is 25% lower than the Warehouse department's allowance.
(3) The ratio of the fuel allowance for the Delivery department to the Warehouse department is 3:4.
(4) The Warehouse department's allowance is greater than the Delivery department's allowance.
(5) The Warehouse department receives more fuel than the Administration department.

A. (1) and (5) only
B. (2) and (3) only
C. (3) and (4) only
D. (1) and (3) only
E. (2) and (4) only

19. A warehouse has 500 Alpha parts. The positive integer numbers of Beta and Gamma parts are b and g. What is the number of Gamma parts?

Among the combinations listed in the options, which is sufficient to determine the requested value? Use only the clues in that combination; do not assume values for quantities it omits.

(1) Beta and Gamma together number 1,700.
(2) Gamma parts outnumber Alpha parts.
(3) Gamma parts number 200 more than Beta parts.
(4) Beta parts outnumber Alpha parts.

A. (1), (3) only
B. (1), (2) only
C. (2), (3) only
D. (3), (4) only
E. (2), (4) only

20. Five students—Julian, Seraphina, Alistair, Genevieve, and Theron—are ranked in descending order based on their final exam grades. Who is ranked exactly in the middle (third) position?

(1) Seraphina's grade is lower than Alistair's but higher than both Genevieve's and Theron's. Alistair is not the top-ranked student.

(2) Theron's grade is higher than only one student, who is Genevieve.

A. Statement (1) alone is sufficient to determine the third-ranked student, but statement (2) alone is not.

B. Statement (2) alone is sufficient to determine the third-ranked student, but statement (1) alone is not.

C. Both statements (1) and (2) together are necessary to determine the third-ranked student.

D. Either statement (1) or statement (2) independently is sufficient to determine the third-ranked student.

E. Neither statement (1) nor statement (2) is sufficient to determine the third-ranked student, even when combined.

21. Vertex Solutions employs a specialized workforce where every employee is proficient in at least one of two core competencies: Strategic Marketing or Creative Design. To determine the exact number of employees who are dually proficient in BOTH Strategic Marketing and Creative Design, which of the following combinations of statements provides sufficient information?

(i) The total headcount at Vertex Solutions is 7,200 employees.
(ii) The employees who are proficient in Strategic Marketing (including those also proficient in Creative Design) make up exactly two-thirds of the total workforce.
(iii) The employees who are proficient ONLY in Creative Design make up exactly one-third of the total workforce.
(iv) The employees who are NOT proficient only in Strategic Marketing make up exactly one-half of the total workforce.
(v) Every employee is proficient in at least one of the two competencies, so no employee lacks both skills.

A. (i), (ii), and (iii)

B. (i), (iii), and (iv)

C. (i), (iv), and (v)

D. (i), (iii), and (v)

E. (ii), (iii), and (iv)

22. Julian, Marcus, and Sophia are competing in an Academic Decathlon where the maximum attainable score is 100. The individual who secures the highest score will be awarded a research fellowship in Geneva.

Consider the following four statements regarding their performance:
(I) Julian achieved a score of exactly 88.
(II) Marcus’ s score was strictly lower than Sophia’ s score.
(III) Sophia’ s score exceeded Julian’ s score by exactly 12 points.
(IV) It is confirmed that exactly one participant in the entire competition achieved the maximum possible score.

Which combination of the statements above is sufficient to uniquely identify the individual who will be awarded the fellowship?

A. (I) and (II) only
B. (I) and (III) only
C. (I), (II), and (III) only
D. (I), (III), and (IV) only
E. None of the above combinations are sufficient

23. Which two numbers, in order, most logically complete the sequence below?

20, 26, 19, 27, _, _, 17, 29, 16

A. 18 and 9
B. 35 and 28
C. 18 and 28
D. 35 and 29
E. 17 and 9

24. Which two numbers correctly complete the sequence below?

99, 100, 103, _, 119, _

A. 109 and 134
B. 109 and 119
C. 103 and 134
D. 117 and 134
E. 109 and 141

25. Find the two missing terms:

5, 4, 14, 22, _, 94, _

找出兩個缺項：

5, 4, 14, 22, _, 94, _

A. 78 and 194
78和194

B. 50 and 294
50和294

C. 50 and 194
50和194

D. 22 and 194
22和194

E. 50 and 94
50和94

26. Find the two missing numbers, in their displayed order:

15, 105, 24, 168, 21, _, _, 210, 27, 189, 36, 252

A. 147 and 30

B. 147 and 31

C. 148 and 30

D. 147 and 29

E. 146 and 30

27. Identify the logical pattern governing the progression of the numerical sequence provided below and determine the missing value:

13, 22, 26, 18, 52, 14, (___), 10

A. 104

B. 78

C. 10

D. 65

參考資料

Licensing Service Units — Northern Cluster — Volume and staffing

Unit	Displayed cases	YoY case change	Staff

Unit	Displayed cases	YoY case change	Staff
Indigo Centre	8,775	+14.00%	130
Cedar Centre	23,330	+6.50%	87
Amber Centre	25,185	+8.50%	122
Lotus Centre	20,540	+17.50%	112
Nimbus Centre	16,445	+8.50%	167

28. For each row, YoY case change is defined as (displayed cases − previous-period cases) ÷ previous-period cases. Recover the previous-period case volumes for Indigo Centre and Nimbus Centre. Under a staffing plan, the former adds 9 staff and the latter removes 8. What is the combined previous-period case volume per planned staff member? Round to one decimal place. For this estimation exercise, use the displayed year-on-year rates as calculation inputs; recovered case volumes are estimates and need not be whole numbers.

A. 84.6 cases per staff member

B. 77.2 cases per staff member

C. 75.8 cases per staff member

D. 76.7 cases per staff member

E. 76.9 cases per staff member

参考資料

Community Support Centres — Central Cluster — Within-standard rates

	Within-standard rate (%)
Maple 63.50% (63.5)	63.5
Falcon 88.00% (88)	88.0
Tamarind 59.75% (59.75)	59.75
Jade 80.50% (80.5)	80.5
Elm 84.25% (84.25)	84.25

29. At Tamarind Centre, the within-standard rate first improves by 3.50% relative to the displayed rate. An audit then reclassifies 1.50 percentage points as late cases. At Falcon Centre, the displayed rate rises by 1.00 percentage points. What is the absolute gap between the two final rates? Give the answer in percentage points. Round the final answer to two decimal places.

A. 28.54 percentage points

B. 27.25 percentage points

C. 27.66 percentage points

D. 27.16 percentage points

E. 28.66 percentage points

参考資料

Model	2020 Share (%)	2021 Share (%)
Model P	30%	40%
Model Q	15%	20%
Model R	20%	15%
Model S	10%	10%
Others	25%	15%

30. Using total production of 350,000 units in 2020 and 440,000 in 2021, what was the percentage rise in Model Q’ s actual production? Use 2020 Model Q production as the denominator and round only the final result to two decimal places.

