



一、一根鐵絲垂直懸吊，其旋轉剛性(torsional rigidity)為  $k$ ，上端固定(fixed)，下端懸吊一物體，空氣阻尼係數為  $c$ ，該物體之扭轉質量矩(torsional moment of mass)為  $J$ ， $c^2 - 4Jk < 0$ ， $\theta$  為該物體之扭轉角度，其動態方程式如下：  
 $J\theta'' + c\theta' + k\theta = 0$ ； $\theta''$  及  $\theta'$  為  $\theta$  對時間之兩次及一次微分。若起始條件為  $t=0$  時  $\theta=0$  且  $\theta'=a$ (常數)，請解出  $\theta$  為時間之函數。(15 分)

二、某實驗數據如下：

時間 (sec)	0	1	2	3	4	5	6	7	8	9	10	11	12
數據	1	3	3	7	6	8	7	11	9	12	10	15	11

以 12 秒為週期，秒為時間單位，說明如何將上表以 Fourier series 展開，以瞭解數據頻率的分佈。(15 分)

三、若  $y'' - 3y' + 2y = 4t + e^{3t}$ ， $y'(0) + y(0) = 0$ ， $y'''(0) + y''(0) = -7$ ，以 Laplace Transform 解  $y(t)$ 。(15 分)

四、若矩陣  $A = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 0 & 0 \\ 1 & 0 & 0 \end{bmatrix}$ ， $B = \begin{bmatrix} 2 & 0 & 0 \\ 0 & 2 & 0 \\ 0 & 0 & 2 \end{bmatrix}$ ， $C = 2A - B$ 。

- (a) 求  $A$  之特徵值(eigenvalue)及其對應之特徵向量(eigenvector)；(10 分)
- (b)  $A^{10} = ?$  (8 分)
- (c) 求  $C$  之特徵值(eigenvalue)及其對應之特徵向量(eigenvector)。(7 分)

五、已知樑在不受外力下，其自由振動方程式為  $EI \frac{\partial^4 v(x,t)}{\partial x^4} + m \frac{\partial^2 v(x,t)}{\partial t^2} = 0$ 。

若一長度  $L$  之簡支樑在起始時為靜止且其初始形狀為  $v(x,0) = 2 \sin \frac{\pi x}{L} - \sin \frac{2\pi x}{L}$ ，試求其解。(15 分)

六、若空間中有三點  $A(1,1,0)$ ， $B(1,0,1)$ ， $C(0,1,1)$ ，且  $O$  為原點，試求

- (a) 直線  $OA$  與  $BC$  之最短距離；(5 分)
- (b) 三角形  $ABC$  之面積；(5 分)
- (c) 錐體  $OABC$  之體積。(5 分)



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八十七學年度研究所碩士班入學考試試題

所別：營建所

科目：營建管理

1. 營建管理的定義中，亦可從很宏觀的角度來定義營建業全盤性的管理；請就此論點加以申述。 (10%)

2. 工程若因專業或規模之需要而分標，請就分標粗細（多少）之優缺點加以列舉申述，並至少就所列舉之一優缺點以一詳例說明之。 (10%)

3. 試就簽訂工程合約時，在財務方面對合約條文應特別注意之事項予以列舉並說明之。 (15%)

4. 試就下列之資料，將該案以 PDM(Precedence Diagramming Method)方式繪製網圖，並計算各作業之 ES(Early Start), LS(Late Start), EF(Early Finish), LF(Late Finish)，並將要徑(Critical Path)以粗線標示之。 (15%)

<u>作業項目</u>	<u>作業需時</u>	<u>後續作業 (邏輯關係, 延遲時間)</u>
A	4	B(fs,-1), C(fs,0)
B	6	D(fs,0)
C	8	B(ff,0), E(fs,5)
D	9	E(ss,2), F(fs,0)
E	2	F(fs,0)
F	3	-

5. 營建工程常使用施工機械，試簡述影響工程機具成本之因素。 (10%)

6. 今有一土方開挖工程，工地主任安排一輛挖土機進場，該挖土機每5分鐘可裝填一輛10立方公尺之卡車，而一輛卡車在裝載土方完畢後離開現場，到棄土場後再回到現場須耗時30分鐘，請問該主任應安排多少輛卡車則該土方作業能達到平衡點（即挖土機與卡車之作業能配合流暢）。 (10%)

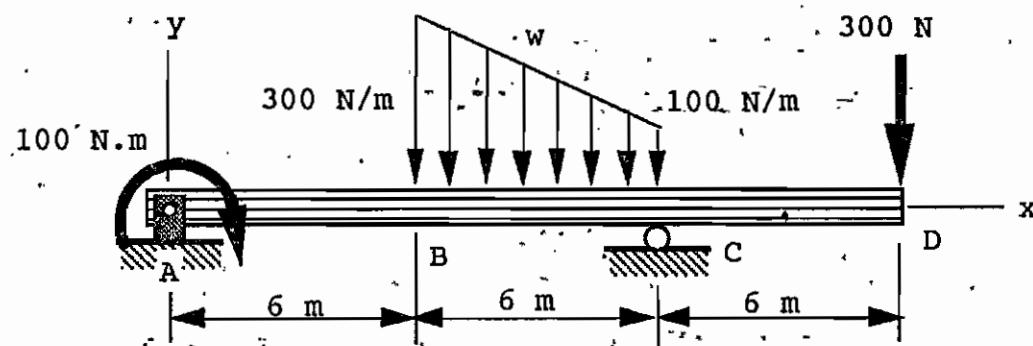
7. 請定義生產力，並從該定義予以闡述營造業如何改進生產力。 (10%)

8. 試簡述三項評估營建工作生產力的方法。 (10%)

9. 試列舉並簡述五項電腦在營建管理上可能之幫助。 (10 %)

1. For the beam in Figure 1:
- draw the shear force and bending moment diagrams; [15%]
  - determine the locations and values of the maximum and minimum shear forces and bending moments; [10%]

Figure 1:



2. Several forces are applied to the pipe assembly shown in Figure 2. Knowing that the pipe has inner and outer diameters equal to 41.0 mm and 48.5 mm, respectively, determine the normal and shearing stresses at (a) point H [13%], (b) point K [12%].

Figure 2:

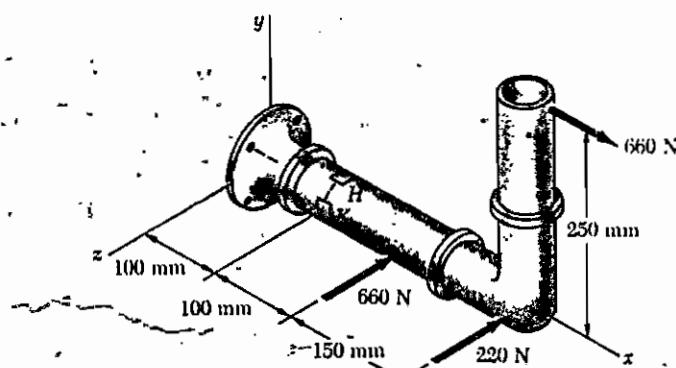
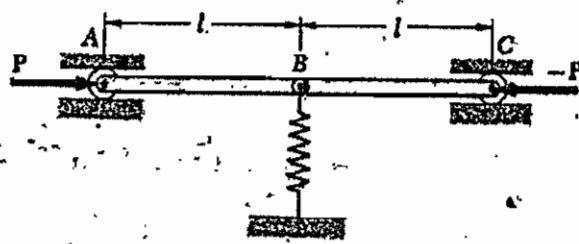


Fig. 2



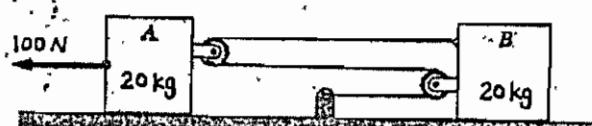
- 3: Two bars  $AB$  and  $BC$  are attached to a single spring of constant  $k$  which is unstretched when the bars are horizontal. Determine the range of values of the magnitude  $P$  of the two equal and opposite forces  $P$  and  $-P$  for which the equilibrium of the system is stable in the position shown. [15%].

