

# 中央警察大學 109 學年度碩士班入學考試試題

所 別：消防科學研究所  
科 目：火災科學

作答注意事項：

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- 4.不需使用計算機，可用中文答題。

一、粉塵所引起之爆炸曾引起國內外多次重大傷亡事件，並對人命搶救造成重大挑戰：

- (一) 試述其爆炸之傳播速度與爆炸壓力。
- (二) 試述其防護對策及現場救災應變之要領。

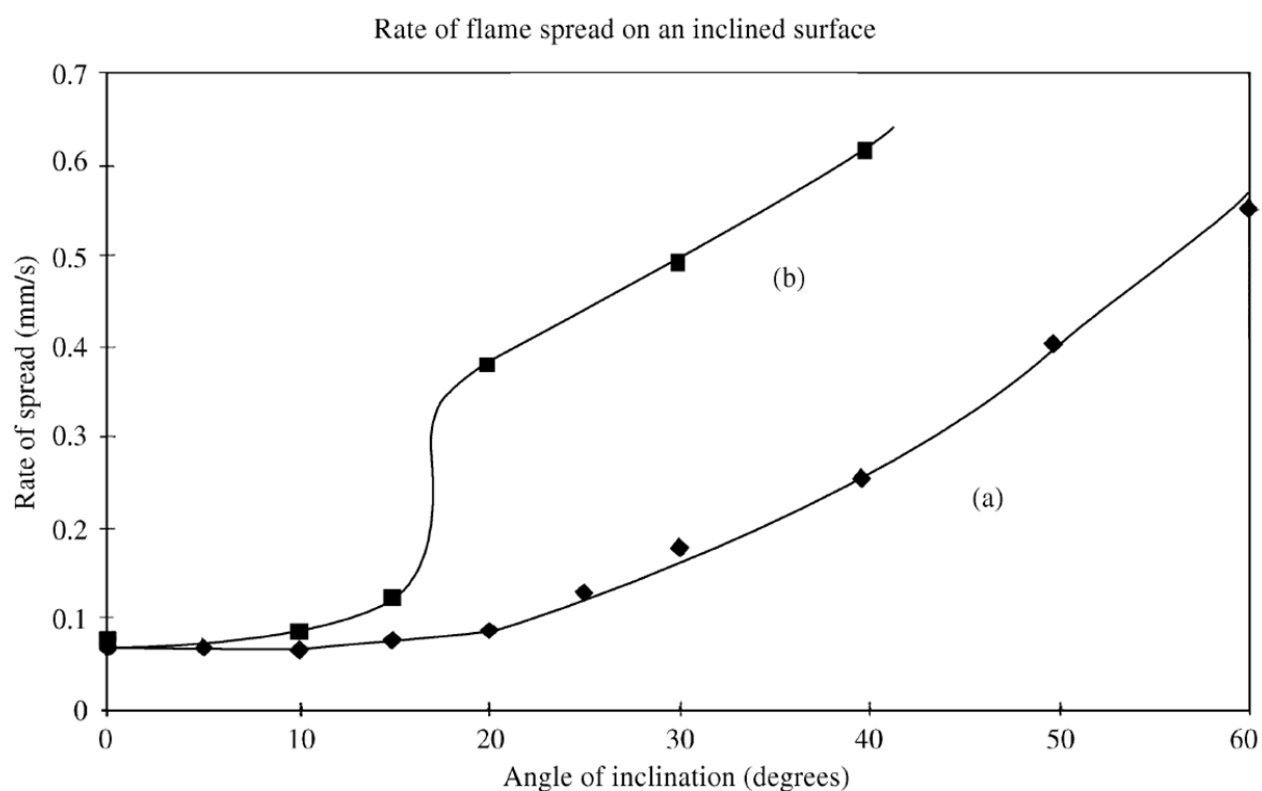
二、請依天花板噴射流（Ceiling Jet Flow）相關研究及現象，詳細說明

- (一) 火羽流撞擊天花板附近熱氣轉向的區域，以及
- (二) 熱氣流轉向後水平流動區域等上述 2 者之計算公式（含參數）及其代表現象為何？

三、溝渠效應對火災擴大之影響常因地形地物而起關鍵作用，請依序回答下列問題：

(一) 請簡述何謂溝渠效應？並舉例說明之。

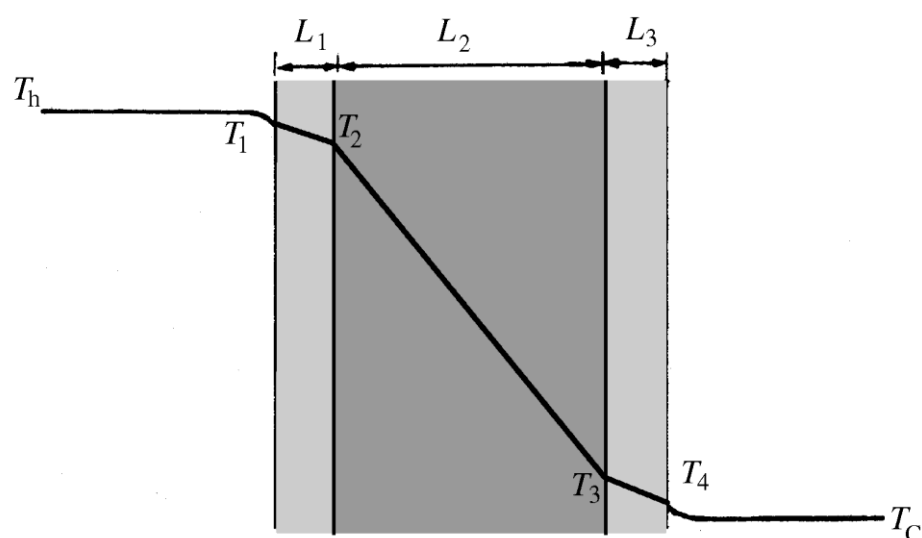
(二) 請就其原理說明下圖之意義。



**Figure 7.10** Rate of spread of flame on an inclined surface. 60 mm wide samples of PMMA: (a) without (◆) 'sidewalls' and (b) with (■) sidewalls (Drysdale and Macmillan, 1992)

四、If the wall is composite, consisting of various layers as shown in Figure, the net heat flux through the wall at the steady state can be calculated by equating the steady state heat fluxes across each layer. The temperature of the air in contact with each surface is shown  $T_1$ ,  $T_2$  etc.

( $T_h > T_1 > \dots T_4 > T_c$ ). Please calculate the net heat flux from  $T_h$  to  $T_c$  ?



# 中央警察大學 109 學年度碩士班入學考試試題

所 別：消防科學研究所  
科 目：消防安全設備與檢查

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- 一、關於被列為文化資產保存對象的寺廟宗祠，其與一般香火鼎盛的寺廟，在依法設置消防設備的審查與檢查作業上有何不同？試申論之。
- 二、設一既存合法的護理之家，依現行消防實務不需設置自動撒水設備。如基於公共安全的理由，若要設置水道連結型自動撒水設備，則可以援引哪些法規與基準，用以支持即使樓地板面積達  $1000\text{m}^2$  以上，仍然得以選擇該簡易型自動撒水設備設置的理由，試申論之。
- 三、請繪製具重力水箱民生用水之水道連結型自動撒水設備系統圖，並製表比較與一般自動撒水系統設置要求的異同。
- 四、因應高齡化社會需求，確保既有照護場所避難弱者防火安全，消防檢查時，如何指導上述場所，針對防止起火、及早偵知、快速通報、侷限火煙及延長待援時間等策略，進行防護改善，來提升照護環境安全？

