2021 INTERNATIONAL ECONOMICS OLYMPIAD

IEOC SYLLABUS

(SECOND EDITION)

INTERNATIONAL ECONOMICS OLYMPIAD

CHINA SYLLABUS

(VERSION II)

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版权声明

目 录

引言 GENERAL STATEMENT

INTERNATIONAL ECONOMICS OLYMPIAD （简称 IEO)是 13 项 International Science Olympiads 之一，也是全球规模最大的年度中学生经济学、商科、金融学学术挑战活动，面向各年级中学生。

IEO 由诺贝尔经济学获奖者、哈佛大学教授 Eric Maskin 发起并担任国际理事会主席，国际组委会则主要由国际知名大学相关学科的专家学者组成。经济学和相关学科的中学教学在世界范围内差别很大，因此，为了践行公平、平等的奥林匹克精神，IEO 的主要目的并非测试学生对理论知识的记忆，而是通过创造性解决问题的方式，激发中学生对经济学、商学和金融兴趣；提升、展示的经济学知识、财经素养、商业素养和团队合作精神；建立世界各地中学教育工作者之间的联系，在更高层次上促进经济学学科普及工作。

截止 2020 年 9 月，IEO 已成功组织了三届活动，包括中国在内的全球 32 个国家和地区参与其中。由 ITCCC 负责组织的 INTERNATIONAL ECONOMICS OLYMPIAD CHINA(简称 IEOC)是 IEO 的一个重要组成部分。IEOC 采用统一试卷命题、统一考试时间、统一评分标准，分两个等级组：新秀组（Junior Level）和专业组 (Senior Level)，每组分两个阶段：初选 (Open Round) 和终选 (Final Round)。其中，专业组拥有国际终选（Global Finals）晋级资格。
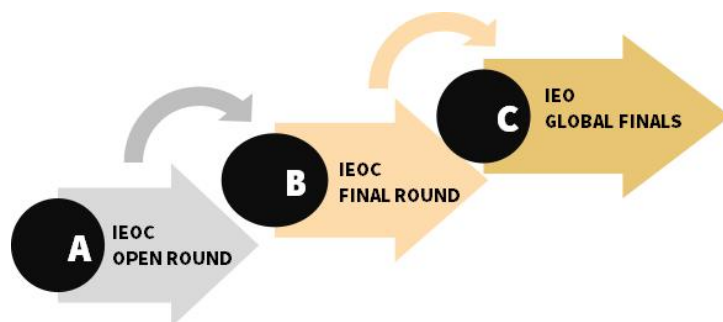
本指南由 IEOC 学术委员会专家根据 2020 年发布的 IEO SYLLABUS，结合 IGCSE、AP、A-LEVEL 和 IB 等国际课程经济学和商学（商管）大纲制定和修订，对参加 2021 年 OPEN ROUND 和 FINAL ROUND 的学生、老师具有指导意义。如有疏漏之处或疑问，欢迎通过邮件 ieo@itccc.org.cn 与我们沟通、交流。

IEOC 遵循学生自愿参加原则，根据教育部办公厅《关于面向中小学生的全国性竞赛活动管理办法（试行）》的通知以及教育主管部门的要求，该学术挑战活动不与任何中国的大学、中学或小学升学加分活动挂钩，仅定位为针对中学经济学、商科、金融爱好者的课外兴趣活动。

Economics
Open questions and multiple choice questions about theory and practice

Business case
Presentation of case solutions in English before the Jury

Financial literacy
Online simulation game in creating personal financial plans

第一部分.

IEOC 2021 挑战说明

PART ONE.

