

中央警察大學 101 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：

- 1.本試題共 2 大題，每大題各占 50 分；共 1 頁。
- 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。
- 4.請以橫式書寫作答。

壹、解釋下列語句之義：(每小題 10 分，共 50 分)

- 一、盡其心者，知其性也；知其性，則知天矣。存其心，養其性，所以事天也；夭壽不貳，修身以俟之，所以立命也。(《孟子》)
- 二、為天下及國，莫如以德，莫如行義。(《呂氏春秋》)
- 三、從心而動，不違自然所好；順性而遊，不逆萬物所好。(《列子》)
- 四、夫腹飢不得食，膚寒不得衣，雖慈母不能保其子，君安能以有其民哉？(《論貴粟疏》)
- 五、天地有正氣，雜然賦流形。下則為河嶽，上則為日星。於人曰浩然，沛乎塞蒼冥。(《正氣歌》)

貳、論文：50 分

題目：子曰：君子固窮，小人窮斯濫矣。

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一、 Vocabulary：(20 分)

1. _____ is the pat-down of a person's outer clothing after a stop to see if the suspect has a weapon or something that feels like a weapon, which can be seized by the officer.
(A) Search (B) Arrest
(C) Frisk (D) Crack-down
2. Sharp objects and flammable items are _____ on the aircraft.
(A) prohibited (B) promoted
(C) admitted (D) permitted
3. _____ is the crime of deceiving people in order to gain something such as money or goods.
(A) Piracy (B) Murder
(C) Larceny (D) Fraud
4. Technical curricula are requisite in a wide range of fields.
(A) assimilated (B) promoted
(C) demanded (D) acquired
5. The expansion of public services has caused concern that the civil service branches are becoming autonomous powers.
(A) independent (B) advanced
(C) superior (D) perilous
6. Crowd behavior is characterized as a spontaneous collective reaction to a publicly observed event.
(A) chaotic (B) gratifying
(C) instinctive (D) uninterrupted
7. Because of his novel approaches to scientific problems, Edison was able to patent dozens of inventions.
(A) original (B) varied
(C) coherent (D) unbiased
8. The fire salamander is so called because of an antiquated belief that it could withstand fire.
(A) well-developed (B) old-fashioned
(C) carefully fabricated (D) widely held
9. The engineer had a _____ reason for changing the design of the building.
(A) peculiar (B) legitimate
(C) sharp (D) subsequent

10. The recent downturn in the housing industry _____ the poor economic conditions.
(A) radiates (B) symbolizes
(C) spans (D) synthesizes

二、Translation : (30 分)

1. Policy assessment studies in the 1970s cast doubt on the effectiveness of these strategies for preventing crime. For instance, the experimental study of preventive patrol in Kansas City found that changing the level of patrol coverage had no effect on crime and citizen fear of crime. Other evaluative research showed that rapid response to calls for service from citizens didn't increase the likelihood of preventing a crime or apprehending an offender. Finally, evidence from dozens of studies suggests that traditional police strategies to reduce, control, or prevent crime are ineffective.
2. The safeguards introduced under the Police and Criminal Evidence Act, such as an impartial custody officer, a right to free legal advice, strict time limits on the length of detention and the tape-recording of interviews, have subsequently made it more difficult for the police to engage in 'fishing expeditions', to detain suspects without firm grounds for doing so, to make informal deals with them or to apply physical or psychological pressures to induce them to confess.
3. In a study of miscarriages of justice in the USA where the convicted person had subsequently been completely exonerated as a result of DNA testing, it was found that the most common contributory factor was mistaken identity, which occurred in 52 percent of the cases. Caucasians misidentified African-Americans defendants in 35 percent of the cases, but African-Americans also misidentified other African-Americans in 24 percent of the cases.

三、Reading Comprehension : (20 分)

Concern for the environment in the US extends back into the nineteenth century, when nature lovers and sports enthusiasts first sought protection for areas of exceptional natural beauty or significance. But it was not until the late 1960's that environment concerns entered the mainstream of American political debate. By then many Americans had come to the conclusion that more development was not necessarily desirable, especially if it meant more polluted air, drying lakes and rivers, and a landscape strewn with unsightly waste, and crowded with sprawling construction projects. In May of 1970, several environmental groups staged the first Earth Day celebration, designed to heighten public awareness of environmental problems. The success of that initial effort led to it becoming a regular annual event.

During the 1950s and 1960s, industrial and vehicle pollution levels had become a serious threat to public health, so the environmental movement of this period focused heavily on restoring and ensuring the cleanliness of basic air and water supplies. Rapidly expanding development pressures were also **spurring** efforts to preserve unique lands and threatened wildlife habitats, and to protect the endangered species supported by them before they vanished into extinction. It is generally accepted that the environmental protection movement was so successful because of its grass roots support; groups of activists in hundreds of towns that took the initiative in cleaning up their own communities. During the 1970s, this local activism reinforced support for the passage of key laws at the national level, such as the Clean Water Act, Clean Air Act, Endangered Species Act, and National Environmental Policy Act, which together

have constituted the foundation for environmental standards in the US ever since.

In addition to this national legislation, the year after the first Earth Day, by executive order, President Nixon established the Environmental Protection Agency (EPA); an organization dedicated to restoring and protecting the environment. The EPA **spearheaded** many contemporary efforts to protect the environment, but it was not working alone. It was allied with a wide variety of distinctly different and separate organizations ranging from a small number of well-funded high-profile national and international organizations to many thousands of smaller special interest groups and even individuals working at the local level. The EPA has now become one of the government's largest and most influential regulatory agencies. Through its own efforts and in cooperation with other organizations, it has earned a large measure of credit for protecting and restoring the quality of the environment in the United States.

Although one might assume that the cause of environmental protection would engender universal support, it does have its detractors. One criticism that has been leveled against the movement is the claim that its predictions about the **dire** consequences of environmental damage have often been in error. Environmentalists counter this assertion by pointing out that their warnings have often brought about changes on the part of the public, the government and private industry, and that these changes prevented the predictions from being realized. However, just as it is often very difficult to gauge the impact of human activity on something as complex as the environment, it is equally difficult to determine which side is right in this debate. Because environmental issues cover such a wide range of concerns, this is a question that must be considered on a case by case basis. These voices of **dissent** have demonstrated to environmentalists the need to apply quantitative methods in assessing the extent of the destruction they have witnessed, or the degree to which their work has been manifested in actual improvement of the environment.

However vocal the critics of environmental protection efforts may be, given the very considerable body of environmental legislation that exists, it is safe to assume that their views do not represent the majority opinion. Private advocacy groups, the EPA, state legislatures and Congress have worked together to enact numerous laws regarding air and water quality, land use and waste management. That should be evidence enough of the broad extent of the popular support that underlies the movement.

1. On which of the following does the passage mainly focus?
 - (A) Earth Day's impact on the environmental movement.
 - (B) How to protect the environment of the planet.
 - (C) The environmental protection movement, and how it began.
 - (D) The success of the EPA in protecting natural resources.
2. The word **spurring** in the passage is closest in meaning to
 - (A) opposing
 - (B) managing
 - (C) supporting
 - (D) motivating
3. According to paragraph 2, why was the environmental protection movement so widely successful?
 - (A) It protected plants and animals people cared about.
 - (B) It functioned well at the local level.
 - (C) It voted unsympathetic politicians out of office.
 - (D) It forced ratification of important national laws.

4. Which president established the EPA?
 (A) Roosevelt (B) Clinton
 (C) Nixon (D) Obama
5. The word **spearheaded** in the passage is closest in meaning to
 (A) led (B) inspired
 (C) conceived (D) modified
6. According to paragraph 4, what was a common criticism of the environmental movement?
 (A) It suggested measures that would harm the economy.
 (B) Its predictions could not be prevented through practical action.
 (C) That it lacked the support needed to make any real progress.
 (D) The environmental damage it claimed was not seen.
7. According to the passage, what effect did the criticism of the environmental movement have?
 (A) It caused the environmentalists to change their methods.
 (B) It decreased federal assistance for environmental protection.
 (C) It diminished popular support for the EPA.
 (D) It revitalized support for the environmental protection movement.
8. Which of the sentences below best expresses the essential information in the underlined sentence in the passage?
 (A) Critics of the movement were successful in dissuading many environmentalists from supporting some of the more drastic measures that had been suggested by questioning the quantitative methods they employed.
 (B) Opponents of the environmental protection movement succeeded in getting the activists to take another, more objective, approach to substantiating their claims.
 (C) People who disagreed with the environmentalists eventually were able to persuade many that the methods employed by the environmental movement were invalid and their conclusion incorrect.
 (D) Members of environmental groups were reluctant to employ quantitative methods in assessing environmental damage because they felt the results might not substantiate their claims.
9. The word **dire** in the passage is closest in meaning to
 (A) unrealized (B) possible
 (C) grave (D) imaginary
10. The word **dissent** in the passage is closest in meaning to
 (A) opposition (B) support
 (C) indifference (D) ambivalence

四、Essay : (30 分)