Figure 3:



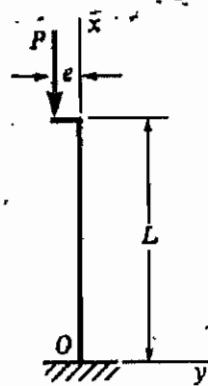
4. The system shown is at rest when the 100-N force is applied to block A. Assuming that the coefficient of friction between the blocks and the horizontal plane is 0.20, determine the velocity of block A after it has moved 2 m. [15%]

Figure 4:



5. The column shown in the figure is fixed at the base and free at the upper end. A compressive load  $P$  acts at the top of the column with an eccentricity  $e$  from the axis of the column. Derive formulas for (a) the maximum deflection  $\delta$  of the column [10%], and (b) the maximum bending moment  $M_{\max}$  in the column [10%].

Figure 5:





## 問答題

一為維護建築工地安全、市容觀瞻及公共安全，政府主管建築與勞動檢查機關已開始對建築物施工中妨害交通及公共安全的施工作業進行檢查，請問您若是檢查員，則您認為查核重點應包括那些作業項目？(10%)

二同一施工項目之施工方法可能有很多種，請說明評估選用施工方法的程序(流程)為何？(15%)

三解釋名詞(計25%)

- (1)施工縫(6%)
- (2)地下連續壁工法(6%)
- (3)帷幕牆工法(6%)
- (4)施工作業計畫(7%)

四請以簡圖略述水準儀之校正步驟及其原理(15%)

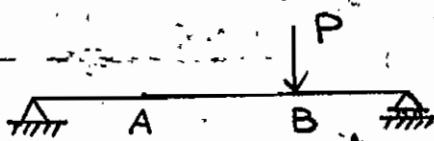
五請列舉各種擋土工法之特點及其適用條件(15%)

六請列舉各種橋樑上部結構施工方法之適用條件及施工應行注意事項(20%)

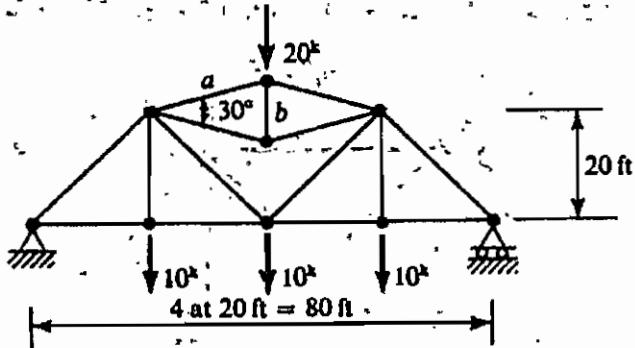


## 1. 問答題

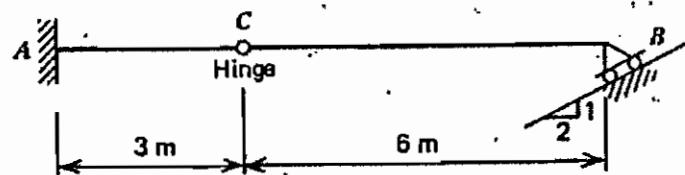
- (a) 就力學觀點而言，一個線性結構之整體或任一部份都必須滿足那三個條件？(5分)
- (b) 就應用上述基本條件而言，靜定(statically determinate)與靜不定(statically indeterminate)結構在分析時有何不同？(5分)
- (c) 如圖所示簡支樑，在垂直力  $P$  作用下 A 點之轉角，根據馬克斯威爾倒數定理(Maxell's law of reciprocity)會等於那一個物理量？(5分)



## 2. 試求圖示桁架中桿件 a 與 b 的內力。(20分)



## 3. 如圖示結構，求 A 點反力 (包括垂直接力、水平反力及彎矩)、C 點剪力與彎矩、B 點反力之影響線。(20分)





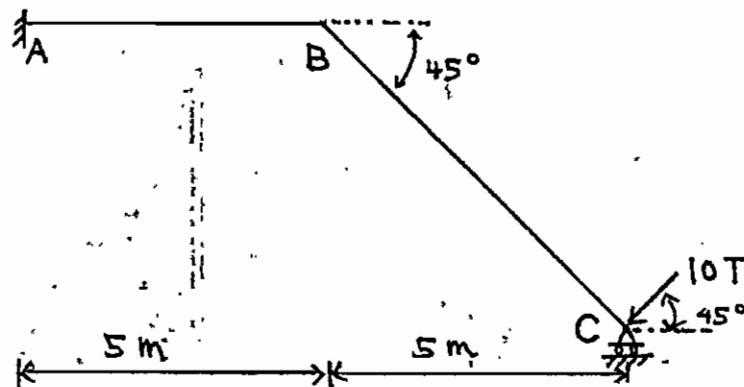
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所別：營建所

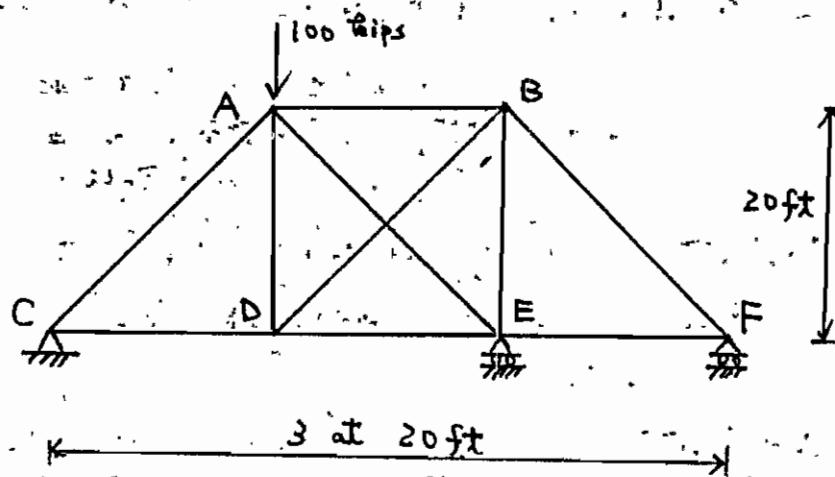
科目：結構學

4. 若下列結構之  $EI$  值為常數，試求 C 點之變位及轉角。 (20 分)



5. 若一桁架如下圖所示，且其各桿件之  $EA$  值相同，試求

- (a) 各桿件內力； (10 分)
- (b) D 點之垂直變位； (10 分)
- (c) E 點之滾支承損壞而無法受力後，D 點之垂直變位。 (5 分)





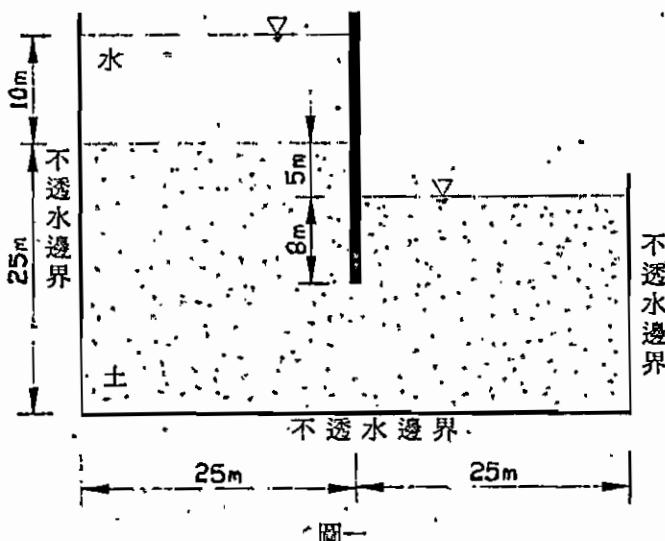
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科目：土壤力學與基礎工程

(一) 如圖一所示，試畫流線網並估算流量。

(20分)



(二) (1) 在 CU 三軸試驗中，一正常壓密黏土(NC)試體受圍壓  $20 \text{ lb/in}^2$ 。當軸差壓力增加至  $18 \text{ lb/in}^2$  時試體破壞，此時孔隙水壓  $10.9 \text{ lb/in}^2$ ，試決定「壓密—不排水摩擦角」 $\phi_{cu}$  與「排水摩擦角」 $\phi$ ，並求在破壞時，Skempton's 孔隙水壓係數，A。  
(10分)

(2) 若上述試體，在不排水情況下，將圍壓增為  $30 \text{ lb/in}^2$ ，試求破壞時之軸差壓力與孔隙水壓。  
(10分)