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科 目：消防實務

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- 一、公寓住宅夜間火警極可能造成受波及家戶的重大傷亡，這是世界級的議題，也是縣市首長應面對處理的議題。試問美日兩國在住宅火災安全對策上，有哪些值得台灣借鏡參考之處，請說明之。
- 二、設有一位於醫院綜合大樓頂樓的護理之家，基於本土災例的教訓，如你為轄區自衛消防編組與應變演練計畫的指導人員，則你將協助該護理之家，建構的火災共識目標為何？其不利但合理會發生的火災情境為何？在消防隊抵達展開救援之前，該護理之家與醫院的值班人員，應有哪些必要且有效的作為？如何透過演練，註記現場人員緊急應變作業可能遭遇的風險？試說明之。
- 三、國內外火災現場因為燃燒建築物倒塌，造成救災人員傷亡的案例時有所聞。如果你是火場指揮官，請以鐵皮屋建築火災為例，分析火場經常可能發生的倒塌危險狀況有哪些？另外，研擬倒塌救援計畫（Collapse Rescue Plan）時，應考慮的因素有哪些？
- 四、到達火災現場要進行消防車輛部署時，必須考慮的因素很多。如果你是某消防局火場初期指揮官，帶領一水箱車組，奉派赴火場救災，請就火場狀況與環境、消防水源、交通路線、停車位置等四因素，綜合分析如何妥善部署你帶領的水箱車組？

# 中央警察大學 109 學年度碩士班入學考試試題

所 別：各所  
科 目：英文

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## 一、 Vocabulary and Phrases：(20 分)

1. Generally, law enforcement must obtain a search \_\_\_\_\_ to conduct a search of a person or premise without their consent.  
(A) prosecution (B) conviction (C) warrant (D) baton
2. Crime scene \_\_\_\_\_ is the process of determining the sequence of events, criminal activities, and logical predictions about what occurred during and after the crime.  
(A) investigation (B) reconstruction (C) evidence (D) experiment
3. A wrong decision could seriously \_\_\_\_\_ the prospect for the organization. We must think it over carefully before making the decision.  
(A) jeopardize (B) reimburse (C) languish (D) hallucinate
4. Retaining the status of nationality, even at the cost of economic independence, is of critical importance to the Ojibwe tribe. It's a \_\_\_\_\_: sovereignty produced by colonization.  
(A) paradox (B) paradigm (C) parable (D) paradise
5. Mr. Hamilton usually isn't one to show much emotion. His normal smile barely curves the corners of his mouth, and his cool \_\_\_\_\_ is marked by a voice with a steady, confident tone.  
(A) demeanor (B) aurora (C) avarice (D) deposition



6. The cookbook contains a wonderful \_\_\_\_\_ for roast chicken.  
(A) system            (B) spell            (C) vehicle            (D) recipe
7. Before Sally and John divorced, they tried a \_\_\_\_\_.  
(A) widow            (B) wedding            (C) sequence            (D) separation
8. \_\_\_\_\_ to your goals and never give up.  
(A) Stall            (B) Stink            (C) Stand            (D) Stick
9. The local hospital is very good, and all the \_\_\_\_\_ members are very kind and friendly.  
(A) staff            (B) stuff            (C) private            (D) personal
10. Two important secrets for a long life are regular exercise and \_\_\_\_\_ from worry.  
(A) hope            (B) happiness            (C) freedom            (D) fear

## 二、Translation : (30 分)

1. Citizens call the police department for many reasons – crime report, fire, alarm, assault, prowler, suspicious circumstances, suspected child abuse, domestic disturbance, noise complaint, crowd control, legal advice, asking directions, lost/found property, vehicle accident, disturbing telephone calls, parking problems, blocking driveway, blocking sidewalk, stolen vehicle, stolen vehicle recovery, officer complaint, person down, dead body, missing person, medical emergency, etc.
2. 作為一個以情報為導向、聚焦於國安威脅的組織，聯邦調查局兼具情報與執法雙重責任，其任務是：保護及防禦美國不受恐怖份子及外國情報威脅；執行美國刑事法令；提供領導統御與刑事司法服務給聯邦、州、都會，及國際機構與夥伴。

### 三、Reading Comprehension : (20 分)

#### 1-7 題

Turkey's annual information technology fair, CEBIT Bilişim Eurasia, this year aims to \_\_\_1\_\_\_ a diverse crowd into the e-society debate, especially \_\_\_2\_\_\_ the use of Internet technologies in government. Cebit Bilişim Eurasia expects to host visitors from over 70 Countries \_\_\_3\_\_\_ members of the press from nearly 20 countries. \_\_\_4\_\_\_ the theme of "Competitive Edge", Bilişim Summit 2007 and Forum Bilişim will discuss to \_\_\_5\_\_\_ the competitive power of countries, organizations and individuals \_\_\_6\_\_\_ ICT technologies. CEBIT Bilişim Eurasia \_\_\_7\_\_\_ this year at the TUYAP Beylikdüzü Fair.

1. (A) implement    (B) attract    (C) innovate    (D) analyze
2. (A) concerning    (B) to have concerned  
(C) having concerned    (D) concerned
3. (A) much as    (B) similar    (C) as well as    (D) like
4. (A) Among    (B) Under    (C) From    (D) Between
5. (A) perform    (B) instigate    (C) mitigate    (D) improve
6. (A) by using    (B) only used    (C) for using    (D) to use
7. (A) is staging    (B) was staged    (C) will be staged    (D) has staged

#### 8-10 題

Denver police conducted a search on Tuesday of a house at 720 S. Colfax. Officer Vincent Sully says he noticed someone moving items from a vehicle into the house. Many of the items matched the description of those recently stolen from area homes. "This fact," says Officer Sully, "provided reasonable belief that this was our suspect." According to Federal Law such suspicion is grounds to carry out a search. Police Chief Mancini explains, "The circumstances did not require the authorization of a search warrant." The suspect's lawyer plans to challenge this view, claiming that the search was illegal. It is unlikely that this argument will be accepted and the charges will most likely not be dropped.

Upon conducting the search, officers found what they were looking for, and more. In the suspect's vehicle they found three flat screen television identical to those that disappeared in Sunday's Water Street robberies. Inside the suspect's residence police found thousands of dollars' worth of allegedly stolen goods. Among the many items confiscated in the seizure were a ski mask and a black painted crowbar. Witnesses have reported seeing a thief in a similar mask break in to cars and houses with a crowbar. Possession of these objects could connect the suspect with those other burglaries. The suspect was arrested and an awaiting trial.

8. What is the article mainly about?

- (A) The result of a trial
- (B) A search and its outcome
- (C) A series of violent robberies
- (D) A criticism of unwarranted searches

9. What can you infer about illegal searches?

- (A) They can result in dropped charges.
- (B) They are based on reasonable belief.
- (C) They can seize evidence from homes.
- (D) They can provide the basis for a warrant.

10. What is NOT evidence against the suspect?

- (A) A crowbar
- (B) A ski mask
- (C) Televisions
- (D) An automobile

#### 四、Essay : (30 分)

Write an essay on the following topic. The length of the essay should be no less than 100 words and no more than 250 words.

How does epidemic outbreak impact on the role of police officers ?



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科 目：微積分（同等學力加考）

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一、請回答下列問題：

（一）請檢驗以下兩無窮級數收斂或發散：（16 分）

$$(a) \sum_{n=0}^{\infty} \frac{1}{n^3 + 2} \quad (b) \sum_{n=1}^{\infty} \frac{4^n}{n!}$$

（二）請證明  $\sum_{i=1}^n i^3 = \left[ \frac{n(n+1)}{2} \right]^2$ 。（9 分）

二、請回答下列問題：

（一）請用極座標及積分方法證明半徑為  $r$  的圓面積公式。（10 分）

（二）請利用積分方法推導一半徑為  $r$  之圓球體積公式。（15 分）

三、請回答下列問題：

$$(一) \int x^4 \cos x \, dx = ? \quad (13 \text{ 分})$$

$$(二) \lim_{x \rightarrow \infty} \left( (e^{-\frac{1}{2}x})^3 \sqrt[3]{\frac{1}{2}x} \right) = ? \quad (12 \text{ 分})$$

四、請回答下列問題。

(一)  $y_1 = \sin x$ ,  $y_2 = \cos x$ , 兩曲線相交無窮多次, 圍出相等的區域面積, 請求  $y_1$  與  $y_2$  單一圍出區域的面積。(13 分)

(二) 求函數圖形在其指定區間的弧長。

$$y = 50(e^{x/100} + e^{-x/100}), \quad [-50, 50] \quad (12 \text{ 分})$$

# 中央警察大學 108 學年度碩士班入學考試試題

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科 目：火災科學

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4. 不需使用計算機，可用中文答題。

一、火場煙氣之流動為煙控探討之現象之一，請依序回答下列問題：

- (一) 請說明建築物中引起煙霧流動與蔓延之主要因素有哪些？
- (二) 試繪圖並說明整棟大樓及單一開口之居室，在發生火災時之中性帶分佈情形？
- (三) 如著火建築物未塌陷，且開口面積未受火災及救災行為等外力改變，火場之燃燒曲線圖各階段中性帶如何變化？