A. 25.71%

B. 33.33%

C. 67.62%

D. 42.86%

E. 5.00%

参考資料

Student	Maths (150)	Chemistry (130)	Physics (120)	Geography (100)	History (60)	Computer Science (40)
Ethan	90%	50%	90%	60%	70%	80%
Liam	100%	80%	80%	40%	80%	70%
Noah	90%	60%	70%	70%	90%	70%
Mason	80%	65%	80%	80%	60%	60%
Sophia	80%	65%	85%	95%	50%	90%
Isabella	70%	75%	65%	85%	40%	60%
Lucas	65%	35%	50%	77%	80%	80%

31. Based on the provided academic performance data for the final examinations at St. Lawrence Academy, identify the group of students who scored at least 60% in Chemistry and at least 70% in History.

Calculate the combined average marks obtained by this specific group of students in the subjects of Maths and Physics combined. (Round your final answer to two decimal places.)

A. 214.33

B. 232.50

C. 226.75

D. 246.00

E. 219.00

参考資料

Case Resolution Centres — Central Cluster — Volume and staffing

Unit	Displayed cases	YoY case change	Staff
Amber Centre	11,325	+8.50%	92
Birch Centre	9,530	+17.50%	149
Indigo Centre	20,835	+6.50%	86
Delta Centre	16,440	-7.50%	89
Orchid Centre	20,045	-5.00%	62

32. For each row, YoY case change is defined as (displayed cases − previous-period cases) ÷ previous-period cases. Recover the previous-period case volumes for Delta Centre and Indigo Centre. Under a staffing plan, the former adds 6 staff and the latter removes 9. What is the combined previous-period case volume per planned staff member? Round to one decimal place. For this estimation exercise, use the displayed year-on-year rates as calculation inputs; recovered case volumes are estimates and need not be whole numbers.

A. 213.4 cases per staff member

B. 217.1 cases per staff member

C. 202.7 cases per staff member

D. 216.0 cases per staff member

E. 216.7 cases per staff member

参考資料

Document Verification Offices — Northern Cluster — Volume, rate and budget

Unit	Baseline cases	Within-standard rate	Budget (HK$m)
Amber Centre	13,750	80.50%	63.50
Kingfisher Centre	15,505	79.50%	35.25
Harbour Centre	20,410	72.25%	53.50

Unit	Baseline cases	Within-standard rate	Budget (HK$m)
Cedar Centre	9,115	80.00%	29.75
Quartz Centre	12,420	71.25%	64.25

33. For the next planning period, Amber Centre's budget increases by 7.50%, case volume rises by 11.00%, and its within-standard rate rises by 0.75 percentage points. Using the table as the displayed baseline, what will be the budget cost per within-standard case? Round to the nearest Hong Kong dollar.

A. HK$5,515 per case

B. HK$4,473 per case

C. HK$6,167 per case

D. HK$5,121 per case

E. HK$5,505 per case

参考資料

Student Enrollment Trends: St. Lawrence International Academy (1996-2001)

Year	Students Left	Students Joined
1996	250	350
1997	450	300
1998	400	450
1999	350	500
2000	450	400
2001	450	550

34. Based on the enrollment data provided for St. Lawrence International Academy, which had an initial population of 3,000 students at the end of 1995, calculate the net percentage change in the total student population from the end of 1997 to the end of 2000.

Note: Students join or leave at the beginning of each academic year.

A. 5.08% increase

B. 3.33% increase

C. 5.36% increase

D. 1.69% decrease

E. 5.00% increase

参考資料

Licensing Service Units — Western Cluster — Baseline case volumes

	Baseline cases
Pine 14,400	14400
Jade 10,655	10655
Indigo 11,660	11660
Summit 14,765	14765
Orchid 17,820	17820

Licensing Service Units — Western Cluster — Within-standard rates

	Within-standard rate (%)
Pine 67.00%	67.0
Jade 67.00%	67.0
Indigo 59.25%	59.25
Summit 81.50%	81.5
Orchid 60.00%	60.0

35. Indigo Centre transfers 700 of its displayed cases to Jade Centre. After the transfer, the within-standard rate at Indigo Centre rises by 1.00 percentage points, while that at Jade Centre falls by 1.25 percentage points. Using the post-transfer case volumes as weights, what is their combined within-standard rate?

A. 63.00%

B. 63.05%

C. 62.70%

D. 62.88%

E. 63.19%

答案及解析

以下答案及解析由 app 題庫生成，供完成練習後對答案用途。

第 1 題

演繹推理 | multiple_choice | QE0BL2EQ05F

正確答案：C. 公司同期容許輕症員工在家工作，而在家工作的日子不再記作病假

解析

結論把病假日數下降歸因於站立式辦公桌。若公司同時改變病假統計方式，讓輕症員工在家工作而不計作病假，病假數字便可能因記錄方法而下降，未能證明員工健康有所改善。這是直接的替代解釋。其餘選項沒有切斷辦公桌與病假下降之間的因果推論。

第 2 題

演繹推理 | multiple_choice | QWIOJRD99TL

正確答案：B. 「培訓安排在上午進行」不成立，而且「培訓安排已獲確認」不成立。
it is not the case that the training takes place in the morning, and it is not the case that the training arrangements are confirmed.

解析

「培訓安排包括外地學員」成立，推出「培訓安排須使用錄播教材」不成立。沿條件逐步反推，「培訓安排已獲確認」、「培訓安排有導師駐場」及「培訓安排在上午進行」均不成立。

所以：「培訓安排在上午進行」不成立，而且「培訓安排已獲確認」不成立。
其餘選項各含至少一項不能必然推出的結論。必要條件可用反面情況反推，不能把條件倒過來當成充分條件。

“the training includes overseas trainees” makes “the training requires recorded teaching materials” false. Working backwards along the implications makes “the training arrangements are confirmed”, then “the training has an instructor on site”, then “the training takes place in the morning” false.

Therefore: it is not the case that the training takes place in the morning, and it is not the case that the training arrangements are confirmed.
The other options each contain a statement that is false in at least one case allowed by the premises.

第 3 題

演繹推理 | multiple_choice | QBQIMBWR5ZY

正確答案：A.
長期處於擔憂狀態會誘導下丘腦-垂體-腎上腺軸過度激活，導致血液中皮質醇水平持續升高，進而引發血管內皮功能障礙及炎症反應。

解析

內分泌選項明示心理擔憂、激素升高、血管損傷的連續路徑，最直接補上所問的中介機制。依從醫囑描述保護性行為，沒有提供該損傷路徑；術前病情較重是可同時導致擔憂及較差預後的混雜因素；神經疾病及痛覺的研究不直接對應心血管損傷。提供可行機制是支持假設，並非證明該隊列中沒有混雜或已建立直接因果。

The endocrine option explicitly links worry to hormones and vascular harm, supplying the requested mechanism. Treatment adherence does not supply that harmful pathway; greater baseline severity is a competing confounder; neurological pain concerns another outcome. A plausible mechanism supports the hypothesis but does not establish unconfounded direct causation in this cohort.

