(111) 輔仁大學轉學生招生考試試題	考試日期：111 年 7 月 18 日第 二 節
	本試題共 2 頁 (本頁為第 1 頁)

科目：經濟學　　系所組：金融與國際企業學系　　年級: 二

一. 【30%】選擇題

1. ( ) 2022 年春季台灣 COVID-19 疫情快速蔓延，也延伸相關防疫保單問題，當中重複投保被拒保引起各界爭議。請問重複投保可能誘發何種問題? (A) 超額需求 (B) 道德風險 (C) 過度競爭 (D) 效率不彰。
2. ( ) 市場機能可以運作的前提要件是什麼? (A) 生產活動自由 (B) 公平分配 (C) 存在外部性 (D) 明文規定私有財產權。
3. ( ) 一個國家的生產力愈高反映何種狀態? (A) 生活水平愈高 (B) 經濟成長率愈高 (C) 儲蓄率愈高 (D) 以上皆是。
4. ( ) 2022 年春季美國通貨膨脹率創 40 年來新高，逼近 8.5%水準。請問下列哪些方案有助於降低通貨膨脹率? (A) 提高聯邦基金利率水準 (B) FED 購買美國政府公債 (C) 拜登政府發放 COVID-19 紓困現金支票 (D) 以上皆是。
5. ( ) 若官方對市場實行價格上限政策，且將該價格設定高於市場價格，則 (A) 鼓勵買賣雙方轉向黑市交易 (B) 市場均衡結果維持不變 (C) 市場出現超額供給 (D) 市場出現超額需求。
6. ( ) 烏克蘭是全球最大的葵花油出口國，俄羅斯居次，烏克蘭戰爭爆發後，葵花油的出口運輸中斷，連帶也使棕櫚油價格暴漲。依據上述，葵花油與棕櫚油應該是 (A) 互補品 (B) 替代品(C) 正常財 (D) 劣等財。

二. 【20%】是非題: 正確答「T」，錯誤答「F」

1. ( ) 短期成本曲線呈現 U 型可歸因於規模經濟與規模不經濟。
2. ( ) 邊際效用遞減法則可運用於解釋廠商總成本曲線遞增的特質。
3. ( ) 生產可能曲線呈現凹向原點的特質是建立於機會成本遞增的假設。
4. ( ) 供應鏈斷鏈危機可能誘發停滯性通貨膨脹。
5. ( ) 當實質所得增加時，在其他條件不變下，貨幣的價值會下降。

三. 【50%】填充題

1. 假設某一公司在產出為 10 單位時的總收益為$100，在產出為 11 單位時的總收益為$110。當下該公司正處於_____的競爭環境。

2. 據 Tesla 財報顯示，隨着 Tesla 的產能不斷提升，來自「碳積分」的收入在 2020 年大增。截至 2020 年底，Tesla 通過出售碳交易系統給予的排放額度淨收 15.8 億美元，較 2019 年的 5.94 億美元大幅增長約 1.65 倍，佔年內總收入的 5.8%。碳排放交易可以實現經濟學中_____的觀點。

3. 某天你在家中打掃時意外發現一張千元紙鈔，假設存款準備率為 10%，則這筆$1000 現金最多可以額外創造_____元的貨幣供給，最少可以額外創造_____元的貨幣供給。

4. CDE Mart 有 3 位銷售員，下表為 3 人上個月的銷售紀錄:

	男鞋	女鞋
Albert	100	50
Billy	90	90
Carpenter	30	120

依據上表

(1) Billy 上個月銷售男鞋的機會成本_____(高/低/等於) Carpenter。

(2) _____(人名)應該專注於女鞋的銷售

(3) _____(人名)應該專注於男鞋的銷售。

5. 假設南台酪農生產了價值 100 萬元的新鮮生乳，其中 80 萬元製成為鮮乳直接販售給消費者，剩下的部分則另外加工製成起司片後再出售給消費者，金額達 40 萬元。依據上述，南台酪農對台灣 GDP 的貢獻額度為_____元。

6. 假設政府將對菸商課稅，每包香菸課徵$30 健康捐。依據下表香菸市場的供需資料，在課稅後消費者購買每包香菸必須支付_____元，且市場均衡的數量為_____。

價格(元/包)	需求量(千包)	供給量(千包)
110	9,000	3,000
120	8,000	5,000
130	7,000	7,000
140	6,000	9,000
150	5,000	11,000

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科目： 統計學　　系組：金融與國際企業學系 年級：三

(10%) 1. Suppose A and B are independent events where P(A) = 0.3 and P(B) = 0.4. Then P (A or B) = _____.

