國立中山大學九十三學年度博士班招生考試試題

科目：企業管理【企管系】

說明：一、本科目試題，共分爲兩部分，考試成績各佔（50%）。
二、答案必須全部書寫於試卷上，違者不予計分！作答時，可不依照題序，不用抄題，惟請標明題號，並請力求條理、組織、系統分明。
三、請勿使用立可白等修正液/白墨，以避免加大地球上空臭氧層破洞！

第一部份　佔（50%）

一、（一）王永慶、許文龍爲當代台灣名企業家，試比較兩者領導統御思想理念及其具體作爲之異同，（10%）（二）並分析其形成背景與對其所屬企業集團并其所處大小環境之影響。（10%）（三）又當下各企業管理階層可自「王許經驗」獲得之啓示爲何？（5%）

二、（一）美國史上曾有所謂「強盜資本家」，以彼輩不擇手段，橫爭強奪之故！渠等雖能攫奪暴利於一時，然卻率皆遺臭千載！試問當今各企業領導管理階層如何以此史訓爲鑑？（5%）（二）復如何分別各自企業倫理（10%）、（三）市場倫理（10%）兩面向，避免重蹈覆轍？！

第二部份　佔（50%）

Please answer the following three questions. You can use either Chinese or English.

1. Compare and contrast Maslow's hierarchy of needs theory with (a) Alderfer's ERG theory and (b) Herzberg's motivation-hygien theory. (20 points)
2. What characteristics define an effective follower? (10 points)
3. What type of organization structure works best with an innovation strategy? A cost-minimization strategy? An imitation strategy? (20 points)

國立中山大學九十三學年度博士班招生考試試題

科目：經濟學【企管系】

第一部份

1. Taiwan fiscal policymakers ask to pass a special budget deficit, five hundred billion NT dollars in five years, in order to steer the economy. **How should policymakers try to raise the economy's natural rate of output? How big a problem are government budget deficits? Discuss. (25%)**

2. Consider a situation in which the industrial countries import all their oil from oil-exporting OPEC countries and where OPEC countries are competitive suppliers with a completely inelastic supply curve. What would be the effect on oil imports, OPEC oil prices, and industrial-country oil prices if all oil-consuming countries place a $5-per-barrel import tariff on oil? Which tariff argument might be used to support such a tariff on oil imports? (25%)

(Please answer the above two questions in Chinese)

第二部份

差別取價 (price discrimination)

1. 何謂差別取價？廠商進行差別取價的目的為何？(10 分)
2. Piguo 將差別取價分為三級，請敘述各級差別取價的內涵，並請各舉兩個實務上的差別取價實例。(10 分)
3. 如果你經營一家網咖，收費方式是先收取入場費 E，而後再以每小時為單位，每小時收費為 P 元（此即所謂 two-part tariff）。你有兩群目標顧客：學生與上班族，人數各為 100 人。經過調查，每個學生使用網咖的需求函數皆為：Q=8-P；每位上班族的需求函數皆為：Q=10-P，其中 Q 表示使用小時數。假設你經營網咖每小時的變動成本是 2 元，在不考慮固定成本的情況下，試回答下列問題：
   (1) 假設你可以清楚區分兩群顧客（例如檢查學生證），則你對每群顧客的最適訂價策略（E 與 P）各為何？此時利潤大小為何？(5 分)
   (2) 假設你不能區分兩群顧客，只能採取單一訂價(仍為 two-part tariff)，則此時你的最適訂價 E 與 P 各為何？利潤大小為何？(10 分)

Consider an economy with N consumers and one product X. Consumers have unit demand for product X. Their valuations for product X are either V_H or V_L, with $V_H > V_L > 0$. The proportion of consumers who have valuation V_H is $\alpha \in (0,1)$. Suppose that X can be costless produced by a monopolist M. M sells the product to retailer R at wholesale price w, and then given w, R sells the product to consumers by optimally choosing retail price p.