第 4 題

演繹推理 | multiple_choice | QBRL3F1AER8

正確答案：C.
李工程師分析大橋結構時，根據量得的負荷與構件截面積，利用公式計算各構件所承受的應力

解析

正確的是 C。工程師以測量數據及公式計算應力，主要依靠數據分析與邏輯推導，並非題目所定義的形象聯想。
A 把蓮花形態轉化為屋頂設計；B 以血液循環類比貨幣流通；D
把生物發光與霓虹燈的視覺特徵重組為電影場景。三者都以具體形象作為主要思考媒介。

第 5 題

演繹推理 | multiple_choice | QWN3NMG7YRO

正確答案：C. 卷宗完成身份核對，而且卷宗須在現場查閱。
the file passes the identity check, and the file must be consulted on site.

解析

「卷宗獲批閱覽」不成立，故「卷宗提供電子副本」不成立。「卷宗提供電子副本」與「卷宗完成身份核對」恰有一項成立，所以「卷宗完成身份核對」成立，再推出「卷宗須在現場查閱」成立。

所以：卷宗完成身份核對，而且卷宗須在現場查閱。
其餘選項各含至少一項不能必然推出的結論。必要條件可用反面情況反推，不能把條件倒過來當成充分條件。

“the file is approved for consultation” is false, so “the file is provided as an electronic copy” is false. Exactly one of “the file is provided as an electronic copy” and “the file passes the identity check” holds, so “the file passes the identity check” is true. This forces “the file must be consulted on site”.

Therefore: the file passes the identity check, and the file must be consulted on site.
The other options each contain a statement that is false in at least one case allowed by the premises.

第 6 題

演繹推理 | multiple_choice | Q4LOQ0KKWCV

正確答案：C.
由星雲實驗室開發的無人競技系統，能在未知場地中實時識別對手位置與球徑，並自主調整策略以進行攔截與傳球協作

解析

本題考查對「機器人」定義中智能與靈活性特徵的深度辨析。

選項「恆信精密工業安裝於固定基座上的高速封裝機械臂，能根據預設脈衝頻率，以毫秒級精度重複執行電路板焊接動作」描述的是典型的「自動化生產線機器」，雖然精度高，但其動作基於預設脈衝，缺乏對環境的動態感知與規劃能力。

選項「博雅科技研發的仿真導覽裝置，採用高分子材料模擬人體皮膚，當遊客觸發特定感應區時，會播放預錄的語音導覽資訊」雖然具有仿真外觀，但本質上是「觸發式播放裝置」，其語音與動作均為預錄，不具備邏輯推理或意圖理解的協同能力。

選項「由星雲實驗室開發的無人競技系統，能在未知場地中實時識別對手位置與球徑，並自主調整策略以進行攔截與傳球協作」為正確答案。該系統在「未知場地」（非結構化環境）中能「實時識別」（感知能力）、「自主調整策略」（規劃能力）並進行「攔截與協作」（動作與協同能力），完全符合定義中四個維度的要求。

選項「大華物流中心的自動導引車，透過鋪設於地面的磁條軌道進行定向移動，遇障礙物時會觸發斷路器停止運作以確保安全」的導引車依賴磁條軌道，屬於「循跡自動化」，其避障機制為簡單的物理斷路，不涉及複雜的感知數據處理與動態規劃。

第 7 題

演繹推理 | multiple_choice | QRBLCDQ85ND

正確答案：A. 「培訓安排在上午進行」不成立，而且「培訓安排有導師駐場」不成立。
it is not the case that the training takes place in the morning, and it is not the case that the training has an instructor on site.

解析

「培訓安排須使用錄播教材」成立，故「培訓安排已獲確認」不成立。沿條件反推，「培訓安排有導師駐場」及「培訓安排在上午進行」亦不成立。

所以：「培訓安排在上午進行」不成立，而且「培訓安排有導師駐場」不成立。
其餘選項各含至少一項不能必然推出的結論。必要條件可用反面情況反推，不能把條件倒過來當成充分條件。

“the training requires recorded teaching materials” is true, making “the training arrangements are confirmed” false. Working backwards through the implications makes “the training has an instructor on site” and “the training takes place in the morning” false.

Therefore: it is not the case that the training takes place in the morning, and it is not the case that the training has an instructor on site.
The other options each contain a statement that is false in at least one case allowed by the premises.

第 8 題

演繹推理 | multiple_choice | QVIK76BQNTF

正確答案：A.
早期火星在環境惡化過程中，其地下空間具備支持生命持續生存或進入休眠狀態的物理化學條件

解析

本題屬於演繹推理中的「前提假設」型題目。題幹的邏輯鏈條為：早期火星環境適合生命（論據）→ 生命可能遷移至地下避難（推論）→ 未來應探測地下以尋找生命證據（結論）。

選項(A)是必須預設的前提。論證中提到生命「遷移至地下避難」，這隱含了一個必要條件：地下環境必須能夠讓這些生命在環境變遷中存活下來或留下可偵測的痕跡。如果地下空間不具備支持生命持續生存或保存的條件，那麼「地下避難」的推論就無法成立，前往地下探測也就失去了邏輯支撐。

選項(B)討論的是地表環境導致滅絕的可能性，如果生命已經「完全滅絕」，則削弱了生命遷移到地下存活並留下證據的論點，並非支持結論的前提。

選項(C)雖然描述了地底環境的穩定性，但「變遷速度慢」並不等同於「具備支持生命生存的條件」，這屬於干擾性描述，並非邏輯上的必要前提。

選項(D)涉及的是探測技術的可行性，這屬於執行層面的工具性條件，而非題幹中關於生命遷移與生存邏輯的必要前提。

第 9 題

Verbal Reasoning | multiple_choice | QUIANUXZ5SB

正確答案：C. Can't Tell

解析

The correct answer is Can't Tell. The passage says that the number of completed projects remained unchanged. It does not provide total-output data such as project size, quality or workload, so an increase in total output cannot be established.

True goes beyond the evidence. False also goes beyond the evidence because unchanged project count does not prove unchanged total output.

第 10 題

Verbal Reasoning | multiple_choice | QW6XVBZ6QGT

正確答案：B. False

解析

Answer: False

Statement assessed: Because Bella met the deadline and supplied the case number, fee payment was irrelevant and acceptance was guaranteed.

English reasoning: Bella met two necessary conditions, but the unrecorded fee remains material and those conditions do not guarantee the decision. Decisive evidence: Bella filed on time and included the case number; A required fee must also be paid; Fee payment is an additional condition.

中文推理：Bella 符合兩項必要條件，但未有紀錄的費用狀況仍然重要，而且兩項條件不保證結果。

第 11 題

Verbal Reasoning | multiple_choice | QHHCFOXC7LD

正確答案：C. Can't Tell

解析

Answer: Can't Tell

Statement assessed: After-hours visits increased, and a majority of all visitors to Northside Reading Room preferred the later closing time.

English reasoning: At Northside Reading Room, the visit increase is known, but preference was measured only among late-staying visitors, leaving the all-visitor claim unresolved. Decisive evidence: Visits after the former closing time increased during the pilot; Only visitors staying after the former closing time were surveyed.