二、公共危險物品第五類中有機過氧化物曾造成多次重大爆炸事件，並對消防搶救造成重大傷亡：

- (一) 試述其危險性並舉例說明之？
- (二) 如何災前預防及災時處置之要項？

三、建築物室內火災燃燒實驗中經常以可燃物量、開口部面積、開口部高度、地板面積、室內總表面積等為實驗參數，請詳細說明這些參數與室內燃燒實驗時之室內溫度、燃燒速度與持續燃燒時間等關係及其影響結果為何？

四、請說明火災研究中，何謂火災猛烈度（Fire severity）？目前國際上採行的 ISO834 號火爐試驗標準溫度-時間曲線為何？於室溫 20℃，且以 ISO834 號溫度-時間曲線加熱，分別於 10、20、30 分鐘時，火爐溫度大約為多少℃？

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- 一、鑑於桃園敬鵬工廠大火，造成消防員深入搶救作業時多人殉難，請據以申論臺灣目前建築與消防相關法規條文，是否可以支持法定自動撒水設備應設於工廠生產作業場所之理由。
- 二、某地上 5 層建築的博物館用途使用場所，其典藏庫設置氣體自動滅火設備之法令依據為何？試申論之。
- 三、請問海龍替代品之潔淨藥劑滅火系統現行常用的有哪些種類？請詳列其化學式並說明設置時若採用 NFPA2001 之 2018 版本為依據時，其設計精神及新舊法令修正重點為何？其在撲滅各類型火災之滅火濃度設計要求原則及全區放射量計算規定為何？
- 四、某一無開口樓層供電子工業半導體積體電路晶圓製造廠房潔淨區使用，其潔淨區樓地板面積為 2,600 平方公尺，為達建築消防安全及避難逃生安全，廠區不得遭受到濃煙的危害及潔淨環境功能，符合何種條件者，免設排煙設備？

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一、近來，國外高層建築物火災時有所聞，我國高度達 25 層或 90 公尺以上之高層建築物，依《建築技術規則》要求，須有防火避難綜合檢討報告書及評定書，對於該列管建築物，消防機關轄區分隊執行第二種檢查時，應包括哪些項目？並請說明各項目檢查重點。

二、請以「病人安全」為目標，考量醫院收治傷病患行動力的差異，提出不同火災情境避難應變對策與指導日常教育訓練的做法。

三、古蹟、歷史建築為國家重要文化資產，為強化此類場所之安全防護，在場所致災因子的分析上，應注意哪些重點？

四、我國第一核電廠已於 107 年起邁入除役階段，未來核電廠的除役工作已為目前國內的重要課題且刻不容緩，請說明核電廠除役時的火災防護重點為何？



# 中央警察大學 108 學年度碩士班入學考試試題

所 別：各所

科 目：英文

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## 一、Vocabulary and Phrases：(20 分)

1. Establishing the point at which to arrest someone is an important factor in determining the \_\_\_\_\_ of evidence.  
(A) admissibility (B) interpretation (C) condition (D) execution
2. If you keep backbiting me, I'll definitely sue you for \_\_\_\_\_.  
(A) deception (B) defamation (C) exploitation (D) persecution
3. A \_\_\_\_\_ should be ordered on prostitution.  
(A) restitution (B) clampdown (C) stereotype (D) getaway
4. The young boy was caught \_\_\_\_\_ a scooter.  
(A) rolling back (B) raking up (C) ripping off (D) ripping up
5. The purpose of traffic control is two-fold, that is, to \_\_\_\_\_ traffic and to eliminate potential traffic conflicts.  
(A) deter (B) congest (C) approach (D) expedite
6. Officers are instructed not to act \_\_\_\_\_ towards citizens in the line of duty.  
(A) professionally (B) courteously (C) prudently (D) condescendingly
7. Many people believed that the murder suspect's actions and his continued threat to public safety would keep him \_\_\_\_\_ for life.  
(A) incarcerated (B) impounded (C) inundated (D) engulfed
8. Report has it that a senior staffer of a leading law firm was accused of \_\_\_\_\_ billions of dollars in stock from an American corporate client.  
(A) bedazzling (B) embezzling (C) exerting (D) luring



9. If you use other people's research results without mentioning the original authors, it is thought to be copyright \_\_\_\_\_.
- (A) arraignment      (B) infrastructure      (C) infringement      (D) moratorium
10. Even after they were arrested, the criminals prided themselves on and bragged about their advanced technology in ATM \_\_\_\_\_ devices and counterfeit credit cards.
- (A) bugging      (B) preying      (C) banning      (D) tending

## 二、Translation : (30 分)

### (一) 中翻英 (15 分)

警察機關位於刑事司法體系的最前線，不僅選擇將何種類型的犯罪人送入刑事司法程序，而且還決定將多少數量的犯罪人送入刑事司法程序，顯見位居刑事司法體系守門者角色的重要性。

### (二) 英翻中 (15 分)

Society has long looked to police departments to deal effectively with crime. For a long time the public was content with police departments whose primary role was to apprehend offenders, so society could hold law breakers accountable for their crimes.

## 三、Reading Comprehension : (20 分)

### (一) 請依下文回答第 1 題至第 5 題：

Police research demonstrated the need for agencies to evaluate the   1   of their responses. Both quantitative and   2   data should be used as a basis for evaluation and change. Police departments need to know more about what their   3   are doing. Agencies are   4   to find enough resources for performing crime trend analyses; most also do not conduct proper workload analyses to know how much uncommitted time is   5   to their officers.

1. (A) extradition      (B) effectiveness      (C) exile      (D) episode
2. (A) illegal      (B) scanning      (C) qualitative      (D) vandalism
3. (A) officers      (B) factories      (C) corporations      (D) income
4. (A) preventive      (B) struggling      (C) approaching      (D) peacemaking
5. (A) detective      (B) perspective      (C) reductive      (D) available

(二) 請依下文回答第 6 題至第 10 題：

The key to understanding organized crime is to recognize that, like corporations and other businesses, it exists for a single purpose: to make a profit in a capitalist economy. The key difference between organized crime and “legitimate” businesses is that organized crime often makes much of its profit from illicit goods and services and organized crime is prepared to use illegal means and practices, including violence, to achieve its profit-making goals. Like legal businesses, organized crime also seeks to gather and harness political power to assist in the conduct of its business. Once again, however, organized crime is prepared to pursue that goal, if necessary, through recourse to illegal methods. Actual violence is rare in organized crime activities, and is usually related to street-level activities. While violence is bad for business, the potential for violence is often enough to give organized crime networks a distinct advantage in the marketplace.

6. According to the passage, the author discusses

- (A) illicit enterprise and profit-making.
- (B) organizational strategy of a legitimate corporation.
- (C) violent interactions among corporations.
- (D) organizational structure of organized crime groups.

7. Based on the passage, which statement is correct?

- (A) There is no difference between organized crime and legal businesses.
- (B) Actual violence is usually used by organized crime networks to occupy market.
- (C) Political power can help organized crime to pursue illegal profits.
- (D) Organized crime will use political power to pursue benefits, but corporation won't.

8. Organized crime often makes much of its profit from

- (A) charity.
- (B) loan-sharking, gambling and pornography.
- (C) big data analysis of market.
- (D) state-run businesses.

9. According to the passage, which statement is incorrect?

- (A) Making a profit is the purpose for organized crime.
- (B) Making a profit is the purpose for legal corporation.
- (C) Even violence is not good for business, it is still helpful to organized crime networks.
- (D) Organized crime attempts to accumulate and use political power, by legal approaches, to assist in the conduct of its business.

10. The word "*advantage*" in the last sentence most nearly means

- (A) handicap.
- (B) hindrance.
- (C) burden.
- (D) benefit.

#### 四、Essay : (30 分)

Write an essay on the following topic. The length of the essay should be no less than 100 words and no more than 250 words.

##### **The Use of Police Force**

The use of force is a double-edged sword for the police. Used properly, force can help bring criminals to justice. On the contrary, excessive or poor force use may lead to the criticisms of state violence or public servants' inertia. What are the keys to a reasonable and justifiable use of force? Write an essay on this issue.

