（橫書式）　國立中山大學八十七學年度碩博士班招生考試試題

科　目：管理經濟　　公共事務管理研究所共 / 頁 第 / 頁

一、請解釋以下各詞的意義：（20%）

(1)「資本（Capital）」與「投資（Investment）」？
(2) 何謂「不可見的手」？
(3)「消費者剩餘」與「生產者剩餘」？
(4)「內部規模經濟」與「外部規模經濟」？
(5)「托拉斯」與「卡特爾」？

二、政府對無住屋者一般可採用兩種方法作為政府的住宅政策，其一為房租津貼，其二為現金補助，請比較這兩種方法的優劣。（20%）

三、生產函數的型態很多，請說明以下各生產函數：

(1) 一階齊次生產函數；
(2) Leontief 生產函數；
(3) Cobb-Douglas 生產函數；
(4) C.E.S 生產函數（20%）

四、環境污染常會產生外部性（externality），請說明何謂外部性？何謂外部性內部化？並說明何謂寇斯定理（Coase Theorem）？（20%）

五、Lucas 之理性預期學說，基本上認為政府的任何政策均屬無效，何以他有這種看法？試予說明。（20%）

（每題十分）

1.Discrete random variable x is described by the *probability mass function* (PMF)

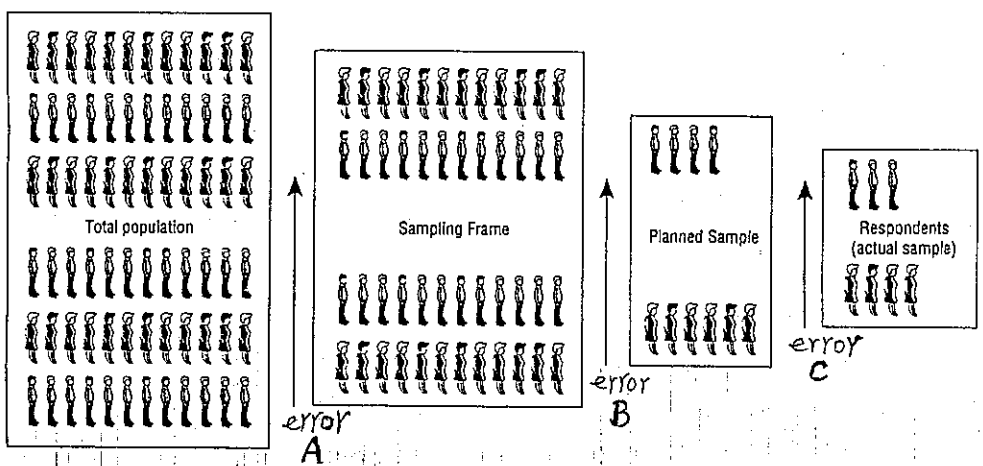
$$p_x(x_0) = \begin{cases} K - x_0/12 & \text{if } x_0 = 0, 1, 2 \\ 0 & \text{for all other value of } x_0 \end{cases}$$

What is the numerical value of K?

(a) 1 (b) 5/12 (c) 5/8 (d) not enough information.

2.Random sampling error is the difference between the sample result and the result of a census conducted by identical procedures. There are three sampling errors in the following figure. Which one is so-called random sampling error?

(a) error A (b) error B (c) error C (d) none of them.



3.To estimate sample size, a researcher ideally does the following:

(a) Estimates the standard deviation of the population.

(b) Makes a judgment about the desired magnitude of error.

(c) Determines a confidence level.

(d) All of them.

4.Table 1 is a contingency table (cross-tabulation) for policy awareness by sex. If you try to answer the question: "Is policy awareness independent of the respondent's sex?" Which method will you choose?

(a) chi-square test (b) regression (c) two-way ANOVA (d) none of them.

Table 1: Cross-Tabulation for Policy Awareness by Sex

Awareness of *XX* policy	Men	Women	Total
Aware	50	10	60
Unaware	15	25	40
	65	35	100

5.The data in Table 2 represent the SPSS results of a hypothetical company's test-market experiment on pricing. Three pricing treatments are administered in four separate cities. Which test has been used for this question?

Table 2: Pricing Experiment: SPSS Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-Ratio
Between groups	1,800.68	2	900.34	-
Within groups	4,148.25	9	460.91	1.953
Total	5,948.93	11		

(a) t test (b) ANOVA (c) MANOVA (d) none of them.

6.(Continue) The critical value of F at the 0.05 level for 2 and 9 degrees of freedom indicates an F of 4.26 would be required to reject the null hypothesis. What can be concluded for the company?

(a) All the pricing treatments produce approximately the same sales volume.

(b) Different pricing treatments produce different sales volume.

(c) The company needs a new pricing policy.

(d) none.

7.To determine the effect of various influences on residential house value at Yen-cheng District, the sale price of residential houses at Yen-cheng District is to be regressed on several factors (with a small data base of $n = 30$ houses). Please use the following information to answer questions 7, 8, and 9.

y: selling price

x_1: year of sale x_2: lot size x_3: house size

x_4: distance from the nearest park

The correlation coefficients between y and x_1, x_2, x_3, and x_4 are :

-0.4692, 0.7410, 0.8760, 0.8897

First, if you can only choose one independent variable, which one will you choose?

(a) x_1 (b) x_2 (c) x_3 (d) x_4

8.Here is the regression result of y and x_3, x_4. Is the relationship between y and x_3 significant?

(a) Yes (b) No (c) wrong question (d) need more information.

Model: MODEL1
Dependent Variable: Y

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	2	11924906.169	5962453.0843	104.967	0.0001
Error	27	1533680.4981	56802.9814		
C Total	29	13458586.667			

Root MSE	238.33376	R-square	0.8860
Dep Mean	8382.66667	Adj R-sq	0.8776
C.V.	2.84317		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob>|T|
INTERCEP	1	4407.4933	722.3294	6.102	0.0001
X3	1	0.5635	0.1191	4.733	0.0001
X4	1	79.4143	14.9716	5.304	0.0001

9.Is it better to use both x_3 and x_4 to predict y than use only x_3?

(a) Yes (b) No (c) wrong question (d) need more information.

10.Which one is not a multivariate technique for analysis of interdependence?

(a) Factor analysis (b) Cluster analysis (c) MANOVA

(d) All of them.

國立中山大學八十七學年度碩博士班招生考試試題

科　目：管理英文

Please discuss what makes you want to pursue advanced doctoral study in Public Affairs Management ?

Hint：Use English for your answer, Chinese is allowed only when necessary. In which case points will be deducted from your grade.