

# 國立中山大學 107 學年度碩士暨碩士專班招生考試試題

科目名稱：管理實務【企管系企管乙班碩士班】

題號：447001

※本科目依簡章規定「不可以」使用計算機(問答申論題)

共 1 頁第 1 頁

本試卷共五題，答題請勿字跡潦草，每題的答覆請不要超過 300 字

1. 不論時代如何演進，管理者最重要的目標在於提升組織的「效能(effectiveness)」與「效率(efficiency)」。請你各用一個實例，分別說明效能與效率對企業績效有什麼不同的意涵。(20分)
2. 老王是一個經營快 20 年的早點業者(如一般傳統早餐店，蛋餅或是吐司、漢堡都有)，但近 5 年來一件事情困擾他，就是附近「早、午餐店」愈開愈多，生意也都不錯，使他的業績這 5 年逐漸降低到只剩以往業績的 80%。你若是老王，要怎樣做才能扭轉此一困境？(20分)
3. 如果你是一家台灣手搖飲料店業者，目前已經開了有將近 30 家的連鎖店，近年來你深覺台灣飲料市場成長有限，便把目光投向快速成長的越南。請說明你要以何種方式進軍越南的手搖飲料市場？並詳細說明此採用此方式之原因。(20分)
4. 你是一家營業額將近 2 億公司的業務協理，為了提升部門的營運績效，決定從 2018 年開始執行目標管理(Management by objective; MBO)。請問你如何對下屬進行目標管理？(20分)
5. 你所主管的部門，主要都是 20-30 歲左右的年輕員工，請說明你如何利用領導理論中的管理方格(managerial grid)理論，亦即「關心生產」與「關心員工」的兩大構面去領導這些年輕下屬。(20分)

# 國立中山大學 107 學年度碩士暨碩士專班招生考試試題

科目名稱：商用統計學【企管系企管甲班碩士班甲組選考、乙組選考、丙組選考】題號：441002

※本科目依簡章規定「不可以」使用計算機(混合題)

共 3 頁第 1 頁

(請於答案卷作答，勿於試題紙上作答)

一. 單選題 (20 題，每題 4 分，共 80 分)

1. A tabular summary of a set of data showing classes of the data and the fraction of the items belonging to each class is called:
  - a. the class width
  - b. a relative frequency distribution
  - c. a cumulative relative frequency distribution
  - d. none of the above
2. Regarding chi-square test:
  - a. no cell in the table should have an expected count less than 1
  - b. no more than 20% of the cells should have an expected count less than 5
  - c. it is not symmetric
  - d. all of the above
3. Two events X and Y are independent if:
  - a.  $P(Y|X)=P(X)$
  - b.  $P(Y|X)=P(Y)$
  - c. both a and b are satisfied
  - d. none of the above
4. If a penny is tossed six times and comes up heads all six times, the probability of heads on the seventh trial is:
  - a. less than the probability of trials
  - b.  $1/64$
  - c. 0.5
  - d. larger than the probability of trials
5. The probability distribution for a discrete random variable which is used to compute the probability of x successes in n trials is known as the:
  - a. normal probability distribution
  - b. standard normal distribution
  - c. binomial probability distribution
  - d. none of above
6. Which of the following is not a characteristic of a binomial experiment?
  - a. at least 2 outcomes are possible
  - b. the experiment consists of a sequence of n identical trials
  - c. probabilities remain the same as successive trials are made
  - d. the trials are independent of each other
7. In simple linear regression, when explanatory variable is closer to its mean:
  - a. the standard deviation of the population decreases
  - b. the population mean increases
  - c. the confidence interval of the Y decreases
  - d. the standard error of the mean increases
8. The difference between the point estimate, such as the sample mean  $\bar{X}$ , and the value of the population parameter it estimates, such as the population mean  $\mu$ , is known as the:
  - a. confidence level
  - b. sampling error
  - c. parameter estimate
  - d. interval estimate
9. Whenever the population standard deviation is unknown and the population has a normal or near-normal distribution, which distribution is used in developing an interval estimation?
  - a. t distribution
  - b. chi-square distribution

試題隨卷繳回

背面有題

# 國立中山大學 107 學年度碩士暨碩士專班招生考試試題

科目名稱：商用統計學【企管系企管甲班碩士班甲組選考、乙組選考、丙組選考】題號：441002  
※本科目依簡章規定「不可以」使用計算機(混合題) 共 3 頁第 2 頁

