

國立高雄師範大學 102 學年度碩士班招生考試試題

系所別：事業經營學系（科技管理組）

科 目：管理學（含科技管理個案分析）（全一頁）

※注意：1. 作答時請將試題題號及答案依序寫在答案卷上，於本試題上作答者，不予計分。
2. 請以藍、黑色鋼筆或原子筆作答，以鉛筆或其他顏色作答之部份，該題不予計分。

一、解釋名詞：必須說明該名詞的意義，而不是將英文翻成中文。（25%）

- (1) glass ceiling
- (2) code of ethics
- (3) green management
- (4) planning
- (5) span of control

二、申論題：（25%）

請說明減低抗拒變革的方法。

三、簡答題（25%）

- (1) 管理者的角色有哪三大類？又有哪十個角色？
- (2) 何謂矩陣式組織？其有何優缺點？

四、科技管理個案分析（25%）

去年，宏達電以一支「蝴蝶」手機，在日本成功的打敗 iPhone5。日前，宏達電在歐美地區推出新手機--新 HTC One，又深獲好評。然而，在此之前，宏達電的手機評價與業績並不理想，其手機的全球市佔率從前年的 8.9% 降至 4.8%。面對競爭激烈的智慧型手機市場，宏達電董事長王雪紅曾經說過：「宏達電最弱的一環，是行銷」。試問，你認同王董事長的觀點嗎？請申論之。

國立高雄師範大學 102 學年度碩士班招生考試試題

系所別：各學系（英語學系除外）

科 目：英文

※注意：請於電腦答案卡以 2B 鉛筆作答。

PART A: VOCABULARY: Choose the best word to complete each sentence. (24%)

1. A good personal trainer will consider a client's fitness level, age, and goals before planning a _____ workout.
(A) diversified (B) customized (C) memorized (D) generalized
2. Getting into shape through dancing is much more fun than _____ on a treadmill.
(A) sitting (B) beating (C) hitting (D) running
3. A college degree no longer _____ a well-paying job, because the number of graduates in China has quadrupled in the last decade.
(A) ensures (B) promotes (C) accumulates (D) follows
4. Parents are advised not to rebuke children in anger or _____ them in wrath because kids can be terrified by your fury.
(A) determine (B) dismantle (C) discipline (D) deliver
5. The ferocious _____ of Hurricane Andrew shredded roofs in Miami-Dade County. Fortunately, there were only two test roofs involved.
(A) account (B) assault (C) pursuit (D) result
6. Filmmakers have tried to _____ the on-screen action with in-theater odors.
(A) facilitate (B) generate (C) support (D) heighten
7. Raphael's interest in skydiving reflects his _____ nature.
(A) fearful (B) daunting (C) daring (D) diligent
8. Impartial judges tend to remain _____ in the case brought before them.
(A) disinherited (B) disinterested (C) uninterested (D) uninitiated
9. As we now know from instrumental exploration of Mars itself, the idea that "Martians" could invade the Earth is _____.
(A) preposterous (B) predominant (C) precautionary (D) preliminary
10. A pilot whose plane crashed in a cushion of snow atop a 5,500-foot peak _____ 16 hours in sub-zero weather by stuffing newspapers and air charts into his clothing to keep warm, rescuers said.
(A) submitted (B) calculated (C) provided (D) survived
11. Although an increasing number of studies have been found to be fraud, little is actually known about the general nature and _____ of scientific dishonesty.
(A) substitution (B) advance (C) prevalence (D) absence

（背面有題）

系所別：各學系（英語學系除外）

科 目：英文

12. Early in September each year, the population of Ann Arbor, Michigan, suddenly increases by about 20,000 as students arrive for the new academic year. This _____ changes the character of the town in a number of ways.
- (A) development (B) influx (C) flexibility (D) surplus

Part B: Grammar (20%)

13. To save the Hawaiian condor _____ extinction, a group of federal, local, and private organizations initiated a rescue program.
- (A) from (B) to (C) for (D) of
14. Carrie Chapman Catt organized the League of Women Voters after successfully _____ for the constitutional amendment that gave women the right to vote.
- (A) campaigned (B) campaign (C) campaigning (D) being campaigned
15. The Mississippi, the longest river in the United States, begins as _____ stream in northwestern Minnesota.
- (A) a small, clear (B) small, clear (C) any small, clear (D) the small, clear
16. The Year of the Snake isn't a good one for those _____ with the zodiac sign of the Snake.
- (A) who born (B) born (C) whom born (D) were born
17. Caregivers face _____ over two babies' deaths.
- (A) charging (B) charges (C) charge (D) is charging
18. Taipei _____ the 11th most expensive location in Asia for high-end three-bedroom apartment rentals.
- (A) was named (B) is named (C) named (D) will be named
19. If you are a good speaker, listeners should be psychologically primed _____ hear your remarks by the end of your delivery.
- (A) in (B) to (C) for (D) from
20. In his acceptance speech, Oscar Best Director Ang Lee thanked Taiwan and the city of Taichung where much the movie _____.
- (A) was filmed (B) is filmed (C) had filmed (D) filmed
21. Hot-air ballooning _____ around for centuries, but many travelers still consider it as exciting as parasailing or bungee jumping.
- (A) is (B) was (C) has been going (D) has been
22. Even though the Lantern Festival, _____ on the 15th day of the first month on the lunar calendar, had passed, the Lantern Festival celebrations continued until March 10.
- (A) being celebrating (B) was celebrated (C) celebrated (D) celebrating

系所別：各學系（英語學系除外）

科 目：英文

PART C: CLOZE (14%)

Passage 1

A group of scientists have found evidence that coffee beans can help reduce physical pain. However, they cautioned that since the study was not designed to test coffee's influence on pain, the 23 come with many uncertainties. For starters, the researchers don't know 24 coffee the coffee drinkers consumed before taking the tests. They also 25 that the coffee drinkers and abstainers were similar in all respects except for their consumption. Problems like these tend to undermine the importance of the findings. But those reservations are 26 to trouble the legions of coffee drinkers looking for any reason not to cut back on their daily caffeine habit. Coffee, after all, is the apple of their eye.