# 中央警察大學 108 學年度碩士班入學考試試題

所 別：消防科學研究所、交通管理研究所

科 目：微積分(同等學力加考)

作答注意事項：

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一、請回答下列問題：

(一) 求  $\lim_{x \rightarrow 0^+} (5x)^{\frac{x}{10}} = ?$  (8 分)

(二)  $y = \ln(5x\sqrt{x^2 - 1})$ ，求  $\frac{dy}{dx} = ?$  (8 分)

(三) 求自然對數之積分  $\int_0^e \ln(x) dx = ?$  (9 分)

二、請回答下列問題：

(一) 在  $x \geq 0$ 、 $y \geq 0$  與  $z \geq 0$  的條件下，  
求由  $y = 1 - x^2$  與  $z = 1 - x^2$  所圍成的立體體積。(12 分)

(二) 求由  $z = x^2 + y^2 + 1$ ， $z = 0$ ，與  $x^2 + y^2 = 4$  所圍成的立體體積。(13 分)

三、請回答下列問題：

(一)  $y = x^{\ln x}$ ，求  $\frac{dy}{dx} = ?$  (8 分)

(二)  $y = e^{(\ln x + \cos x)}$ ，求  $\frac{dy}{dx} = ?$  (8 分)

(三) 求曲線  $3e^{xy} = x + y$  在點(0, 3)的切線方程式。(9 分)

四、請回答下列問題：

(一) 求  $\int_1^e x^3 \ln x \, dx = ?$  (8 分)

(二) 求  $\int_0^{\frac{\pi}{3}} (\tan^5 x)(\sec^3 x) \, dx = ?$  (8 分)

(三) 求  $\int \frac{1}{x\sqrt{x^2+4}} \, dx = ?$  (9 分)

# 中央警察大學 107 學年度碩士班入學考試試題

所 別：消防科學研究所  
科 目：火災科學

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4. 不需使用計算機，可用中文答題。

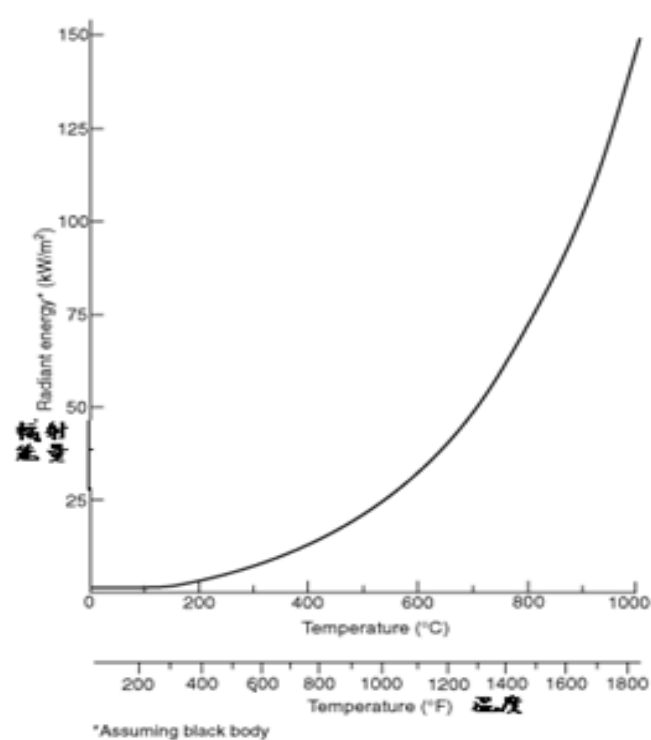
一、請依序回答下列問題：

- (一) Find the general solution.  $y' + \frac{y}{x} = 3x^2$ ;  $y(1) = 5$ . (8 分)
- (二) Solve the initial value problem.  $y'' + 4y = 8x$ . (8 分)
- (三) Solve the initial value problem.  $y'' + y' + 3y = 5\sin(2x)$ . (9 分)

二、請以 Heskestad 實驗所得結果，詳細說明火羽流現象之火焰平均高度的計算公式及其參數，並請說明對於大部分氣體及液體燃料，在一般狀況下火焰平均高度的簡化結果為何？(25 分)



三、熱能之傳送是影響火災成長主要的項目，其具有引火、成長、擴散、衰退等作用，供消防搶救措施之參考。熱傳同時也反應出大量的物理證據可供火災調查人員研判起火處所及起火原因。下圖為輻射能量與溫度曲線圖，試說明火災處於全盛期，熱量傳遞以何種方式為主？其與閃燃之關係為何？



四、水蒸氣爆炸為消防救災可能遇到之情形，請依序回答下列問題：

- (一) 水蒸氣爆炸之原理為何？
- (二) 原油槽或重質油槽因突沸(Boilover)產生之水蒸氣爆炸，與火爐等高熱物遇水產生之水蒸氣爆炸，對消防搶救人員而言，有何差異？
- (三) 身為消防人員，不論是帶隊官或是第一線救災人員都應對原油或重質油之沸溢或突沸(Boilover)現象瞭解，並做好觀察、預測之工作，請概述其發生之徵兆有哪些？

# 中央警察大學 107 學年度碩士班入學考試試題

所 別：消防科學研究所  
科 目：消防安全設備與檢查

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- 一、既存護理之家的樓面，計有三個不同大小相鄰之住房空間，因衛生局督考作業之建議，而選擇其中一個面向道路住房之外牆處，設置排煙風機，直接向外排氣。消防安檢時，有某轄區消防官員建議可對其他相鄰的兩處住房隔間牆上方靠天花板處，設 2% 以上的開口，以提高該排煙機的應用效益。請針對上述該消防官員的建議，申論其合宜性。
- 二、用於船艦艙房的氣體滅火設備，相對於陸上基地設施的防護對象空間，有何應特別注意之人命保安措施？試說明之。
- 三、為使高層建築物內居民於火場時能順利避難逃生及俾利消防搶救而規畫相對安全區，因此，要求設置排煙設備，請試繪特別安全梯排煙室與緊急升降機間兼用時之建築平面圖中有關消防安全設備設計圖說（簡稱消防圖），並說明其自然排煙與機械排煙之相關規定？現行排煙設備檢查方法及應注意重點項目為何？簡述實務上有哪些設計、審查、檢修申報時可行的改善措施與建議？

四、何謂火警分區，其法定要求為何？有關火警自動警報設備之鳴動方式有哪些規定？試述光電式分離型探測器的設置規格及性能規定？該項試驗方法及試驗所發現之不合格情形，判定為致命缺點等級之規定？現以提昇小型社福機構火災發生時之通報效率（縮短 119 報案時間），避免延誤報案致生重大火災事故為例，請說明有關 119 火災通報裝置設計，來確保能將火災訊息以迅速確實的通報方法通知消防機關，以利及時應變及降低火災損害於最低限度。

# 中央警察大學 107 學年度碩士班入學考試試題

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- 一、近年來多起護理之家火災事件常造成重大傷亡，此類事件頻頻引起社會大眾及政府高度關注。因此，行政院特別提出「強化長期照顧機構公共安全推動方案」，試問此方案中，有何重大消防設施之改善方向？並請評論之。
- 二、現階段進行火災調查時，常依據「火災調查鑑定作業要領」進行相關的工作，試問：如火災現場有輻射外洩之虞時，應如何進行調查？
- 三、2013 年至 2015 年間消防人員處理火災殉職就有 16 人，其中 4 起為災害現場發生驟變，後續支援到場的消防人員(臨時組成團隊之人員)無法發揮應有之績效所導致，請問大規模災害發生時，現行消防局災時緊急應變處置機制與派遣模式為何？消防作戰需要的團隊凝聚力，請問受派遣的資源、計畫與機制、參與者能力等應考量的災變適應力影響因子為何？請以 2014 年 7 月 31 日高雄市前鎮區大氣爆案件、2015 年 1 月 20 日桃園市新屋區亞洲保齡球館火災案件為例，說明火場安全官的職責為何？其應如何作為，才能確保全體救災人員的安全。