IEOC 2021 CHALLENGES

一、 组别设置
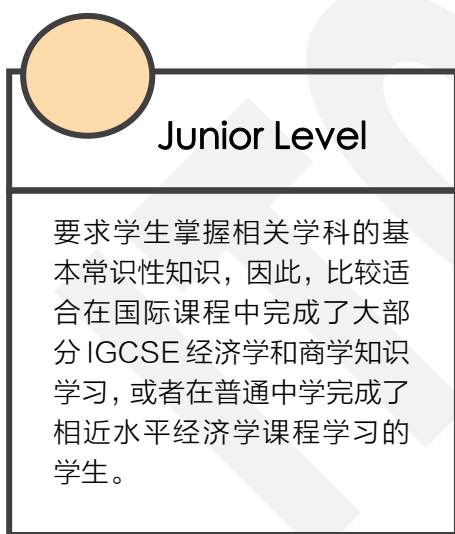
1. 新秀组 JUNIOR LEVEL

面向 10 年级及以下、具有少量的经济学、商学和金融学知识储备的中学生。
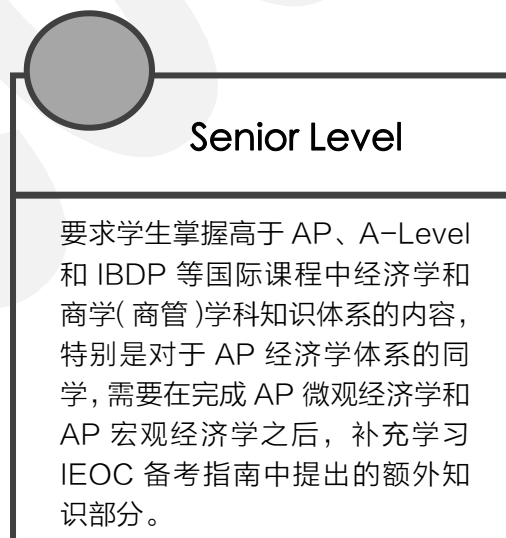
2. 专业组 SENIOR LEVEL

不限年级，适合经济学、商学和金融学基础较强，对经济学、商科和金融学兴趣浓厚的中学生。

Junior Level

要求学生掌握相关学科的基本常识性知识，因此，比较适合在国际课程中完成了大部分 IGCSE 经济学和商学知识学习，或者在普通中学完成了相近水平经济学课程学习的学生。

Senior Level

要求学生掌握高于 AP、A-Level 和 IBDP 等国际课程中经济学和商学(商管)学科知识体系的内容，特别是对于 AP 经济学体系的同学，需要在完成 AP 微观经济学和 AP 宏观经济学之后，补充学习 IEOC 备考指南中提出的额外知识部分。

二、 测评形式

1. 初选 OPEN ROUND

经济学知识测评（Economics）
-客观选择题（Multiple Choice Question）

01

Open Round 挑战形式为经济学知识为主的　　测评：

1) 个人闭卷纸笔测评，试题语言为英文，时长 90 分钟，30 道选择题（满分 120 分，答对每题得 4 分，答错倒扣 1 分，不回答不得分也不扣分）；队员得分之和作为团队成绩。

2) 可使用无编程功能的计算器，和普通英汉词典。

3) Junior Level 和 Senior Level 初选挑战方式相同，题目难度不同；测评内容的知识点比例　为：**经济学知识 70%，个人理财常识 15%，商业知识 15%。**

　　请注意，在 Open Round 中，个人理财常识和商业知识均通过笔试测试知识的掌握和理解程度。

2. 终选 FINAL ROUND

经济学知识测评（*Economics*） 01

商业项目路演挑战（*Business Case Study*） 02

个人理财游戏（*Financial Literacy*） 03

Final Round 挑战形式为经济学知识测评(Economics)、商业项目路演挑战(Business Case Study)，以及个人理财游戏（Financial Literacy）：

1) 经济学知识测评(Economics)

① 经济知识测评为个人闭卷纸笔测评，试题语言为英文，时长 180 分钟，包括 20 道客观选择题（满分 80 分，答对每题得 4 分，答错倒扣 1 分，不回答不得分也不扣分），和 5 道开放性问答题（选做 4 题，每题 30 分，满分 120 分）；满分为 200 分。

② 可使用无编程功能的计算器，和普通英汉词典。

③ Junior Level 和 Senior Level 终 选挑战方式相同，题目难度不同，测评内容以**经济学知识为主，** 个人理财常识 和商业知识 的 题目。

2) 商业项目路演挑战（Business Case Study）

① 关注的素养：商业知识（包括并不限于市场预测、营销分析、财务分析、运营分析和人力资源分析），以及演讲能力（包括并不限于辩论能力、逻辑分析能力和应变能力和英文表达能力）。