23. (A) reserves (B) results (C) reductions (D) recoveries
24. (A) how much (B) what brand (C) why certain (D) which strength
25. (A) doubt (B) demand (C) remind (D) regard
26. (A) uncommon (B) unlikely (C) unusual (D) unrelated

Passage 2

Who we are, and how we see ourselves, is very much linked with how we interact with other people. We all have our own personal likes, dislikes, talents and personalities. But we also exist in a 27 of social interaction, and have done so since we were very small babies. Other people's reactions and ideas matter to us, and they influence 28 we go about acting in life. Our cultural background also shapes the way we see ourselves, and so do our social identities. 29 of us is totally patterned by these social influences—after all, everyone is different—but we are not totally independent of them either.

27. (A) mixture (B) cobweb (C) network (D) bottleneck
28. (A) where (B) how (C) when (D) what
29. (A) One (B) All (C) Each (D) None

PART D: Each of the two passages in this part contains some missing sentences. Choose the most suitable sentence to make the passage a coherent paragraph. (12%)

Passage 1

The word "Famine" in Ireland usually refers to the Great Famine of 1845-49, which killed about a million people and drove millions more into exile over the following two decades. Those who perished, as usual with famines, died more of disease than starvation. In

(背面有題)

第3頁，共8頁

系所別：各學系（英語學系除外）

科 目：英文

fact, 30 In most famines, there is enough food around the place. The problem lies in bringing the food and the hungry people together. In other words, famines are usually caused by people's inability to buy food, not by its total absence. 31 The bug which blighted the potato crop year after year seems to have caused an absolute food shortage in the country. Some nationalists point angrily to the fact that food nevertheless went on being exported to Britain during the Famine. 32 But some historians claim that keeping this food in the country might not have made that much difference. 33 After all, Ireland at the time was supposed to be part of the United Kingdom and there was more than enough food in the UK as a whole.

30. (A) Ireland at that time was desperately overpopulated.
(B) the Famine was a natural, perhaps unavoidable disaster.
(C) famines are not generally caused by food shortages.
(D) the Irish people were far too dependent on a single crop.
31. (A) Whether you call this genocide or not depends on how you define the word.
(B) Whether this was so of the Great Famine depends on one's point of view.
(C) Would they have done something similar if a famine had broken out in Kent?
(D) What makes that event unique is that it lasted longer than most other famines.
32. (A) There are poignant accounts of desperate men and women attacking food convoys and being beaten off by British soldiers.
(B) Even some high-placed Irish officials did not think so, although the event did stir up a hatred of the Irish at that time.
(C) You may come across the odd Famine graveyard in your travels, pits where people were buried together without coffins.
(D) It is hard to argue that the British relief operation was anything like adequate, even by standards of the time.
33. (A) They consider the Famine the death of many things besides a million people.
(B) They glimpse in the Famine a golden opportunity for a long-term restructuring of Ireland.
(C) They see it as a blessing in disguise—God's own way of modernizing the Irish.
(D) They also say that more food was imported than exported during the Famine years.

Passage 2

For much of the year, Bernd Heinrich spends his time at a cabin he built in a remote forest in western Maine. 34 , he says, "just a tree growing inside it." An emeritus biology

系所別：各學系（英語學系除外）

科 目：英文

professor at the University of Vermont, Dr. Heinrich, 72, sees the New England forest as a living laboratory to study nature's changes. Over the years he has translated his observations into 17 popular books on nature and the animal world, including ones on bumblebees, dung beetles and geese. 35 According to Dr. Heinrich, human death is becoming more and more divorced from nature.

34. (A) "The cabin is located near a muddy swamp frozen in winter,"
(B) "The cabin was built with timber I gathered in the forest,"
(C) "The cabin has no indoor plumbing and no electricity,"
(D) "The cabin is equipped with all kinds of modern facilities,"
35. (A) Lately he has been studying how creatures die.
(B) Currently he has been thinking about the dying nature.
(C) Unfortunately, he has just divorced his wife.
(D) Recently human nature has preoccupied his study.

Part E: Reading Comprehension (30%)

Passage 1

Laser

The word laser was **coined** as an acronym for Light Amplification by the Stimulated Emission of Radiation. Ordinary light, from the Sun or a light bulb, is emitted spontaneously, when atoms or molecules get rid of excess energy by themselves, without any outside **intervention**. Stimulated emission is different because it occurs when an atom or molecule holding onto excess energy has been stimulated to emit **it** as light.

Albert Einstein was the first to suggest the existence of stimulated emission in a paper published in 1917. However, for many years, physicists thought that atoms and molecules always were much more likely to emit light spontaneously and that stimulated emission thus always would be much weaker. It was not until after the Second World War that physicists began trying to make stimulated emission dominate. They sought ways by which one atom or molecule could stimulate many others to emit light, amplifying it to much higher powers.