Write an essay on the following topic: **Information technology in policing and its impacts**

中央警察大學 101 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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一、有一居室之長寬高分別為 10M*10M*4M，今在該居室地板面之中心點有一大小為 1Mw 之穩態火災，試問該火災之天花板熱氣流(Ceiling Jet) 初到達天花板之角落時，其流速為何？(已知： $\sqrt{2}=1.4$ ， $7^{5/6}=5$) (25 分)

二、試從 Pyrolysis Rate 和 Burning Rate 之觀點，探討區劃空間火災 (Compartment Fire)和開放空間火災(Open Space Fire)之相同與相異點。(25 分)

三、請回答下列問題：

(一) Please describe two examples for each of continuous random variables and “nominal data” (名目資料) relating to fire sciences.(5 分)

(二) Define “mutually exclusive” and “sampling distribution”. (5 分)

(三) If $f(x) = \frac{1}{\sqrt{2\pi}2} e^{-\frac{1}{2}(\frac{x-4}{2})^2}$, then $E(X^2)=?$ (No integral!) (5 分)

(四) Concerning simple random sampling, what distribution does each of the statistics $(\frac{\bar{x}-\mu}{\sigma/\sqrt{n}})$ and $(\frac{\bar{x}-\mu}{s/\sqrt{n}})$ follow if (1) the population is normal and n is small? (2) the population is not normal and n is large? (5 分)

- (五) Describe the merits or characteristics of cluster sampling (叢式抽樣或部落抽樣) method. (5 分)

四、請回答下列問題：

- (一) Suppose that fires in a compartment can be classified into three types with given probabilities: F_1 : Smouldering fire, $P(F_1)=0.2$; F_2 : Flaming fire, $P(F_2)=0.4$; F_3 : Flashover fire, $P(F_3)=0.4$. Let D denote the event of death and suppose that $P(D|F_1)=0.01$, $P(D|F_2)=0.3$, $P(D|F_3)=0.699$, find out the probability of death of an occupant in a compartment fire.(6 分)
- (二) If $X_1, X_2, \dots, X_{10} \sim \text{iid } N(0, 1)$, find out the distributions of the following random variables : (1) $(X_1^2 - X_2^2)/2$; (2) $(X_1^2 + X_2^2 + \dots + X_5^2)/(X_6^2 + X_7^2 + \dots + X_{10}^2)$;
(3) $X_1 / \sqrt{X_2^2 + X_3^2 + \dots + X_{10}^2}$ (9 分)
- (三) 某種健身減肥活動聲稱 3 個月可以達到減肥 5 公斤以上的效果，隨機抽樣 36 位參與此項活動的人，結果 36 位平均減輕體重 5.5 公斤，減輕體重的標準差是 1.2 公斤。(1)寫出檢定的虛無假設與對立假設。(2)請問：此項活動是否達到其聲稱可減肥 5 公斤以上的目標？ ($\alpha=0.05$, $t_{35, 0.05} = 1.690$, $t_{35, 0.025} = 2.030$, $z_{0.025} = 1.96$) (10 分)

中央警察大學 101 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：

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- 一、試申論如何透過 Heat Release Rate 與時間的比對關係，在所選用的火警探測器連動作用下，及時啟動之滅火設備才能達成預擬的消防安全目標。(25 分)
- 二、試比對感知撒水頭與一般型滅火用密閉式撒水頭之安裝高度限制，並申論其理由與依據。(25 分)
- 三、97 年間中部某醫學中心附設停車塔地下室，因檢修二氧化碳系統，誤將放射區之二氧化碳鋼瓶釋放，造成檢修人員陷入昏迷狀態；試就前項系統採集中鋼瓶方式，以電磁閥啟動鋼瓶來設計兩空間全區防護，請以前述設計方式繪製概念系統圖，並依所繪製系統圖構件，說明檢修時之作業程序。(25 分)
- 四、試就現行防火安全工程實務，針對"各類場所消防安全設備設置標準"，有關滅火、警報、避難及消防搶救必要設備等設置，列舉四項以上合於規範要求，但不是合理設計而難以達到設備預期功能之案例。(25 分)

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科 目：消防實務

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- 一、當災害事故愈大時，災害現場救災資源的管理就愈重要，唯有良好的救災資源管理，才能確保消防救災的順利。請依據 ICS(Incident Command System)的作業觀念，說明救災資源的分類為何？同時，災害現場救災資源應如何妥善管理？（25 分）
- 二、火災現場的救災安全管理對於消防人員的生命安危影響頗大，尤其火場安全官的作為更是重要。請說明火場安全官的職責為何？同時，請以某一半導體科技工廠火災為例，說明火場安全官應如何作為，才能確保全體救災人員的安全。（25 分）
- 三、氧乙炔之切焊所引起之火災，其有可能是切焊火花掉落所引起，亦有可能是本身逆火(回火)所引起，請問其識鑑要領為何？（25 分）
- 四、車輛火災之鑑識若懷疑與使用之油類有關，請問一般車輛會使用之油類有那些？各有何特性？相關之鑑識要領為何？（25 分）

中央警察大學 102 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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一、請回答下列問題：

- (一) Describe “moment generating function” and “pooled sample variance” of independent sample t-test.
- (二) With linear regression analysis, what does Least Square Method and Normal Equations mean ?
- (三) Specify a reasonable or suitable probability density function (not mass function) for describing possible fire risk (i. e. random variable or function) and its statistics (統計量). Also, describe the purposes of Chi-Square test.
- (四) With reference to simple random sampling, what does the distribution (if any applies) of the statistics $(\frac{\bar{x}-\mu}{\sigma})^2$ follow if the population is normal and n is small? What does “standard error” mean?
- (五) Define “significant level” and “power of test”.

二、火藥及炸藥均屬爆炸性物質，具有化學不穩定性，在一定外因的作用之下，能以極快的速度發生猛烈的化學反應，產生的大量氣體和熱量無法於短時間內逸散，致使周圍的溫度迅速升高，產生巨大壓力而引起爆炸。請說明一般爆炸性物質具有哪些特性？並請寫出下列兩種火（炸）藥受熱而分解爆炸之反應方程式：

- (一) 組成為 $\text{KNO}_3 : \text{S} : \text{C}$ 為 75 : 10 : 15 之黑色火藥
- (二) 成分為 $\text{C}_3\text{H}_5(\text{ONO}_2)_3$ 之硝化甘油

三、請回答下列問題：

- (一) An electrical firm manufactures light bulbs that have a length of life that is approximately normally distributed with a mean 40 weeks and standard deviation of 14 weeks. If 49 bulbs are randomly sampled from the firm, find the probability that the sample mean of 49 bulbs exceeds 42 weeks. (7 分)
- (二) Suppose that the five random variables X_1, X_2, \dots, X_5 , are i.i.d. and each has a standard normal distribution. Determine a constant c such that the random variable $c(X_1 + X_2) / \sqrt{X_3^2 + X_4^2 + X_5^2}$ will have a t distribution. (8 分)
- (三) A random sample of 8 cigarettes of a certain brand has an average nicotine content of 2.6 milligrams and a standard deviation of 0.9 milligram. Construct a 99% confidence interval for the true average nicotine content of this particular brand of cigarettes, assuming the distribution of nicotine contents to be approximately normal. (10 分)

Possibly useful data: ($z_{0.025} = 1.96$, $z_{0.005} = 2.58$, $P(Z \leq -1) = 0.1587$, $t_{8, 0.005} = 3.355$, $t_{7, 0.005} = 3.499$, $t_{8, 0.025} = 2.306$)

四、鈉 (Na)、過氧化鈉 (Na_2O_2)、磷化鋅 (Zn_3P_2)、碳化鈣 (CaC_2) 及碳化鋁 (Al_4C_3) 均屬禁水性之物質，其與水接觸即會發生化學反應，因而致生公共危險。試寫出此五種物質與水作用之化學反應方程式，並說明其危害性？

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壹、解釋下列語句之義：(每小題 10 分，共 50 分)

- 一、子曰：「三年學，不至於穀，不易得也。」(《論語·泰伯》)
- 二、古者四民異業而同道，其盡心焉，一也。(王陽明〈節菴方公墓表〉)
- 三、昔大禹鑿九山，通九江，用人力極廣，而無怨讟者，物情所欲，而眾所共有故也。(《貞觀政要·論儉約》)
- 四、固知一死生為虛誕，齊彭殤為妄作。(王羲之〈蘭亭集序〉)
- 五、廷尉，天下之平也，一傾而天下用法皆為輕重，民安所措其手足？(《史記·張釋之列傳》)

貳、論文：50 分

《孫子兵法·九變》云：「將有五危：必死，可殺也；必生，可虜也；忿速，可侮也；廉潔，可辱也；愛民，可煩也。凡此五者，將之過也。用兵之災，覆軍殺將，必以五危，不可不察也。」請參酌前引古文思想，以「危機管理中的情緒管理」為題，書寫論文一篇。

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一、Vocabulary and Phrases into English or Chinese：(20 分)