(1) Suppose M and R have been vertically integrated. What are the optimal (w^*, p^*)? (5 分)

(2) Suppose M and R are separate entities and the game proceeds in the way described above. Determine the equilibrium (w^*, p^*) and compare the total channel profit here to that of part (1). (10 分)

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科目：統計學【企管系】

第一部份

1. A study found that the *proportion of milk* in a piece of chocolate was positively related to the *sale* of that kind of chocolate. A simple regression using *proportion of milk* (measured in %) to predict *sale* (measured in dollar) found an unstandardized regression coefficient (*b*) of .05 and a standardized regression coefficient (β) of .04. Both coefficients were significant. (本題占 12 分)

a): If you have to explain to someone who does not understand statistics, what would you say about the meanings of the coefficients?

b): What was the size of the correlation between *proportion of milk* and *sale*?

c): Can the above results prove that the sale of chocolate can be increased by adding more milk to the chocolate? Please explain your answer briefly.

2. Following the above question, if the *proportion of nuts* was added as a second predictor to the regression and its β was .03, please explain what does this .03 mean. If the *proportion of milk* and the *proportion of nuts* were highly correlated (e.g., $r = .80$), would your explanation on the βs change? Why? (本題占 8 分)

3. It is true that Type I and Type II errors always add up to a constant? Please briefly explain your answer. (本題占 6 分)

4. An experiment compared the effect of several management methods upon worker's performance. Below is its result of ANOVA. Please answer: a) How many management methods were compared? b) How many degrees of freedom should be in the table for Within Groups? c) Suppose you do not have any hypothesis about the differences among the methods, and that you are only interested in pairwise differences, what analysis will you do to find out which methods differ? (本題占 12 分)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	47.821	3	15.940	4.095	.018
Within Groups	93.429		3.893		
Total	141.250	27			

5. The responses to a survey about satisfaction were analyzed. The questionnaire contained 14 questions. The data was analyzed using factor analysis with VARIMAX rotation of factors. Below are the results. Please answer: (本題占 12 分)

a) Is VARIMAX an orthogonal or oblique rotation?

b) Were the below results obtained before or after the rotation? How do you know?

c) Try to give a name for the first factor and explain briefly why you would choose such a name.

	Factor Loadings[a]			
	1	2	3	4
1. I am satisfied with the information I receive from my superior about my job performance	0.87	0.19	0.13	0.22
2. I receive enough information from my supervisor about my job performance	0.88	0.14	0.15	0.13
3. I receive enough feedback from my supervisor on how well I'm doing	0.92	0.09	0.11	0.12
4. There is enough opportunity in my job to find out how I am doing	0.65	0.29	0.31	0.15
5. I am satisfied with the variety of activities my job offers	0.13	0.82	0.07	0.17
6. I am satisfied with the freedom I have to do what I want on my job	0.17	0.59	0.45	0.14
7. I am satisfied with the opportunities my job provides me to interact with others	0.18	0.48	0.32	0.22
8. There is enough variety in my job	0.11	0.75	0.02	0.12
9. I have enough freedom to do what I want in my job	0.17	0.62	0.46	0.12
10. My job has enough opportunity for independent thought and action	0.20	0.62	0.47	0.06
11. I am satisfied with the opportunities my job gives me to complete tasks from beginning to end	0.17	0.21	0.76	0.11
12. My job has enough opportunity to complete the work I start	0.12	0.10	0.71	0.12
13. I am satisfied with the pay I receive for my job	0.17	0.14	0.05	0.51
14. I am satisfied with the security my job provides me	0.10	0.11	0.15	0.66

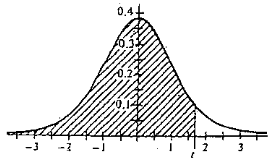
國立中山大學九十三學年度博士班招生考試試題

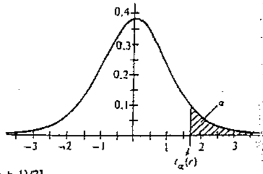
科目：統計學【企管系】

第二部份

1. Given the joint p.d.f.of X and Y $f(x,y) = 2\exp(-2x-y)$ fox $x,y>0$. 10%
   i) Find the marginal p.d.f.s
   ii) Check if X and Y are independent.
2. Let X have a binomial distribution of $B(n,p)$. Find the moment generating function of X, from which derive the mean and the variance of X. 10%
3. 從歷史資料顯示某老師教的學生考試成績平均 75 分，標準差 15。如果這學期有 25 位學生修這位老師的課，求平均成績超過 80 分以上（含）的機率。10%
4. 隨機抽樣 1500 人，其中 41%贊成某一議案。求贊成人口的比例的點估計，與 95%的信賴區間。10%
5. 為測試 A，B 兩種不同牧草對牛奶產量的影響，將 25 隻乳牛中分成兩組，第一組 12 隻餵以 A 牧草，第二組 13 隻餵 B 牧草。一段時間後測量每隻牛每日牛奶產量，發現第一組平均產量是 45.15，標準差 7.998。第二組平均產量是 42.15，標準差 8.740。求兩種牧草所造成每日牛奶產量差異的 95%信賴區間。並以此信賴區間，檢測這兩種牧草對牛奶產量影響是否有差異，$\alpha = .05$ 。10%