The first to succeed was Charles H. Townes, then at Columbia University in New York. Instead of working with light, however, he worked with microwaves, which have a much longer wavelength, and built a device he called a "master," for Microwave Amplification by the

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第 5 頁，共 8 頁

系所別：各學系（英語學系除外）

科 目：英文

Stimulated Emission of Radiation. Although he thought of the key idea in 1951, the first master was not completed until a couple of years later. Before long, many other physicists were building masters and trying to discover how to produce stimulated emission at even shorter wavelengths.

The key concepts for a laser **emerged** about 1957. Townes and Arthur Schawlow, then at Bell Telephone Laboratories, wrote a long paper **outlining** the conditions needed to amplify stimulated emission of visible light waves. At about the same time, similar ideas crystallized in the mind of Gordon Gould, then a 37-year-old graduate student at Columbia, who wrote them down in a series of notebooks. Townes and Schawlow published their ideas in a scientific journal, *Physical Review Letters*, but Gould filed a patent application. Three decades later, people still argue about who deserves the credit for the concept of the laser.

36. The word “**coined**” could be replaced by _____.
(A) created (B) mentioned (C) understood (D) discovered
37. The word “**intervention**” can best be replaced by _____.
(A) need (B) device (C) influence (D) source
38. The word “**it**” in line 5 refers to _____.
(A) light bulb (B) energy (C) molecule (D) atom
39. Which of the following statements best describes a laser?
(A) A device for stimulating atoms and molecules to emit light
(B) An atom in a high-energy state
(C) A technique for destroying atoms or molecules
(D) An instrument for measuring light waves
40. Why was Towne’s early work with stimulated emission done with microwaves?
(A) He was not concerned with light amplification.
(B) It was easier to work with longer wavelengths.
(C) His partner Schawlow had already begun work on the laser.
(D) The laser had already been developed.
41. In his research at Columbia University, Charles Townes worked with all of the following EXCEPT _____.
(A) stimulated emission (B) microwaves
(C) light amplification (D) a master

系所別：各學系（英語學系除外）

科 目：英文

42. In approximately what year was the first master built?
(A) 1917 (B) 1951 (C) 1953 (D) 1957
43. The word “**emerged**” is closest in meaning to _____.
(A) increased (B) concluded (C) succeeded (D) appeared
44. The word “**outlining**” is closest in meaning to _____.
(A) assigning (B) studying (C) checking (D) summarizing
45. Why do people still argue about who deserves the credit for the concept of the laser?
(A) The researchers’ notebooks were lost.
(B) Several people were developing the idea at the same time.
(C) No one claimed credit for the development until recently.
(D) The work is still incomplete.

Passage 2

Life

Life originated in the early seas less than a billion years after the Earth was formed. Yet another three billion years were to pass before the first plants and animals appeared on the continents. Life’s transition from the sea to the land was perhaps as much of an evolutionary challenge as was the genesis of life.

What forms of life were able to make such a drastic change in lifestyle? The traditional view of the first terrestrial organisms is based on megafossils—relatively large specimens of essentially whole plants and animals. Vascular plants, related to modern seed plants and ferns, left the first comprehensive megafossil record. Because of this, it has been commonly assumed that the sequence of terrestrialization reflected the evolution of modern terrestrial ecosystems. In this view, primitive vascular plants first colonized the margins of continental waters, followed by animals that fed on the plants, and lastly by animals that preyed on the plant-eaters. Moreover, the megafossils suggest that terrestrial life appeared and diversified explosively near the boundary between the Silurian and the Devonian periods, a little more than 400 million years ago.

Recently, however, paleontologists have been taking a closer look at the sediments below this Silurian Devonian geological boundary. It turns out that some fossils can be extracted from these sediments by putting the rocks in an acid bath. The technique has uncovered new evidence from sediments that were deposited near the shores of the ancient oceans—plant microfossils and

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系所別：各學系（英語學系除外）

科 目：英文

microscopic pieces of small animals. In many instances the specimens are less than one-tenth of a millimeter in diameter. Although they were **entombed** in the rocks for hundreds of millions of years, many of the fossils consist of the organic remains of the organism.

These newly discovered fossils have not only revealed the existence of previously unknown organisms, but have also pushed back these dates for the invasion of land by multi-cellular organisms. Our views about the nature of the early plant and animal communities are now being revised. And with those revisions come new speculations about the first terrestrial life-forms.

46. According to the theory that the author calls “the traditional view,” what was the first form of life to appear on land?
- (A) Bacteria (B) Meat-eating animals
(C) Plant-eating animals (D) Vascular plants
47. According to the passage, what happened about 400 million years ago?
- (A) Many terrestrial life-forms died out.
(B) New life-forms on land developed at a rapid rate.
(C) The megafossils were destroyed by floods.
(D) Life began to develop in the ancient seas.
48. Which of the following resulted from the discovery of microscopic fossils?
- (A) The time estimate for the first appearance of terrestrial life-forms was revised.
(B) Old techniques for analyzing fossils were found to have new uses.
(C) The origins of primitive sea life were explained.
(D) Assumptions about the locations of ancient seas were changed.
49. With which of the following conclusions would the author probably agree?
- (A) The evolution of terrestrial life was as complicated as the origin of life itself.
(B) The discovery of microfossils supports the traditional view of how terrestrial life evolved.
(C) New species have appeared at the same rate over the course of the last 400 million years.
(D) The technology used by paleontologists is too primitive to make accurate determinations about ages of fossils.
50. The word “**entombed**” is closest in meaning to _____.
- (A) crushed (B) trapped (C) produced (D) excavated