(三) 在均質、正常壓密黏土層( $\phi = 0^\circ$ )上，有兩個正方形基腳， $5\text{m} \times 5\text{m}$  及  $10\text{m} \times 10\text{m}$ 。短期之內，那個基腳會有較大之極限承載力  $q_u$ ? 試解釋之。  
(10分)

(四) 有一土壤，其#4 號篩通過百分比= $88.2\%$ ，#200 號篩通過百分比= $10.1\%$ ，  
 $D_{60}=0.212\text{mm}$ ， $D_{30}=0.133\text{mm}$ ， $D_{10}=0.0823\text{mm}$ ，塑性限度=19，液性限度=31，試計算該土壤的礫石含量(%)、砂土含量(%)、細顆粒含量(%)、均勻係數  $c_u$  和曲率係數  $c_c$ 、塑性指標 PI，並請依據土壤統一分類系統(Unified Soil Classification System)分類之，並請說明分類時所使用的規則。  
(20分)

(五) 試述如何進行現場淺基礎的「平盤載重試驗」？並說明如何由平盤載重試驗結果來推估現場淺基礎的極限承載力？  
(20分)

(六) 試述如何進行現場「標準貫入試驗」？  
(10分)



## 問 答 題

一、請敘述一般建築結構用之混凝土的配比設計步驟？(11%)

二、請問中國國家標準(CNS)規定：(1)細粒料中之氯離子含量採用何種方法檢測？其原理為何？最大許可值為多少？(2)混凝土中之氯離子含量試驗有那幾種試驗法？最大許可值為多少？(15%)

三、解釋名詞(計24%)

- (1) 應力鬆弛(Stress Relaxation)(佔5%)
- (2) 防陷材料(佔5%)
- (3) 國家實驗室認證體系(CNLA)(佔7%)
- (4) 卜作嵐反應(Pozzolan Reaction)(佔7%)

四、某種建材之某工程性質受三種參數(材料，技術，耗時)影響，也就是說成函數關係，但製造成本固定且為這三種參數之函數，說明如何選擇參數以達到最佳的性質。(25%)

五、某種建材在溫度T下焚燒，強度會隨時間t折減，折減強度S與T及t之關係如下。

$$S/S_0 = f(T, t), S_0 \text{為起始強度}$$

若該建材經歷變動的溫度

$$T = \begin{cases} T_1, & 0 \leq t < t_1 \\ T_2, & t_1 \leq t \leq t_2 \end{cases}$$

說明如何計算該種建材最終強度( $t = t_2$ ) (佔25%)



1. 林先生向銀行信用貸款 800,000 元，共分 100 個月償還貸款，每月還 20,000 元，林先生覺得他的貸款利率是每年 30% ( $= 20,000 * 12 / 800,000$ )，請問
  - (a) 林先生所繳付貸款之實質利率 (effective interest rate) 為多少？
  - (b) 林先生的計算有錯嗎？如果有的話錯在那裏？(10%)
2. 一般私人企業投資方案之經濟評估準則有當量法 (equivalent worth method) 與報酬率法 (rate of return method)
  - (a) 請問當量法有那三種？
  - (b) 報酬率法有那兩種？
  - (c) 這五種方法中，有那幾種是適用於增量分析法則 (incremental analysis)，以評估互斥 (mutually exclusive) 之多種投資方案？(10%)
3. 有一土方工程專業公司欲更新其某項設備，共有兩種型式可供選擇，分別是 E1 及 E2，其成本等資料如表一（假設最低吸引報酬率 MARR 為 15%），請問
  - (a) 若分析期 (study period) 為 40 年，應該選擇那一型式之挖土機？
  - (b) 若分析期 (study period) 為 5 年，則又應該選擇那一型式之挖土機？(20%)

表一

項目	E1	E2
購置成本	\$14,000	\$65,000
年維護成本	\$14,000	\$9,000
使用年限	5	20
殘值	\$8,000	\$13,000

4. 有一鄉鎮欲興建聯外道路，共有三條路線 A, B, C，可供選擇（詳細資料如表二），若該道路之使用年限預計為 50 年，年利率為 8%，根據效益成本比值法 (B/C cost ratio method) 應選擇那一條路線？(10%)

表二

路線	營建成本	年維修費	年交通便捷效益	年觀光收入效益	年土地增值效益
A	\$185,000	\$2,000	\$5,000	\$3,000	\$500
B	\$220,000	\$3,000	\$7,000	\$6,500	\$1,500
C	\$290,000	\$4,000	\$12,000	\$6,000	\$2,800



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5. 若年利率為 12%，利息為複利一年二計，如欲於第七年底自銀行領回 150,000，請問第一年初應一次存入多少錢。 (10%)
6. 某建設公司持有一張票面金額為 \$1,500,000 元之三個月後支付之支票，若現今銀行之貼現月利率為 1.5% (一分半的利率)，若將此支票予以貼現，試計算該公司可立即取得之現金為多少？ (10%)
7. 若每個月定期存入 12,000 元，如果月利息為 2 分 (年利率為 24%)，36 個月後之本利和為多少？ (15%)
8. 某機械之購買價為 \$5,000,000 元，如果五年後之殘值為 \$900,000 元，若欲將之及早折舊，試問若只考量直線折舊法與定率折舊法，何法較適合，請以計算後之數值為根據說明之。 (15%)



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離散復利： $i = 3.0\%$ 離散復利： $i = 2.0\%$ 