- | | |
|------------|------------------------|
| 1. 認罪協商 | 6. red-handed offender |
| 2. 陰謀論 | 7. vehicle impoundment |
| 3. 炸彈客 | 8. security breach |
| 4. 自白 | 9. malefactor |
| 5. 舞水端中程飛彈 | 10. avian influenza |

二、Passage Translation：(30 分)

1. For many years, the law enforcement community has attempted to detect impaired drivers through numerous innovative efforts and measures. The problem of driving under the influence is well known throughout society, yet, even with all of the strategies used to remove these drivers from U.S. highways, it continues to cause needless and tragic loss of life each year. When will such madness end? When will society no longer tolerate drunk driving? Until that time, the law enforcement community must attempt to contain the carnage inflicted upon law-abiding citizens by impaired drivers.
2. 紐約市的美國銀行(Bank of America)遭到搶劫。兩名戴著面罩、武裝的搶匪進入銀行。有位女性共犯在幫助搶匪逃跑的車內等候他們。當搶匪跳到櫃台取走金錢後，其中一位搶匪進入金庫並企圖搶走更多的現金。很快地，搶匪離開了銀行，而在跳進車內時，掉了一包袋子。不久之後，一位制服巡邏員警發現這部協助嫌犯脫逃的車輛被棄置在距離銀行幾哩的地方。哪裡是第一犯罪現場？而哪裡又是第二犯罪現場？

三、Reading Comprehension : (20 分)

(I)

Internet dating has gone from daring to dull. As a result, many singles these days are looking to their cell phones instead of their laptops in an effort to locate love.

Cell phone technology now allows users to post tiny photographs and mini-profiles to a dating service mailbox, which can be visited by other cell phone users in search of a date. When a profile looks promising, users use their phones to send a text message to their person of interest.

Some phone dating services also are experimenting with ways to turn cell phone into homing devices. In other words, the phones can alert users to potential dates who may be just a short distance away — or, at the other end of the bar.

Europeans are heavily into phones dating, and China, which has 430 million cell phone users, also has embraced “mobile romance.”

The wireless service providers love phone dating, too, because all that text messaging pumps up their revenues. Analysts estimate that global mobile dating revenues were US \$31 million in 2005; by 2009, that figure is projected to reach US \$215 million.

Some people say that phone dating is more about flirting than about serious romance. “People who want to use their mobile devices are more interested in short-term relationships than people who want to use their computers,” said an officer of Match.com, a service with a quarter-million mobile users.

But, who really can say for sure. The next time the cell phones rings, it could be one calling Cupid.

1. Which is the function the dating service can offer through cell phones?
 - (A) Alerting users to potential dates.
 - (B) Increasing user’s revenues.
 - (C) Holding a wedding.
 - (D) Giving a gift to possible dates.
2. How can someone get information on any possible date on their cell phones?
 - (A) By asking the operator.
 - (B) By making an emergency call.
 - (C) By using a laptop.
 - (D) By looking at mini-photos in a dating mailbox.
3. Who may gain the most advantage of cell phone dating economically?
 - (A) Users.
 - (B) Possible dates.
 - (C) The wireless service suppliers.
 - (D) The store owners.

4. What are cell phone romance seekers often interested in?
- (A) Shorter-term relationship.
 - (B) Getting a new laptop.
 - (C) Finding other phone users.
 - (D) Short distance calling.
5. According to this passage, which of the following statements is **NOT** true?
- (A) Many unmarried people use their cell phones rather than laptops to locate love.
 - (B) Match.com has two hundred thousand mobile users,
 - (C) European people like phone dating.
 - (D) Internet dating has gone from daring to uninteresting.

(II)

Outstanding opportunity with local real estate corporation. Requires strong background in real estate, financing, closing. Some legal training helpful. Prefer candidate with M.A. and two or more years of successful real estate experience. Broker's license required. Salary range \$16,000-\$23,000 commensurate with education and experience. Begin immediately. Interviews will be conducted Tuesday and Thursday, June 10 and 12. Call for an appointment 243-1153, or send a letter of application and résumé to:

Personnel Department
Executive Real Estate Corporation
500 Capital Avenue
Lawrence, Kansas 67884

6. Which of the following is **NOT** a requirement for the job advertised?
- (A) At least two years experience.
 - (B) A broker's license.
 - (C) An M.A.
 - (D) Extensive legal training.
7. The salary range indicates that
- (A) everyone earns a beginning salary of \$16,000.
 - (B) the salary depends upon the amount of education and work experience that the applicant has.
 - (C) some applicants would earn less than \$16,000.
 - (D) candidates with an M.A. would earn \$23,000.

8. What should an interested candidate submit with his or her application?

- (A) A current address and telephone number.
- (B) A signed contract.
- (C) A summary of work experience.
- (D) A request for employment.

9. This passage would most probably be found in

- (A) the classified section of a newspaper.
- (B) a college catalog.
- (C) a textbook.
- (D) a dictionary.

10. Real estate employees would most probably

- (A) persuade people to buy insurance.
- (B) sell houses.
- (C) give professional opinions on personnel management.
- (D) teach people how to do bookkeeping.

四、Essay : (30 分)

Write an essay on the following topic. The length of your essay should be no less than 100 words and no more than 200 words.

How to Create an Anti-Graft Society

中央警察大學 102 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。
3. 禁用鉛筆作答，違者不予計分。

- 一、國內依各類場所消防安全設備設置標準第 18 條而設置之全區放射式 CO₂ 滅火設備到處可見，也曾發生誤動作而致人傷亡之災例；為防護此類既存合法 CO₂ 滅火設備之人命安全目標，在世界性之消防工程實務上，有哪些可行之補強措施？試申論之。
- 二、核能發電廠內存有各種發電作業相關之機房設施與作業空間，試問針對電廠內專門用來存放活性碳材質之作業空間，依境況需求與防護目標，應選用具有何種性能之火警探測器？理由何在？
- 三、化學系統滅火設備中的海龍替代藥劑系統，基於滿足建築物安全設計目標及世界性工程基準 NFPA 2001 的規定，試分析在表面火災和深層火災(deep seated fires)在滅火需求之特性上，若適用場所採全區放射方式規劃時，請討論其藥劑濃度適當量設計考量原則為何？目前內政部消防署潔淨藥劑滅火設備（通案）申請審核認可注意事項為何？請以 INERGEN 系統為例，試繪出化學系統滅火設備昇位圖、流程圖及列出所需藥劑量之計算公式？其探測偵知連動放射藥劑的火警探測器種類型式及回路設計方式以何者為佳？試申論說明之。
- 四、公共危險物品之製造、儲存或處理場所依其面積、儲存量、場所特性及物品所具燃燒或爆炸之性質，考量其操作溫度及閃火點等明訂「顯著滅火困難場所」之範圍，請說明何謂「各類場所消防安全設備設置標準」所規定之「顯著滅火困難場所」？若以室外儲槽儲存閃火點在攝氏四十度以下之第四類公共危險物品之顯著滅火困難場所者，且設於岸壁、碼頭或其他類似之地區，並連接輸送設備者，有關設置固定式泡沫滅火設備及泡沫射水槍滅火設備規定內容為何？

中央警察大學 102 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：

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。
3. 禁用鉛筆作答，違者不予計分。

- 一、有關火災案件出庭作證時的證言分為事實證言（Fact Witnesses）和專業證言（Expert Witnesses）兩大類，請依照我國刑事訴訟法的內容說明這兩類證言的內容和作證者的身分有何不同？
- 二、火災原因調查報告事關民眾權益至鉅，一般為求報告書的品質，會建立有效的審查制度。請列表說明行政審查（Administration Review）、技術審查（Technical Review）和同儕審查（Peer Review）的定義、內容、審查者和應用時機的異同。
- 三、近幾年醫院火災事故案例中，發現消防防護計畫書難以符合第一線應變人員（first responders）初期應變 R.A.C.E.的需求，請就消防防護計畫書所規範項目中，實務上常見不合理及未能針對場所特性的計畫書內容，嘗試提出指導建議，讓計畫書更符合醫護人員初期應變的實際需要。
- 四、就建築防火安全體系而言，消防安全檢查係掌握建築火災危險因子及確保火災時建築物設施設備正常功能，以防護建築物內生命財產安全之法定行政作為；試說明現行法制體系下有關「消防安全檢查」的內容包括哪些？並說明各類檢查實施方式及其重點為何？

中央警察大學 103 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：

1. 本試題共 4 題，每題各占 25 分；共 2 頁。
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。
4. 不需使用計算機，可用中文答題。

一、請繪圖說明煙囪效應對於火災煙氣流動的影響效果為何？此種影響效果對於火場指揮官的救災判斷有何意義？

二、請說明肇因電氣因素形成絕緣破壞而生火災之現象有哪些？為防止這些現象造成火災，應有的防火宣導對策為何？

三、請回答下列問題：

(一) Find $\left[\int_{-\infty}^{\infty} z^2 \frac{1}{\sqrt{2\pi}} e^{-\frac{1}{2}z^2} dz \right] - \left[\int_{-\infty}^{\infty} z \frac{1}{\sqrt{2\pi}} e^{-\frac{1}{2}z^2} dz \right] + \left[\int_{-\infty}^{\infty} \frac{1}{\sqrt{2\pi}} e^{-\frac{1}{2}z^2} dz \right]^2 = ?$ (7 分)