中文推理：夜間到訪增加是已知事實，但偏好只向夜間訪客調查，因此全體訪客部分仍未能判定。

第 12 題

Verbal Reasoning | multiple_choice | QIERBTRNH7V

正確答案：A. True

解析

這段文字明確地將員工的「認知易受感性」（cognitive susceptibility）視為安全架構中的「重大弱點」。文中提到，員工必須接受培訓以「識別並化解社交工程策略」。由於社交工程的定義是透過對個人的心理操縱，使其洩露機密資訊或執行特定動作，因此文中直接暗示了此類操縱是對數位完整性（digital integrity）的威脅。因此，該陳述是從文本中直接推導出的推論。

(A) 是正確的，因為文本將員工對社交工程（操縱）的易受感性與主要安全弱點聯繫起來。
(B) 是錯誤的，因為文本確認了而非否認了這一脆弱性。
(C) 是錯誤的，因為文本中有充分的邏輯證據支持該陳述。

The passage explicitly identifies the 'cognitive susceptibility' of employees as a 'significant weakness' in the security architecture. It mentions that staff must be trained to 'recognize and neutralize social engineering tactics.' Since social engineering is defined by the psychological manipulation of individuals to divulge confidential information or perform actions, the passage directly implies that such manipulation is a threat to digital integrity. Therefore, the statement is a direct inference from the text.

(A) is correct because the text links employee susceptibility to social engineering (manipulation) as a primary security weakness.
(B) is incorrect because the text confirms, rather than denies, this vulnerability.
(C) is incorrect because there is sufficient logical evidence in the text to support the statement.

第 13 題

Verbal Reasoning | multiple_choice | QDTODGYANWC

正確答案：B. False

解析

此陳述為「錯誤」。根據文中內容，布雷迪規則（Brady rule）「並不要求檢察機關將其整個案件卷宗提供給辯方」。憲法授權明確限定於「對被告有利」且「對定罪或量刑具有重大影響（material）」的證據，包括彈劾證據。由於該陳述聲稱檢察機關必須提供調查卷宗中的「所有證據」，這與文本內容相牴觸；文本已明確界定其範圍僅限於符合重大性門檻的無罪證據或彈劾資料。

The statement is False. According to the passage, the Brady rule 'does not require the prosecution to provide its entire case file to the defense.' The constitutional mandate is specifically limited to evidence that is 'favorable to the accused' and 'material to either guilt or punishment,' including impeachment evidence. Because the statement claims the prosecution must provide 'all evidence' in the investigative file, it contradicts the text which clarifies the scope is limited to exculpatory or impeaching data that meets the materiality threshold.

第 14 題

Verbal Reasoning | multiple_choice | Q3M6XIRZDLG

正確答案：B. False

解析

Answer: False.

The statement contains two claims, and both conflict with the passage. First, meeting the certificate and field-visit conditions does not guarantee a lead role because each session has only one leader and some qualified staff remain assistants. Second, the passage explicitly says qualified staff may serve as assistants. Rowan's afternoon role is not shown, so the stated guarantee cannot be made.

答案：False。陳述包含兩部分，而兩部分都與短文不符：具備兩項資格不保證獲派領隊，而且短文明言部分合資格員工仍會擔任助理。Rowan下午的職務沒有顯示，因此不能推斷他必定是領隊。

第 15 題

Data Sufficiency | multiple_choice | Q6HWLPMSRSQ

正確答案：C. (1), (2), (3), and (5) only

解析

為了確定確切的抵達時間，我們必須擁有出發時間、這 600 英里行程中每一英里的速度/持續時間，以及任何非行駛時間（停頓）。

- 根據 (2)，我們知道出發時間是上午 6:00。
- 根據 (1)，我們知道前 500 英里（總計 600 英里 - 最後 100 英里）的速度是 25 mph。持續時間 = 500 / 25 = 20 小時。
- 根據 (5)，我們知道最後 100 英里的速度是 20 mph。持續時間 = 100 / 20 = 5 小時。
- 根據 (3)，我們知道有 3 小時的維修停頓。

計算：上午 6:00 + 20 小時 + 5 小時 + 3 小時 = 總計 28 小時。上午 6:00 + 28 小時 = 隔天上午 10:00。

為什麼其他選項不足：

- (A) 缺少最後 100 英里的速度和維修停頓。
- (B) 僅提供前 300 英里的速度；剩餘 300 英里的速度和維修停頓均未知。
- (D) 缺少最後 300 英里的速度（因為 (4) 僅涵蓋前 300 英里）。

- (4) 是多餘的，且實際上與 (1) 相符（300 英里耗時 12 小時 = 25 mph，這與 (1) 一致，但單憑 (4) 無法涵蓋整個行程）。

因此，(C) 是正確的選擇。

To determine the exact arrival time, we must have the departure time, the speed/duration for every mile of the 600-mile journey, and any non-travel time (stoppages).

- From (2), we know the departure is 6:00 AM.
- From (1), we know the speed for the first 500 miles (600 total - 100 final) is 25 mph. Duration = 500 / 25 = 20 hours.
- From (5), we know the speed for the final 100 miles is 20 mph. Duration = 100 / 20 = 5 hours.
- From (3), we know there is a 3-hour maintenance stop.

Calculation: 6:00 AM + 20 hours + 5 hours + 3 hours = 28 hours total. 6:00 AM + 28 hours = 10:00 AM the following day.

Why other options are insufficient:

- (A) lacks the speed for the final 100 miles and the maintenance stop.
- (B) only provides the speed for the first 300 miles; the speed for the remaining 300 miles and the maintenance stop are unknown.
- (D) lacks the speed for the final 300 miles (since (4) only covers the first 300).
- (4) is redundant and actually contradicts (1) (300 miles in 12 hours = 25 mph, which matches (1), but (4) alone doesn't cover the full journey).

Therefore, (C) is the correct choice.

第 16 題

Data Sufficiency | multiple_choice | Q2TKJKSI6NH

正確答案：B. (1), (2), and (3) only

解析

本題考查排容原理。

設「同時使用 Platform A 和 Platform B」的人數為 x。

已知總人數為 500 人。若知道：

(1) 使用 Platform A 的人數 = 320
(2) 使用 Platform B 的人數 = 210
(3) 兩個平台都不用的人數 = 115

則至少使用其中一個平台的人數為：

500 − 115 = 385

根據排容原理：

使用 A 或 B 的人數 = 使用 A 的人數 + 使用 B 的人數 − 同時使用 A 和 B 的人數

所以：

385 = 320 + 210 − x
385 = 530 − x
x = 145

因此，(1)、(2)、(3) 合起來足以求出同時使用兩個平台的人數。

逐項分析：

(1) and (2) only：只知道使用 A 和使用 B
的人數，但不知道兩者皆不用的人數，也不知道至少使用一個平台的人數，無法確定重疊部分。不足夠。

(1), (2), and (3) only：知道使用 A、使用
B、兩者皆不用，以及總人數，可用排容原理求出同時使用兩個平台的人數。足夠。

(2) and (3) only：只知道使用 B 和兩者皆不用的人數，但不知道使用 A 的人數。不足夠。

(3) and (5) only：(5) 表示使用 B 的人數為 500 × 42% = 210，等同於 (2)。因此此組合只知道使用 B
和兩者皆不用的人數，仍不知道使用 A 的人數。不足夠。