(NO)	(F/P)	(P/F)	(F/A)	(P/A)	(A/F)	(A/P)	(A/G)	(P/F)	(F/P)	(P/F)	(F/A)	(P/A)	(A/F)	(A/P)	(A/G)
1	1.02000	0.98039	1.00000	0.98039	0.02000	1.00000	0.00000	0.97087	1.00000	0.94266	1.00000	0.94266	1.00000	0.94266	0.00000
2	1.04040	0.96117	1.94156	0.95055	0.51505	0.95055	0.49505	1.00000	2.03000	0.91541	1.91247	0.92561	1.91247	0.92561	0.42261
3	1.06242	0.94232	3.06040	2.88288	0.32675	0.84615	0.88860	1.02751	1.02751	0.80516	1.02751	0.82353	1.02751	0.82353	0.90353
4	1.08243	0.92385	4.12161	3.80773	0.24262	0.62622	0.74752	1.05255	1.05255	0.68849	1.05255	0.72390	1.05255	0.72390	0.46306
5	1.10108	0.90573	5.18404	4.71346	0.19216	0.42126	0.56040	1.07927	1.07927	0.64681	1.07927	0.68355	1.07927	0.68355	1.90909
6	1.12616	0.88797	6.20812	5.60143	0.15853	0.24226	0.41752	1.19405	1.19405	0.54771	1.19405	0.59171	1.19405	0.59171	2.41383
7	1.14669	0.87056	7.43428	6.47199	0.13451	0.15551	0.3082	1.22987	1.22987	0.48130	1.22987	0.51051	1.22987	0.51051	2.88185
8	1.17166	0.85349	8.75287	7.32548	0.11651	0.13651	0.23508	1.26671	1.26671	0.42924	1.26671	0.46246	1.26671	0.46246	3.24946
9	1.19093	0.83676	9.75463	8.16224	0.10252	0.12532	0.18605	1.30477	1.30477	0.36462	1.30477	0.39843	1.30477	0.39843	3.80318
10	1.21899	0.82035	10.94972	9.88559	0.09133	0.11133	0.10374	1.34392	1.34392	0.31392	1.34392	0.34263	1.34392	0.34263	4.89350
11	1.24437	0.80426	12.16872	9.78685	0.08218	0.10218	0.08013	1.38423	1.38423	0.26124	1.38423	0.29262	1.38423	0.29262	4.70494
12	1.26824	0.78730	13.41269	9.78849	0.07456	0.09456	0.06812	1.42576	1.42576	0.21207	1.42576	0.24500	1.42576	0.24500	5.18520
13	1.29661	0.76703	14.68031	11.38837	0.06813	0.06813	0.06260	1.46852	1.46852	0.16095	1.46852	0.19403	1.46852	0.19403	5.58020
14	1.32148	0.74528	15.92184	12.16825	0.06260	0.08200	0.05820	1.51259	1.51259	0.11612	1.51259	0.14852	1.51259	0.14852	6.02104
15	1.34887	0.72301	17.29342	12.88926	0.05783	0.07183	0.05365	1.55197	1.55197	0.09186	1.55197	0.13777	1.55197	0.13777	6.45004
16	1.37779	0.70224	18.39285	13.57771	0.05365	0.07365	0.05365	1.60471	1.60471	0.06217	1.60471	0.09461	1.60471	0.09461	6.87421
17	1.40224	0.68116	21.41211	14.29187	0.04997	0.06397	0.06397	1.65285	1.65285	0.05052	1.65285	0.08723	1.65285	0.08723	7.23537
18	1.42225	0.67001	21.41211	14.93207	0.04670	0.06670	0.06670	1.70241	1.70241	0.04724	1.70241	0.07551	1.70241	0.07551	7.08121
19	1.44581	0.65864	22.84056	15.67846	0.04178	0.06318	0.06318	1.75151	1.75151	0.05029	1.75151	0.0981	1.75151	0.0981	8.11788
20	1.48355	0.64297	25.19737	16.35443	0.04116	0.06116	0.06116	1.80611	1.80611	0.05368	1.80611	0.06722	1.80611	0.06722	8.5286
21	1.51515	0.62598	25.18332	17.01121	0.03878	0.05816	0.05816	1.85799	1.85799	0.05755	1.85799	0.06487	1.85799	0.06487	8.93039
22	1.54598	0.60684	26.04684	17.65805	0.03663	0.05663	0.05663	1.90346	1.90346	0.05669	1.90346	0.06275	1.90346	0.06275	9.31658
23	1.57690	0.58416	28.84496	18.29220	0.03467	0.05467	0.05467	1.91359	1.91359	0.05669	1.91359	0.06692	1.91359	0.06692	9.70934
24	1.60844	0.56172	30.42186	18.91193	0.03287	0.05287	0.05287	1.95568	1.95568	0.05287	1.95568	0.09205	1.95568	0.09205	10.09440
25	1.64601	0.53953	32.05030	19.52346	0.03122	0.05122	0.05122	1.97445	1.97445	0.05278	1.97445	0.09454	1.97445	0.09454	10.45677
26	1.67342	0.51758	33.70791	20.12104	0.02970	0.04970	0.04970	2.01322	2.01322	0.05378	2.01322	0.09743	2.01322	0.09743	10.83448
27	1.70639	0.49552	35.34432	21.28127	0.02869	0.04859	0.04859	2.06133	2.06133	0.05378	2.06133	0.09245	2.06133	0.09245	11.25571
28	1.74002	0.47437	37.05121	22.81217	0.02699	0.04699	0.04699	2.12146	2.12146	0.04709	2.12146	0.09239	2.12146	0.09239	11.59398
29	1.77284	0.45411	38.79223	21.84418	0.02511	0.04578	0.04578	2.18218	2.18218	0.042435	2.18218	0.08211	2.18218	0.08211	11.95582
30	1.81125	0.43207	39.52207	21.39464	0.02445	0.04455	0.04455	2.21218	2.21218	0.04119	2.21218	0.08210	2.21218	0.08210	12.31407
31	1.85003	0.40993	40.25207	19.59448	0.02000	0.04000	0.04000	1.99613	1.99613	0.03558	1.99613	0.06554	1.99613	0.06554	14.03514
32	1.89936	0.38789	41.99939	20.53246	0.02030	0.03920	0.03920	1.97445	1.97445	0.03778	1.97445	0.06554	1.97445	0.06554	14.45677
33	1.94742	0.36586	33.70914	20.12104	0.02970	0.04970	0.04970	1.91359	1.91359	0.03395	1.91359	0.06554	1.91359	0.06554	15.83348
34	1.99527	0.34432	35.34432	21.28127	0.02869	0.04859	0.04859	1.86013	1.86013	0.03778	1.86013	0.06884	1.86013	0.06884	16.23537
35	2.04289	0.32297	37.05121	22.81217	0.02699	0.04699	0.04699	1.81803	1.81803	0.03395	1.81803	0.07203	1.81803	0.07203	16.63344
36	2.09084	0.30162	38.79223	21.84418	0.02511	0.04578	0.04578	1.77692	1.77692	0.03778	1.77692	0.07575	1.77692	0.07575	17.03344
37	2.14178	0.28051	39.52207	21.39464	0.02445	0.04455	0.04455	1.73571	1.73571	0.03395	1.73571	0.07874	1.73571	0.07874	17.43344
38	2.19315	0.26051	40.25207	19.59448	0.02000	0.04000	0.04000	1.69310	1.69310	0.03778	1.69310	0.08165	1.69310	0.08165	17.83344
39	2.24717	0.24051	41.94313	21.84418	0.02030	0.03920	0.03920	1.65210	1.65210	0.03395	1.65210	0.08469	1.65210	0.08469	18.23344
40	2.30217	0.22051	42.38002	21.39464	0.02030	0.03830	0.03830	1.61120	1.61120	0.03778	1.61120	0.08774	1.61120	0.08774	18.63344
41	2.36077	0.20051	42.818496	21.84418	0.02030	0.03751	0.03751	1.57030	1.57030	0.03395	1.57030	0.09076	1.57030	0.09076	19.03344
42	2.42177	0.18051	43.09315	21.28127	0.02030	0.03656	0.03656	1.53030	1.53030	0.03778	1.53030	0.09375	1.53030	0.09375	19.43344
43	2.48345	0.16051	43.53559	21.84418	0.02030	0.03559	0.03559	1.49030	1.49030	0.03395	1.49030	0.09674	1.49030	0.09674	19.83344
44	2.54621	0.14051	44.13385	21.39464	0.02030	0.03456	0.03456	1.45030	1.45030	0.03778	1.45030	0.10075	1.45030	0.10075	20.23344
45	2.61020	0.12051	44.73451	21.84418	0.02030	0.03359	0.03359	1.41030	1.41030	0.03395	1.41030	0.10476	1.41030	0.10476	20.63344
46	2.67480	0.10051	45.34432	22.81217	0.02030	0.03260	0.03260	1.37030	1.37030	0.03778	1.37030	0.10875	1.37030	0.10875	21.03344
47	2.74178	0.08051	45.94313	21.84418	0.02030	0.03161	0.03161	1.33030	1.33030	0.03395	1.33030	0.11276	1.33030	0.11276	21.43344
48	2.81063	0.06051	46.54296	21.39464	0.02030	0.03060	0.03060	1.29030	1.29030	0.03778	1.29030	0.11675	1.29030	0.11675	21.83344
49	2.87857	0.04051	47.14271	21.84418	0.02030	0.02960	0.02960	1.25030	1.25030	0.03395	1.25030	0.12074	1.25030	0.12074	22.23344
50	2.94640	0.02051	47.73451	22.81217	0.02030	0.02860	0.02860	1.21030	1.21030	0.03778	1.21030	0.12473	1.21030	0.12473	22.63344
51	3.01427	0.00051	48.34432	21.84418	0.02030	0.02760	0.02760	1.17030	1.17030	0.03395	1.17030	0.12872	1.17030	0.12872	23.03344
52	3.08215	0.00051	48.94313	21.39464	0.02030	0.02660	0.02660	1.13030	1.13030	0.03778	1.13030	0.13271	1.13030	0.13271	23.43344
53	3.14995	0.00051	49.54296	21.84418	0.02030	0.02560	0.02560	1.09030	1.09030	0.03395	1.09030	0.13670	1.09030	0.13670	23.83344
54	3.21783	0.00051	50.14271	22.81217	0.02030	0.02460	0.02460	1.05030	1.05030	0.03778	1.05030	0.14069	1.05030	0.14069	24.23344
55	3.28571	0.00051	50.73451	21.84418	0.02030	0.02360	0.02360	1.01030	1.01030	0.03395	1.01030	0.14468	1.01030	0.14468	24.63344
56	3.35359	0.00051	51.34432</												