- c. beta distribution
  - d. standard distribution
10. Method of model selection of multiple regression includes:
- a. forward selection
  - b. backward elimination
  - c. stepwise selection
  - d. all of the above
11. When the null hypothesis has been true, but the sample information has resulted in the rejection of the null, a \_\_\_\_\_ has been made.
- a. level of significance
  - b. Type II error
  - c. critical value
  - d. Type I error
12. For setting the decision rule in a small-sample case, if it is reasonable to assume that the population is normal, we use:
- a. the Z distribution
  - b. the t distribution with n-1 degrees of freedom
  - c. the t distribution with n+1 degrees of freedom
  - d. none of the above
13. An important application of the chi-square distribution is:
- a. making inferences about a single population variance
  - b. testing for goodness of fit
  - c. testing for the independence of two variables
  - d. all of the above
14. Symptom of collinearity in multiple regression model includes:
- a. two or more of the explanatory variables are correlated
  - b. instability of the estimated coefficients
  - c. increase the standard errors
  - d. all of the above
15. The coefficient of determinations is:
- a. The square root of the correlation coefficient
  - b. Usually less than zero
  - c. the correlation coefficient squared
  - d. none of the above
16. The probability distribution for a discrete random variable which is used to compute the probability of x occurrences of an event over a specified interval is known as:
- a. the Poisson probability distribution
  - b. the standard normal distribution
  - c. a discrete random variable
  - d. a linear function
17. Which of the following is not a limitation of coefficient of correlation?
- a. it quantifies only the strength of the linear relationship between two variables
  - b. it will be affected by data outliers
  - c. a high correlation between two variables implies a cause-and-effect relationship
  - d. none of the above
18. The residual refers to:
- a.  $\bar{y}_i - \hat{y}_i$
  - b.  $y_i - \hat{y}_i$
  - c.  $\hat{y}_i - \bar{y}_i$
  - d. None of the above

# 國立中山大學 107 學年度碩士暨碩士專班招生考試試題

科目名稱：商用統計學【企管系企管甲班碩士班甲組選考、乙組選考、丙組選考】題號：441002  
※本科目依簡章規定「不可以」使用計算機(混合題) 共3頁第3頁

19. The characteristics of adjusted  $R^2$  include:
  - a. it is an estimator of the population correlation
  - b. it can explain the proportion of variability by the regression model
  - c. it decreases when the inclusion of a variable improves the model ability to predict Y
  - d. none of the above
20. The ANOVA procedure is a statistical approach for determining whether or not:
  - a. the means of two or more populations are equal
  - b. the means of more than two samples are equal
  - c. the means of two samples are equal
  - d. none of the above

二. 計算題 (兩題, 每題 10 分, 共 20 分): 請寫出計算過程。

1. A study tries to evaluate the association between education years and income. The study collects 100 observations with education years from 6 to 23 years, and the annual income range is between \$200,000 and \$1,500,000. The median income is \$600,000, SE is \$50,000. The study conducts Pearson's Correlation test and got Pearson's Correlation coefficient equals 0.7.

When education year increases one year, how much income will be increased? (10%)

2. An International Company claims that the batteries it produces have useful lives of more than 90 hours, with a known standard deviation (of the population) of 27 hours. A test is undertaken to test the validity of this claim.
  - a. The correct set of hypotheses for this test is? (5%)
  - b. A sample of 81 batteries had an average useful life of 105 hours. The test statistic has a value of? (5%)

# 國立中山大學 107 學年度碩士暨碩士專班招生考試試題

科目名稱：微積分【企管系企管甲班碩士班甲組選考、乙組選考、丙組選考】 題號：441003

※本科目依簡章規定「不可以」使用計算機(問答申論題)

共 1 頁第 1 頁

請按題號順序於答案卷作答，並寫出計算過程

1. Differentiate the following functions (25%)

i.  $f(t) = (t + \frac{1}{t^3})^2$  by chain rule (5%)    ii.  $f(t) = (\cos 3t)^2$  (5%)

iii.  $f(x) = \ln \frac{\sin x}{x}$  (5%)    iv. Find  $dy/dx$  where  $\cos^3 x + \cos^3 y = \sin(x + y)$  (5%)

v. Find the differential  $dw$  where  $w = \exp(-x^3 - y^4)$ . (5%)

2. Evaluate the following integrals. (35%)

i.  $\int x\sqrt{x^2 + 25} dx$  (5%)    ii.  $\int \sin(\alpha x + \beta) dx$  (5%)    iii.  $\int \frac{e^{\sqrt{x}} dx}{\sqrt{x}}$  (5%)    iv.  $\int 3xe^{-2x} dx$  (5%)

v.  $\int \frac{dx}{(x+1)(x^2+1)}$  (5%)    vi.  $\int_1^{\infty} \frac{dx}{5x+1}$  (5%)    vii.  $\int_0^1 \int_{-2}^2 x^2 e^y dx dy$  (5%)