(10%) 2. How can you use Bayes' theorem in light of new information?

(10%) 3. Assume a Poisson distribution X with $\lambda = 0.6$. What is the probability that X > 0.

(10%) 4. Suppose Z has a standard normal distribution with a mean of 0 and standard deviation of 1. The probability that Z is less than -1.645 is _____.

(10%) 5. The following numbers are presented in the data set of the problem.
2 3 4 5
Assuming that you sample without replacement, select all possible samples of n = 2 and construct the sampling distribution of the mean.

(10%) 6. If, in a sample of $n = 16$ selected from a left-skewed population, $\bar{X} = 67$, and S = 20, would you use the t test to test the null hypothesis $H_0: \mu = 62$? Discuss.

(10%) 7. Let $n_1 = 100$, $X_1 = 55$, $n_2 = 50$, and $X_2 = 35$.
Construct a 95% confidence interval estimate for the difference between the two population proportions.

(10%) 8. Given a two-factor factorial experiment and the ANOVA summary table that follows, fill in all the missing results:

Source	Degrees of Freedom	Sum of Squares	Mean Squares (Variance)	F
A	r − 1 = 3	SSA =	MSA = 50	F_{STAT} =
B	c − 1 =	SSB =200	MSB =	F_{STAT} =4/3
AB	(r − 1)(c − 1) = 15	SSAB =	MSAB = 10	F_{STAT} =
Error	rc(n′ −1) = 48	SSE =	MSE =	
Total	n − 1 =	SST =		

(10%) 9. If SSR = 66 and SSE = 11, determine SST and then compute the coefficient of determination, r^2, and interpret its meaning.

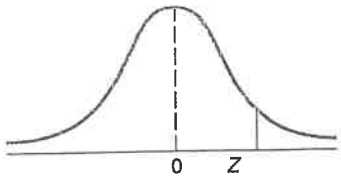
(10%) 10. Base on a sample of n = 20, the least-squares method was used to develop the following prediction line: $\hat{Y}_i = 5 + 3X_i$. In addition, the standard error of the estimate $S_{YX} = 1.0$, $\bar{X} = 1$, $\sum_{i=1}^{n}(X_i - \bar{X})^2 = 20$. Construct a 95% confidence interval estimate of the population mean response for X = 3.

※ 注意： 1. 考生須在「彌封答案卷」上作答。
2. 本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。
3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。

TABLE E.10

The Standardized Normal Distribution

Entry represents area under the standardized normal distribution from the mean to Z