國立雲林科技大學  
八十七學年度研究所碩士班入學考試試題

所別：營建所  
科目：工程經濟

離散復利： $i = 5.0\%$ 離散復利： $i = 4.0\%$ 

(N)	(F/P)	(P/F)	(F/A)	(P/A)	(A/F)	(A/P)	(G)	(A/G)	(F/P)	(P/F)	(F/A)	(P/A)	(A/F)	(A/P)	(G)
1	1.00000	0.99154	1.00000	0.99154	1.00000	0.99154	1.00000	0.99154	1.05238	0.99000	0.95238	1.00000	0.95238	1.05238	0.99000
2	1.00160	0.98245	2.00000	1.98245	0.99020	0.98020	2.00000	1.98020	1.00500	0.99703	0.95000	1.05000	0.95000	1.00500	0.99703
3	1.00320	0.97336	3.00000	2.97336	0.98023	0.96923	3.00000	2.96923	1.10500	0.99841	0.95100	1.04780	0.95100	1.10500	0.99841
4	1.00480	0.96426	4.00000	3.96426	0.97035	0.95935	4.00000	3.95935	1.15163	0.99884	0.95201	1.04721	0.95201	1.15163	0.99884
5	1.00640	0.95516	5.00000	4.95516	0.97549	0.96449	5.00000	4.96449	1.20500	0.99921	0.95305	1.04764	0.95305	1.20500	0.99921
6	1.00800	0.94606	6.00000	5.94606	0.98243	0.97143	6.00000	5.97143	1.26163	0.99959	0.95403	1.04797	0.95403	1.26163	0.99959
7	1.00960	0.93696	7.00000	6.93696	0.98976	0.97876	7.00000	6.97876	1.31667	0.99997	0.95502	1.04822	0.95502	1.31667	0.99997
8	1.01120	0.92786	8.00000	7.92786	0.99700	0.98600	8.00000	7.98600	1.37224	1.00035	0.95601	1.04847	0.95601	1.37224	1.00035
9	1.01280	0.91876	9.00000	8.91876	0.99925	0.98825	9.00000	8.98825	1.42889	1.00073	0.95700	1.04872	0.95700	1.42889	1.00073
10	1.01440	0.90966	10.00000	9.90966	0.99950	0.98950	10.00000	9.98950	1.48553	1.00111	0.95800	1.04897	0.95800	1.48553	1.00111
11	1.01600	0.89056	11.00000	10.89056	0.99975	0.98975	11.00000	10.98975	1.54224	1.00149	0.95900	1.04922	0.95900	1.54224	1.00149
12	1.01760	0.87146	12.00000	11.87146	0.99997	0.98997	12.00000	11.98997	1.60167	1.00187	0.96000	1.04947	0.96000	1.60167	1.00187
13	1.01920	0.85236	13.00000	12.85236	0.99999	0.98999	13.00000	12.98999	1.66076	1.00225	0.96100	1.04972	0.96100	1.66076	1.00225
14	1.02080	0.83326	14.00000	13.83326	0.99999	0.98999	14.00000	13.98999	1.71993	1.00263	0.96196	1.04997	0.96196	1.71993	1.00263
15	1.02240	0.81416	15.00000	14.81416	0.99999	0.98999	15.00000	14.98999	1.77905	1.00302	0.96291	1.05022	0.96291	1.77905	1.00302
16	1.02400	0.79506	16.00000	15.79506	0.99999	0.98999	16.00000	15.98999	1.83817	1.00341	0.96387	1.05047	0.96387	1.83817	1.00341
17	1.02560	0.77596	17.00000	16.77596	0.99999	0.98999	17.00000	16.98999	1.89728	1.00379	0.96483	1.05072	0.96483	1.89728	1.00379
18	1.02720	0.75686	18.00000	17.75686	0.99999	0.98999	18.00000	17.98999	1.95640	1.00417	0.96578	1.05097	0.96578	1.95640	1.00417
19	1.02880	0.73776	19.00000	18.73776	0.99999	0.98999	19.00000	18.98999	2.01553	1.00455	0.96673	1.05123	0.96673	2.01553	1.00455
20	1.03040	0.71866	20.00000	19.71866	0.99999	0.98999	20.00000	19.98999	2.07474	1.00493	0.96767	1.05152	0.96767	2.07474	1.00493
21	1.03200	0.69956	21.00000	20.69956	0.99999	0.98999	21.00000	20.98999	2.13398	1.00532	0.96856	1.05173	0.96856	2.13398	1.00532
22	1.03360	0.68046	22.00000	21.68046	0.99999	0.98999	22.00000	21.98999	2.19312	1.00571	0.96945	1.05192	0.96945	2.19312	1.00571
23	1.03520	0.66136	23.00000	22.66136	0.99999	0.98999	23.00000	22.98999	2.25226	1.00609	0.97034	1.05211	0.97034	2.25226	1.00609
24	1.03680	0.64226	24.00000	23.64226	0.99999	0.98999	24.00000	23.98999	2.31140	1.00647	0.97120	1.05229	0.97120	2.31140	1.00647
25	1.03840	0.62316	25.00000	24.62316	0.99999	0.98999	25.00000	24.98999	2.37053	1.00686	0.97219	1.05248	0.97219	2.37053	1.00686
26	1.04000	0.60406	26.00000	25.60406	0.99999	0.98999	26.00000	25.98999	2.42967	1.00724	0.97308	1.05267	0.97308	2.42967	1.00724
27	1.04160	0.58496	27.00000	26.58496	0.99999	0.98999	27.00000	26.98999	2.48880	1.00763	0.97397	1.05285	0.97397	2.48880	1.00763
28	1.04320	0.56586	28.00000	27.56586	0.99999	0.98999	28.00000	27.98999	2.54793	1.00802	0.97486	1.05304	0.97486	2.54793	1.00802
29	1.04480	0.54676	29.00000	28.54676	0.99999	0.98999	29.00000	28.98999	2.60706	1.00841	0.97575	1.05323	0.97575	2.60706	1.00841
30	1.04640	0.52766	30.00000	29.52766	0.99999	0.98999	30.00000	29.98999	2.66619	1.00879	0.97664	1.05342	0.97664	2.66619	1.00879
31	1.04800	0.50856	31.00000	30.50856	0.99999	0.98999	31.00000	30.98999	2.72532	1.00917	0.97753	1.05361	0.97753	2.72532	1.00917
32	1.04960	0.48946	32.00000	31.48946	0.99999	0.98999	32.00000	31.98999	2.78445	1.00956	0.97842	1.05379	0.97842	2.78445	1.00956
33	1.05120	0.47036	33.00000	32.47036	0.99999	0.98999	33.00000	32.98999	2.84358	1.01032	0.97931	1.05408	0.97931	2.84358	1.01032
34	1.05280	0.45126	34.00000	33.45126	0.99999	0.98999	34.00000	33.98999	2.90271	1.01069	0.98020	1.05437	0.98020	2.90271	1.01069
35	1.05440	0.43216	35.00000	34.43216	0.99999	0.98999	35.00000	34.98999	2.96184	1.01107	0.98109	1.05466	0.98109	2.96184	1.01107
36	1.05600	0.41306	36.00000	35.41306	0.99999	0.98999	36.00000	35.98999	3.02108	1.01145	0.98197	1.05495	0.98197	3.02108	1.01145
37	1.05760	0.39396	37.00000	36.39396	0.99999	0.98999	37.00000	36.98999	3.08021	1.01183	0.98286	1.05524	0.98286	3.08021	1.01183
38	1.05920	0.37486	38.00000	37.37486	0.99999	0.98999	38.00000	37.98999	3.13935	1.01219	0.98375	1.05553	0.98375	3.13935	1.01219
39	1.06080	0.35576	39.00000	38.35576	0.99999	0.98999	39.00000	38.98999	3.19848	1.01257	0.98464	1.05582	0.98464	3.19848	1.01257
40	1.06240	0.33666	40.00000	39.33666	0.99999	0.98999	40.00000	39.98999	3.25761	1.01295	0.98551	1.05610	0.98551	3.25761	1.01295
41	1.06400	0.31756	41.00000	40.31756	0.99999	0.98999	41.00000	40.98999	3.31674	1.01333	0.98639	1.05638	0.98639	3.31674	1.01333
42	1.06560	0.29846	42.00000	41.29846	0.99999	0.98999	42.00000	41.98999	3.37587	1.01371	0.98727	1.05656	0.98727	3.37587	1.01371
43	1.06720	0.27936	43.00000	42.27936	0.99999	0.98999	43.00000	42.98999	3.43500	1.01409	0.98815	1.05674	0.98815	3.43500	1.01409
44	1.06880	0.26026	44.00000	43.26026	0.99999	0.98999	44.00000	43.98999	3.49413	1.01447	0.98903	1.05692	0.98903	3.49413	1.01447
45	1.07040	0.24116	45.00000	44.24116	0.99999	0.98999	45.00000	44.98999	3.55326	1.01485	0.99001	1.05710	0.99001	3.55326	1.01485
46	1.07200	0.22206	46.00000	45.22206	0.99999	0.98999	46.00000	45.98999	3.61240	1.01523	0.99089	1.05728	0.99089	3.61240	1.01523
47	1.07360	0.20296	47.00000	46.20296	0.99999	0.98999	47.00000	46.98999	3.67153	1.01561	0.99176	1.05746	0.99176	3.67153	1.01561
48	1.07520	0.18386	48.00000	47.18386	0.99999	0.98999	48.00000	47.98999	3.73066	1.01599	0.99264	1.05764	0.99264	3.73066	1.01599
49	1.07680	0.16476	49.00000	48.16476	0.99999	0.98999	49.00000	48.98999	3.78979	1.01637	0.99352	1.05782	0.99352	3.78979	1.01637
50	1.07840	0.14566	50.00000	49.14566	0.99999	0.98999	50.00000	49.98999	3.84892	1.01675	0.99440	1.05800	0.99440	3.84892	1.01675
51	1.08000	0.12656	51.00000	50.12656	0.99999	0.98999	51.00000	50.98999	3.90805	1.01713	0.99528	1.05818	0.99528	3.90805	1.01713
52	1.08160	0.10746	52.00000	51.10746	0.99999	0.98999	52.00000	51.98999	3.96718	1.01751	0.99616	1.05836	0.99616	3.96718	1.01751
53	1.08320	0.08836	53.00000	52.08320	0.99999	0.98999	53.00000	51.98999	4.02631	1.01789	0.99704	1.05854	0.99704	4.02631	1.01789
54	1.08480	0.06926	54.00000	53.06926	0.99999	0.98999	54.00000	52.98999	4.08544	1.01827	0.99792	1.05872	0.99792	4.08544	1.01827
55	1.08640	0.05016	55.00000	54.05016	0.99999	0.98999	55.00000	53.98999	4.14457	1.01865	0.				