四、為確保能順利進行消防救災，當災害事故演變愈大或複雜時，良好的指揮系統與消防戰術才能有效地運用現有的救災資源。請問現行各單位常用的事故管理系統 ICS(Incident Command System)、事故救災指揮與管理系統 CCIO(Command and Control of Incident Operations)、火場搶救狀況判斷模式(兵推)等三種火場判斷模式在作業觀念、災害現場指揮系統的「情境判斷」、擬定救災戰術決策選定與指揮運作理念差異如何？現以某老人長期照護中心之五樓病理檔案室凌晨二點發生火災冒出濃煙，該中心人員嘗試用滅火器做初期滅火失敗並通報 119，起火樓層在消防單位到達時，已籠罩在陣陣濃煙中。假設其他各樓層皆已疏散，僅該樓層因收容 53 位插管或氣切之病患尚待救援，如果你是火場指揮官，面對此情境及場所特殊性，請以前述三種火場指揮判斷模式來擬定您在人命救助及滅火攻擊作業上救災戰術，並評述其異同處及應考量重點、注意事項。

# 中央警察大學 107 學年度碩士班入學考試試題

所 別：各所  
科 目：英文

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## 一、 Vocabulary and Phrases : ( 20 分 )

Qs 1-5 :

1. The police developed as a mechanism to do justice by apprehending offenders and holding them \_\_\_\_\_.  
(A)admirable (B)accountable (C)appreciable (D)affluent
2. Since their primary practical goal was to reduce crime \_\_\_\_\_, police long believed that they were in the business of crime prevention.  
(A)ventilation (B)vicinity (C)victimization (D)viscosity
3. Efforts to concentrate police enforcement efforts in high-risk places, commonly known as hot spot policing, have been found to be \_\_\_\_\_ in controlling crime.  
(A)effective (B)edible (C)enclose (D)excavate
4. Police responses to crime problems can be greatly \_\_\_\_\_ by securing productive partnerships with community members.  
(A)emigrated (B)enigma (C)estate (D)enhanced
5. A police focus on controlling disorder has been hypothesized to be an important way to reduce more serious crimes in \_\_\_\_\_.  
(A)nerves (B)neighborhoods (C)narratives (D)nomads

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**Qs 6-10 : Fill in each of the blanks with a proper word to make the statement complete.**

**The initial and final letters of the word are given as hints.**

6. The procedure for the surrender of an alleged criminal by one state to another having j\_\_\_\_\_n to try the charge is called extradition.
7. Preventive d\_\_\_\_\_n allows the judges to imprison anyone who they have good reason to believe may commit a further crime.
8. If a person is convicted of robbery and sentences to eight years in prison, he or she will be put behind b\_\_\_\_\_s and serve the jail term.
9. The study clearly demonstrates the link between child abuse and juvenile d\_\_\_\_\_y.
10. A voluntary confession is a confession that is given out of a suspect's own free will, and has not been obtained by force, coercion, or i\_\_\_\_\_n.

## **二、 Translation : ( 30 分 )**

**Translate the following short passages from Chinese to English or the other way around.**

1. 舉凡酒駕的稽查取締、陳抗事件的處置因應、非法槍彈及毒品的查緝防制、跨國詐欺犯罪的打擊遏阻、乃至網路科技犯罪的偵防情蒐等，均為國人關切的治安議題。
2. Law enforcement agencies should establish a culture of transparency and accountability in order to build public trust and legitimacy. This will help ensure decision making is understood and in accord with stated policy.

## **三、 Reading Comprehension : ( 20 分 )**

**Qs 1-5 :**

1. When a defendant claims that the presence of blood sprinkles on his clothing is due to the fact that he has touched such clothing with bloody hands, one can immediately conclude that he is lying.

The fact upon which this conclusion is based is *most nearly* that

- (A) nothing absorbs blood.
- (B) blood does not sprinkle.
- (C) fingerprints would have been left by the defendant if he had touched the clothing.
- (D) bloody hands will not leave the described mark.

2. The large number of fatal motor-vehicle accidents renders necessary the organization of special units in the police department to cope with the technical problems encountered in such investigations.

The generalization which can be inferred *most directly* from this statement is that

- (A) large problems require specialists.
- (B) technical problems require specialists.
- (C) many police problems require special handling.
- (D) many policemen are specialists.

3. In examining the scene of a homicide one should not only look for the usual, standard traces – fingerprints, footprints, etc. – but should also have eyes open for details which at first glance may not seem to have any connection with the crime.

The *most* logical inference to be drawn from this statement is that

- (A) in general, standard traces are not important.
- (B) sometimes one should not look for footprints.
- (C) usually only the usual, standard traces are important.
- (D) one cannot tell in advance what will be important.

4. Officer Chang didn't eat anything but small pieces of bread and butter.

The sentence that is *closest in meaning* to the one given above is that

- (A) He ate small pieces of bread and butter but didn't like them.
- (B) He only ate some small pieces of bread and butter.
- (C) He didn't eat anything, not even the bread and butter.
- (D) He didn't touch the bread and butter, but he ate other things.

5. After failing a doping test at the Beijing Olympics, John Peterson was stripped of his gold medal.

The sentence that is *closest in meaning* to the one given above is that

- (A) At the Beijing Olympics, John Peterson and many others were disqualified after failing a doping test.
- (B) If John Peterson hadn't been tested positive for doping at the Beijing Olympics, he wouldn't have lost his gold medal.
- (C) Since John Peterson confessed having used doping, his gold medal was taken back.
- (D) Although John Peterson failed the doping test, he wasn't disqualified from the Beijing Olympics.

**Qs 6-10 :**

Since the early 1990s, the police have become much more interested in a broader idea of prevention and the use of a wide range of crime prevention \_\_\_\_6\_\_\_\_. The search for greater citizen satisfaction, increased legitimacy and more effective crime prevention \_\_\_\_7\_\_\_\_ to the traditional tactics used by most police departments led to the development of problem-oriented policing and hot-spots policing. The operational paradigms of many modern police departments have steadily \_\_\_\_8\_\_\_\_ from a "professional" model of policing to a community-oriented, problem-solving model. Growing community dissatisfaction and a series of research studies that questioned the \_\_\_\_9\_\_\_\_ of the professional model's basic tenets served as catalysts for the \_\_\_\_10\_\_\_\_.

- |                 |                   |                |                |
|-----------------|-------------------|----------------|----------------|
| 6. (A) tension  | (B) trash         | (C) tactics    | (D) timber     |
| 7. (A) abuses   | (B) alternatives  | (C) abstracts  | (D) amazements |
| 8. (A) evolved  | (B) enclosed      | (C) estimated  | (D) eroded     |
| 9. (A) walkout  | (B) effectiveness | (C) incitement | (D) turbulence |
| 10. (A) distort | (B) assignment    | (C) hostility  | (D) shift      |

**四、Essay : (30 分)**

**Write an essay on the topic : Combatting Fraud**

Fraud has been one of the fastest growing crimes in recent decades. The current epidemic in fraud has been attributed to the rapid growth of the Internet and digital finance, the vast expansion of mobile phones, and the limited response of law enforcement agencies. Please describe your opinion about the strategy against fraud.

# 中央警察大學 107 學年度碩士班入學考試試題

所 別：消防科學研究所、交通管理研究所

科 目：微積分(同等學力加考)

作答注意事項：

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2. 不用抄題，可不按題目次序作答，但應書寫題號。
3. 禁用鉛筆作答，違者不予計分。

一、請回答下列問題：

(一) 求  $\int \frac{2x-1}{\sqrt{x+3}} dx = ?$  (8 分)

(二) 求  $\int_{-\pi/2}^{\pi/2} (\sin^3 x \cos x + \sin^5 x \cos x) dx = ?$  (8 分)

(三) 求  $\int_{-\pi/4}^{\pi/4} \tan \theta \sec \theta d\theta = ?$  (9 分)

二、請回答下列問題：

(一) 函數  $f(x) = 50(e^{x/100} + e^{-x/100})$  為一條弧線的方程式，求在  $x = -100$  和  $x = 100$  的範圍內，其弧線長度為何？(12 分)

(二) 函數  $f(x) = x^2$  在  $x = 0$  和  $x = \sqrt{2}$  的範圍內形成一條弧線，求該弧線繞  $y$  軸旋轉所形成的旋轉曲面之面積。(13 分)

三、請回答下列問題：

(一) 請利用積分法推導一底部半徑為  $r$ ，高度為  $h$  之圓錐體的體積公式。(12 分)