(二) Let x_1, x_2, \dots, x_{25} , be a random sample of size 25 from $N(0, \sigma^2)$

Determine a constant k such that $P(-k \leq \frac{S}{\bar{X}} \leq k) = 0.95$. The coefficient of variation is defined as the ratio of standard deviation (S) to mathematical mean (\bar{X}). (18 分)

Possibly useful data: From F table $P(F_{24,1} \geq 249.052) = 0.95$,
from Z table $P(Z \leq 1.645) = 0.95$

四、請回答下列問題：

- (一) Could “mutually independent” and “mutually exclusive” occur simultaneously given that $P(E) \neq 0$ and $P(F) \neq 0$? Describe or show your results or proof in terms of event E and F. (5 分)
- (二) Describe (1) the difference between “standard deviation” and “standard error” (2) total probability theorem. (5 分)
- (三) A prisoner is trapped in a cell containing three doors. The first door leads to a tunnel that returns him to his cell after two days of travel. The second leads to a tunnel that returns him to his cell after three days of travel. The third door leads immediately to freedom. Assuming that the prisoner will always select doors 1, 2, and 3 with probabilities 0.5, 0.3, 0.2, what is the expected number of days until he reaches freedom? (15 分)

中央警察大學 103 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：

- 1.本試題共 2 大題，每大題各占 50 分；共 1 頁。
- 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。
- 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、民不畏死，奈何以死懼之？若使民常畏死，而為奇者，吾得執而殺之，孰敢？（《老子·第七十四章》）
- 二、百戰百勝，非善之善者也；不戰而屈人之兵，善之善者也。（《孫子·謀攻》）
- 三、非我而當者，吾師也；是我而當者，吾友也；諂諛我者，吾賊也。（《荀子·修身》）
- 四、文武不備，良民懼然身修者，官未曾亂也。奉職循理，亦可以為治，何必威嚴哉？（《史記·循吏列傳》）
- 五、天下不可以力勝，神祇不可以親恃。惟當弘儉約，薄賦斂，慎終始，可以永固。（《貞觀政要·納諫》）

貳、論文：50 分

題目：王陽明《傳習錄》：「未有知而不行者；知而不行，只是未知。」
請參酌前引古文思想，以「論知與行」為題，寫作論文一篇。

說明：

- 一、文言、白話不拘。
- 二、須分段，並使用標點符號。
- 三、字跡不可潦草。
- 四、字數不得少於五百字。

中央警察大學 103 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：

- 1.本試題共 4 大題；共 4 頁。
- 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、Vocabulary and Phrases translation：(20 分)

- 1、公部門
- 2、犯罪俚語
- 3、線民
- 4、引渡
- 5、鄰里守望相助計畫
- 6、a motor bike
- 7、acute stress disorder
- 8、cloned cars
- 9、electronic monitoring
- 10、intelligence apparatuses

二、Translation：(30 分)

- 1、We have investigated the alarm and there is a small fire on the fourth floor. The fire department has arrived and the fire has been contained. We are asking everyone to leave the building in an orderly fashion. Exit through stairwell B on the south side of the building.
- 2、As people start using their smart phones to tap into computer networks, the damage caused by malware could grow more severe. If smart phones serve as payment devices, malware that nabs your identity and taps directly into your credit line could follow.
- 3、In an unprecedented effort to save the species, South Africa has bought new ships equipped with top-of-the-line military night-vision equipment. They've also begun testing seized boats for DNA to prove they were used in abalone harvesting.

三、Reading Comprehension : (20 分)

Most people can remember a phone number for up to thirty seconds. When this short amount of time **elapses**, however, the numbers are erased from the memory. How did the information get there in the first place? Information that makes its way to the short term memory (STM) does so via the sensory storage area. The brain has a filter which only allows stimuli that is of immediate interest to pass on to the STM, also known as the working memory.

There is much debate about the capacity and duration of the short term memory. The most accepted theory comes from George A. Miller, a cognitive psychologist who suggested that humans can remember approximately seven chunks of information. A chunk is defined as a meaningful unit of information, such as a word or name rather than just a letter or number. Modern theorists suggest that one can increase the capacity of the short term memory by chunking, or classifying similar information together. By organizing information, one can optimize the STM, and improve the chances of a memory being passed on to long term storage.

When making a conscious effort to memorize something, such as information for an exam, many people engage in "rote rehearsal". By repeating something over and over again, one is able to keep a memory alive. Unfortunately, this type of memory maintenance only succeeds if there are no interruptions. As soon as a person stops rehearsing the information, it has the tendency to disappear. When a pen and paper are not handy, people often attempt to remember a phone number by repeating it aloud. If the doorbell rings or the dog barks to come in before a person has the opportunity to make a phone call, he will likely forget the number instantly. Therefore, rote rehearsal is not an efficient way to pass information from the short term to long term memory. A better way is to practice "**elaborate** rehearsal". This involves assigning semantic meaning to a piece of information so that it can be filed along with other pre-existing long term memories.

Encoding information semantically also makes **it** more retrievable. Retrieving information can be done by recognition or recall. Humans can easily recall memories that are stored in the long term memory and used often; however, if a memory seems to be forgotten, it may eventually be

retrieved by prompting. The more **cues** a person is given (such as pictures), the more likely a memory can be retrieved. This is why multiple choice tests are often used for subjects that require a lot of memorization.

- 1 、 According to the passage, how do memories get transferred to the STM ?
 - (A) They revert from the long term memory.
 - (B) They enter via the nervous system.
 - (C) They get chunked when they enter the brain.
 - (D) They are filtered from the sensory storage area.
- 2 、 The word **elapses** in paragraph 1 is closest in meaning to :
 - (A) continues
 - (B) adds up
 - (C) appears
 - (D) passes
- 3 、 All of the following are mentioned as places in which memories are stored EXCEPT the :
 - (A) STM
 - (B) long term memory
 - (C) sensory storage area
 - (D) maintenance area
- 4 、 Why does the author mention a dog's bark ?
 - (A) To provide a type of interruption
 - (B) To give an example of a type of memory
 - (C) To prove that dogs have better memories than humans
 - (D) To compare another sound that is loud like a doorbell
- 5 、 How do theorists believe a person can remember more information in a short time ?
 - (A) By organizing it
 - (B) By repeating it
 - (C) By giving it a name
 - (D) By drawing it

- 6 、 The author believes that rote rehearsal is :
(A) the best way to remember something
(B) ineffective in the long run
(C) more efficient than chunking
(D) an unnecessary interruption
- 7 、 The word **it** in the last paragraph refers to :
(A) encoding
(B) information
(C) semantics
(D) STM
- 8 、 The word **elaborate** in paragraph 3 is closest in meaning to :
(A) pretty
(B) efficient
(C) complex
(D) regular
- 9 、 Which of the following is NOT supported by the passage ?
(A) The working memory is the same as the short term memory.
(B) A memory is kept alive through constant repetition.
(C) Multiple choice exams are the most difficult.
(D) Cues help people to recognize information.
- 10 、 The word **cues** in the passage is closest in meaning to
(A) clues
(B) questions
(C) images
(D) tests

四 、 Essay : (30 分)

Write an essay on the following topic. The length of your essay should be no less than 100 words and no more than 200 words. In your opinion, does "Sunflower Movement" create a new threat to Taiwan's national security ?

中央警察大學 103 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 2 頁。
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、近年來化學系統消防安全設備因考慮釋放後對環境的影響，致國內消防工程使用潔淨藥劑滅火設備案件越來越多，試求：

- (一) 請列舉三種現常被選用鹵化烷化合物系列或惰性氣體等潔淨藥劑之化學式及滅火原理，並繪製其系統動作設計流程圖、平面圖。
- (二) 若擬於電氣設備室（使用電壓超過 480V 通電狀態下）或檔案室、圖書館書庫、醫院病歷室等（有可能發生深層火災(deep seated fires)場所）設置潔淨藥劑滅火設備時，為能有效撲滅火災，其依據法規、設計濃度、氣密措施等配套條件為何？試申論之。
- (三) 當送內政部消防署申請潔淨藥劑滅火設備個案審核認可時，應檢附審核資料內容及審查注意事項為何？
- (四) 於驗收或消防檢查時，如何進行測試以確保火災發生時，系統能達到真正滅火之功效？並說明氣密測試（Enclosure Integrity Testing）方法及在藥劑設計濃度下，判定氣密測試合格之條件為何？

二、某棟建築物於特別安全梯排煙室與緊急昇降機間設置排煙、進風風管兼用機械式排煙設備，試問該居室及排煙室之排煙設備的進氣量及排煙量各為多少立方公尺？並自行舉一例繪製特別安全梯與緊急昇降機間共用排煙室之建築平面圖及消防安全設備設計圖來說明設計理念、目的、法令依據與功用？上述建築物如由機械排煙改為自然排煙，請問應符合規定為何？請說明檢測時所需的器材與方式？在消防實務上經常發現既設的系統排煙量不足，可能有哪些原因所產生？