國立雲林科技大學  
八十七學年度研究所碩士班入學考試試題

所別：營建所  
科目：工程經濟

離散復利： $i = 9.0\%$ 離散復利： $i = 8.0\%$ 

(P/A)	(F/P)	(F/P)	(F/A)	(P/A)	(A/F)	(A/P)	(P/A)	(F/P)	(F/A)	(P/A)	(A/F)	(A/P)	(P/A)	(F/P)	(F/A)	(P/A)	(A/F)	(A/P)
1	1.08000	0.92593	1.00000	1.00000	0.90000	0.00000	1.09000	0.91743	1.00000	0.91743	1.00000	0.00000	1.08000	0.92593	1.00000	0.90000	0.00000	0.00000
2	1.16640	0.85734	2.08000	1.97293	0.48077	0.56077	2.18810	0.81168	2.09000	1.75911	0.47887	0.56847	0.47887	0.85734	1.97293	2.08000	1.97293	0.48077
3	1.25971	0.79183	3.24640	2.57770	0.39803	0.38803	2.29503	0.77218	2.51329	2.78110	0.30505	0.35055	0.34262	0.79183	2.57770	3.24640	2.57770	0.39803
4	1.36039	0.73503	4.56112	3.19213	0.30192	1.4036	3.14118	0.70543	4.37113	2.53912	0.21667	0.20867	0.23505	0.73503	3.19213	4.56112	3.19213	0.30192
5	1.46943	0.68058	6.60558	5.86660	0.25046	1.84647	5.15382	0.64993	5.89471	3.88965	0.16109	0.15709	0.16220	0.68058	5.86660	6.60558	5.86660	0.25046
6	1.58687	0.63017	7.15593	6.62288	0.13632	0.21632	2.27635	0.59210	7.52343	6.04852	0.13392	0.12292	0.124979	0.63017	6.62288	7.15593	6.62288	0.13632
7	1.71382	0.58349	8.92280	5.20637	0.11207	0.19207	2.69362	0.51710	9.20043	5.00295	0.10669	0.19869	0.26570	0.58349	5.20637	8.92280	5.20637	0.11207
8	1.85051	0.55027	10.63661	6.07466	0.09001	0.17401	3.09852	0.50187	11.02847	5.51482	0.09067	0.18067	0.31517	0.55027	6.07466	10.63661	6.07466	0.09001
9	1.99900	0.50025	12.87756	6.24685	0.08008	0.16008	3.49003	0.46604	12.02104	5.99525	0.07680	0.16680	0.41323	0.50025	6.24685	12.87756	6.24685	0.08008
10	2.15852	0.46319	14.88656	7.13008	0.06003	0.14903	3.87111	0.42241	15.99293	6.1766	0.06592	0.15582	0.39777	0.46319	7.13008	14.88656	7.13008	0.06003
11	2.33164	0.42888	16.84549	7.18896	0.06008	0.14008	4.58043	0.38553	16.5029	6.10519	0.06595	0.14695	0.41506	0.42888	7.18896	16.84549	7.18896	0.06008
12	2.51817	0.39711	18.97713	7.53668	0.05270	0.13270	4.59575	0.35553	20.14072	6.04955	0.0695	0.13965	0.49102	0.39711	7.53668	18.97713	7.53668	0.05270
13	2.71982	0.36770	21.71982	7.90318	0.04652	0.12652	4.94022	0.32618	22.5033	6.04357	0.07616	0.14357	0.51816	0.36770	7.90318	21.71982	7.90318	0.04652
14	2.93219	0.34646	24.21492	8.24424	0.04130	0.12120	5.27205	0.31412	24.01918	7.78611	0.08284	0.12843	0.51322	0.34646	8.24424	24.21492	8.24424	0.04130
15	3.17227	0.31524	27.52211	8.55948	0.03683	0.11683	5.59446	0.29825	25.46218	7.51406	0.09065	0.11406	0.51453	0.31524	8.55948	27.52211	8.55948	0.03683
16	3.42594	0.28189	30.32428	8.85137	0.03298	0.11298	5.90163	0.25187	29.5692	7.30340	0.10306	0.10306	0.51406	0.28189	8.85137	30.32428	8.85137	0.03298
17	3.70002	0.25027	33.75023	9.12164	0.02693	0.10963	6.20375	0.23075	31.9703	7.1705	0.11705	0.10205	0.50238	0.25027	9.12164	33.75023	9.12164	0.02693
18	3.99602	0.22025	37.45024	9.37189	0.02670	0.10670	6.49202	0.21199	36.97370	7.04202	0.12121	0.10181	0.62685	0.22025	9.37189	37.45024	9.37189	0.02670
19	4.31550	0.20171	41.44626	9.60350	0.02413	0.10413	6.76659	0.19449	41.30134	6.95011	0.12713	0.10173	0.65258	0.20171	9.60350	41.44626	9.60350	0.02413
20	4.66056	0.18455	45.71956	9.71956	0.02285	0.10185	7.03955	0.18145	45.50156	6.81656	0.13955	0.10955	0.67675	0.18455	9.71956	45.71956	9.71956	0.02285
21	5.03383	0.16292	50.19853	10.01680	0.01983	0.09803	7.29043	0.16815	49.91254	6.67453	0.15714	0.10955	0.70056	0.16292	10.01680	50.19853	10.01680	0.01983
22	5.43634	0.14394	55.45676	10.20074	0.01803	0.09803	7.54128	0.15081	50.25860	6.51854	0.16762	0.10950	0.72222	0.14394	10.20074	55.45676	10.20074	0.01803
23	5.87146	0.17032	60.89330	10.51770	0.01706	0.09442	7.80642	0.14142	50.75677	6.3178	0.16130	0.10438	0.74354	0.17032	10.51770	60.89330	10.51770	0.01706
24	6.34118	0.15770	66.76476	10.52876	0.01498	0.09498	8.00661	0.12640	7.91108	6.12640	0.16612	0.10302	0.76383	0.15770	10.52876	66.76476	10.52876	0.01498
25	6.84688	0.14602	73.65594	10.61478	0.01658	0.09168	8.22538	0.11597	8.02308	6.02308	0.16562	0.10181	0.78150	0.14602	10.61478	73.65594	10.61478	0.01658
26	7.39653	0.13520	79.59442	10.70350	0.01521	0.09145	8.43518	0.10545	8.12554	5.92996	0.16562	0.10172	0.80152	0.13520	10.70350	79.59442	10.70350	0.01521
27	7.98806	0.12519	87.35070	10.71956	0.01455	0.09145	8.63627	0.09145	8.24505	5.81656	0.16556	0.10173	0.82942	0.12519	10.71956	87.35070	10.71956	0.01455
28	8.62211	0.11593	97.15516	11.05108	0.01049	0.09049	8.82888	0.08145	9.01328	5.71536	0.16751	0.10815	0.85805	0.11593	11.05108	97.15516	11.05108	0.01049
29	9.31227	0.10733	103.96594	11.15841	0.00962	0.08962	9.08962	0.07537	9.18771	5.61736	0.16762	0.10754	0.8806	0.10733	11.15841	103.96594	11.15841	0.00962
30	10.06566	0.09918	113.28121	11.25778	0.00883	0.08883	9.31871	0.07537	9.38075	5.51736	0.16862	0.10754	0.90229	0.09918	11.25778	113.28121	11.25778	0.00883
31	10.87654	0.08763	122.1680	11.36547	0.00890	0.08986	9.56501	0.07537	9.56682	5.41397	0.16962	0.10814	0.92422	0.08763	11.36547	122.1680	11.36547	0.00890
32	11.72452	0.08603	129.65562	11.52461	0.00896	0.08986	10.36592	0.07537	10.57216	5.31092	0.16952	0.10814	0.94211	0.08603	11.52461	129.65562	11.52461	0.00896
33	12.61205	0.08045	140.02132	11.63333	0.00859	0.08059	10.80459	0.07537	11.40465	4.81279	0.16952	0.10916	0.96299	0.08045	11.63333	140.02132	11.63333	0.00859
34	13.51153	0.07416	151.77016	12.23348	0.00817	0.08174	11.41071	0.07537	12.37113	4.7572	0.16952	0.10916	0.98298	0.07416	12.23348	151.77016	12.23348	0.00817
35	14.49165	0.06898	162.93220	12.31861	0.00818	0.08118	11.69015	0.07537	12.51158	4.68826	0.16952	0.10916	1.00298	0.06898	12.31861	162.93220	12.31861	0.00818
36	15.47165	0.06067	181.01508	12.41598	0.00808	0.08085	12.06016	0.07537	12.90514	4.62122	0.16952	0.10916	1.02291	0.06067	12.41598	181.01508	12.41598	0.00808
37	16.45165	0.05457	198.74808	12.44242	0.00804	0.08084	12.44352	0.07537	13.30059	4.56209	0.16952	0.10916	1.04211	0.05457	12.44242	198.74808	12.44242	0.00804
38	17.43165	0.04985	27.0.08007	12.46108	0.008025	0.080025	12.46257	0.07537	14.70871	4.50313	0.16952	0.10916	1.06211	0.04985	12.46108	27.0.08007	12.46108	0.008025
39	18.41165	0.04616	102.52299	12.48197	0.008012	0.08012	12.48229	0.07537	15.17703	4.44421	0.16952	0.10916	1.08211	0.04616	12.48197	102.52299	12.48197	0.008012
40	19.39165	0.04288	103.96547	12.50000	0.008001	0.080001	12.50000	0.07537	16.05793	4.38531	0.16952	0.10916	1.10211	0.04288	12.50000	103.96547	12.50000	0.008001
41	20.37165	0.04014	69.14569	12.51957	0.008000	0.080000	12.51957	0.07537	16.93703	4.32640	0.16952	0.10916	1.12211	0.04014	12.51957	69.14569	12.51957	0.008000
42	21.35165	0.03786	101.81159	12.53986	0.008000	0.080000	12.53986	0.07537	17.81713	4.26749	0.16952	0.10916	1.14211	0.03786	12.53986	101.81159	12.53986	0.008000
43	22.33165	0.03557	149.12055	12.55908	0.008000	0.080000	12.55908	0.07537	18.69721	4.20858	0.16952	0.10916	1.16211	0.03557	12.55908	149.12055	12.55908	0.008000
44	23.31165	0.03334	101.02120	12.57916	0.008000	0.080000	12.57916	0.07537	19.57731	4.15067	0.16952	0.10916	1.18211	0.03334	12.57916	101.02120	12.57916	0.008000
45	24.29165	0.03133	471.95683	12.59547	0.008000	0.080000	12.59547	0.07537	20.45752	4.09177	0.16952	0.10916	1.20211	0.03133	12.59547	471.95683	12.59547	0.008000
46	25.27165	0.02911	69.19186	12.61233	0.008000	0.080000	12.61233	0.07537	21.33713	4.03286	0.16952	0.10916	1.22211	0.02911	12.6			