(二) 請計算兩函數  $y = x$  與  $y = x^2$  所包圍之面積。(13 分)

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四、請回答下列問題：

(一) 請檢驗以下兩無窮級數的收斂或發散性：(16 分)

1、 
$$\sum_{n=0}^{\infty} \frac{1}{n^3 + 2}$$

2、 
$$\sum_{n=1}^{\infty} \frac{4^n}{n!}$$

(二) 請證明  $\sum_{i=1}^n i^3 = \left[\frac{n(n+1)}{2}\right]^2$  。 (9 分)

# 中央警察大學 106 學年度碩士班入學考試試題

所 別：消防科學研究所  
科 目：火災科學

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3. 禁用鉛筆作答，違者不予計分。
4. 不需使用計算機，可用中文答題。

一、請回答下列問題：

(一) Find the general solution.  $y'' + 4y = x + 2e^{-2x}$ . (8 分)

(二) Solve the initial value problem.

$$x^2 y'' + 5xy' - 21y = 0; \quad y(2) = 1, \quad y'(2) = 0. \quad (8 \text{ 分})$$

(三) Solve the initial value problem.

$$y'' - y = 5\sin^2 x; \quad y(0) = 2, \quad y'(0) = -4. \quad (9 \text{ 分})$$

二、請回答下列問題：

(一) Find the eigenvalues and the eigenfunctions.  $y'' + 8y' + (\lambda + 16)y = 0;$

$$y(0) = 0, \quad y(\pi) = 0. \text{ Here } \lambda \text{ is a parameter. (10 分)}$$

(二) Let  $f(x) = \begin{cases} -k & \text{if } -2 < x < 0 \\ k & \text{if } 0 < x < 2 \end{cases}$  for period  $P = 4$ . Find the Fourier series of the function. (15 分)

三、某一 T-square 火災，其成長至 1055kW 需經過 100 秒，試問該火災發展至 3MW 需再多少時間(秒)？



四、有一居室之開口，寬 1 公尺、高 2 公尺，居室之長寬高分別為 20 公尺、15 公尺與 6 公尺，居室內可燃物的火載量為  $50\text{kg/m}^2$ （以木材為主），該居室若發生通風控制燃燒之火災時，理論上最大之火災熱釋放率約為多少？

# 中央警察大學 106 學年度碩士班入學考試試題

所 別：消防科學研究所  
科 目：消防安全設備與檢查

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- 一、火警自動警報設備在線路之裝配上，為避免線路之斷線，造成火警發生時無法感測，因此訂有回路導通之性能檢查，試問其檢查方法為何？並就其配線回路之電氣原理說明之？
- 二、泡沫滅火劑之種類適用不同，若使用錯誤易造成火災無法撲滅，依「各類場所消防安全設備設置標準」第四編公共危險物品等場所消防設計及消防安全設備之規定，對使用耐酒精型泡沫之危險物品有詳細規定，試問使用耐酒精型泡沫之危險物品其類別有哪些及就各該類別各寫出三種分類？
- 三、科技廠房無塵室依臺灣常規消防專業的觀點與立場，多建議設置氣體滅火設備防護之；但世界半導體協會及跨國保險公司則首推密閉溼式撒水系統，試申論兩者的合法性與防護性能效果。
- 四、試申論現行排煙設備法規與設計審查實務，為何仍不能落實有利於人員初期避難安全需求之理由？有哪些設計/審查上可行的改善建議？

# 中央警察大學 106 學年度碩士班入學考試試題

所 別：消防科學研究所  
科 目：消防實務

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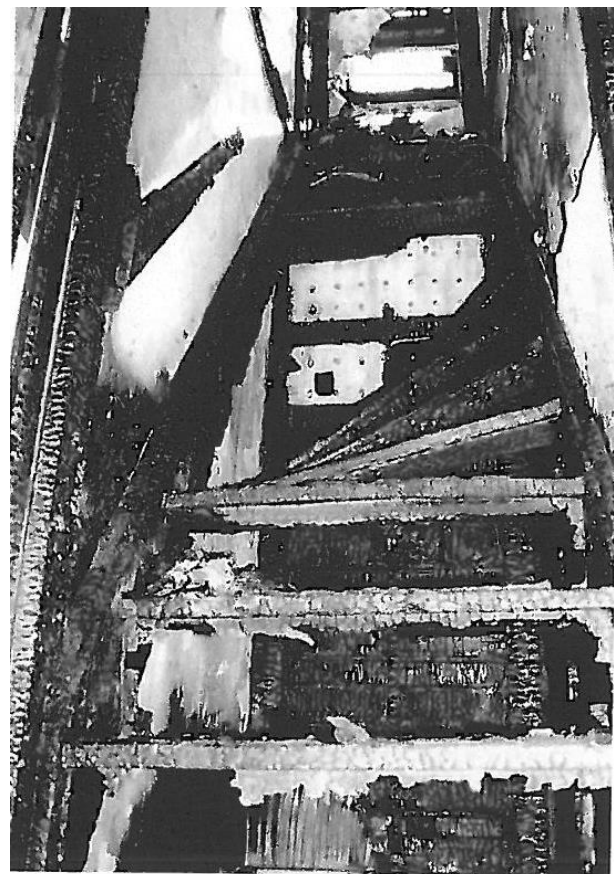
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- 一、火災搶救中造成消防人員重大傷亡的，以爆炸為最多數，對於易燃性液體與可燃性氣體之洩漏，若你是火場指揮，試問劃定熱區之原則為何？若有必要進入該區時，其行動管制為何？試詳述之。
- 二、火場調查以起火處所之研判最為重要，一旦研判錯誤，則起火原因之研判自然不對，下面二張相片為某一火場不同角度所拍，試問其為由下往上或是由上往下之燃燒？並詳述此類火災之研判要領？



- 三、依消防署最近火災統計分析，住宅火災死亡件數及人數有增加趨勢，死亡地點在臥房的比例也增加。試申論住宅火災的風險因子及可行的防治對策。
- 四、捷運地下場站發生進站列車車廂地板下方煞車油路及電路起火，試從自衛消防編組初期應變及後續趕來救援的消防人員，應採用何種設備器材進行滅火之標準作業程序，申論應變救援過程可能面對的火災風險及合宜的損失控制對策。



# 中央警察大學 106 學年度碩士班入學考試試題

所 別：各所

科 目：英文

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## 一、Vocabulary and Phrases：(20 分)

- |        |           |
|--------|-----------|
| 1、年金改革 | 6、川普政府    |
| 2、化武攻擊 | 7、併排違停    |
| 3、檢調單位 | 8、保障人民權利  |
| 4、限制出境 | 9、促進社會進步  |
| 5、北韓政權 | 10、肇事逃逸責任 |

## 二、Translation：(30 分)

(一)(中翻英)：幫派份子從事犯罪活動，目的是要增加或維持聯盟的力量、

聲明或經濟財源，他們在聯盟內部會有加入或運作的規定，聯盟提供成員身體上的保護，以抵禦其他罪犯或幫派，並致力對於特定地點或區域行使其控制，以防衛利益不受對手侵犯。

(二)(English to Chinese)：Buying drugs from a suspect is a direct means of gathering evidence. Undercover drug operations, though dangerous, is useful in identifying participants in drug conspiracies. Undercover officers should be intelligent, reliable, confident, and resourceful, and have good judgment and excellent communication skills.

三、Reading Comprehension : ( 20 分 )

Qs 1-5: Closest in Meaning Test: Find the sentence that is closest in meaning to the one given for each question.

1. Police officers are prohibited from firing warning shots under any circumstances; police officers are also not permitted to shoot at a moving vehicle unless the vehicle being shot at is being used in an assault attempt.  
(A) When their lives are threatened, police are authorized to fire warning shots.  
(B) Police officers are never allowed to shoot at moving vehicles.  
(C) Police officers can shoot at moving vehicles only if a police officer's life is threatened.  
(D) Police officers can sometimes shoot at a moving vehicle.
2. "Law must be stable and yet it cannot stand still," means most nearly that  
(A) law is a fixed body of subject matter.  
(B) law must adapt itself to changing conditions.  
(C) law is a poor substitute for justice.  
(D) the true administration of justice is the firmest pillar of good government.
3. We must remember what happened in the past so that it will never happen again.  
(A) If we could remember the past, it would not happen again.  
(B) In order not to repeat the past, we should certainly not forget what happened then.  
(C) Since we all tend to forget what happened in the past, we do the same mistakes again.  
(D) Those who couldn't remember what happened in the past were more likely to repeat it.