- 三、消防法及其相關子法規定之第二種室內消防栓設備，為何在台灣的安裝實例非常少見？請評論其理由及提出有效推動之可行方案。
- 四、火警自動警報設備可區分為"探測監視"與"音響警報"兩個重要部分，試問在消防審勘查作業上，對此兩部分緊急電源之供電容量時限上，有何不同的查核要求？

中央警察大學 103 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：

1. 本試題共 4 題，每題各占 25 分；共 3 頁。
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、103 年 3 月 27 日下午，位於臺北市仁愛路一棟六層樓的建築物發生火警，這棟大樓一樓是鞋店，起火點地下室是該鞋店的倉庫，現場不斷竄出濃煙，消防人員獲報前往，除了疏散樓上民眾之外，也進入地下火場搶救。不過，突如其來的爆燃現象，造成 5 名消防人員 1 人死亡 4 人重傷的悲劇；請說明前述地下空間火災搶救戰術原則與火場勤務戰技運用重點，以提升未來類似空間搶救作業安全。
- 二、消防檢查中第二種檢查關係消防搶救成效至鉅，請說明該種檢查相關項目內容為何？（5 分）另建築管理對於消防搶救亦有緊急進口相關規定，以供消防搶救佈署使用。請說明消防審查、勘查及檢查時，如何要求依設計規劃保持避難與消防搶救開口隨時堪用？（5 分）以及所需消防車輛救災活動空間的有效性？（15 分）
- 三、依據美國材料測試學會（American Society for Testing and Materials, ASTM）公告的分離濃縮火場殘跡樣品中之易燃性液體殘留物的前處理技術，活性碳片被動式頂空濃縮法（即 ASTM E1412）及被動式頂空濃縮固相微萃取法（即 ASTM E2154）均需執行空白（blank）試驗及添加標準品（standard）試驗，請說明該等樣品前處理技術執行這些試驗之意義為何？

四、下列圖譜為自某一火場採樣獲得含有土壤、石塊及焦炭之疑似縱火殘跡證物，該證物經以活性碳片於 60 °C 的溫度下吸附萃取頂空部之易燃性液體成分 18 小時，再以 200 mL 二硫化碳 (CS₂) 脫附後，注入氣相層析質譜儀，經適當的層析條件分離分析所得之總離子層析圖 (total ion chromatogram, TIC，如圖 A) 及萃取離子層析圖 (extracted ion chromatogram, EIC，如圖 B 及圖 C)，試判斷該火災殘跡證物中含有何種縱火加速劑？並詳細說明做此判斷結論之理由？

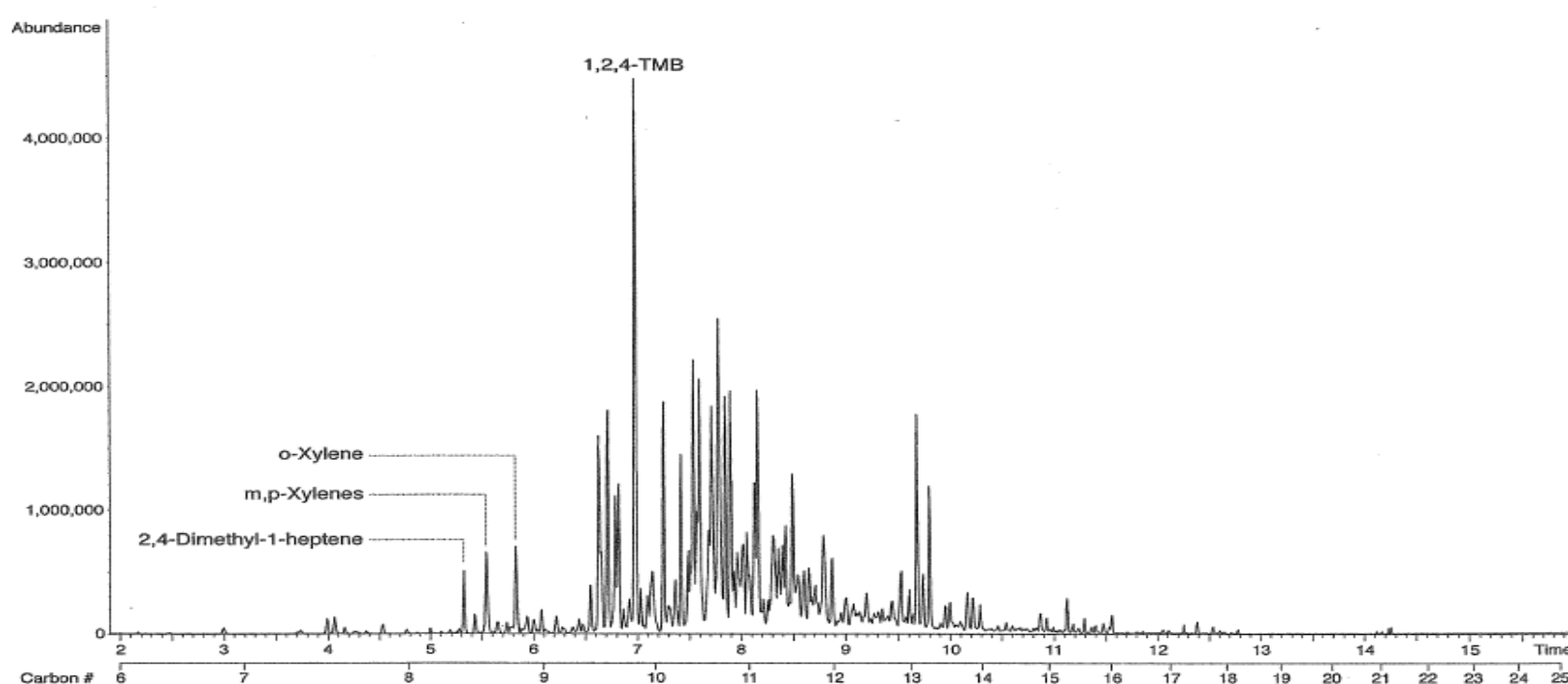


圖 A、火災殘跡證物經活性碳片萃取及二硫化碳脫附後，經氣相層析質譜儀分析所得之 TIC 圖譜 (1,2,4-TMB: 1,2,4-trimethylbenzene)