國立高雄師範大學 102 學年度碩士班招生考試試題

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一、選擇題（每題 2%，共 30%）

- 下列各選項「」中，前後重複的詞彙其詞性一致者：
(A)京都太「嘈雜」了，面壁十年的九州學子，都曾嚮往這種「嘈雜」。(余秋雨〈柳侯祠〉)
(B)人們在虔誠「膜拜」，「膜拜」自己同類中更像一點人的人。(余秋雨〈都江堰〉)
(C)其實，誰都是「渺小」的。無數「渺小」的組合，才成就偉大的氣象。(余秋雨〈洞庭一角〉)
(D)我知道，這是不同於案頭年齡的另一種年齡在「搗亂」了。助長這種「搗亂」的外部誘惑很多。(余秋雨《文化苦旅·自序》)
- 「俄而、彈指、一股腦兒、倏仰之間、兩箭之地」以上用來指時間很短者共幾個？
(A)四個 (B)三個 (C)五個 (D)兩個
- 「在茫茫人海裡浮沉，當名利物慾狂流來襲時，那晶瑩明淨的亮光出現了。他夷然不動，頓時，所有媚惑逃遁了。」(李喬〈心中的燈〉)句中「夷然」的意思最接近：
(A)驀然 (B)了然 (C)安然 (D)頹然
- 量詞的運用精當，可使形象鮮活、語意妥貼。請推敲下列句子中省略的量詞應填入何者最為恰當？
「望中酒旆閃閃，一□煙村，數行霜樹。殘日下、漁人鳴榔歸去。」(柳永〈夜半樂〉)
(A)簇 (B)抹 (C)片 (D)座
- 石德華認為：「愛情真的無比美好，但它絕對不是生命的唯一，……關於愛情，可以情□，何必情□？更不是情□。」仔細推敲作者的用意，選出空格裡宜先後填入：
(A)商、殤、傷 (B)商、傷、殤 (C)傷、殤、商 (D)傷、商、殤
- 請判斷下列句子中省略的字詞依序應填入何者，使其文意精確而形象鮮明：(甲)滾水泡白菊花是去暑的，……他每天泡著喝，看著一朵朵小白花在水底□起來緩緩飛升到碗面（張愛玲《怨女》） (乙)馬鞍藤葉擠得喘不出氣／只有幾朵弱不禁風的小紫花／怯怯□出頭／□□在雲層之外／光明正奔騰而來 (丙)她不是籠子裡的鳥，籠子裡的鳥，開了籠，還會飛出來。她是□在屏風上的鳥——悵鬱的紫色緞子屏風上，織金雲朵裡的一只白鳥（張愛玲〈茉莉香片〉）
(A)浮／伸／呢喃／畫 (B)漲／爬／喧囂／黏
(C)胖／探／囁嚅／繡 (D)漂／鑽／吶喊／漆

（背面有題）

系所別：各系所（國文學系、經學研究所除外）

科 目：國文

7. 「天空還是我們祖先飛過的天空／廣大虛無如一句不變的叮嚀／我們還是如祖先的翅膀。鼓在風上」（白萩〈雁〉）這幾句詩的意旨以哪個成語概括最為恰當？
(A)滄海桑田 (B)筭路藍縷 (C)人生如寄 (D)薪火相傳
8. 「她／被一根繩子提升為／一篇極其哀麗的／□□ 循著簫聲搜尋／每一個窗口都可能坐著／她那位進京赴試的薄倖書生 風來無聲／她閃身躍入／剛閣攏的那本線裝書」推敲詩意，選出空格處應填入何者最恰當？
(A)西廂 (B)聊齋 (C)水經 (D)離騷
9. 「於是拾級而上，／極目盡是／由龜山、長江、鸚鵡洲／羅列而成的／一層層驚心的風景／最高一層／自始便宿命地／擱淺在／□□那片空悠悠了千載的白雲上」洛夫此詩最可能受哪首唐詩啓發而寫成？
(A)陳子昂〈登幽州臺歌〉 (B)杜甫〈登岳陽樓〉
(C)崔顥〈黃鶴樓〉 (D)李白〈登金陵鳳凰台〉
10. 「一段蟬唱之後，自己的心靈也跟著透明澄淨起來，有一種『何處惹塵埃』的了悟。蟬亦是禪。」（簡媜〈夏之絕句〉）其中「蟬亦是禪」諧音雙關，下列何者未運用此種技巧？
(A)蠟燭有心還惜別，替人垂淚到天明 (B)秦失其鹿，天下共逐之
(C)東邊日出西邊雨，道是無晴還有晴 (D)橫也絲來豎也絲，這般心事有誰知
11. 偏義複詞是指兩個字合成的複合詞卻偏於使用其中一字的意思。以下何者不是偏義複詞？
(A)置個人「生死」於度外 (B)曾不吝情「去留」
(C)相逢一笑泯「恩仇」 (D)「勝敗」兵家事不期
12. 陳之藩說：「人生中，即使是最得意的人們，有過英雄的此時，有過成功的殊榮，有過酒的醇香，有過色的甘美，而全像瞬時的燭光，搖曳在子夜的西風中，最終埋沒在無垠的黑暗裏。／／一位哲人說的好，人類的聲音是死板的鈴聲，而人間的面孔是畫廊的肖像。每一個人，無例外的，在鈴聲中飄來，又在畫廊中飄去。」陳之藩的感喟，在於認為人生的本質最貼近於：
(A)寂寞 (B)幻滅 (C)喧囂 (D)輪迴
13. 下列給友人的書信開頭抒情語，何者最合適用在春季時？
(A)薰風拂面，時念故人 (B)目睹韶光，心懷舊雨
(C)金風玉露，神馳左右 (D)寒燈夜雨，懷想佳友
14. 下列讀音何者有誤？
(A)賄賂：ㄏㄨㄟˋ ㄌㄨㄛˋ (B)婢女：ㄅㄧˊ ㄋㄩˇ
(C)舛訛：ㄔㄩㄢˇ ㄇㄧˇ (D)田畦：ㄊㄩˊ ㄑㄩˊ