4. Because of his innocent face, it is difficult even today to believe he was a criminal although it had been certainly proven.
- (A) Today it is possible to understand why people didn't want to believe that he was guilty as he had an innocent face.
  - (B) If it had been proven that he was guilty, they would believe that he was a criminal.
  - (C) It doesn't necessarily mean that criminals can't have an innocent look.
  - (D) Despite the fact that he was proven to be a criminal, his innocent face makes it difficult to believe that.
5. French is the only language other than English spoken on five continents.
- (A) French and English are the only languages that are spoken on five continents.
  - (B) French and English are spoken widely in official and commercial circles.
  - (C) Before English, French was the only language spoken on five continents.
  - (D) Worldwide, French is the most widely taught second language after English.

Qs 6-10: Based on the passage below, answer the questions that follow it.

Crime prevention through environmental design (CPTED) grew out of the concept of defensible space developed by an architect and urban planner. Sometimes referred to as designing out crime, it has become an important tool for police in assisting communities in crime prevention efforts. The theory is based on the belief that design of the physical environment can create opportunities for people to come together and at the same time can remove the opportunity for criminals to act freely. It does this by concentrating on a facility's design, landscaping, and security technology, including a combination of security and police personnel, to create a series of preventive measures that combine to reduce problems or disruptions to a facility. These same preventive measures are meant to provide a sense of confidence to the public that a location is secure.

CPTED is most cost-effective when included in original design plans because this saves the costs associated with renovating or moving existing facilities. An example of a CPTED-based renovation in a mall or a transit facility would be moving the payment

area of a parking lot where crimes have occurred closer to where it can be seen by general users or by the facility's security officer. In this case, the placement of the payment area increases safety through the environmental decision of moving it into a safer area. The same example in a new facility would require someone with knowledge of CPTED principles considering the placement of the payment area during the design phase so as to prevent having to move it later.

6. According to the passage, police departments are most likely to use CPTED when

- (A) helping communities develop crime prevention strategies.
- (B) looking for car thieves on city streets.
- (C) designing new police stations.
- (D) all of the above.

7. The passage states that CPTED was developed by

- (A) police community relations units.
- (B) parking lot developers.
- (C) a master builder and municipal planner.
- (D) private security directors.

8. Based on the passage, CPTED would be least useful when

- (A) renovating a suburban train station.
- (B) renovating a shopping mall.
- (C) renovating a private residence.
- (D) renovating a public-access interior courtyard in a museum.

9. According to the passage, CPTED is most cost-effective

- (A) in renovations.
- (B) in new construction.
- (C) when combined with other uniformed patrol tactics.
- (D) when combined with plainclothes patrol tactics.

10. As a police officer, you would most likely be expected to have a knowledge of CPTED as a

- (A) homicide detective.
- (B) crime prevention officer.
- (C) crime scene investigator.
- (D) stationhouse sergeant.

四、Essay : ( 30 分 )

Write an essay on the topic: **Stress Management in Law Enforcement**

No job is immune from stress, but for the law enforcement officer, the strains and tensions experienced at work are unique, often extreme, and sometimes unavoidable. In your opinion, how to tackle this work-related stress? Write an essay on this issue.

# 中央警察大學 106 學年度碩士班入學考試試題

所 別：消防科學研究所、交通管理研究所

科 目：微積分（同等學力加考）

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一、請回答下列問題：

(一) 求  $\int \frac{1}{x^{1/2} - x^{1/4}} dx = ?$  (8 分)

(二) 求  $\int x \sinh x \, dx = ?$  (8 分)

(三) 求  $\int_1^4 \frac{\sqrt{x}}{(9 - x\sqrt{x})^2} dx = ?$  (9 分)

二、請回答下列問題：

(一) 求由曲線  $y = x^2$  與  $y = 4 - x^2$  所圍成之區域面積。(12 分)

(二) 求拋物線  $x^2 - 8y + 4 = 0$  與  $x^2 = 4y$  在第一象限所圍區域的重心。  
(13 分)

三、請回答下列問題：

(一) 求在  $x = \pi/4$  和  $x = \pi$  的範圍內， $f(x) = \sin(x)$  與  $g(x) = \cos(x)$  兩函數所圍成的平面面積。(8 分)

(二) 求  $\int \sin(6x) \cdot \cos(4x) \, dx = ?$  (8 分)

(三) 求  $\int \sin^5(x) \cdot \cos^4(x) \, dx = ?$  (9 分)

四、請回答下列問題：

- (一) 區域 A 為由  $y = x^2 + 2$ ,  $y = 1$ ,  $x = 0$ , 與  $x = 1$  所圍成的區域，求由區域 A 繞  $y$  軸旋轉所形成的旋轉物體之體積。(12 分)
- (二) 區域 B 為由  $y = x^3 + 2x + 1$ ,  $y = 1$ , 與  $x = 1$  所圍成的區域，求由區域 B 繞直線  $x = 2$  旋轉所形成的旋轉物體之體積。(13 分)

# 中央警察大學 105 學年度碩士班入學考試試題

所 別：消防科學研究所  
科 目：火災科學

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4. 不需使用計算機，可用中文答題。

一、請回答下列問題：

- (一) 請說明煙囪效應與溝渠（壕溝）效應的差異。(12 分)
- (二) 請推導煙囪效應所造成的壓差。(13 分)

二、請回答下列問題：

- (一) 請藉由物質的比熱、密度、熱傳導係數，說明熱慣量(thermal inertia)?  
熱擴散係數(thermal diffusivity)? (12 分)
- (二) 請推導熱薄性(thermally thin)物件，其溫度隨時間變化的方程式：

$$T = T_{\infty} + (T_0 - T_{\infty}) \cdot e^{\left(-\frac{Ah}{mc}t\right)}$$
，其中  $T$  為物件溫度， $T_{\infty}$  為熱氣流溫度， $T_0$  為物件初始溫度， $A$ 、 $m$ 、 $c$ ，分別為物件表面積、質量、比熱， $h$  為對流傳熱係數， $t$  為物件受熱時間。(13 分)

三、請回答下列問題：

- (一) Find the eigenvalues and the eigenfunctions.  $y'' + \lambda y = 0$ ;  $y(-3\pi) = y(3\pi)$ ,  
 $y'(-3\pi) = y'(3\pi)$ . (10 分)
- (二) Let  $f(x) = e^{2x}$  for  $0 \leq x \leq 1$ , find the Fourier cosine series and Fourier sine series for  $f(x)$  on the interval. (15 分)



四、對單一開口的室內火災燃燒時，在假設：室內空氣完全混合，熱空氣及冷空氣分別由開口中性帶上、下方流出與流入，且氣體進入與流出皆由浮力所造成，流入與流出氣體間相互作用力不計等條件下。請利用伯努利方程式 (Bernoulli equation)，依序推導求出：(25 分)

- (一) 熱空氣流出速度
- (二) 冷空氣流入速度
- (三) 流出室外的空氣質量流率
- (四) 流入室內的空氣質量流率

# 中央警察大學 105 學年度碩士班入學考試試題

所 別：消防科學研究所  
科 目：消防安全設備與檢查

作答注意事項：

1. 本試題共 4 題，每題各占 25 分；共 1 頁。
2. 不用抄題，可不按題目次序作答，但應書寫題號。
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- 一、為預防二氧化碳滅火設備於檢修過程設備機件發生誤動作或因檢修人員於檢修過程疏忽產生工安危害，故不管區劃空間或設備構件之外觀、性能或綜合測試，宜有一標準作業程序。請針對該設備高壓全區域放射方式，分就高壓啟動用氣體容器系統與電磁閥啟動系統繪圖說明檢修步驟。
- 二、近年來大量體建築物愈來愈多，這些建築物多依法設置防災中心，試就執行消防第二種檢查時，針對防災中心檢查之項目，說明防災中心應設置防災監控系統，其能監控或操作之消防安全設備有哪些？實務上，除前述設備外，因涉建築防火安全，亦經常納入監控的項目又有哪些？
- 三、開刀房、ICU 病房、呼吸照護病房等醫療作業空間，是否應設置自動滅火設備？上述空間其初期滅火需求的法定消防設備，以何種為宜？試申論說明之。
- 四、試說明俗稱常開式防火門或自動防火門設置之合法性？如要採用此類型防火門，則設於建築物內部何種空間，較符合需求？