國立雲林科技大學  
八十七學年度研究所碩士班入學考試試題

所別：營建所  
科目：工程經濟

第6頁共6頁

離散復利： $i = 16.0\%$

性質複利： $i = 15.0\%$

(N)	(P/F)	(P/A)	(F/P)	(A/P)	(A/F)	(P/A)	(F/A)	(A/F)	(P/A)	(F/P)	(A/P)	(A/G)	(P/A)	(F/A)	(P/F)	(A/P)	(F/A)	(P/A)	(F/P)	(A/P)	
1	1.15000	0.86957	1.00000	1.15000	0.00000	1.16000	0.86207	1.00000	1.16000	0.86207	1.00000	1.16000	0.00000	1.16000	0.86207	1.00000	1.16000	0.00000	1.16000	0.86207	
2	1.32250	0.75614	2.15000	1.65571	0.46512	1.15000	0.74316	1.15000	1.15000	0.74316	1.15000	1.15000	0.00000	1.15000	0.74316	1.15000	1.15000	0.00000	1.15000	0.74316	
3	1.50000	0.65752	2.47550	2.23223	0.28798	0.43798	0.90713	1.2	1.15000	1.14560	1.15000	1.15000	0.00000	1.15000	1.14560	1.15000	1.15000	0.00000	1.15000	1.14560	
4	1.71901	0.57157	4.99338	6.74328	0.14832	0.8498	0.20027	1.32626	4	1.15000	1.05077	1.15000	1.15000	0.00000	1.15000	1.05077	1.15000	1.15000	0.00000	1.15000	1.05077
5	2.01136	0.43310	8.75374	11.63216	0.14832	0.75374	0.19448	0.29816	5	2.10034	0.98916	2.10034	2.10034	0.00000	2.10034	0.98916	2.10034	2.10034	0.00000	2.10034	0.98916
6	2.31306	0.33759	11.06860	11.75394	0.14042	0.66026	0.19448	0.26624	6	2.0034	0.90916	2.0034	2.0034	0.00000	2.0034	0.90916	2.0034	2.0034	0.00000	2.0034	0.90916
7	2.66000	0.23902	11.72682	4.47322	0.07285	0.22285	0.16042	0.24056	7	2.82622	0.89495	2.82622	2.82622	0.00000	2.82622	0.89495	2.82622	2.82622	0.00000	2.82622	0.89495
8	3.05902	0.14226	16.78984	4.71158	0.05937	0.20537	0.19593	0.20537	8	3.27841	0.80561	3.27841	3.27841	0.00000	3.27841	0.80561	3.27841	3.27841	0.00000	3.27841	0.80561
9	3.51768	0.08426	20.30712	5.01872	0.04925	0.16295	0.19935	0.19935	9	3.02233	0.70223	3.02233	3.02233	0.00000	3.02233	0.70223	3.02233	3.02233	0.00000	3.02233	0.70223
10	4.05556	0.04717	4.21494	24.34228	0.03448	0.14107	0.19107	0.19107	10	4.11144	0.63491	4.11144	4.11144	0.00000	4.11144	0.63491	4.11144	4.11144	0.00000	4.11144	0.63491
11	4.62239	0.02907	0.18695	29.00067	0.02062	0.14107	0.18448	0.18448	11	5.93160	0.50820	5.93160	5.93160	0.00000	5.93160	0.50820	5.93160	5.93160	0.00000	5.93160	0.50820
12	5.31025	0.01686	0.15279	34.1592	0.02911	0.14107	0.17931	0.17931	12	6.88579	0.41216	6.88579	6.88579	0.00000	6.88579	0.41216	6.88579	6.88579	0.00000	6.88579	0.41216
13	6.15279	0.01625	7.0571	0.14223	0.04921	0.14107	0.17448	0.17448	13	7.98752	0.36211	7.98752	7.98752	0.00000	7.98752	0.36211	7.98752	7.98752	0.00000	7.98752	0.36211
14	7.17076	0.01289	41.58947	0.12028	0.02469	0.1702	0.1702	0.1702	14	8.26150	0.30552	8.26150	8.26150	0.00000	8.26150	0.30552	8.26150	8.26150	0.00000	8.26150	0.30552
15	8.17065	0.01086	55.71947	0.09709	0.01795	0.16795	0.16795	0.16795	15	9.26552	0.26102	9.26552	9.26552	0.00000	9.26552	0.26102	9.26552	9.26552	0.00000	9.26552	0.26102
16	9.35162	0.00926	6.07162	65.07162	0.01537	0.16716	0.16716	0.16716	16	10.72255	0.21637	10.72255	10.72255	0.00000	10.72255	0.21637	10.72255	10.72255	0.00000	10.72255	0.21637
17	10.71262	0.00749	12.37545	56.07162	0.01537	0.16716	0.16716	0.16716	17	12.46768	0.18021	12.46768	12.46768	0.00000	12.46768	0.18021	12.46768	12.46768	0.00000	12.46768	0.18021
18	12.37545	0.00617	12.37545	57.83136	0.01219	0.16716	0.16716	0.16716	18	14.66251	0.08431	14.66251	14.66251	0.00000	14.66251	0.08431	14.66251	14.66251	0.00000	14.66251	0.08431
19	14.21177	0.00507	14.21177	88.21027	0.01214	0.16716	0.16716	0.16716	19	16.7652	0.03071	16.7652	16.7652	0.00000	16.7652	0.03071	16.7652	16.7652	0.00000	16.7652	0.03071
20	16.36654	0.00411	16.36654	10.14458	0.00917	0.16716	0.15916	0.15916	20	19.16076	0.02307	19.16076	19.16076	0.00000	19.16076	0.02307	19.16076	19.16076	0.00000	19.16076	0.02307
21	18.15152	0.00313	18.15152	0.18102	0.01912	0.16716	0.16716	0.16716	21	21.8582	0.01842	21.8582	21.8582	0.00000	21.8582	0.01842	21.8582	21.8582	0.00000	21.8582	0.01842
22	21.64745	0.00260	13.04620	137.63164	0.01026	0.16716	0.16716	0.16716	22	22.16840	0.01026	22.16840	22.16840	0.00000	22.16840	0.01026	22.16840	22.16840	0.00000	22.16840	0.01026
23	24.89346	0.00217	15.92727	6.38864	0.00628	0.16716	0.16716	0.16716	23	24.89346	0.00628	24.89346	24.89346	0.00000	24.89346	0.00628	24.89346	24.89346	0.00000	24.89346	0.00628