系所別：各系所（國文學系、經學研究所除外）

科 目：國文

15. 三百年來，我們曾有多樣的戲劇，大多消失於舞台；下列何者不是台灣傳統戲曲？
(A)川劇 (B)梨園戲 (C)高甲戲 (D)傀儡戲

二、閱讀測驗題組：請先閱讀下面附錄文章，然後在各題選項中，選出最適當之答案。
(每題 2%，共 10%)

(一) 小津安二郎可能太喜歡吃秋刀魚了，他最後一部電影《秋刀魚之味》描寫深秋，色調依然淡雅，氣氛卻濃郁逼人。開拍時，小津最親愛的母親去世，自己的生命也悄然步入盡頭，他喻最後的歲月為「獨對秋刀魚之味」，並且日記上說：「春花呀，紛如憂絮；酒腸啊，苦似黃蓮」，帶著苦澀的心情獨自品嚐鍾愛的美味，是生命的無奈，我越來越覺得，美好的事物如鮮魚，感動人心，卻非常敏感、脆弱。(節錄：焦桐〈論吃魚〉)

16. 小津安二郎喻最後的歲月為「獨對秋刀魚之味」，對生命的感受是：
(A)喜樂歡欣 (B)順其自然 (C)孤獨面對 (D)無限美好
17. 下列詩句，何者接近作者「美好的事物如鮮魚」的感受？
(A)是非成敗轉頭空 (B)彩雲易散琉璃脆 (C)落花時節又逢君 (D)常懷千歲憂

(二) 她的祖母的死去就像一顆樹木的倒塌，有一天她摔倒在地上，就再也沒有爬起來過。她注視祖母業已平靜的肉體，臉上露出嬰兒般的笑靨，她彷彿看到祖母走進深密的叢林中，在草原的那一端隱沒，那裡有一顆星星亮了又暗了，她回到生命的初始而非歸入生命的終結。近年她漸漸感到身體有了秋意，肌膚呈現樹木的紋理，並散發苦楝樹的果實氣味，生命多麼甜蜜又多麼憂傷，她迎風而立，臉上展露神秘的笑容。(節錄周芬伶：〈汝身〉)

18. 描寫老去與死亡，下列何者非文章之觀點？
(A)生命終回歸初始 (B)老年活得自在 (C)體會到生命的悲喜 (D)老年悲哀
19. 這一篇文章的作者善於寫作何種題材？
(A)旅遊文學 (B)女性文學 (C)飲食文學 (D)鄉土文學
20. 文章中用到的修辭手法主要是：
(A)譬喻 (B)排比 (C)映襯 (D)頂真

三、作文（60%）

古人云：「家事、國事、天下事，事事關心」，身為知識份子，是國家社會的中堅力量，你對未來的思考與期許為何？請以「思考未來」為題，作文一篇。

國立高雄師範大學 102 學年度碩士班招生考試試題

系所別：事業經營學系（事業經營組）

科 目：統計學

※注意：1. 作答時請將試題題號及答案依序寫在答案卷上，於本試題上作答者，不予計分。
2. 請以藍、黑色鋼筆或原子筆作答，以鉛筆或其他顏色作答之部份，該題不予計分。

1. 投擲一對公平的骰子，試計算

(a) 兩顆骰子出現不同點數的機率。(5%)

(b) 已知兩顆骰子的點數和大於 8 點，請問有一顆骰子的點數大於 5 的機率。(5%)

2. 設 A 、 B 為任意兩事件，若 $P(A)=0.5$ ， $P(B)=0.4$ ， $P(\bar{A} \cap B)=0.2$ ，請計算 $P(A \cup B)$ ，其中 \bar{A} 代表事件 A 的餘事件 (complementary event)。(10%)

3. 某大醫院總機小姐在早上九點到十一點間平均會接到 240 通電話，因為任何時刻電話都可能發生，故假設其服從 Poisson 分配，試問在早上九點到十一點這段時間，

(a) 在一個 4 分鐘的時間區間內正巧有兩通電話發生的機率為何？(5%)

(b) 平均兩通電話發生的時間間隔為何？(5%)

4. 已知 $F_X(x)$ 為隨機變數 X 的 CDF(cumulative distribution function) 如下，試求：

$$F_X(x) = \begin{cases} 0, & x < 1 \\ \frac{x^2 - 1}{8}, & 1 \leq x \leq 3 \\ 1, & 3 \leq x \end{cases}$$