3. Evaluate the following limits. (15%)

i.  $\lim_{x \rightarrow 0^+} \frac{1 - \cos x}{x}$  (5%)    ii.  $\lim_{x \rightarrow 0} \frac{\ln(1+x)}{2x}$  (5%)    iii.  $\lim_{x \rightarrow 0^+} (1 + \frac{1}{x})^x$  (5%)

4. Find the Taylor's 4<sup>th</sup> degree polynomial for  $f(x) = e^x$  at  $a=1$  with the remainder. (10%)

5. Graph the function  $f(x) = \frac{2x^2 + 1}{x^2 - 2x}$ . Please identify all extrema, inflection points, intercepts, and asymptotes. Show the concave structure and the behavior of the graph for  $|x|$  large and for  $x$  near any discontinuities of the function. (15%)

# 國立中山大學 107 學年度碩士暨碩士專班招生考試試題

科目名稱：管理學【企管系企管甲班碩士班甲組選考、乙組選考、丙組選考】 題號：441004

※本科目依簡章規定「不可以」使用計算機(混合題)

共 6 頁第 1 頁

※請勿於試題紙上作答

一、單選題：請選擇最合適的答案，每題 2 分，不倒扣，合計 60 分

- The order in which the stages of the product life cycle occur over time is:
  - embryonic, maturity, growth, and decline
  - embryonic, growth, maturity, and decline
  - growth, maturity, decline, and embryonic
  - embryonic, growth, decline, and maturity
  - growth, embryonic, maturity, and decline
- If there is low formalization, a comprehensive information network, and high participation in decision making, one would expect a(n) \_\_\_\_\_ structure.
  - mechanistic
  - matrix
  - simple
  - organic
  - stable
- \_\_\_\_\_ is a method of changing behavior through unstructured group interaction.
  - Action research
  - Sensitivity training
  - Planned change
  - Process consultation
  - Psychoanalysis
- Why is "avoidance" ineffective as a conflict resolution strategy?
  - It escalates levels of conflict as each party tries to outmaneuver the other.
  - The weaker party who gives in might look for ways to get back at the stronger party in the future.
  - The parties to a conflict try to ignore the problem and do nothing to resolve the disagreement.
  - The two sides to a conflict are more concerned about winning the battle than cooperating.
  - It maximizes the total benefits for all parties involved.
- The work arrangement that allows two or more individuals to split a traditional 40-hour-a week job is \_\_\_\_\_.
  - flextime
  - core hours
  - job sharing
  - telecommuting
  - employee involvement
- The boundaryless organization relies heavily on \_\_\_\_\_.
  - information technology
  - efficient chains of command
  - the simple structure
  - the matrix structure
  - centralization of authority
- The informal organizational network through which unofficial information flows is called \_\_\_\_\_.
  - the grapevine
  - the all-channel network
  - the wheel network

背面有題

試題隨卷繳回

# 國立中山大學 107 學年度碩士暨碩士專班招生考試試題

科目名稱：管理學【企管系企管甲班碩士班甲組選考、乙組選考、丙組選考】 題號：441004

※本科目依簡章規定「不可以」使用計算機(混合題)

共 6 頁第 2 頁

- D) the circle network  
E) the chain network
8. Which of the following is generally considered as a strategic, rather than a tactical, action?  
A) a “buy one, get one free” campaign by PX Mart.  
B) use of product coupons by a local grocer  
C) fare increases by Southwest Airlines  
D) entry into the European market by Home Depot  
E) seasonal discount by SKM Department Store
9. The members of a particular group are getting to know one another and attempting to reach an understanding of how each of them should act within the group. This stage of group development is called \_\_\_\_\_.  
A) forming  
B) storming  
C) norming  
D) performing  
E) adjourning
10. A competitive advantage that is developed through a cooperative strategy is called a collaborative or a(n) \_\_\_\_\_ advantage.  
A) economic  
B) collusive  
C) exploratory  
D) exploitative  
E) relational
11. Corporate governance revolves around the relationship between which two parties?  
A) shareholders and the board of directors  
B) shareholders and managers  
C) the board of directors and managers  
D) leaders and followers  
E) none of the above
12. All of the following are considered generic business-level strategies EXCEPT:  
A) differentiation  
B) vertical integration  
C) cost leadership  
D) focus  
E) integrated cost leadership/differentiation
13. Research shows that \_\_\_\_\_ is the most effective means of ensuring that employees comply with the firm’s ethical requirements.  
A) a speech on ethics by the CEO of the company  
B) a written code of ethics  
C) a value-based culture  
D) a statement in the firm’s mission statement  
E) an organic organizational structure
14. Clothing retailer Zara gets new styles into stores twice a week. Russell Stover got a line of low-carb candies, called Net Carb, on store shelves within three months after perfecting the recipe, rather than the typical twelve months. These are examples of \_\_\_\_\_ competition.  
A) convenience-based  
B) cost-based