24	28.65158	0.00193	18.41777	6.41377	0.00513	0.16716	0.16716	0.16716	24	29.79789	0.00513	29.79789	29.79789	0.00000	29.79789	0.00513	29.79789	29.79789	0.00000	29.79789	0.00513
25	32.98985	0.00188	21.79302	6.44115	0.00410	0.16716	0.16716	0.16716	25	30.84343	0.00410	30.84343	30.84343	0.00000	30.84343	0.00410	30.84343	30.84343	0.00000	30.84343	0.00410
26	37.86860	0.00188	43.53531	0.02297	0.00353	0.16716	0.16716	0.16716	26	37.96123	0.00353	37.96123	37.96123	0.00000	37.96123	0.00353	37.96123	37.96123	0.00000	37.96123	0.00353
27	43.53531	0.00188	50.05651	0.01997	0.00305	0.16716	0.16716	0.16716	27	50.00044	0.00305	50.00044	50.00044	0.00000	50.00044	0.00305	50.00044	50.00044	0.00000	50.00044	0.00305
28	57.55745	0.00179	57.55745	0.01797	0.00206	0.16716	0.16716	0.16716	28	61.96060	0.00206	61.96060	61.96060	0.00000	61.96060	0.00206	61.96060	61.96060	0.00000	61.96060	0.00206
29	66.21177	0.00170	66.21177	0.01510	0.00220	0.16716	0.16528	0.16528	29	74.05408	0.00220	74.05408	74.05408	0.00000	74.05408	0.00220	74.05408	74.05408	0.00000	74.05408	0.00220
30	13.03552	0.00161	13.03552	88.17031	0.00113	0.16561	0.16561	0.16561	30	65.01988	0.00113	65.01988	65.01988	0.00000	65.01988	0.00113	65.01988	65.01988	0.00000	65.01988	0.00113
31	25.86355	0.00157	23.78701	0.00373	0.00056	0.16561	0.16561	0.16561	31	160.31407	0.00056	160.31407	160.31407	0.00000	160.31407	0.00056	160.31407	160.31407	0.00000	160.31407	0.00056
32	45.79292	0.00157	10.93744	0.00186	0.00028	0.16561	0.16561	0.16561	32	176.04383	0.00186	176.04383	176.04383	0.00000	176.04383	0.00186	176.04383	176.04383	0.00000	176.04383	0.00186
33	55.71945	0.00157	21.71628	0.00186	0.00028	0.16561	0.16561	0.16561	33	186.04383	0.00186	186.04383	186.04383	0.00000	186.04383	0.00186	186.04383	186.04383	0.00000	186.04383	0.00186
34	66.66666	0.00157	6.66666	0.00000	0.00000	0.16561	0.16561	0.16561	34	196.52124	0.00000	196.52124	196.52124	0.00000	196.52124	0.00000	196.52124	196.52124	0.00000	196.52124	0.00000
35	77.57745	0.00157	11.77427	0.00186	0.00028	0.16561	0.16561	0.16561	35	206.72116	0.00186	206.72116	206.72116	0.00000	206.72116	0.00186	206.72116	206.72116	0.00000	206.72116	0.00186
36	80.71500	0.00157	47.81312	0.00186	0.00028	0.16561	0.16561	0.16561	36	216.944	0.00186	216.944	216.944	0.00000	216.944	0.00186	216.944	216.944	0.00000	216.944	0.00186
37	85.79292	0.00157	14.4116	0.00186	0.00028	0.16561	0.16561	0.16561	37	226.944	0.00186	226.944	226.944	0.00000	226.944	0.00186	226.944	226.944	0.00000	226.944	0.00186
38	90.71500	0.00157	29.07245	0.00186	0.00028	0.16561	0.16561	0.16561	38	236.944	0.00186	236.944	236.944	0.00000	236.944	0.00186	236.944	236.944	0.00000	236.944	0.00186
39	100.71500	0.00157	11.77427	0.00186	0.00028	0.16561	0.16561	0.16561	39	246.944	0.00186	246.944	246.944	0.00000	246.944	0.00186	246.944	246.944	0.00000	246.944	0.00186
40	120.71500	0.00157	23.78701	0.00186	0.00028	0.16561	0.16561	0.16561	40	256.944	0.00186	256.944	256.944	0.00000	256.944	0.00186	256.944	256.944	0.00000	256.944	0.00186
41	150.71500	0.00157	11.77427	0.00186	0.00028	0.16561	0.16561	0.16561	41	266.944	0.00186	266.944	266.944	0.00000	266.944	0.00186	266.944	266.944	0.00000	266.944	0.00186
42	180.71500	0.00157	11.77427	0.00186	0.00028	0.16561	0.16561	0.16561	42	276.944	0.00186	276.944	276.944	0.00000	276.944	0.00186	276.944	276.944	0.00000	276.944	0.00186
43	210.71500	0.00157	11.77427	0.00186	0.00028	0.16561	0.16561	0.16561	43	286.944	0.00186	286.944	286.944	0.00000	286.944	0.00186	286.944	286.944	0.00000	286.944	0.00186
44	240.71500	0.00157	11.77427	0.00186	0.00028	0.16561	0.16561	0.16561	44	296.944	0.00186	296.944	296.944	0.00000	296.944	0.00186	296.944	296.944	0.00000	296.944	0.00186
45	270.71500	0.00157	11.77427</td																		



國立雲林科技大学

八十七學年度研究所碩士班入學考試試題

所別：營建所

科目：建築計畫

1. 試述複合建築的定義，並舉例以圖示說明複合建築的計畫方法。(25%)
2. 試由構材種類與力學特性，分析現代建築物的構造方式。(25%)
3. 試述都市公園綠地的效益；並敘述如何有效增加都市公園綠地面積的方法。(25%)
4. 由地域計畫的學習，試擬訂你對斗六市將來發展的基本構想與基本計畫。(25%)