② 挑战形式：团队为单位，完成路演。

③ 挑战流程：

A. 方案发布

B. 方案准备：在指定的若干小时内进行方案设计，制作、提交一份演示文稿

C. 分组展示：每队进行 10 分钟的陈述，5 分钟评委问答

D. 巅峰对决：新秀组、专业组优胜团队分别进行 10 分钟公开演讲展示和 10 分钟评委问答。

　　特别提示：学生应该通过系统的商业知识学习，获得基本的商业分析知识和工具，并能够在商业项目路演挑战中展示出自己的商业知识和能力。评委会将商业知识的掌握和运用能力作为评价的主要依据。

3) 个人理财（Financial Literacy）*NEW!*

① 关注的素养：对财务知识概念的理解和制定个人财务管理方案的能力。

② 挑战方式：个人为单位，通过游戏的方式，体验一场对真实金融世界的模拟。

③ 测评内容：运用不同的财务工具，在游戏中实现资金积累和增长。在此过程中需要制定计划、做出决策，进行资产估值，以期待获得最大的投资回报。

　　特别提示：游戏使用的是通用财务模型，不涉及具体国家或地区的政策。详细游戏方式说明将于 Final Round 前公布。

第二部分.

经济学知识测评范围

PART TWO.

ECONOMICS

第一章. 经济学基本知识内容

CHAPTER I. BASIC KNOWLEDGE OF ECONOMICS

第一节：经济学基本概念 BASIC CONCEPTS OF ECONOMICS

1. 经济和经济学（含经济简史、经济时事和与经济学有关的简单数学计算）

   Economy and economics（including basic history of economics, current affairs of economics and basic math calculation related with the study of economics）

	Junior Level	Senior Level (including the contents of Junior Level)
ECONOMIC SYSTEM	1. the three basic economic questions: what to produce, how to produce and to whom to produce 2. the definition of market economy, command economy and mixed economy 3. the advantages and disadvantages of market economy, command economy and mixed economy	no extra requirement

FACTOR OF PRODUCTION (INPUT)	1. the definitions and the applications of four factors of production. 2. the definitions and applications of specialization and division of labor 3. the advantages and disadvantages of specialization and division of labor	no extra requirement
OUTPUT	1. the definitions of economic goods and free goods 2. the definitions of public goods and private goods. 3. the definitions of merit goods and demerit goods. 4. the definitions of capital goods and consumer goods 5. the differences between tangible goods and intangible service	no extra requirement
ECONOMIC AGENTS	the definitions of buyers and sellers	no extra requirement
MARKET	1. the definitions and graphs of market for goods and service 2. the definitions and graphs of market for factors of production 3. the definition and graph of money market	no extra requirement
MONEY	1. the four functions of money 2. the characteristics of money	the characteristics of money that are needed in order to realize the four functions of money
ECONOMICS	1. the definition of economics 2. the differences between microeconomics and macroeconomics	the definitions and analysis of normative statement and positive statement of economics

BASIC HISTORY OF ECONOMICS	no requirement	1. the economics thoughts of 18th century by Adam Smith 2. the economics thoughts of 19th century: the Classical microeconomics 3. the economics thoughts of 20th century: Keynesian/monetarist/New classical 4. the economics thoughts of 21th century: increasing dialogue with other disciplines such as psychology and behavior economics 5. the economics thoughts of Noble Price winners of economics
CURRENT AFFAIRS OF ECONOMICS	the important contemporary economic issues and important economic events within China and around the world	no extra requirement
BASIC MATH CALCULATION OF ECONOMICS	the ability to solve the basic math problems related to economics concepts.	the ability to analyze some economic principles with the help of mathematics, including the ability to analyze economic principles with the knowledge of functions and derivatives etc.

