本試卷總共有 3 個題組，共 25 個題目，請於答案卷中清楚標明回答的題項

**[題組 1]** ( 33 分)

**Q1-Q13 (33% in total), please <u>fill out the blank fields</u> and <u>provide your explanations when instructed</u> on the answer book.**

Multiwerse Inc. produces and sells electric cars. Its products have a *depreciable life of* ten years. Board Director Pelleas, who is also the chief executive officer of Multiwerse, was discussing the change in the optimal R&D budget (hereafter referred to as size of Plan R) with the other members of the board. The notations include

$q$ = quantity demanded expressed as average annual volume, (in million cars)

RD_Bud = average budgeted annual research and development expenditure, (in million Metawerse Dollars, hereafter referred to as million M$)

$I$ = average disposable income in in the Kingdom of Metawerse, the country where Multiwerse Inc. is based, (in million M$)

$P$ = price per Multiwerse car,

$P_z$ = price per unit of product Z, and

$P_H$ = price per unit of product H.

Currently, I=0.2, RD_Bud = 5, P = 6, $P_z$ = 4, and $P_H$ =4.

I, RD_Bud, $P_z$, and $P_H$ will remain unchanged in the next five years. The increase in research and development expenditure adds to mass customization effectiveness and the performance of the car. The total cost (in million M$) for Multiwerse Inc. is 120 + 5q.

Sir Cador, who is a senior board member, stated that the economy's consumption function is C (consumption) = 0.1 + 0.6 x GDP in the Kingdom of Metawerse. The consumers' behavior with respect to the electric cars is qualitatively the same as that for the fuel cars.

SVP de Sade stated that

(a) the five-year firm demand curve　$q = 70 + 0.2\,RD\_Bud + 5\,I - 4\,P + 0.5\,P_z - 0.5P_H$, and

(b) the one-year firm demand curve　$q = 70 + 0.1\,RD\_Bud + 30\,I - 15\,P + 0.5P_z - 0.5P_H$,

SVP Bors de Ganis stated that

(a) the five-year firm demand curve　$q = 70 + 0.2\,RD\_Bud + 5\,I - 4\,P + 0.5P_z - 0.5P_H$, and

(b) the one-year firm demand curve　　$q = 70 + 0.1\,RD\_Bud + 3\,I - 2P + 0.5\,P_z - 0.5P_H$.

Mr. Dinadan, a senior consultant, stated that

(a) Multiwerse car and Z are complementary good, and

(b) Multiwerse car and H are substitute goods

Mr. Lamorak, another senior consultant, stated that

(a) Multiwerse car and H are complementary good, and

(b) Multiwerse car and Z are substitute goods.

**Q1:** Use only the five-year (not to use the one-year) firm demand curve for deriving answers to questions 5, 12, 13. One of the only two SVP's in Multiwerse, Mr. de Sade and Mr. Bors de Ganis, is a true expert in Economics.　Which one of these two SVP's is the true expert in Economics? _____　　Why? _____(2%)

**Q2:** One of the only two senior consultants in Multiwerse, Mr. Dinadan and Mr. Lamorak, is a true expert in Economics.　Which one of these two senior consultants is the true expert in Economics? _____　　Why? _____ (2%)

<center>見 背 面</center>

題號： 342
科目： 經濟學(F)
節次： 6

國立臺灣大學 111 學年度碩士班招生考試試題

題號：342

共 5 頁之第 2 頁

**Q3**: Without Plan R, how much is the price elasticities of five-year firm demand for Multiwerse car? **(2%)**

**Q4**: How much is the R&D elasticities of five-year firm demand for Multiwerse car? **(2%)**

**Q5**: Without Plan R, the marginal revenue curve for Multiwerse car is a − b q. Then a = _____ , b = _____ **(2%)**

**Q6**: Without Plan R, the total cost for Multiwerse is _____. **(2%)**

**Q7**: Without Plan R, what is the marginal cost curve for Multiwerse? _____.**(3%)**

**Q8**: Without Plan R, how much is the fixed cost for Multiwerse? _____. **(3%)**

**Q9**: Board Director Tor stated that Multiwerse cars are inferior goods. Is he telling the truth? _____.  Briefly Explain. _____. **(3%)**