Z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	.0000	.0040	.0080	.0120	.0160	.0199	.0239	.0279	.0319	.0359
0.1	.0398	.0438	.0478	.0517	.0557	.0596	.0636	.0675	.0714	.0753
0.2	.0793	.0832	.0871	.0910	.0948	.0987	.1026	.1064	.1103	.1141
0.3	.1179	.1217	.1255	.1293	.1331	.1368	.1406	.1443	.1480	.1517
0.4	.1554	.1591	.1628	.1664	.1700	.1736	.1772	.1808	.1844	.1879
0.5	.1915	.1950	.1985	.2019	.2054	.2088	.2123	.2157	.2190	.2224
0.6	.2257	.2291	.2324	.2357	.2389	.2422	.2454	.2486	.2518	.2549
0.7	.2580	.2612	.2642	.2673	.2704	.2734	.2764	.2794	.2823	.2852
0.8	.2881	.2910	.2939	.2967	.2995	.3023	.3051	.3078	.3106	.3133
0.9	.3159	.3186	.3212	.3238	.3264	.3289	.3315	.3340	.3365	.3389
1.0	.3413	.3438	.3461	.3485	.3508	.3531	.3554	.3577	.3599	.3621
1.1	.3643	.3665	.3686	.3708	.3729	.3749	.3770	.3790	.3810	.3830
1.2	.3849	.3869	.3888	.3907	.3925	.3944	.3962	.3980	.3997	.4015
1.3	.4032	.4049	.4066	.4082	.4099	.4115	.4131	.4147	.4162	.4177
1.4	.4192	.4207	.4222	.4236	.4251	.4265	.4279	.4292	.4306	.4319
1.5	.4332	.4345	.4357	.4370	.4382	.4394	.4406	.4418	.4429	.4441
1.6	.4452	.4463	.4474	.4484	.4495	.4505	.4515	.4525	.4535	.4545
1.7	.4554	.4564	.4573	.4582	.4591	.4599	.4608	.4616	.4625	.4633
1.8	.4641	.4649	.4656	.4664	.4671	.4678	.4686	.4693	.4699	.4706
1.9	.4713	.4719	.4726	.4732	.4738	.4744	.4750	.4756	.4761	.4767
2.0	.4772	.4778	.4783	.4788	.4793	.4798	.4803	.4808	.4812	.4817
2.1	.4821	.4826	.4830	.4834	.4838	.4842	.4846	.4850	.4854	.4857
2.2	.4861	.4864	.4868	.4871	.4875	.4878	.4881	.4884	.4887	.4890
2.3	.4893	.4896	.4898	.4901	.4904	.4906	.4909	.4911	.4913	.4916
2.4	.4918	.4920	.4922	.4925	.4927	.4929	.4931	.4932	.4934	.4936
2.5	.4938	.4940	.4941	.4943	.4945	.4946	.4948	.4949	.4951	.4952
2.6	.4953	.4955	.4956	.4957	.4959	.4960	.4961	.4962	.4963	.4964
2.7	.4965	.4966	.4967	.4968	.4969	.4970	.4971	.4972	.4973	.4974
2.8	.4974	.4975	.4976	.4977	.4977	.4978	.4979	.4979	.4980	.4981
2.9	.4981	.4982	.4982	.4983	.4984	.4984	.4985	.4985	.4986	.4986
3.0	.49865	.49869	.49874	.49878	.49882	.49886	.49889	.49893	.49897	.49900
3.1	.49903	.49906	.49910	.49913	.49916	.49918	.49921	.49924	.49926	.49929
3.2	.49931	.49934	.49936	.49938	.49940	.49942	.49944	.49946	.49948	.49950
3.3	.49952	.49953	.49955	.49957	.49958	.49960	.49961	.49962	.49964	.49965
3.4	.49966	.49968	.49969	.49970	.49971	.49972	.49973	.49974	.49975	.49976
3.5	.49977	.49978	.49978	.49979	.49980	.49981	.49981	.49982	.49983	.49983
3.6	.49984	.49985	.49985	.49986	.49986	.49987	.49987	.49988	.49988	.49989
3.7	.49989	.49990	.49990	.49990	.49991	.49991	.49992	.49992	.49992	.49992
3.8	.49993	.49993	.49993	.49994	.49994	.49994	.49994	.49995	.49995	.49995
3.9	.49995	.49995	.49996	.49996	.49996	.49996	.49996	.49996	.49997	.49997

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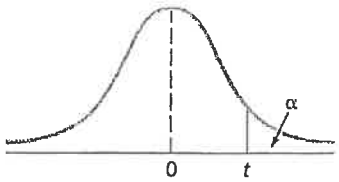
TABLE E.3
Critical Values of t

For a particular number of degrees of freedom, entry represents the critical value of t corresponding to the cumulative probability $(1 - \alpha)$ and a specified upper-tail area (α).