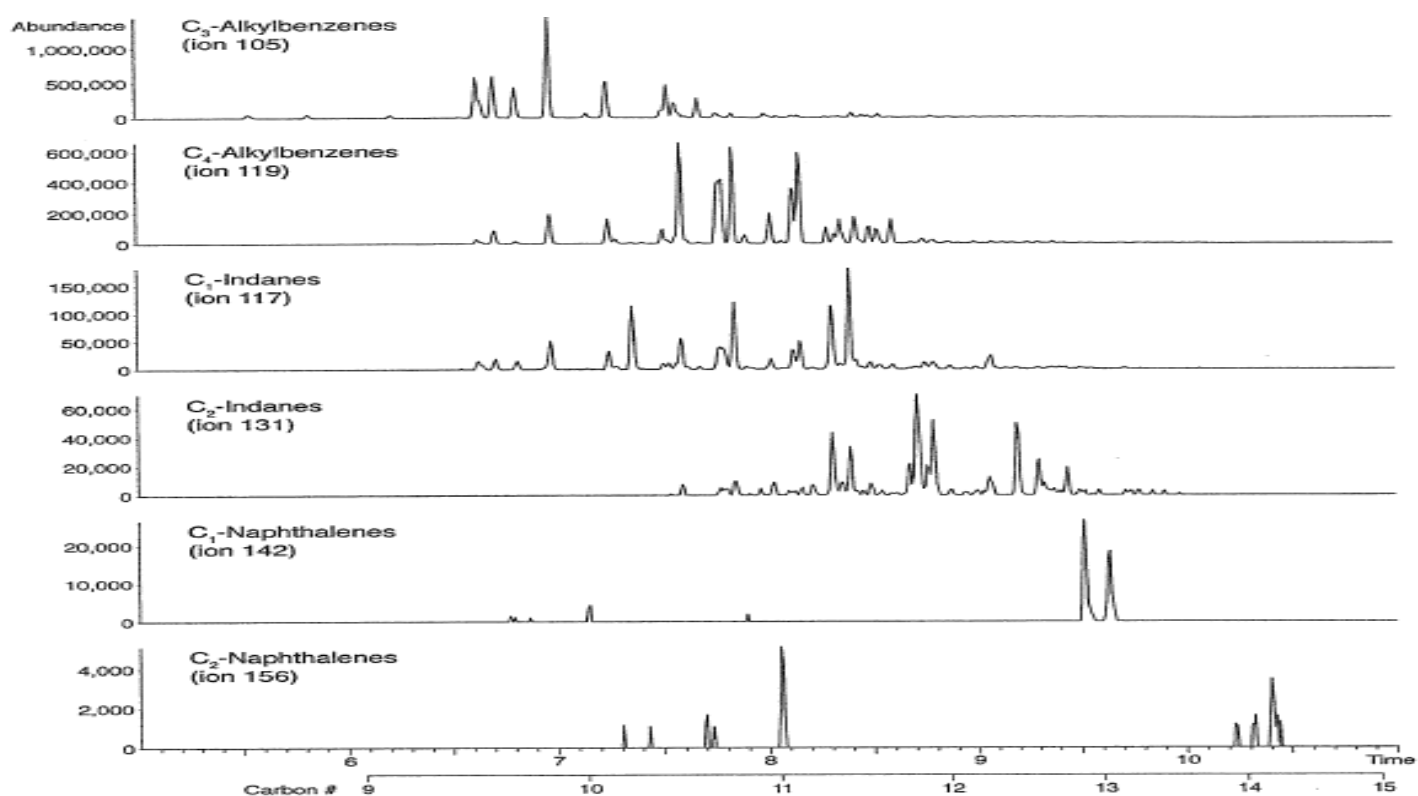


圖 B、上述火災殘跡證物經活性碳片萃取及二硫化碳脫附後，經氣相層析質譜儀分析所得芳香族化合物（aromatic）之 EIC 圖譜

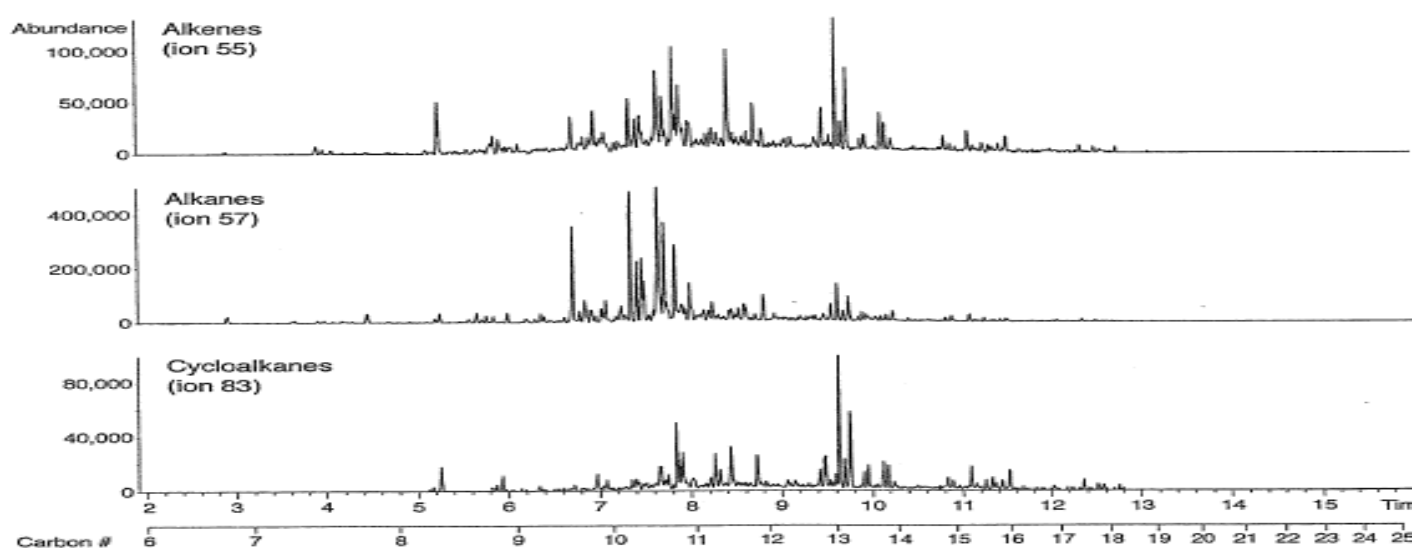


圖 C、上述火災殘跡證物經活性碳片萃取及二硫化碳脫附後，經氣相層析質譜儀分析所得脂肪族化合物（aliphatic）之 EIC 圖譜

中央警察大學 104 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：

- 1.本試題共 2 大題，每大題各 50 分；共 1 頁。
- 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。
- 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、呦呦鹿鳴，食野之蒿。我有嘉賓，德音孔昭。視民不忄，君子是則是傲。
我有旨酒，嘉賓式燕以敖。(《詩經·小雅·鹿鳴》)
- 二、初，鄭武公娶于申，曰武姜，生莊公及共叔段。莊公寤生，驚姜氏，故名曰寤生，遂惡之。愛共叔段，欲立之。亟請於武公，公弗許。(《左傳》隱公元年)
- 三、往者貞觀之初，率土霜儉，一匹絹才得粟一斗，而天下帖然。百姓知陛下甚憂憐之，故人人自安，曾無謗讟。(《貞觀政要·論儉約》)
- 四、發慮憲，求善良，足以謏聞，不足以動眾；就賢體遠，足以動眾，未足以化民。君子如欲化民成俗，其必由學乎！(《禮記·學記》)
- 五、子曰：「君子之於天下也，無適也，無莫也，義之與比。」(《論語·里仁》)

貳、論文：50 分

〔宋〕蘇軾〈刑賞忠厚之至論〉云：「先王知天下之善不勝賞，而爵祿不足以勸也；知天下之惡不勝刑，而刀鋸不足以裁也。是故疑則舉而歸之於仁，以君子長者之道待天下，使天下相率而歸於君子長者之道。」請參酌前引古文之思想，以「忠厚乃待人之道」為題，寫作論文一篇。

中央警察大學 104 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：

- 1.本試題共 4 大題；共 2 頁。
- 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、Vocabulary and Phrases：(20 分)

- | | |
|-----------|----------|
| (一) 輻射汙染 | (六) 司法互助 |
| (二) 自拍神器 | (七) 溫室效應 |
| (三) 事故現場 | (八) 恐怖攻擊 |
| (四) 警政署署長 | (九) 食安危機 |
| (五) 客機空難 | (十) 內線交易 |

二、Translation：(30 分)

- (一) For at least half a century, police have considered it important to cut to a minimum of their response times to crime calls. The faster the response, they have reasoned, the better the chances of catching the criminal at or near the scene of the crime. (10 分)
- (二) Officers shall not use their police power to resolve personal grievances (e.g. those involving the officer, family members, relatives, or friends) except under circumstances that would justify the use of self-defense, actions to prevent injury to another person, or when a serious offense has been committed that would justify an arrest. (10 分)
- (三) The essence of the police role in maintaining order is to reinforce the informal control mechanisms of the community itself. Areas where community controls break down are vulnerable to criminal investigation. (10 分)

三、Reading Comprehension : (20 分)

Another large-scale study conducted by William Spelman and Dale Brown and published in 1984 was also to challenge a core police assumption of that period – that improvement in rapid response to calls for service would lead to improvements in crime fighting. This study was developed in good part because of the findings of a prior investigation in Kansas City that found little support for the crime control effectiveness of rapid response to calls for service (Kansas City Police Department 1977). With support from the National Institute of Justice, Spelman and Brown investigated 4000 victims, witnesses, and bystanders in some 3300 serious crimes in four American cities. This was another major study in terms of the resources brought to bear and the methods used. Again it examined a strategy that was aided by technological advances in the twentieth century and that was central dogma of police administrators – that police must get to the scene of a crime quickly if they are to apprehend criminal offenders.

根據以上內容，用英文回答以下問題（每題 2 分）：

- （一）Spelman and Brown 的研究報告發表於哪一年？
- （二）在 Spelman and Brown 的研究之前，哪個城市警察局做過類似研究？
- （三）Spelman and Brown 的研究是在哪個部門的支持下進行？
- （四）Spelman and Brown 研究的實證資料係蒐集自幾個美國城市？

根據以上內容，用中文回答以下問題（每題 3 分）：

- （五）Spelman and Brown 所要挑戰的研究假設是什麼？
- （六）在 Spelman and Brown 研究之前的類似研究，有何研究發現？
- （七）Spelman and Brown 研究的實證資料來自 4000 個研究對象，這些研究對象是每個案件中的什麼人？
- （八）“dogma of police administrators”的意義為何？

四、Essay : (30 分)

Write an essay on the following topic. The length of your essay should be no less than 100 words and no more than 200 words.