# 國立中山大學 107 學年度碩士暨碩士專班招生考試試題

科目名稱：管理學【企管系企管甲班碩士班甲組選考、乙組選考、丙組選考】 題號：441004

※本科目依簡章規定「不可以」使用計算機(混合題)

共 6 頁第 3 頁

- C) time-based  
D) location-based  
E) psychology-based
15. The theory that asserts that motivation depends upon an employee's goals and the belief that productive behavior will get these goals accomplished is called \_\_\_\_\_.
- A) Maslow's hierarchy of needs  
B) Herzberg's dual-factor theory  
C) Alderfer's ERG theory  
D) McClelland's three needs theory  
E) Vroom's expectancy theory
16. Small- and medium-sized enterprises (SMEs) make up over 97% of all enterprises in Taiwan, accounting for around 78% of total employment in 2016. Which following statement is false about SMEs?
- A) SMEs make up the majority of enterprises active in international business and many more do internationalization today than ever before.  
B) Compared to the large multinationals, SMEs can be more flexible and quicker to respond to global business opportunities.  
C) SMEs are not constrained by limited financial and human resources in internationalization.  
D) Most SMEs focus on a small number of products and services, allowing them to establish strong relationships with their business partners.  
E) In Taiwan, a manufacturing SME is defined as an enterprise with a paid-in capital of NT\$80 million or less, and its number of regular employees must less than 200.
17. Operations managers manage systems that convert inputs into outputs that are sold to customers. Which following statement is true about operations management?
- A) Operations managers are concerned with planning, organizing, supervising and coordinating production processes, but they do not need involve in supply chain management.  
B) Operations management, a transformation process of creating value for an organization's competitive success, is unimportant to service organizations because their transformation processes are not as evident as manufacturing organizations.  
C) Successful people management is irrelevant to operations management, because operations managers are only responsible for planning production processes and controlling in production quality.  
D) Operations management will become less significant in organizations with the increased automation in the manufacturing processes.  
E) Operations management involves cost-benefit analysis on sourcing materials, leveraging production costs, matching prices with competitors and customers.
18. All the following are concerned with the characteristics of Just-In-Time (JIT) production EXCEPT:
- A) JIT ensures that materials and supplies arrive at a facility just when they are needed so that storage and holding costs are very high.  
B) JIT includes a large number of operations in a small area.  
C) JIT builds work cells for families of products, flexible or moveable equipment.  
D) JIT minimizes shipping distance.  
E) JIT improves employment communication.
19. Employees participate in quality control in critical to organizational success. \_\_\_\_\_ is a disciplined approach that employees rely on statistical data and improved methods to eliminate defects.
- A) Inspection  
B) Six-sigma  
C) Quality circle



# 國立中山大學 107 學年度碩士暨碩士專班招生考試試題

科目名稱：管理學【企管系企管甲班碩士班甲組選考、乙組選考、丙組選考】 題號：441004

※本科目依簡章規定「不可以」使用計算機(混合題)