2. 机会成本、绝对优势和相对优势

OPPORTUNITY COST, ABSOLUTE ADVANTAGE AND

COMPARATIVE ADVANTAGE

	Junior Level	Senior Level (including the contents of Junior Level)
OPPORTUNITY COST	1. the definition and application of opportunity cost 2. the ways that the government, firms and individuals use to the concept of opportunity cost to make decisions	1. the links between opportunity cost and implicit cost 2. the wide applications of opportunity cost in real life
ABSOLUTE ADVANTAGES AND COMPARATIVE ADVANTAGES	the concepts of absolute advantages and comparative advantages	the wide application of absolute advantages and comparative advantages, especially related to the opportunity cost and trade

3. 边际及其应用 MARGINAL THINKING AND ITS APPLICATION

	Junior Level	Senior Level (including the contents of Junior Level)
MARGINAL THINKING	1. the definition of margin 2. the basic understanding of margin in daily life such as whether to increase one hour of study before the exams	1. the application of margin in consumers' behaviors such as marginal utility and in producers' behaviors such as marginal revenue and marginal cost 2. the understanding of margin with basic knowledge of calculus

第二节:经济学基本图形 BASIC GRAPH OF ECONOMICS

1. 经济资源循环图 CIRCULAR FLOW CURVE

	Junior Level	Senior Level (including the contents of Junior Level)
CIRCULAR FLOW CURVE OF ECONOMICS	the understanding of circular flow curve of economics with 2 sectors	the understanding of circular flow curve of economics with 3 sectors and 4 sectors

2. 生产可能性曲线 PRODUCTION POSSIBILITY CURVE (FRONTIER)

	Junior Level	Senior Level (including the contents of Junior Level)
PPC	1. the definition, drawing and interpretation of PPC 2. the movements along a PPC and the relationship of opportunity cost with PPC. 3. the causes and consequences of shifts in a PPC	1. the differences between the linear PPC and non−linear PPC. 2. the different applications of PPC in microeconomics and macroeconomics

第三节：基本经济关系-市场供需关系和弹性 BASIC ECONOMIC RELATIONSHIP- SUPPLY, DEMAND AND ELASTICITY

	Junior Level	Senior Level (including the contents of Junior Level)
SUPPLY AND DEMAND	1. the definitions of demand and supply 2. the differences between the movement along the demand curve and shift of the demand curve 3. the difference between the movement along the supply curve and shift of the supply curve 4. the differences between individual demand and market demand 5. the differences between the individual supply and market supply 6. the factors that cause the shift of the demand curve 7. the factors that cause the shift of the supply curve 8. the definition of market equilibrium 9. 9 the definition of shortage and surplus 10. the graphs showing all the above concepts related to supply and demand	1. the definitions of price control (legal maximum price and legal minimum price) 2. the more complicated applications of supply and demand in real life situation 3. the graphs showing the changes of supply and demand in different situation

	Junior Level	Senior Level (including the contents of Junior Level)
ELASTICITY	1. the definition and formula of PED (Ed) 2. the difference of elastic demand and inelastic demand 3. the calculation of PED (Ed) 4. the factors that determine PED (Ed) 5. the relationship between PED (Ed) and total revenue 6. .the definition and formula of PES （Es） 7. the difference of elastic supply and inelastic supply 8. the calculation of PES（Es） 9. the factors that determine PES（Es）	1. the ways that the business use PED（Ed）and PES(Es) to make their decision 2. the ways that government uses PED（Ed）and PES(Es) to make their polices 3. the ways that business changes the PED of the products 4. the graphs, calculation and explanation of five types of PED (Ed) and five types of PES(Es) 5. the definition and formula of YED (Ei) 6. the difference between positive YED and negative YED 7. the ways that the business use YED to make their decision 8. the definition and formula of XED (Exy) 9. the difference between positive XED and negative XED (Exy) 10. the ways that the business use XED(Exy) to make their decision 11. the wide application and analysis of PED (Ed), YED (Ei), XED (Exy) and PES (Es) in real life situations

第二章. 微观经济学

CHAPTER II. MICROECONOMICS

第一节：消费者行为 CONSUMER BEHAVIOR

	Junior Level	Senior Level (including the contents of Junior Level)
CONSUMER SURPLUS	1. the definition and calculation of consumer surplus 2. the understanding of consumer surplus from graphs	no extra requirement
UTILITY	the definition of utility	1. the definition of marginal utility 2. the law of diminishing marginal utility 3. the formula of utility maximization: $MU_1/P_1 = MU_2/P_2 = MU_3/P_3 \cdots$
BUDGET CONSTRAINT	no requirement	1. the definition of budget constraint and budget constraint line 2. the graphs and application of budget constraint line
INDIFFERENCE CURVE	no requirement	1. the definition of indifference curve 2. the graphs of indifference curve 3. the consumers' equilibrium from the intersection of budget constraint line and indifference curve