“Mobile Police Station” and its Impacts

中央警察大學 104 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：

- 1.本試題共 4 題，每題各 25 分；共 2 頁。
- 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。
- 4.不需使用計算機，可用中文答題。

一、試回答下列問題：

- (一) 試說明如何測量燃燒範圍？並說明燃燒範圍與爆炸範圍的差異。(12 分)
- (二) 試以圖形說明預混合可燃性氣體，其燃燒上、下限與環境溫度之間的關係（橫坐標為環境溫度，縱座標為可燃性氣體體積百分比），並在圖形上標示自燃溫度（發火點）曲線，藉此說明引燃與自燃的差異。(13 分)

二、試回答下列問題：

- (一) 何謂理論空氣量？(5 分)
- (二) 假設木材的平均分子式為 $\text{CH}_{1.5}\text{O}_{0.7}$ ，試計算 1 公斤木材燃燒的理論空氣量。(10 分)
- (三) 試說明區劃空間在閃燃後，通風控制燃燒下的燃燒率 (kg/min)，並計算此時流入區劃空間的空氣流率 (kg/min)。(10 分)

三、試回答下列問題：

- (一) Suppose a tank contains 1000gal of water in which initially 100 lb of salt is dissolved. Brine runs in a rate of 10 gal/min. And each gallon contains 5lb of dissolved salt. The mixture in the tank is kept uniform by stirring. Brine runs out at 10 gal/min. Find the amount of salt in the tank at any time t . (8 分)
- (二) Find the general solution of $y'' - 5y' + 6y = -3\sin(2x)$. (8 分)
- (三) Solve the initial value problem. $(e^{x+y} + ye^y)dx + (xe^y - 1)dy = 0$, $y(0) = -1$. (9 分)

四、Find the solution of the initial-boundary value problem.

$$(一) \quad \frac{\partial^2 y}{\partial t^2} = c^2 \frac{\partial^2 y}{\partial x^2} \text{ for } 0 < x < L, t > 0, \quad y(0, t) = y(L, t) = 0 \text{ for } t > 0,$$

$$y(x, 0) = 0, \text{ and } \frac{\partial y}{\partial t}(x, 0) = g(x) \text{ for } 0 < x < L. \quad (12 \text{ 分})$$

$$(二) \quad \frac{\partial u}{\partial t} = k \frac{\partial^2 u}{\partial x^2} \text{ for } 0 < x < L, t > 0, \quad u(x, 0) = f(x), \text{ for } 0 \leq x \leq L$$

$$u(0, t) = T_1, \quad u(L, t) = T_2 \text{ for } t > 0. \quad (13 \text{ 分})$$

中央警察大學 104 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 25 分；共 2 頁。
- 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、若建築物高度為 250 公尺，有關水系統滅火設備加壓送水裝置及連結送水管設置設計，現行常見的方式有哪些？試以消防安全設備配管昇位圖及幫浦容量之計算式例來說明之。為達到建商使用最大化、消防設備師依法設計並解決消防車之車齡及送水揚程等問題，請申論並探討高層建築物設有自動撒水設備之樓層其中繼幫浦、中繼水箱設置位置之理由、依據、合理可行性。
- 二、試就現行消防機關執行消防法第六條第二項消防安全設備之列管檢查、第九條檢修申報複查工作中，有關檢查不合格之營業場所及製造、儲存或處理公共危險物品達管制量以上未滿三十倍之場所，現行消防安全檢查之種類及實施方式、流程圖、專責檢查小組之人員配置與遴選考量如何？試述之。以近年來桃園市新屋違建保齡球館及高雄市前鎮地區氣爆等所發生重大火災事故案例，深入研析現行檢查問題及火災風險潛在隱憂，並找出有關解決因應之對策。
- 三、試以風險因子負面相依性（Interdependency）之概念，申論目前各縣市消防局推動每戶致贈一只住宅火災警報器（簡稱住警器）之政策與執行方案，對獨居老人火災安全防護之功效如何？又美、日對此住警器經驗比我國豐富，他們在實施多年後，有何改進對策？試列述之。

四、地下停車場乃室內停車空間，在建築與消防法規實務，係以「非居室」用途空間認定，因此得免設排煙設備；在建管單位的審圖作業上，相關防火避難設施也都因此法規上之見解而得以放寬。試就臺北大巨蛋此一用途空間附設之地下停車場之使用特性與火災境況，申論上述非居室用途認定之合法性與合理性。

中央警察大學 104 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：

- 1.本試題共 4 題，每題各 25 分；共 2 頁。
- 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、桃園新屋保齡球館大型鐵皮屋火災造成 6 名消防人員殉職，如何確保消防人員生命安全，又成了各界關注之議題；如果你是奉命趕赴現場，搶救非耐火構造鐵皮屋的第一梯次火場指揮官，請分就途中情報蒐集、現場車輛部署、資訊調查、任務指派及作戰編組，說明前述場所需考量之火災搶救原則與救助安全注意事項。

二、鐵皮屋基於成本考量及搭蓋容易，多數有違法與違規使用狀況，部分又做為廠房倉庫使用，更可能存放大量可燃物，致火災發生時，釋放出濃煙及高溫；試說明常見違法與違規案例（10 分）。為釐清責任，請分就消防檢查、協助查報及行政指導等管理手段，說明消防機關應有的作為。（15 分）

三、居室空間內的微小火源，引起火災時，會有長時間的局部悶燒高溫 and 牆際效應、牆邊效應與牆角效應。此時的煙和開口大小是相當重要的因素。請根據以上情況回答下列問題：

- （一）若以明火引燃垃圾桶的紙張，是否足以模擬菸蒂火災？為什麼？（10 分）
- （二）若將垃圾桶遠離牆壁一段距離，且只蓋三面牆壁，不蓋屋頂，並以菸蒂模擬無焰起燃垃圾桶內之紙張，造成沒有延燃之結果。以上再現實驗是否足以證明垃圾桶火災不會引燃一般居室之火災？為什麼？（15 分）

四、試回答下列問題：

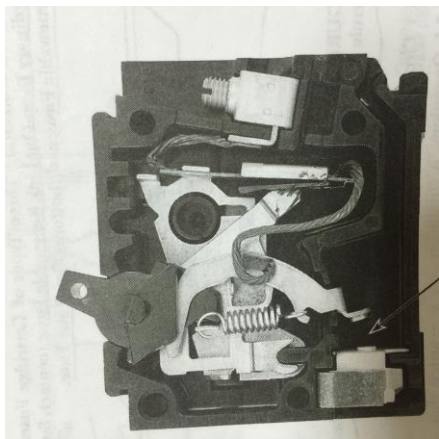


圖 1

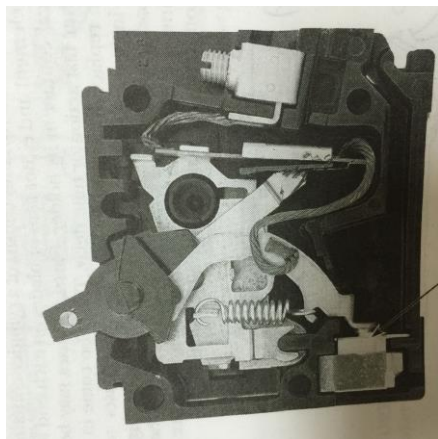


圖 2



圖 3

(一)一般無熔絲開關會有三種狀態，請說明圖 1 至圖 3 的狀態分屬於何種狀態？

(10 分)

(二)在火災調查的實務上，這三種狀態的意義為何？(15 分)

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：

- 1.本試題共 2 大題，每大題各占 50 分。
- 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。
- 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：

- 1.本試題共 4 大題；共 4 頁。
- 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、 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.

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

作答注意事項：

1. 本試題共 4 題，每題各占 25 分；共 2 頁。
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。
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_{∞} 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：

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3. 禁用鉛筆作答，違者不予計分。

- 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：

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。
3. 禁用鉛筆作答，違者不予計分。

- 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 106 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：

- 1.本試題共 2 大題，每大題 50 分；共 1 頁。
- 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。
- 4.請以橫式書寫作答。

壹、解釋下列語句之義：(每小題 10 分，共 50 分)

- 一、天子之所是未必是，天子之所非未必非，天子亦遂不敢自為非是，而公其非是於學校。(黃宗羲《明夷待訪錄·學校》)
- 二、聞誅一夫紂矣，未聞弑君也。(《孟子·梁惠王下》)
- 三、不違農時，穀不可勝食也；數罟不入洿池，魚鼈不可勝食也；斧斤以時入山林，材木不可勝用也。(《孟子·梁惠王上》)
- 四、子游曰：「事君數，斯辱矣；朋友數，斯疏矣。」(《論語·里仁》)
- 五、士方其佔畢咿唔，則期報於科第祿仕。或少讀古書，窺著作之林則責報於遐邇之譽，後世之名。(曾國藩〈聖哲畫像記〉)

貳、論文：50 分

《荀子·勸學》：「騏驥一躍，不能十步；駑馬十駕，功在不舍。」請參酌前引古文之思想，以「學習與實踐」為題，書寫作文一篇。

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

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 50kg/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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3. 禁用鉛筆作答，違者不予計分。