(1) X 的 pdf(probability density function)。(4%)

(2) X 的變異數(Variance)。(3%)

(3) $P(1.5 < X \leq 3)$ 。(3%)

(背面有題)

系所別：事業經營學系（事業經營組）

科目：統計學

5. $X_1, X_2, \dots, X_{20} \stackrel{iid}{\sim} N(\mu = 0, \sigma^2 = 1)$ ，試求

(1) $Y = \sum_{i=1}^{20} X_i^2$ 的分配。(5%)

(2) $Z = 20\bar{X}^2$ 的分配，其中 $\bar{X} = \frac{\sum_{i=1}^{20} X_i}{20}$ 。(5%)

6. 某家電視台欲知其觀眾的平均年齡以作為節目製作時之參考，根據其對收視戶抽查所得的平均年齡為 35 歲。(20%，每小題 5%)

(1) 當樣本數為 64，母體標準差為 6 歲，求該雜誌讀者平均年齡的 95% 信賴區間。

(2) 當樣本數為 64，樣本標準差為 6 歲，求該雜誌讀者平均年齡的 95% 信賴區間。

(3) 當樣本數為 25，母體分配為常態，母體標準差為 6 歲，求該雜誌讀者平均年齡的 95% 信賴區間。

(4) 當樣本數為 25，母體分配為常態，樣本標準差為 6 歲，求該雜誌讀者平均年齡的 95% 信賴區間。

7. 假設某企業有甲、乙二個廠，產量各佔 40% 與 60%。現欲了解工廠的每日平均產量及其變異數，自兩工廠中隨機抽取 36 天，得資料如下：

$\bar{X}_1 = 40$ $S_1 = 12$ ， $\bar{X}_2 = 60$ $S_2 = 15$ 請依序回答下列小題，並寫出統計方法所需要的假設條件：

(1) 請求甲工廠每日平均產量的 95% 信賴區間。(10%)

(2) 請檢定甲、乙二工廠產量變異數比例的 95% 信賴區間。(10%)

(3) 請根據(2)的結果，求全體甲、乙二工廠平均每日產量的 95% 信賴區間。(10%)

國立高雄師範大學 102 學年度碩士班招生考試試題

系所別：事業經營學系（科技管理組）

科 目：統計學

- ※注意：1. 作答時請將試題題號及答案依序寫在答案卷上，於本試題上作答者，不予計分。
2. 請以藍、黑色鋼筆或原子筆作答，以鉛筆或其他顏色作答之部份，該題不予計分。

1. 假設領有身心障礙者手冊之身心障礙者的平均月薪為25,881元，標準差為19,150元。現隨機選取144位領有身心障礙者手冊之人為樣本，請問：（20%）
- (1) 平均月薪超過30,000元的機率為何？
 - (2) 平均月薪不到25,000元的機率為何？

2. 從母體 $N(\mu, \sigma^2)$ 中隨機抽出二組獨立的樣本 X_1, X_2, \dots, X_n 與 Y_1, Y_2, \dots, Y_m ，現以

$$\hat{\mu}_1 = \frac{\bar{X} + \bar{Y}}{2} \text{ 與 } \hat{\mu}_2 = \frac{n\bar{X} + m\bar{Y}}{n+m} \text{ 來估計 } \mu, \text{ 試比較此二估計式的不偏性。 (10\%)}$$

3. 學生團體欲知學校附近出租的房間坪數(X)與月租(千元)(Y)之間的關係，得資料如下：
 $\bar{X} = 6, S_X = 0.8, \bar{Y} = 2.4, S_Y = 0.7, S_{XY} = 0.48, n = 40$ 。（20%）

- (1) 試求迴歸直線 $\hat{Y} = \hat{\alpha} + \hat{\beta}X$ 。
- (2) 試求一個8坪大的房間的平均月租的95%信賴區間。

4. 已知 $f(x)$ 為隨機變數 X 的 pdf(probability density function) 如下，令 $Y = 2X^2 + 3$ ，試求

- (1) Y 的 pdf。（4%）
- (2) Y 的 CDF(cumulative distribution function)。（3%）
- (3) Y 的變異數(Variance)。（3%）

x	-1	0	1	2
f(x)	1/3	1/6	1/3	1/6

（背面有題）

系所別：事業經營學系（科技管理組）

科 目：統計學

5 投擲一對公平的骰子，試計算

(1) 兩顆骰子的點數和大於 8 點的機率。（5%）

(2) 至少有一顆骰子的點數是 5 點的情況下，兩顆骰子的點數和大於 7 的機率。（5%）

6 若隨機變數 $X \sim N(\mu = 3, \sigma^2 = 4)$ ，且 $P(X < 1) = 0.1587$ ，則 $P(3 < X < 5) = ?$ （10%）

7. $X_1, X_2, \dots, X_{10} \stackrel{iid}{\sim} N(\mu = 0, \sigma^2 = 5)$ ，試求

(1) $Y = \frac{\sum_{i=1}^{10} X_i^2}{25}$ 的分配。（5%）

(2) $Z = \frac{\sqrt{90}\bar{X}}{\sqrt{\sum_{i=1}^{10} (X_i - \bar{X})^2}}$ 的分配，其中 $\bar{X} = \frac{\sum_{i=1}^{10} X_i}{10}$ 。（5%）