(1) and (5) only：知道使用 A 與使用 B
的人數，但不知道兩者皆不用或至少使用一個平台的人數，無法確定重疊部分。不足夠。

因此，唯一足夠的組合是 (1)、(2)、(3)。

第 17 題

Data Sufficiency | multiple_choice | Q3AZ2SFGTTK

正確答案：B. (2) and (4) only

解析

（2）提供離職人數24，（4）提供全年按時間加權的平均人數160，因此24÷160×100%＝15%。（1）及（2）欠全年平均人數；即使有（1）、（2）、（5），入職與離職的時間仍會影響全年平均數，不能把期初與期末的簡單平均當成全年平均。（3）、（5）及（1）、（4）各自也未提供完整兩項公式輸入。人數一致：150＋44−24＝170。

(2) supplies 24 separations and (4) the annual time-average headcount of 160, giving 24/160×100%=15%. (1) and (2) lack the annual average. Even (1),(2),(5) do not determine that time-average: the timing of hires and departures matters, and the average of the two endpoints is not automatically the annual average. (3),(5) and (1),(4) do not determine both formula inputs. The counts are consistent: 150+44−24=170.

第 18 題

Data Sufficiency | multiple_choice | Q8VXCUGUKFC

正確答案：B. (2) and (3) only

解析

要算出行政部門（Administration）的確切津貼，必須建立一條由已知值（Delivery = 15,000
公升）連到行政部門的數量關係。注意 (1)、(4)、(5)
都只是「大小比較」（不等式），不提供任何數字，因此單憑它們或它們的組合都無法定出確切數值。唯一能定量的路徑是：先求出 Warehouse，再用 Warehouse 與 Administration 的定量關係。

正確配對 (2) 和 (3)：
第一步（用 (3)）：Delivery : Warehouse = 3 : 4，Delivery = 15,000 → Warehouse = 15,000 / 3 × 4 = 20,000 公升。
第二步（用 (2)）：Administration 比 Warehouse 低 25% → Administration = 20,000 × (1 − 0.25) = 15,000
公升（唯一）。
故 (2)+(3) 充分。

其餘配對為何不足：

- (1) 和 (5)：兩者皆為不等式，無任何數字，無法定量。不足。
- (3) 和 (4)：(3) 得 Warehouse = 20,000，(4) 只是「Warehouse > Delivery」的不等式，未連到 Administration，無法求 Administration。不足。
- (1) 和 (3)：(3) 得 Warehouse = 20,000，(1) 只是不等式，無 Administration 數值。不足。
- (2) 和 (4)：(2) 給 Administration = 0.75 × Warehouse，但 (4) 為不等式、未給 Warehouse 之值，無法定量。不足。

因此唯一充分的配對為 (2) 和 (3)。

To find the Administration department's exact allowance, we must build a quantitative link from the known value (Delivery = 15,000 liters) to Administration. Note that statements (1), (4), and (5) are all mere inequalities ("greater than"/"more than") with no numbers, so on their own or in combination they can never pin down an exact figure. The only quantitative path is to first find Warehouse, then use a numeric Warehouse-to-Administration relation.

Correct pair (2) and (3):
Step 1 (use (3)): Delivery : Warehouse = 3 : 4, Delivery = 15,000 → Warehouse = 15,000 / 3 × 4 = 20,000 liters.
Step 2 (use (2)): Administration is 25% lower than Warehouse → Administration = 20,000 × (1 − 0.25) = 15,000 liters (unique).
So (2)+(3) is sufficient.

Why the other pairs are insufficient:

- (1) and (5): both are inequalities with no numbers; nothing can be quantified. Insufficient.
- (3) and (4): (3) gives Warehouse = 20,000, but (4) is only the inequality "Warehouse > Delivery" and provides no link to Administration. Insufficient.
- (1) and (3): (3) gives Warehouse = 20,000, but (1) is only an inequality with no Administration value. Insufficient.
- (2) and (4): (2) gives Administration = 0.75 × Warehouse, but (4) is an inequality and does not supply Warehouse's value. Insufficient.

Therefore the only sufficient pair is (2) and (3).

第 19 題

Data Sufficiency | multiple_choice | Q9LHVDLNNHI

正確答案：A. (1), (3) only

解析

（1）與（3）給出和與差：b+g=1700、g−b=200，相加得2g=1900，所以g=950、b=750。其餘列出的組合至少留下一個可變範圍，例如只有總和與g>500，不能確定g。

Adding b+g=1700 and g−b=200 gives 2g=1900, hence g=950 and b=750. The other listed combinations leave a free range; a total and a lower bound do not fix g.

第 20 題

Data Sufficiency | multiple_choice | QIT5M5COEWX

正確答案：A. Statement (1) alone is sufficient to determine the third-ranked student, but statement (2) alone is not.

解析

為了確定排名第三的學生，我們逐一分析各個條件：

敘述 (1) 的分析：

- 根據第一句，我們得到以下順序：Alistair > Seraphina > {Genevieve, Theron}。這涵蓋了 4 名學生。
- 由於 Seraphina 的排名高於兩人，她至少位居第 3 名或更高。
- 由於 Alistair 的排名高於 Seraphina，Alistair 至少位居第 2 名或更高。
- 該敘述明確指出 Alistair 不是排名第一的學生。因此，Julian 必須是第 1 名，Alistair 必須是第 2 名，而 Seraphina 必須是第 3 名。
- 第 4 名和第 5 名是 Genevieve 和 Theron（順序不確定，但與第 3 名的判定無關）。
- Seraphina 被唯一確定為第 3 名的學生。因此，敘述 (1) 是充分的。

敘述 (2) 的分析：

- Theron 僅比 Genevieve 的排名高。這意味著 Theron 是第 4 名，而 Genevieve 是第 5 名。
- 前三名（第 1、2、3 名）由 Julian、Seraphina 和 Alistair 佔據，但並未提供他們具體的相對順序。
- 因此，無法唯一確定第 3 名的人選。因此，敘述 (2) 是不充分的。

結論：敘述 (1) 充分，而敘述 (2) 不充分。正確答案為 「Statement (1) alone is sufficient to determine the third-ranked student, but statement (2) alone is not.」。

To identify the student in the third position, we analyze each statement individually:

Analysis of Statement (1):

- From the first sentence, we have the order: Alistair > Seraphina > {Genevieve, Theron}. This accounts for 4 students.
- Since Seraphina is higher than two people, she must be at least 3rd or higher.
- Since Alistair is higher than Seraphina, Alistair must be at least 2nd or higher.
- The statement specifies Alistair is NOT the top-ranked student. Therefore, Julian must be 1st, Alistair must be 2nd, and Seraphina must be 3rd.
- The 4th and 5th spots are Genevieve and Theron (order unknown, but irrelevant to the 3rd spot).
- Seraphina is uniquely determined as the 3rd student. Thus, Statement (1) is sufficient.

Analysis of Statement (2):

- Theron is higher than ONLY Genevieve. This means Theron is 4th and Genevieve is 5th.
- The top three positions (1st, 2nd, and 3rd) are occupied by Julian, Seraphina, and Alistair, but their specific relative order is not provided.
- Therefore, the 3rd position cannot be uniquely determined. Thus, Statement (2) is insufficient.