- 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

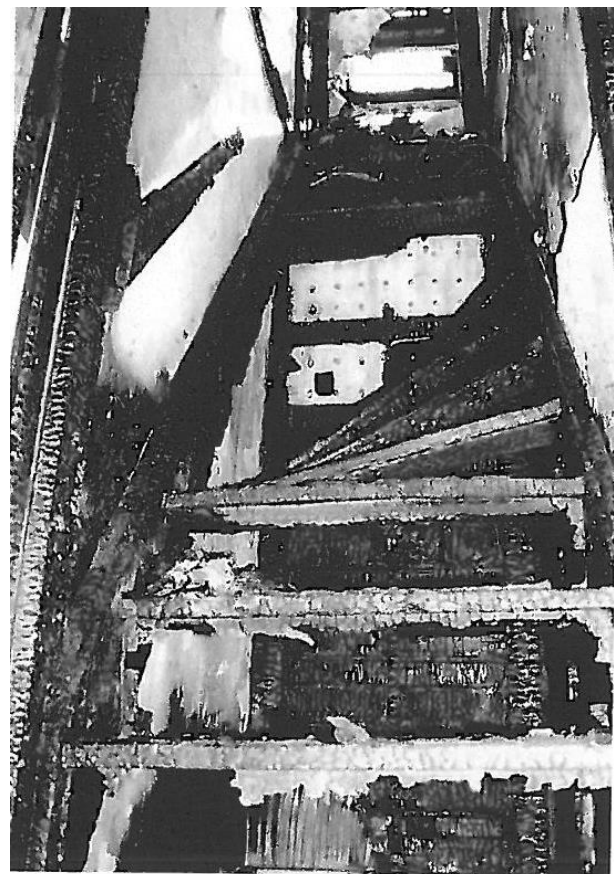
所 別：消防科學研究所

科 目：消防實務

作答注意事項：

1. 本試題共 4 題，每題 25 分；共 2 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、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 107 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)

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

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

科 目：火災科學

作答注意事項：

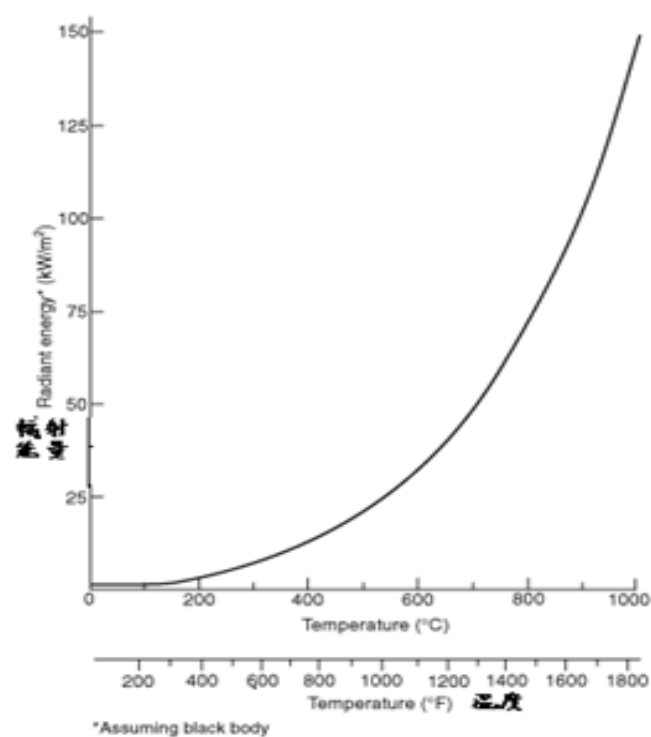
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3. 禁用鉛筆作答，違者不予計分。
4. 不需使用計算機，可用中文答題。

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

作答注意事項：

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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、用於船艙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

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、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 108 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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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、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℃？

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

作答注意事項：

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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

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。
3. 禁用鉛筆作答，違者不予計分。

- 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？

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

科 目：消防實務

作答注意事項：

1. 本試題共 4 題，每題各占 25 分；共 1 頁。
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3. 禁用鉛筆作答，違者不予計分。

- 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 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：

- 1.本試題共 4 題，每題各占 25 分；共 2 頁。
- 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。
- 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。

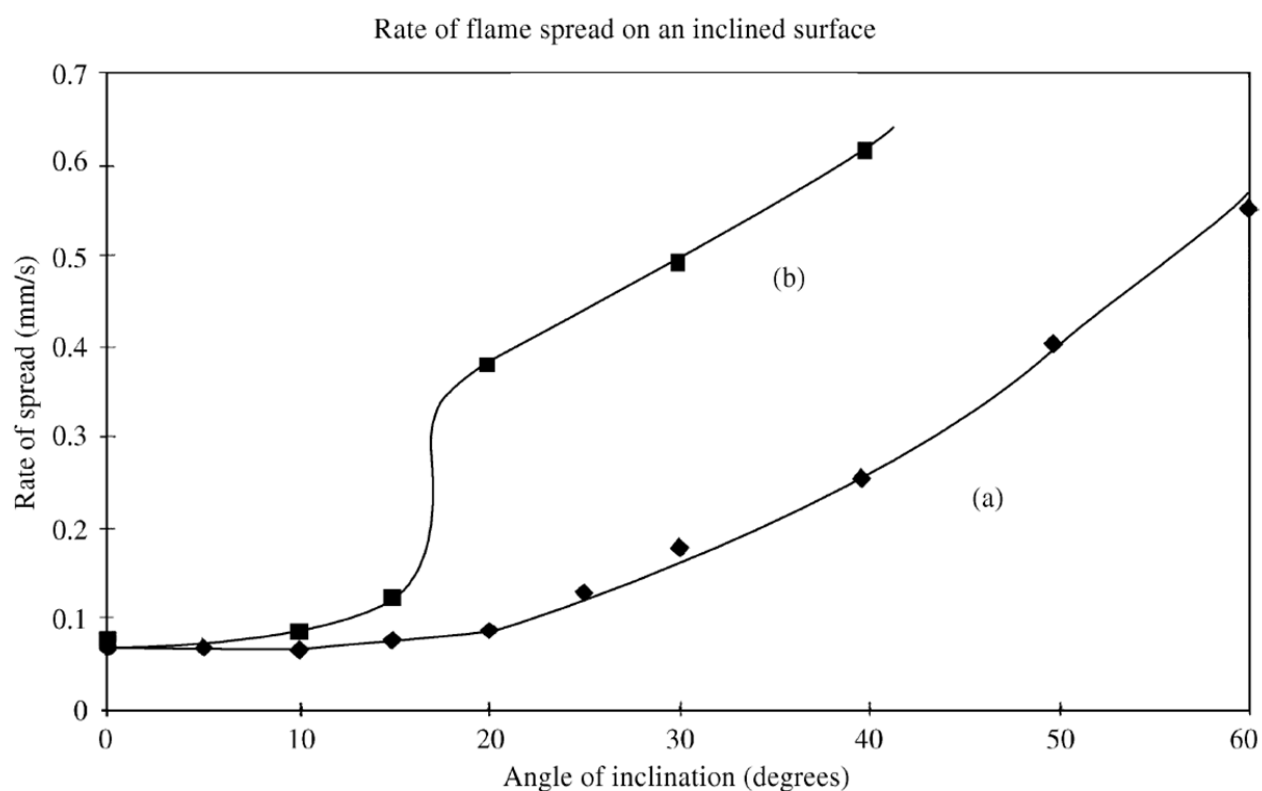
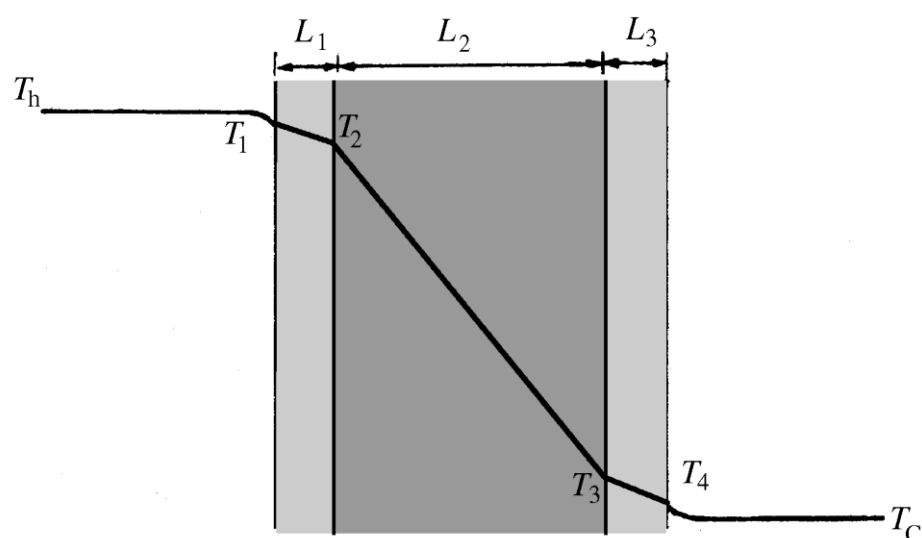


Figure 7.10 Rate of spread of flame on an inclined surface. 60 mm wide samples of PMMA: (a) without (◆) 'sidewalls' and (b) with (■) sidewalls (Drysdale and Macmillan, 1992)

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：各所

科 目：英文

作答注意事項：

- 1.本試題共 4 大題，總分 100 分；共 4 頁。
- 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、 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 ?

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

作答注意事項：

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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 1000m^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？

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？