8 請說明何謂大數法則（Law of Large Number）。（10%）

國立高雄師範大學 102 學年度碩士班招生考試試題

系所別：事業經營學系（科技管理組）

科 目：微積分

※注意：1. 作答時請將試題題號及答案依序寫在答案卷上，於本試題上作答者，不予計分。
2. 請以藍、黑色鋼筆或原子筆作答，以鉛筆或其他顏色作答之部份，該題不予計分。

1. 求 $\int_1^2 2x^2 e^x dx$ 。(10%)

2. 求 $\int \left(\frac{v^3 + 2v^2 - v}{3v} \right) dv$ 。(10%)

3. 求 $\int \left(\frac{1 - \sqrt{x}}{1 + \sqrt{x}} \right) dx$ 。(10%)

4. 已知區域 R 被函數 $f(x) = x\sqrt{1-x^2}$ 、 x 軸及直線 $x = -0.5$ 和 $x = 1$ 所包圍，

(a) 畫出區域 R 的圖形。(5%)

(b) 使用定積分求區域 R 的面積。(5%)

5. 在 2013 年($t = 1$)與 2019 年($t = 7$)之間，行動電話的廣告支出預估為

$$S(t) = 0.9t^{0.95} \quad (1 \leq t \leq 7)$$

其中 $S(t)$ 是以十億元計，而 t 是以年計。

試問在 2013 年與 2019 年之間，每年的平均廣告支出為多少？(10%)

6. 求下列函數之導函數

$$f(x) = (x)^{1/2}(x^2 + 1)^{-1} \quad (10\%)$$

(背面有題)

系所別：事業經營學系（科技管理組）

科 目：微積分

7.求函數

$$f(x) = x^3 - 2x^2 - 4x + 4$$

在閉區間 $[0, 3]$ 的絕對極值。(10%)

8.在長 16 英吋、寬 10 英吋的矩形的四個角落分別切掉四個等大的正方形後再折疊，可得一個無蓋的長方體容器。此長方體容器的長、寬、高分別為多少，才可得最大容積？(15%)

9.求函數 $f(x) = e^{-x^2}$ 的反曲點。(15%)

國立高雄師範大學 102 學年度碩士班招生考試試題

系所別：事業經營學系（事業經營組）

科 目：經濟學

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2. 請以藍、黑色鋼筆或原子筆作答，以鉛筆或其他顏色作答之部份，該題不予計分。

一、選擇題（45% 每題 5%）

1. 假設老王有 1200 元要花在 X 與 Y 兩樣商品上，X 的售價為每個 20 元，Y 的售價為每個 10 元。若已知該兩貨品為一比一全替代，則老王的最適購買量為：(A)10 個 X 與 100 個 Y (B)60 個 X 不買 Y (C)120 個 Y 不買 X (D)條件不足無法得知
2. 下列敘述何者不正確：(A)獨占廠商會在邊際收益等於邊際成本之產出水準進行生產 (B)由於獨占廠商訂價高於邊際成本，所以其產量不會是效率產出水準 (C)獨占廠商有差別定價的能力賺取超額利潤 (D)自然獨占廠商通常可在不賠錢的情況下達到效率產出水準
3. The law of diminishing returns occurs with each additional unit of variable input when (A) marginal physical product is declining. (B) marginal physical product becomes negative. (C) total output begins to rise. (D) total output begins to decline.
4. "Menu costs" refers to (A) the price of restaurant food. (B) the cost of changing nominal prices. (C) the cost of changing real wage rates. (D) the price of capital-intensive services.
5. When the natural rate of unemployment is greater than the actual rate of unemployment, then the actual inflation is: (A) greater than the expected inflation. (B) less than the expected inflation (C) equal to the expected inflation (D) zero.
6. 廠商在短期生產使用勞動與資本兩種生產要素，勞動為變動生產要素，資本為固定生產要素，若央行為刺激國內經濟景氣擬調降利率，請問利率下降對短期平均變動成本(AVC)和短期平均固定成本(AFC)的影響為何？(A)AVC 仍維持不變，AFC 下降 (B)AVC 下降，AFC 仍維持不變 (C)AVC 下降，AFC 下降 (D)AVC 維持不變，AFC 維持不變 (E)AVC 先下降再上升，AFC 先上升再下降。

（背面有題）

系所別：事業經營學系（事業經營組）

科 目：經濟學

- 7.某完全競爭產業由許多廠商組成，每一廠商的總成本函數為 $SRTC = q^2 + 1$ ，邊際成本函數為 $SRMC = 4q$ ，產業面對的需求曲線為 $Q^d = 52 - P$ ，其中 q 為廠商需求量、 P 為價格，則這個產業的廠商數目為多少？ (A)16 (B)40 (C)48 (D)50 (E) 52。
- 8.物價上漲將導致 (A) LM 曲線右移 (B) LM 曲線左移 (C)IS 曲線右移 (D)IS 曲線左移 (E)IS-LM 曲線沒有改變。
- 9.公共支出如果以貨幣融通常會使：(A)利率下降 (B)物價上升 (C)所得減少 (D)以上皆是 (E)資料不足，無法判斷。

二、解釋名詞（25%）

- 1.Nash Equilibrium
- 2.季芬財（Giffen Goods）
- 3.邊際效用遞減法則
- 4.國內生產毛額（GDP）
- 5.完全差別訂價（perfect price discrimination）