TABLE VI
The t Distribution



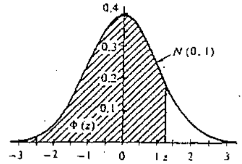


$$P(T \le t) = \int_{-\infty}^{t} \frac{\Gamma[(r+1)/2]}{\sqrt{\pi r}\,\Gamma(r/2)(1+w^2/r)^{(r+1)/2}}\,dw$$

$$[P(T \le -t) = 1 - P(T \le t)]$$

	$P(T \le t)$						
	0.60	0.75	0.90	0.95	0.975	0.99	0.995
r	$t_{0.40}(r)$	$t_{0.25}(r)$	$t_{0.10}(r)$	$t_{0.05}(r)$	$t_{0.025}(r)$	$t_{0.01}(r)$	$t_{0.005}(r)$
1	0.325	1.000	3.078	6.314	12.706	31.821	63.657
2	0.289	0.816	1.886	2.920	4.303	6.965	9.925
3	0.277	0.765	1.638	2.353	3.182	4.541	5.841
4	0.271	0.741	1.533	2.132	2.776	3.747	4.604
5	0.267	0.727	1.476	2.015	2.571	3.365	4.032
6	0.265	0.718	1.440	1.943	2.447	3.143	3.707
7	0.263	0.711	1.415	1.895	2.365	2.998	3.499
8	0.262	0.706	1.397	1.860	2.306	2.896	3.355
9	0.261	0.703	1.383	1.833	2.262	2.821	3.250
10	0.260	0.700	1.372	1.812	2.228	2.764	3.169
11	0.260	0.697	1.363	1.796	2.201	2.718	3.106
12	0.259	0.695	1.356	1.782	2.179	2.681	3.055
13	0.259	0.694	1.350	1.771	2.160	2.650	3.012
14	0.258	0.692	1.345	1.761	2.145	2.624	2.997
15	0.258	0.691	1.341	1.753	2.131	2.602	2.947
16	0.258	0.690	1.337	1.746	2.120	2.583	2.921
17	0.257	0.689	1.333	1.740	2.110	2.567	2.898
18	0.257	0.688	1.330	1.734	2.101	2.552	2.878
19	0.257	0.688	1.328	1.729	2.093	2.539	2.861
20	0.257	0.687	1.325	1.725	2.086	2.528	2.845
21	0.257	0.686	1.323	1.721	2.080	2.518	2.831
22	0.256	0.686	1.321	1.717	2.074	2.508	2.819
23	0.256	0.685	1.319	1.714	2.069	2.500	2.807
24	0.256	0.685	1.318	1.711	2.064	2.492	2.797
25	0.256	0.684	1.316	1.708	2.060	2.485	2.787
26	0.256	0.684	1.315	1.706	2.056	2.479	2.779
27	0.256	0.684	1.314	1.703	2.052	2.473	2.771
28	0.256	0.683	1.313	1.701	2.048	2.467	2.763
29	0.256	0.683	1.311	1.699	2.045	2.462	2.756
30	0.256	0.683	1.310	1.697	2.042	2.457	2.750
∞	0.253	0.674	1.282	1.645	1.960	2.326	2.576

TABLE Va
The Normal Distribution



$$P(Z \le z) = \Phi(z) = \int_{-\infty}^{z} \frac{1}{\sqrt{2\pi}} e^{-w^2/2}\,dw$$

$$[\Phi(-z) = 1 - \Phi(z)]$$

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7703	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990

α	0.400	0.300	0.200	0.100	0.050	0.025	0.010	0.005	0.001
z_α	0.253	0.524	0.842	1.282	1.645	1.960	2.326	2.576	3.090
$z_{\alpha/2}$	0.842	1.036	1.282	1.645	1.960	2.240	2.576	2.807	3.291