共 6 頁第 4 頁

- D) Follow-up monitoring  
E) Total quality management
20. Co-creation is the joint creation of value by the company and its customers, allowing the customers to co-construct the product/ service experience to suit their contexts. Companies considering co-creation initiatives should think carefully about the risks when they have:
- A) low demand uncertainty.
  - B) only few offerings.
  - C) high customer satisfaction.
  - D) strong brand reputation.
  - E) too many competitors.
21. Social media plays a key role in marketing management. Which following statement is false?
- A) Social media makes it easier to know potential customers and reach them widely.
  - B) Social media geo targeting helps organizations to reach specific customers depending on their locations.
  - C) On social media sites, marketers can spy on their competitors via search streams and data.
  - D) On social media sites, marketers receive instant feedback from customers.
  - E) Social media makes word of mouth advertising unimportant.
22. \_\_\_\_\_ are monetary assets purchased with the idea that the assets will provide incomes in the future or will be sold at higher prices for profits.
- A) Bitcoins
  - B) Investments
  - C) Corporate finances
  - D) Capital financing
  - E) FinTech
23. Proper financial management must ensure:
- A) the funds required for paying taxes are available.
  - B) excess cash is well-reserved.
  - C) financing proprieties are always in front of other corporate objectives.
  - D) sufficient number of past due accounts from customers.
  - E) to maximize shareholders' value given facing ethical concerns.
24. Which flow of acquiring process in human resources management is correct?
- A) Job analysis, planning, recruiting, selection, orientation
  - B) Orientation, planning, job analysis, recruiting, selection
  - C) Selection, recruiting, job analysis, planning, orientation
  - D) Recruiting, selection, job analysis, planning, orientation
  - E) Planning, job analysis, recruiting, selection, orientation
25. Which of the following is usually not included in a job description?
- A) Reporting relationship
  - B) Job location
  - C) Gender-specific role
  - D) Salary and compensation package
  - E) Required knowledge, skills and capabilities
26. Which of the following phrases best characterizes the culture of an organization?
- A) How job performance is evaluated
  - B) How things are done around here
  - C) Our official code of conduct
  - D) The most efficient way to do things
  - E) Guidelines for where this organization is going

# 國立中山大學 107 學年度碩士暨碩士專班招生考試試題

科目名稱：管理學【企管系企管甲班碩士班甲組選考、乙組選考、丙組選考】 題號：441004

※本科目依簡章規定「不可以」使用計算機(混合題)

共 6 頁第 5 頁

27. Which factor in the following does not lead to high barrier to entry in an industry?
- A) High capital investment
  - B) Favorable locations
  - C) Government subsidies
  - D) Minimal government intervention
  - E) High brand loyalty
28. Which stage in the industry life cycle presents the extreme rivalry?
- A) Development
  - B) Growth
  - C) Shake-out
  - D) Maturity
  - E) Decline
29. A good example of \_\_\_\_\_ is that Facebook doesn't tell users everything it really knows about them.
- A) business ethics
  - B) whistleblowing
  - C) social responsibility
  - D) corporate citizenship
  - E) Legitimacy
30. Communication must include the transfer and the understanding of meaning. Which following function is not included in managerial communication within an organization?
- A) Control
  - B) Motivation
  - C) Education
  - D) Emotional express
  - E) Information

## 二、時事題：請扼要以中文回答，不倒扣，合計 40 分

1. 行動電商平台蝦皮拍賣從2015年進入台灣市場後即快速成長，讓台灣電商平台業者都繃緊神經，更嚴重侵蝕了PChome集團旗下的露天拍賣（參考資料：《商業周刊》第1558期，2017年9月21日）。根據這則正在進行中的案例，請回答以下問題：
  - 1-1. 請從競爭及(或)顧客的角度具體論述：蝦皮拍賣能夠快速崛起並侵蝕露天拍賣的原因？(10%)
  - 1-2. 請運用一個理論來解釋蝦皮拍賣的崛起過程。(5%)
  - 1-3. 如果您是PChome集團的董事長，您如何有效地對應蝦皮拍賣的挑戰？(註：PChome集團關係企業包括PChome商店街、露天拍賣，以及PChomeUSA、PChomeThai海外電商平台)(5%)
2. Smart technologies are defined as computers or machines that do the work of or make decisions traditionally made by human beings. Examples include but not limited to connected devices, intranet of things (IoT), big data analytics, digital assistants and intelligent automation. With no doubt, the increased use of smart technologies in organizations will trigger dramatic shift in how we work, when we work and what type of work we do.
  - 2-1. Please elaborate how smart technologies affect business activities and processes in R&D, operations, marketing, financial, and human resources management, respectively. (10%)
  - 2-2. Organizations that have invested in smart technologies are already seeing rewards including higher revenues, an improved customer experience and increased employee

背面有題

# 國立中山大學 107 學年度碩士暨碩士專班招生考試試題

科目名稱：管理學【企管系企管甲班碩士班甲組選考、乙組選考、丙組選考】 題號：441004

※本科目依簡章規定「不可以」使用計算機(混合題)

共 6 頁第 6 頁

satisfaction. However, it is impossible to implement smart technologies without any hurdles. Please identify the potential barriers to smart technology building in an organization (5%) and provide corresponding recommendations for it (5%).

Reference: Avanade (2017) Smart technologies are delivering benefits to the enterprise – is your business one of them? (<https://www.avanade.com/~media/asset/point-of-view/smart-technologies-delivering-benefits-pov.pdf>)