三、問答題：（30% 每題 10%）

- 1.若社會上只有兩種商品可供消費，則
 - (1)此兩種商品是否必然是替代品？為什麼？
 - (2)此兩種商品是否必然不可能皆為劣等財？為什麼？
- 2.請繪圖並分析在 Solow 成長模型下，儲蓄率提高對個人所得與所得分配的影響效果。
- 3.二代健保即將上路，確定未來只要超過新台幣 5 千元以上的利息或股利所得，都要被課 2%的補充保費，因而引發民眾的拆單潮。請以經濟學的理论分析，則美元兌新台幣之即期匯率會上升（即新台幣貶值）、下跌（即新台幣升值）或沒有影響？為什麼？

國立高雄師範大學 102 學年度碩士班招生考試試題

系所別：事業經營學系（科技管理組）

科 目：經濟學

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2. 請以藍、黑色鋼筆或原子筆作答，以鉛筆或其他顏色作答之部份，該題不予計分。

一、選擇題（45%）

1. 假設某完全競爭廠商生產之產品單價為 83 元，其邊際成本為 $MC = 2 + (Q - 8)^2$ ，請問該廠商利潤極大下的產量為：
(A)16 (B)17 (C)18 (D)條件不足無法得知。
2. 下列敘述何者不正確：(A)獨占廠商會在邊際收益等於邊際成本之產出水準進行生產 (B)由於獨占廠商訂價高於邊際成本，所以其產量不會是效率產出水準 (C)獨占廠商有差別定價的能力賺取超額利潤 (D)自然獨占廠商通常可在不賠錢的情況下達到效率產出水準。
3. “Menu costs” refers to (A)the price of restaurant food. (B)the price of capital-intensive services. (C)the cost of changing real wage rates. (D)the cost of changing nominal prices.
4. The permanent income hypothesis tells us that (A)consumption expenditures of most individuals are closely linked to their perception of their long-run permanent income. (B)consumption spending is not based on current income, but financed out of asset sales. (C)income is permanent for all consumers. (D)none of above.
5. The difference between the nominal and real interest rates is: (A)the inflation rate. (B)the anticipated inflation rate. (C)the nominal rate. (D)the unemployment rate.
6. 若某藝文團體演出的需求是 $P=200-0.4q$ ，其中 q 為門票需求量、 P 為票價，若演出場地的容量是 300，則收益極大的門票票價為 (A)50 (B)100 (C)150 (D)200 (E)250。
7. 假設一完全競爭廠商的成本函數為 $C=40q^2+4000$ ，其中 q 為產出量， C 為成本，則其平均成本最低狀況下的產出量為？ (A)8 (B)10 (C)12 (D)15 (E)20。

（背面有題）

系所別：事業經營學系（科技管理組）

科 目：經濟學

- 8.根據工資僵固性模型，當物價上升會導致 (A)實質工資不變，名目工資下降 (B)實質工資下降，產生超額勞動供給 (C)實質工資上升，產生超額勞動需求 (D)實質工資下降，產生超額勞動需求 (E)名目工資下降，產生超額勞動需求。
- 9.我國央行以下項何者作為貨幣政策的中間目標? (A)M1A (B)M1B (C)M2 (D)銀行同業拆款利率 (E)準備貨幣量。

二、解釋名詞（25%）

- 1.賽伊法則（Say's Law）
- 2.需求拉動型通貨膨脹（demand-pull inflation）
- 3.M1B
- 4.比較利益法則
- 5.市場失靈

三、問答題（30%，每小題 10%）

- 1.何謂加速原理？ Paul A. Samuelson 如何透過「乘數效果」與「加速原理」之交互作用，說明景氣循環發生的原因。
- 2.日圓過去 3 個月累計對美元貶值 11%，請分析評估這對日本國際收支與整體經濟的影響效果。
- 3.請應用經濟理論分析以下問題
 - (1)當經濟環境不佳時，越來越多人擔心失業，收入斷炊、生活失去保障，想投保失業險救急，但投保失業險，其實條件、限制多（例如限制多不開放個人單獨投保，購買時可能要結合債權債務關係...等），而且賠償有限，請問其原因為何？
 - (2)小明是大四應屆畢業生，假設小明擔心就業問題，想要對畢業後未能獲得工作的可能性預先投保保險，卻發現沒有保險公司願意承接保險，請問小明除投保保險外，可以採取什麼方法，來降低畢業後找不到工作的風險？

國立高雄師範大學 102 學年度碩士班招生考試試題

系所別：事業經營學系（事業經營組）

科 目：管理學（全一頁）

※注意：1. 作答時請將試題題號及答案依序寫在答案卷上，於本試題上作答者，不予計分。
2. 請以藍、黑色鋼筆或原子筆作答，以鉛筆或其他顏色作答之部份，該題不予計分。

一、解釋名詞：(25%)

- (1) efficiency
- (2) functional structure
- (3) flextime
- (4) franchising
- (5) control

二、問答題：

1. 請說明何謂組織文化？以及組織文化具體的表徵為何？（也就是員工如何融入組織文化？）(25%)
2. 請說明決策的過程。(10%)
3. 何謂雙因子理論？(10%)
4. 何謂目標管理？其步驟為何？(10%)

三、申論題：(20%)

持續性「創新」(innovation)，已經成為企業能否生存的關鍵因素之一。因此，許多企業積極推動「創新」，無論是在商業模式的創新、產品／服務創新、技術創新、流程創新...等。試問，一家企業該如何成功推動「創新」，成為一個創新的組織？