**Q10**: Once the firm implements Plan R, The marginal cost for increasing q from 48 to 49 = _____.**(3%)**

**Q11**: Board Director Marhaus stated that to maximize profit, the firm's ratio of R&D Expenditure to Sales Revenue, or

$$\frac{\text{R\&D Expenditure}}{\text{Sales Revenue}}$$

should be equal to *minus* the ratio of the price elasticity to R&D elasticity of five-year firm demand, or

$$- \frac{\text{Price elasticity of five-year firm demand}}{\text{R\&D elasticity of five-year firm demand}}$$

But Board Director Hoel stated that to maximize profit, the firm's
$$\frac{\text{R\&D Expenditure}}{\text{Sales Revenue}}$$

should be equal to *minus* the ratio of the R&D elasticity to price elasticity of five-year firm demand, or

$$- \frac{\text{R\&D elasticity of five-year firm demand}}{\text{Price elasticity of five-year firm demand}}$$

Which one of these two board members is telling the truth? _____ Show your proof. **(3%)**

**Q12**: For now, the optimal *increase* in R&D budget amount (in million M$) for Plan R = _____ **(3%)**

**Q13**: With Plan R, the optimal q for the company = _____ **(3%)**

<p align="center">接 次 頁</p>

題號： 342
科目： 經濟學(F)
節次： 6

國立臺灣大學 111 學年度碩士班招生考試試題

題號：342

共 5 頁之第 3 頁

**[題組 2] ( 33 分)**

**Q14-Q18 (33% in total) are <u>essay questions</u>, please <u>provide your calculations and answers</u> on the answer book**

一、基本工資審議會議於去年議決，自今年起調漲基本工資和時薪，調幅五・二一％；預計一九五萬月薪制的勞工以及五十一萬名非全職勞工得以受惠。請分析其對台灣總體經濟的影響。(18%)

**Q14:** 請以 AS 跟 AD 的關係圖，就上述基本工資調整的總體影響，繪製其可能引發的圖形變動；請說明你就 AS 跟 AD 曲線的背後假設與促成其移動方向的推論和理論依據。

**Q15:** 關於 AS 跟 AD 曲線的變動與相互關係，你的繪圖會否受到外國移工多寡的影響？有調薪的將近兩百萬名全職員工，本國人民與外國勞工各占多少比重？你如何做成本、外勞的占比推估，以及在圖形上之所以會有如何的差異影響呢？

**Q16:** 針對工總與商總代表的連番陳情，經濟部另將對於受創產業的雇主提供調薪補貼。請問政府對部分企業所做成的薪資補貼，將反映在國民所得會計帳上的哪一個科目呢？因為有了經濟部的補貼申請規範，其對於 AS 跟 AD 曲線的相互關係，又有何種面向的影響呢？

二、閱讀以下的英文摘錄，來自研究成果的報導；請先做成整理、解釋，並引用總體經濟課程內的相關假說，來回答下列問題。(15%)

**Q17:** 哪一個假說是在處理：關於跨期消費、所得來源與其持續的穩定度，因而影響到消費邊際傾向的估算？根據此一研究報導，美國家戶的儲蓄行為與存款餘額，會有何改變發生呢？新冠疫情如果能（或是不能）在短期內結束，會否影響到家戶在未來的消費支出？

"Using data from the Consumer Expenditure Survey on the variation in amount, receipt, and timing of receipt of stimulus checks authorized by the CARES Act, Jonathan A. Parker from M.I.T. and co-authors find that people spent less of their checks than estimated by previous. They estimate that people spent 10% of their stimulus checks on non-durable goods and services three months after receiving them with little evidence of additional spending in the subsequent three months or on durable goods."

**Q18:** 關於通貨膨脹的發生與預期通膨，我們應用以下關係式來呈現其關聯與總體影響；根據此一假說，如何掌握實際通膨與預期通膨一旦有差異，將如何影響到失業狀況與國內生產毛額的關聯變化。

"Suppose that the unemployment rate in an economy can be summarized as the following: $\pi_t = \pi^e_t - 0.5 (u_t - 0.06)$.
**Q18-1:** What is the natural rate of unemployment in this economy as indicated in the above equation?
**Q18-2:** Draw a diagram to illustrate graphically how the inflation rate, $\pi_t$ and unemployment rate, $u_t$, change correspondingly in the short run under an unexpected expansionary monetary policy.
**Q18-3:** Use this diagram to illustrate graphically how inflation and unemployment adjust in the short run if the expansionary monetary policy is fully expected."