Conclusion: Statement (1) is sufficient while Statement (2) is not. The correct answer is 'Statement (1) alone is sufficient to determine the third-ranked student, but statement (2) alone is not.'.

第 21 題

Data Sufficiency | multiple_choice | QCZ3UAPCKLQ

正確答案：B. (i), (iii), and (iv)

解析

用文氏圖定義三個互斥區域（題目明言沒有人兩項皆不精通）：
x = 僅精通策略行銷 (M)；y = 僅精通創意設計 (D)；z = 同時精通兩者。總數 T = x + y + z。

各陳述的數學意義：
(i) T = 7,200（唯一提供絕對人數的陳述）。
(ii) M 總人數 = x + z = 2/3 · T（這是比例，不含絕對人數）。
(iii) y = 1/3 · T（比例）。
(iv)「並非僅精通 M」= 其補集 = y + z = 1/2 · T（比例）。
(v) 只是重述前提「人人至少精通一項」，不提供任何數值。

為何 (i),(iii),(iv) 充分（唯一正解）：
由 (i) T = 7,200。由 (iii) y = 7,200/3 = 2,400。由 (iv) y + z = 7,200/2 = 3,600，故 z = 3,600 − 2,400 = 1,200（並可得 x = 7,200 − 2,400 − 1,200 = 3,600）。z 有唯一值，充分。

為何其餘組合不充分：
(A)(i),(ii),(iii)：(ii) 說 x + z = 2/3 · T，但這是 (iii) y = 1/3 · T 的直接推論（因 x + z = T − y），對 (i)+(iii) 而言是多餘資訊。最終只知 y = 2,400、x + z = 4,800，無法拆分 x 與 z，故不能定出 z。不充分。
(C)(i),(iv),(v)：只得 T 與 y + z = 3,600，(v) 不提供數值，y 與 z 無法拆分。不充分。
(D)(i),(iii),(v)：只得 T 與 y = 2,400，x + z = 4,800 無法拆分。不充分。
(E)(ii),(iii),(iv)：三者全是比例、缺少絕對人數 (i)，無法得出任何絕對數值。不充分。

Using a Venn diagram with three mutually exclusive regions (the prompt states no one lacks both skills):
x = proficient only in Marketing (M); y = proficient only in Design (D); z = proficient in both. Total T = x + y + z.

Meaning of each statement:
(i) T = 7,200 — the ONLY statement giving an absolute headcount.
(ii) Total M-proficient = x + z = 2/3 · T — a ratio, no absolute count.
(iii) y = 1/3 · T — a ratio.
(iv) "Not proficient only in M" = complement of x = y + z = 1/2 · T — a ratio.
(v) Merely restates the premise; gives no numbers.

Why (i),(iii),(iv) is sufficient (the unique answer):
From (i) T = 7,200. From (iii) y = 7,200/3 = 2,400. From (iv) y + z = 7,200/2 = 3,600, so z = 3,600 − 2,400 = 1,200 (and x = 3,600). z is uniquely determined — sufficient.

Why the other combinations fail:
(A)(i),(ii),(iii): (ii) states x + z = 2/3 · T, which is a direct consequence of (iii) y = 1/3 · T (since x + z = T − y). Given (i)+(iii), (ii) is redundant. You only learn y = 2,400 and x + z = 4,800, but cannot split x from z, so z is undetermined. Insufficient.
(C)(i),(iv),(v): only T and y + z = 3,600; (v) adds nothing, so y and z cannot be separated. Insufficient.
(D)(i),(iii),(v): only T and y = 2,400, leaving x + z = 4,800 unsplit. Insufficient.
(E)(ii),(iii),(iv): all three are ratios with no absolute headcount (no (i)), so no absolute value can be found. Insufficient.

第 22 題

Data Sufficiency | multiple_choice | Q0IIFCYKT9I

正確答案：D. (I), (III), and (IV) only

解析

為了唯一確定獎學金得主，我們必須確認誰的分數最高，並確保沒有其他參賽者與該最高分並列。

- 分析 (I) 與 (III)：

根據 (I)，Julian = 88。
根據 (III)，Sophia = Julian + 12 = 100。
由於 100 分是可獲得的最高分數，Sophia 位居排行榜首位。然而，僅憑這兩項陳述，我們無法得知 Marcus 或任何其他未提及名字的參賽者是否也獲得了 100 分。

- 分析 (II)：

(II) 指出 Marcus < Sophia。雖然這確認了 Marcus 沒有與 Sophia 並列第一，但仍未考慮到題目中提到的「整個競賽」中的其他參賽者。

- 分析 (IV)：

(IV) 指出在整個競賽中，恰好只有一名參賽者獲得了最高分 (100)。

結論：
透過結合 (I) 與 (III)，我們證明了 Sophia 得分為 100。再加入 (IV)，我們確認了因為 Sophia 達到了 100 分，她必然是「唯一」達到此分數的人。這唯一確定了她是獲勝者。陳述 (II) 變得多餘，因為如果 Sophia 是唯一獲得 100 分的人，且 100 分是最高分，那麼無論 (II) 是否成立，Marcus 的分數必然較低。因此，(D) 是充分的組合。

To uniquely identify the fellowship winner, we must confirm who has the highest score and ensure that no other participant shares that top score.

- Analyzing (I) and (III):

From (I), Julian = 88.
From (III), Sophia = Julian + 12 = 100.
Since 100 is the maximum attainable score, Sophia is at the top of the leaderboard. However, these two statements alone do not tell us if Marcus or any other unnamed participant also scored 100.

- Analyzing (II):

(II) states Marcus < Sophia. While this confirms Marcus did not tie with Sophia, it still does not account for other participants in the 'entire competition' mentioned in the prompt.

- Analyzing (IV):

(IV) states that exactly one participant in the entire competition achieved the maximum score (100).

Conclusion:
By combining (I) and (III), we prove Sophia scored 100. By adding (IV), we confirm that because Sophia reached 100, she must be the only person to have done so. This uniquely identifies her as the winner. Statement (II) becomes redundant because if Sophia is the only one with 100, and 100 is the maximum, Marcus must have a lower score regardless of (II). Therefore, (D) is the sufficient combination.

第 23 題

Numerical Reasoning | multiple_choice | QBVJ5O3NUBA

正確答案：C. 18 and 28

解析

交替加、減連續增大的數。

20 + 6 = 26
26 − 7 = 19
19 + 8 = 27
27 − 9 = 18
18 + 10 = 28
28 − 11 = 17
17 + 12 = 29
29 − 13 = 16

完整數列：20, 26, 19, 27, 18, 28, 17, 29, 16
兩個空格依次為18、28；須用所有已知項核對，不能只算對其中一格。

Alternately add and subtract consecutive increasing amounts.

20 + 6 = 26
26 − 7 = 19
19 + 8 = 27
27 − 9 = 18
18 + 10 = 28
28 − 11 = 17
17 + 12 = 29
29 − 13 = 16

Complete sequence: 20, 26, 19, 27, 18, 28, 17, 29, 16
Missing terms, in order: 18 and 28. Substituting both numbers must reproduce every given term.