# 中央警察大學 105 學年度碩士班入學考試試題

所 別：消防科學研究所  
科 目：消防實務

作答注意事項：

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- 一、由於閃爆燃很容易造成消防人員之傷亡，而閃燃與爆燃有各種定義，試以燃燒範圍來說明閃燃與爆燃現象？若你為火災現場之指揮人員，依此界定應如何作為，以避免閃燃或爆燃之發生，確保消防人員之安全？
- 二、某一火場懷疑有可能是使用乙炔切焊，因其切焊之焊渣掉落不慎所造成，若你為消防火調人員，請問其調查要領為何？試詳述之。
- 三、各級消防機關基於證物鑑定工作需要，得依循國際或國內相關之實驗室管理規範成立火災證物鑑定實驗室，試述實驗室人員之設置及實驗室人員之技術能力有哪些要求？又實驗室採用之鑑定方法應該有哪些確效之作為？
- 四、建築物起火後火勢燃燒猛烈，無法立即有效控制，此時應採取阻隔延燒策略，儘可能侷限火勢，避免擴大延燒。試述阻隔延燒的原則與方式？又火場火勢若已大致控制，後續仍須進行殘火處理，為避免影響後續消防工作的相關作為，殘火處理作為的處理要領為何？

# 中央警察大學 105 學年度碩士班入學考試試題

所 別：各所  
科 目：國文

作答注意事項：

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- 4.請以橫式書寫作答。

## 壹、解釋下列詞句之義：(每小題 10 分，共 50 分)

- 一、吾所以有大患者，為吾有身；及吾無身，有何患？(《老子·第十三章》)
- 二、為天下及國，莫如以德，莫如行義。以德以義，不賞而民勸，不罰而邪止，此神農、黃帝之政也。(《呂氏春秋·上德》)
- 三、事在四方，要在中央。聖人執要，四方來效。(《韓非子·揚權》)
- 四、凡戰者，以正合，以奇勝。故善出奇者，無窮如天地，不竭如江海。(《孫子兵法·勢篇》)
- 五、群臣陳其言，君以其言授其事，事以責其功。功當其事，事當其言則賞；功不當其事，事不當其言則誅。(《韓非子·二柄》)

## 貳、論文：50 分

顧炎武〈與友人論學書〉：「愚所謂聖人之道者如之何？曰：『博學於文』，曰：『行己有恥』。自一身以至於天下國家，皆學之事也；自子臣、弟友，以至出入、往來、辭受、取與之間，皆有恥之事也。恥之於人大矣。」請參酌前引古文之思想，以「現代警察的知識涵養與道德操守」為題，書寫論文一篇。

# 中央警察大學 105 學年度碩士班入學考試試題

所 別：各所

科 目：英文

作答注意事項：

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## 一、 Vocabulary and Phrases：(20 分)

1.digital evidence

2.informant

3.INTERPOL

4.polygraph

5.in the line of duty

6.The violence outside the city hall \_\_\_\_\_ soon after the police force put down the riot.

(A) expired                      (B) subsided                      (C) redirected                      (D) instilled

7.The police \_\_\_\_\_ the whole area after fires were discovered in the high-rise building.

(A) cordoned off    (B) congested with  
(C) posted to    (D) emancipated from

8.The accused \_\_\_\_\_ against the death sentence to the Supreme Court.

(A) adhered                      (B) accommodated                      (C) adjusted                      (D) appealed

9. \_\_\_\_\_ is a person who is involved with another in the commission of a crime whether as a principal or as an accessory.

- (A) Escort                      (B) Accomplice                      (C) Abettor                      (D) Informant

10. He gave a \_\_\_\_\_ to the police telling them how he killed his wife.

- (A) commitment    (B) narrator  
(C) commandment    (D) confession

## 二、 Translation : (30 分)

### (一) 中翻英 (10 分)

在全球化趨勢下，犯罪國際化日益嚴重。因此，「打擊跨國犯罪」已是全球警政的核心。我國亦積極與各國執法機關建立情報合作管道，蒐集運輸販毒、國際詐欺、恐怖活動、人口販運、武器走私、駭客入侵，網路洗錢等犯罪情資，期能掃蕩不法，使跨國犯罪無所遁形，民眾免於被害。

### (二) 英翻中 (20 分)

1. The treatment to be given the offender cannot alter the fact of the offense, but we can take measures to reduce the chance of similar acts occurring in the future. We should banish the criminal, not in order to exact revenge nor directly to encourage reform, but to deter that person and others from further illegal attacks on society.

2. A police officer is permitted to use the amount of force necessary only to overcome the resistance or aggression that is presented by the subject. When the resistance or aggression is reduced, the officer must reduce his or her force correspondingly.

## 三、 Reading Comprehension : (20 分)

### (一) 請依下文回答第 1 題至第 5 題

Marco Polo literally changed the Western view of the world. European maps in his time were 1 on Biblical interpretations and classical mythology. Jerusalem was at the center. At the margins the map-makers drew monsters and savages, because there, 2 the Christian center, Nature herself was believed



to be monstrous. Then 3 Polo's book *Travels*, describing great civilizations in the East, and a world not centered on Jerusalem, politically or geographically. This recasting of the world into a more dynamic and multi-centered geographical space was the first step toward 4 we now call globalization. *Travels* appeared in popular anthologies circulating in Europe in the 15th and 16th centuries. Christopher Columbus had an early copy, and made notes in the margins. He later 5 America while searching out a western route to Polo's Cathay.

1. (A) based            (B) place            (C) situated            (D) supported
2. (A) in the vicinity of            (B) far from  
    (C) in lieu of            (D) close to
3. (A) came            (B) existed            (C) lied            (D) stood
4. (A) which            (B) what            (C) that            (D) where
5. (A) jumped into            (B) took after  
    (C) bungled into            (D) diverged from

(二) 請依下文回答第 6 題至第 10 題

In recent years, issues of public and personal safety have become a major concern to many people around the world. Violent incidents in fast food restaurants, parking lots, hospitals, schools and colleges, and shopping malls have led many to seek greater security inside their homes and in many public buildings and areas as well. Sales of burglar alarms, motion detectors, and closed circuit television systems (CCTV) have skyrocketed since 2000. Convenience stores, gas stations, jewelry stores, and even the postal service have barricaded their staffs behind safety glass enclosures and focus cameras on many work stations that involve handling money. Communities employ private security forces and encourage homeowners to install alarm systems and other security devices. While some people sympathize with the reasons behind these efforts, others have voiced concern that these measures are helping to create a siege mentality. There is fear that such a mentality will lead to a general distrust of others among people that could foster a dangerous isolation within neighborhoods and among neighbors.

- 6.The passage suggests which of the following about community security?
- (A) Communities are more dangerous today than they were before the year 2000.
- (B) Too much concern for security could destroy trust among neighbors.
- (C) Poor security has led to an increase in public violence.
- (D) Isolated neighborhoods are unsafe neighborhoods.
- 7.The word *foster* in the last sentence most nearly means
- (A) adopt                      (B) encourage                      (C) prevent                      (D) secure
- 8.The author believes that
- (A) More security is needed to make neighborhoods safer.
- (B) People should spend more on home security.
- (C) People should not ignore the problems created by excessively safety concerns.
- (D) Security devices are the best protection against violent crime.
- 9.According to the author, security devices have skyrocketed since 2000. What does it mean?
- (A) People like to live a life full of variety of security devices.
- (B) The need of security devices has dramatically increased among people.
- (C) The prices of security devices are on the increase.
- (D) Security devices have changed a lot since 2000.
- 10.In the second last sentence, the phrase *siege mentality* means
- (A) hostility                      (B) defensiveness                      (C) fear                      (D) corruption

#### 四、Essay : (30 分)

Write an essay on the topic : **Police Visibility**

Do you agree or disagree with the following statement ?

Increasing police visibility is a good policy to better public security.

Use specific reasons and examples to support your opinion.