見背面

題號： 342
國立臺灣大學 111 學年度碩士班招生考試試題
科目： 經濟學(F)
題號：342
節次： 6
共 5 頁之第 4 頁

[題組 3] ( 34 分)

**Q19-Q21 (4% each question, 12% in total) are <u>multiple-choice questions</u>, please choose the best possible answer out of the choices from the list, and <u>provide your answers</u> on the answer book**

Firms traditionally claim that they downsize (i.e., make permanent personnel cuts) for economic reasons, laying off supposedly unnecessary staff in an attempt to become more efficient and competitive. Organization theory would explain this reasoning as an example of the "economic rationality" that it assumes underlies all organizational activities. There is evidence that firms believe they are behaving rationally whenever they downsize; yet recent research has shown that the actual economic effects of downsizing are often negative for firms. Thus, organization theory cannot adequately explain downsizing; non-economic factors must also be considered. One such factor is the evolution of downsizing into a powerful business myth: managers simply believe that downsizing is efficacious.

Moreover, downsizing nowadays is greeted favorably by the business press; the press often refers to soaring stock prices of downsizing firms (even though research shows that stocks usually rise only briefly after downsizing and then suffer a prolonged decline). Once viewed as a sign of desperation, downsizing is now viewed as a signal that firms are serious about competing in the global marketplace; such signals are received positively by key actors — financial analysts, consultants, shareholders — who supply firms with vital organizing resources. Thus, even if downsizers do not become economically more efficient, downsizing's mythic properties give them added prestige in the business community, enhancing their survival prospects.

**Q19**: According to the passage, the "key actors" view a firm's downsizing activities as an indication of the firm's
    A. troubled financial condition
    B. inability to develop effective long-term strategies
    C. inability to retain vital organizational resources
    D. desire to boost its stock price
    E. desire to become more competitive

**Q20**: The primary purpose of the passage is to
    A. criticize firms for engaging in the practice of downsizing
    B. analyze the negative economic impact of downsizing on firms
    C. offer an alternative to a traditional explanation for the occurrence of downsizing
    D. chronicle how perceptions of downsizing have changed over time
    E. provide evidence disputing the prevalence of downsizing

**Q21**: The passage suggests which of the following about the claim that a firm will become more efficient and competitive by downsizing?
    A. Few firms actually believe this claim to be true.
    B. Fewer firms have been making this claim in recent years.
    C. This claim contradicts the basic assumption of organization theory.
    D. This claim is called into question by certain recent research.
    E. This claim is often treated with skepticism by the business press.

**Q22-Q23 (11% in total) are <u>essay questions</u>, please <u>provide your calculations and answers</u> on the answer book**

There are five storefronts lined along a commercial block, where the left-most storefront is number 1 and the right most storefront is number 5. Two vendors, players 1 and 2, each have a clothing store that can be located next to one of five storefronts. There are 25 people located next to each storefront, and each person will purchase an article of clothing from the store that is closest to him or her. That is, if player 1 locates his store at storefront 2 and player 2 at storefront 3, then 50 people (at storefronts 1 and 2) will purchase

接 次 頁

題號： 342
科目： 經濟學(F)
節次： 6

國立臺灣大學 111 學年度碩士班招生考試試題

題號：342

共 5 頁之第 5 頁

from player 1, while 75 (from storefronts 3,4 and 5) will purchase from vendor 2. Each purchase yields a profit of $1.

**Q22**: Specify the strategy set of each player. Are there any strictly dominated strategies? **(5%)**

**Q23**: Find the set of strategies that are rationalizable. **(6%)**

**Q24-Q25 (11% in total) are <u>essay questions</u>, please <u>provide your calculations and answers</u> on the answer book**

Two division managers can invest time and effort in creating a better working relationship. Each invests $e_i \geq 0$, and if both invest more then both are better off, but it is costly for each manager to invest. In particular, the payoff function for player $i$ from effort levels $(e_i, e_j)$ is $v_i(e_i, e_j) = (a + e_j)e_i - e_i^2$ .

**Q24**: What is the best response correspondence of each player? **(5%)**

**Q25**: Find the Nash equilibrium of this game and identify whether it is unique. **(6%)**

試題隨卷繳回