第 24 題

Numerical Reasoning | multiple_choice | QNR2B1914

正確答案：A. 109 and 134

解析

【規律】

依次加上三角數 1、3、6、10、15。

【逐項驗算】

完整數列：99、100、103、109、119、134
第2項 = 99 + 1 = 100
第3項 = 100 + 3 = 103
第4項 = 103 + 6 = 109
第5項 = 109 + 10 = 119
第6項 = 119 + 15 = 134

【核對已知項】

先算第四項，再沿同一規律算得第五項 119，與題目列出的數值一致；繼續計算便得到第六項 134。

【選項分析】

[109 and 134：第四項和第六項都符合完整規律，是正確答案。

[109 and 119：第二個數 119 已在題目列出，並不是第六項。

[103 and 134：第一個數 103 已在題目列出，並不是第四項。

[117 and 134：第一個空格不符合由第三項推至第四項的運算。

[109 and 141：第二個空格不符合由第五項推至第六項的運算。

———

[The rule]

Add the consecutive triangular numbers 1, 3, 6, 10 and 15.

[Working it through]

Full sequence: 99, 100, 103, 109, 119, 134

term 2 = 99 + 1 = 100

term 3 = 100 + 3 = 103

term 4 = 103 + 6 = 109

term 5 = 109 + 10 = 119

term 6 = 119 + 15 = 134

[Check against a printed term]

After finding term 4, the same rule gives printed term 5 as 119; continuing once more gives term 6 as 134.

[Why the other options fail]

- 109 and 134: both missing terms follow the complete rule; this is the answer.
- 109 and 119: 119 is the printed fifth term, not the sixth term.
- 103 and 134: 103 is the printed third term, not the fourth term.
- 117 and 134: the first value does not follow the step from term 3 to term 4.
- 109 and 141: the second value does not follow the step from term 5 to term 6.

第 25 題

Numerical Reasoning | multiple_choice | QEPZXMBFEXK

正確答案：C. 50 and 194
50和194

解析

Each term is the previous term plus twice the term before that.

14=4+2×5

22=14+2×4

50=22+2×14

94=50+2×22

194=94+2×50

The missing terms are50 and194. Both must fit the same rule, including the visible term94 between the blanks.

每項等於前一項加上前兩項的2倍。
14=4+2×5
22=14+2×4
50=22+2×14
94=50+2×22
194=94+2×50
缺項為50及194；兩個數都須符合相同規律，包括兩個空格之間的已知項94。

第 26 題
Numerical Reasoning | multiple_choice | QXAL52X7CMM

正確答案：A. 147 and 30

解析

相鄰兩項分為一組，首數依次15、24、21、30、27、36，交替加9、減3；各組次數均為首數的7倍。兩空依次為147、30。把兩數反代，核對每組的關係和後面的已知項。

Adjacent pairs couple the numerator-like first number to a second number seven times as large; first numbers alternate +9 and −3. The missing values are 147 and 30; substitute both into the surrounding known terms.

第 27 題
Numerical Reasoning | multiple_choice | QPUYY025WVV

正確答案：A. 104

解析

此數列由兩個交錯的子序列組成，各自遵循不同的算術規律。

第一子序列（第 1、3、5、7 項）：
13、26、52、(?)
此為等比數列，公比為 2：
13 × 2 = 26
26 × 2 = 52
52 × 2 = 104

第二子序列（第 2、4、6、8 項）：
22、18、14、10
此為等差數列，公差為 -4：
22 - 4 = 18
18 - 4 = 14
14 - 4 = 10

按照第一子序列的規律，缺失的第 7 項為 52 × 2 = 104。因此，正確答案為選項 「104」。
選項 「78」 錯誤，因其錯誤地假設第三步的乘數為 1.5。
選項 「10」 錯誤，因其將第二子序列的減法規律誤用於第一子序列。
選項 「65」 錯誤，因其假設公差為固定加 13，與 26 至 52 的增長不符。

This sequence is composed of two interleaved sub-series that follow distinct arithmetic rules.

The first sub-series consists of the 1st, 3rd, 5th, and 7th terms:
13, 26, 52, (___)
The logic here is a geometric progression where each term is multiplied by 2:
13 × 2 = 26
26 × 2 = 52
52 × 2 = 104

The second sub-series consists of the 2nd, 4th, 6th, and 8th terms:
22, 18, 14, 10
The logic here is an arithmetic progression where each term is decreased by 4:
22 - 4 = 18
18 - 4 = 14
14 - 4 = 10

Following the pattern of the first sub-series, the missing 7th term is calculated as 52 × 2 = 104. Therefore, Option 「104」 is the correct answer. Option 「78」 incorrectly assumes a multiplication factor of 1.5 for the third step. Option 「10」 incorrectly applies the subtraction rule from the second sub-series to the first. Option 「65」 assumes a constant addition of 13, which is inconsistent with the progression from 26 to 52.

第 28 題
Tables and Graphs | multiple_choice | QEOWJU7AGKT

正確答案：D. 76.7 cases per staff member

解析

- 靛藍中心上期個案＝8,775 ÷ 1.1400＝7,697.37；雨雲中心＝16,445 ÷ 1.0850＝15,156.68。
- 計劃人手＝130＋167＋9－8＝298。
- 每人個案＝(7,697.37＋15,156.68) ÷ 298＝76.7宗／人。按年變動須用除法反推基數。

Estimated previous volumes are 8775/1.14≈7697.37 for Indigo Centre and 16445/1.085≈15156.68 for Nimbus Centre. Planned staff=(130+9)+(167−8)=298. Using unrounded intermediate values, the combined ratio=(8775/1.14+16445/1.085)/298≈76.691444, rounded to 76.7 cases per staff member. Reverse each percentage change by division and divide the combined volume by combined planned staff; do not average the two office ratios.

第 29 題
Tables and Graphs | multiple_choice | QH634MN7UNB

正確答案：E. 28.66 percentage points

解析

- Tamarind Centre before audit = 59.75% × (1 + 3.50%) = 61.8413%.
- After audit it is 60.3413%; Falcon Centre becomes 89.0000%.
- The absolute gap is 28.66 percentage points. A relative percentage increase must be multiplied; it is not a percentage-point addition.

第 30 題

Tables and Graphs | multiple_choice | QNDG4RE5VQ7

正確答案：C. 67.62%

解析

Q型2020為350000×15%=52500；2021為440000×20%=88000。增幅=(88000−52500)/52500×100=67.619047…%，得67.62%。33.33%只比較份額15%與20%，25.71%只比較全廠總產量，兩者都未合併份額與總量的變動。

Model Q: 350,000×.15=52,500 in 2020 and 440,000×.20=88,000 in 2021. Increase=(88,000−52,500)/52,500×100=67.619047…%, rounded to 67.62%. 33.33% compares shares alone; 25.71% compares total output alone.