	Cumulative Probabilities					
	0.75	0.90	0.95	0.975	0.99	0.995
Degrees of Freedom	Upper-Tail Areas					
	0.25	0.10	0.05	0.025	0.01	0.005
1	1.0000	3.0777	6.3138	12.7062	31.8207	63.6574
2	0.8165	1.8856	2.9200	4.3027	6.9646	9.9248
3	0.7649	1.6377	2.3534	3.1824	4.5407	5.8409
4	0.7407	1.5332	2.1318	2.7764	3.7469	4.6041
5	0.7267	1.4759	2.0150	2.5706	3.3649	4.0322
6	0.7176	1.4398	1.9432	2.4469	3.1427	3.7074
7	0.7111	1.4149	1.8946	2.3646	2.9980	3.4995
8	0.7064	1.3968	1.8595	2.3060	2.8965	3.3554
9	0.7027	1.3830	1.8331	2.2622	2.8214	3.2498
10	0.6998	1.3722	1.8125	2.2281	2.7638	3.1693
11	0.6974	1.3634	1.7959	2.2010	2.7181	3.1058
12	0.6955	1.3562	1.7823	2.1788	2.6810	3.0545
13	0.6938	1.3502	1.7709	2.1604	2.6503	3.0123
14	0.6924	1.3450	1.7613	2.1448	2.6245	2.9768
15	0.6912	1.3406	1.7531	2.1315	2.6025	2.9467
16	0.6901	1.3368	1.7459	2.1199	2.5835	2.9208
17	0.6892	1.3334	1.7396	2.1098	2.5669	2.8982
18	0.6884	1.3304	1.7341	2.1009	2.5524	2.8784
19	0.6876	1.3277	1.7291	2.0930	2.5395	2.8609
20	0.6870	1.3253	1.7247	2.0860	2.5280	2.8453
21	0.6864	1.3232	1.7207	2.0796	2.5177	2.8314
22	0.6858	1.3212	1.7171	2.0739	2.5083	2.8188
23	0.6853	1.3195	1.7139	2.0687	2.4999	2.8073
24	0.6848	1.3178	1.7109	2.0639	2.4922	2.7969
25	0.6844	1.3163	1.7081	2.0595	2.4851	2.7874
26	0.6840	1.3150	1.7056	2.0555	2.4786	2.7787
27	0.6837	1.3137	1.7033	2.0518	2.4727	2.7707
28	0.6834	1.3125	1.7011	2.0484	2.4671	2.7633
29	0.6830	1.3114	1.6991	2.0452	2.4620	2.7564
30	0.6828	1.3104	1.6973	2.0423	2.4573	2.7500
31	0.6825	1.3095	1.6955	2.0395	2.4528	2.7440
32	0.6822	1.3086	1.6939	2.0369	2.4487	2.7385
33	0.6820	1.3077	1.6924	2.0345	2.4448	2.7333
34	0.6818	1.3070	1.6909	2.0322	2.4411	2.7284
35	0.6816	1.3062	1.6896	2.0301	2.4377	2.7238
36	0.6814	1.3055	1.6883	2.0281	2.4345	2.7195
37	0.6812	1.3049	1.6871	2.0262	2.4314	2.7154
38	0.6810	1.3042	1.6860	2.0244	2.4286	2.7116
39	0.6808	1.3036	1.6849	2.0227	2.4258	2.7079
40	0.6807	1.3031	1.6839	2.0211	2.4233	2.7045
41	0.6805	1.3025	1.6829	2.0195	2.4208	2.7012
42	0.6804	1.3020	1.6820	2.0181	2.4185	2.6981
43	0.6802	1.3016	1.6811	2.0167	2.4163	2.6951
44	0.6801	1.3011	1.6802	2.0154	2.4141	2.6923
45	0.6800	1.3006	1.6794	2.0141	2.4121	2.6896
46	0.6799	1.3002	1.6787	2.0129	2.4102	2.6870
47	0.6797	1.2998	1.6779	2.0117	2.4083	2.6846
48	0.6796	1.2994	1.6772	2.0106	2.4066	2.6822
49	0.6795	1.2991	1.6766	2.0096	2.4049	2.6800
50	0.6794	1.2987	1.6759	2.0086	2.4033	2.6778