第 31 題

Tables and Graphs | multiple_choice | QWLIJFIOWMC

正確答案：B. 232.50

解析

第一步：確定符合篩選條件的學生：

- 化學成績須達 130 分的 60%，即 ≥ 78 分
- 歷史成績須達 60 分的 70%，即 ≥ 42 分

逐一評估各學生：

- Ethan：化學 50%（65/130）— 化學未達標
- Liam：化學 80%（104/130），歷史 80%（48/60）— 符合條件
- Noah：化學 60%（78/130），歷史 90%（54/60）— 符合條件
- Mason：化學 65%（84.5/130），歷史 60%（36/60）— 歷史未達標
- Sophia：化學 65%（84.5/130），歷史 50%（30/60）— 歷史未達標
- Isabella：化學 75%（97.5/130），歷史 40%（24/60）— 歷史未達標
- Lucas：化學 35%（45.5/130），歷史 80%（48/60）— 化學未達標

符合條件的學生：Liam 及 Noah

第二步：計算各人的數學與物理合計分數：

Liam：

數學 = 100% × 150 = 150 分

物理 = 80% × 120 = 96 分

合計 = 150 + 96 = 246 分

Noah：

數學 = 90% × 150 = 135 分

物理 = 70% × 120 = 84 分

合計 = 135 + 84 = 219 分

第三步：計算小組平均值：

(246 + 219) / 2 = 465 / 2 = 232.50

因此正確答案為選項「232.50」。

- Identify the students meeting the criteria:
- Chemistry score must be ≥ 60% of 130 marks (i.e., ≥ 78 marks).
- History score must be ≥ 70% of 60 marks (i.e., ≥ 42 marks).

Evaluating students:

- Ethan: Chemistry 50% (65/130) - Failed Chemistry criterion.
- Liam: Chemistry 80% (104/130), History 80% (48/60) - Qualified.
- Noah: Chemistry 60% (78/130), History 90% (54/60) - Qualified.
- Mason: Chemistry 65% (84.5/130), History 60% (36/60) - Failed History criterion.
- Sophia: Chemistry 65% (84.5/130), History 50% (30/60) - Failed History criterion.
- Isabella: Chemistry 75% (97.5/130), History 40% (24/60) - Failed History criterion.
- Lucas: Chemistry 35% (45.5/130), History 80% (48/60) - Failed Chemistry criterion.

Qualified students: Liam and Noah.

- Calculate combined marks for Maths and Physics:
- Liam: Maths 100% of 150 = 150; Physics 80% of 120 = 96; Total = 246
- Noah: Maths 90% of 150 = 135; Physics 70% of 120 = 84; Total = 219
- Calculate the group average:

(246 + 219) / 2 = 465 / 2 = 232.50.

Therefore, the correct answer is '232.50'.

第 32 題

Tables and Graphs | multiple_choice | QMDLXRLBUTE

正確答案：B. 217.1 cases per staff member

解析

- 三角洲中心上期個案＝16,440 ÷ 0.9250＝17,772.97；靛藍中心＝20,835 ÷ 1.0650＝19,563.38。
- 計劃人手＝89＋86＋6－9＝172。
- 每人個案＝(17,772.97＋19,563.38) ÷ 172＝217.1宗／人。按年變動須用除法反推基數。

Estimated previous volumes are 16440/0.925≈17772.97 for Delta Centre and 20835/1.065≈19563.38 for Indigo Centre. Planned staff=(89+6)+(86−9)=172. Using unrounded intermediate values, the combined ratio=(16440/0.925+20835/1.065)/172≈217.071821, rounded to 217.1 cases per staff member. Reverse each percentage change by division and divide the combined volume by combined planned staff; do not average the two office ratios.

第 33 題

Tables and Graphs | multiple_choice | QDGGPBSF564

正確答案：E. HK$5,505 per case

解析

中文：

- 新預算＝HK$63.50百萬 × 1.0750＝HK$68,262,500。
- 新個案量＝13,750 × 1.1100＝15,262.50；新達標率＝80.50%＋0.75個百分點＝81.25%。
- 達標個案＝15,262.50×81.25%＝12,400.78；每宗成本＝HK$68,262,500÷12,400.78＝HK$5,505。

English:

- New budget = HK$63.50m × 1.0750 = HK$68,262,500.
- New volume = 13,750 × 1.1100 = 15,262.50; the new within-standard rate is 81.25%.
- Expected within-standard cases = 12,400.78, so cost = HK$68,262,500 ÷ 12,400.78 = HK$5,505 per case. Both percentage changes and the percentage-point rate change must be applied before forming the cross-column ratio.

第 34 題

Tables and Graphs | multiple_choice | QVV5BZ3EWHD

正確答案：A. 5.08% increase

解析

計算由1997年底至2000年底的淨百分比變化，步驟如下：

第一步：確定期初（1997年底）的學生人數：

- 1995年底：3,000人
- 1996年淨變化：+350（入學）− 250（離校）= +100
- 1997年淨變化：+300（入學）− 450（離校）= −150
- 1997年底人數 = 3,000 + 100 − 150 = 2,950人

第二步：計算1998至2000年期間的淨變化：

- 1998年淨變化：+450 − 400 = +50
- 1999年淨變化：+500 − 350 = +150
- 2000年淨變化：+400 − 450 = −50
- 三年總淨變化 = +50 + 150 − 50 = +150人

第三步：計算百分比變化：

- 公式：（淨變化 ÷ 期初人數）× 100
- 計算：（150 ÷ 2,950）× 100 ≈ 5.0847%

四捨五入至小數點後兩位，得5.08%增幅。因此答案為（A）。

To calculate the net percentage change from the end of 1997 to the end of 2000, we follow these steps:

- Determine the population at the start of the period (end of 1997):
- End of 1995: 3,000
- 1996 Net: +350 (Joined) − 250 (Left) = +100
- 1997 Net: +300 (Joined) − 450 (Left) = −150
- Population at end of 1997 = 3,000 + 100 − 150 = 2,950
- Calculate the net change during the period (1998 to 2000):
- 1998 Net: +450 (Joined) − 400 (Left) = +50
- 1999 Net: +500 (Joined) − 350 (Left) = +150

- 2000 Net: +400 (Joined) − 450 (Left) = −50
- Total Net Change = +50 + 150 − 50 = +150
- Calculate the Percentage Change:
- Formula: (Net Change / Population at start of period) * 100
- Calculation: (150 / 2,950) * 100 ≈ 5.0847%

Rounding to two decimal places, we get a 5.08% increase. Therefore, (A) is the correct answer.

第 35 題

Tables and Graphs | multiple_choice | QTBKQQ6AY7T

正確答案：B. 63.05%

解析

中文：

- 轉交後個案量：靛藍中心＝11,660－700＝10,960；翡翠中心＝10,655＋700＝11,355。
- 新達標率分別為60.25%及65.75%。預期達標個案＝10,960×60.25%＋11,355×65.75%＝14,069.31。
- 加權達標率＝14,069.31 ÷ 22,315＝63.05%。不能把兩個百分率直接取簡單平均。

English:

- Post-transfer volumes are 10,960 and 11,355.
- Adjusted rates are 60.25% and 65.75%, giving 14,069.31 expected within-standard cases.
- Divide by the combined 22,315 cases: 63.05%. The rates require case-volume weights, not a simple mean.