	Junior Level	Senior Level (including the contents of Junior Level)
NORMAL GOODS, INFERIOR GOODS AND GIFFEN GOODS	1. the definition of normal goods 2. the definition of inferior goods 3. the definition of Giffen goods	1. the substitution effect 2. the income effect 3. the substitution effect and income effect for normal goods, inferior goods and Giffen goods and the graphs showing these effects

第二节 生产者行为 PRODUCER BEHAVIOR

	Junior Level	Senior Level (including the contents of Junior Level)
PRODUCER SURPLUS	1. the definition and calculation of consumer surplus 2. the understanding of producer surplus from graphs	no extra requirement
PRODUCTION FUNCTIONS	no requirement	1. the definition of production function 2. the concepts and graphs of total product, marginal product and average product 3. the concept of increasing and decreasing marginal return
SHORT-RUN COST	1. the definition of average total cost, average variable cost, average fixed cost, total cost, total fixed cost and total variable cost 2. the calculation of average total cost, average variable cost, average fixed cost, total cost, total fixed cost and total variable cost 3. the graphs of average total cost, average variable cost, average fixed cost, total cost, total fixed cost and total variable cost	1. the definition of marginal cost 2. the relationship between marginal cost and total cost and total variable cost 3. the relationship between marginal cost and marginal product 4. the graphs of marginal cost 5. the graphs of marginal cost with other cost curve 6. the calculation related to average total cost, average variable cost, average fixed cost, total cost, total fixed cost, total variable cost and marginal cost

	Junior Level	Senior Level (including the contents of Junior Level)
LONG-RUN COST	no requirement	1. the definition of economies of scale, diseconomies of scale and constant return to scale 2. the graphs of economies of scale, diseconomies of scale and constant return to scale
COST MINIMIZING INPUT COMBINATION	no requirement	1. the definition and graph of isoquant curve 2. the definition and graph of isocost curve 3. the formula and calculation of cost minimization: $MP_L/P_L=MP_K/P_K$ 4. the graph showing the cost minimization
REVENUE	1. the definition of total revenue and average revenue 2. the calculation of total revenue and marginal revenue	1. the definition of marginal revenue 2. the relationship between marginal cost and total revenue 3. the graphs of marginal revenue
PROFIT	the concept of total profit	1. the definition and calculation of accounting profit, normal profit, economic profit (abnormal profit) 2. the concept of profit maximization quantity 3. the concept of maximized profit and minimized loss with the relationship of price and average total cost 4. the calculation of the profit

	Junior Level	Senior Level (including the contents of Junior Level)
OBJECTIVE OF PRODUCERS	1. the concept of survival and growth of the producers 2. the advantages and disadvantages of small firms and big firms 3. the definition and understanding of different classifications of firms	1. the different objectives of producers such as profit maximization, total revenue maximization, social welfare maximization etc. 2. the different methods for producer to grow

第三节 商品和服务市场 MARKET FOR GOODS AND SERVICE

	Junior Level	Senior Level (including the contents of Junior Level)
PERFECT COMPETITION	1. the characteristics of perfect competition 2. the advantages and disadvantages of perfect competitive market and firm	no extra requirement
MONOPOLY	1. the characteristics of monopoly 2. the advantages and disadvantages of monopoly and monopolist	1. the graph of monopoly 2. the calculation of profit and loss of monopoly 3. the productive and allocative efficiency of monopoly 4. the definition and graph of natural monopoly 5. the definition and application of first−degree, second−degree and third−degree price discriminations
MONOPOLISTIC COMPETITION	the characteristics of monopolistic competition	1. the graph of monopolistic competition 2. the calculation of the profit, loss and equilibrium of monopolistic competition
OLIGOPOLY	the characteristics of oligopoly	1. the definition, graphs and application of non−cooperative oligopoly: price stability (Kinked demand & non−pricing strategies) and price war 2. the definition, graphs and application of cooperative oligopoly: collusion (e.g. cartel), game theory (different games and application) and price leadership
CONTESTABLE MARKET	no requirement	the characteristics of contestable market

第四节 生产要素市场 FACTOR MARKET

	Junior Level	Senior Level (including the contents of Junior Level)
WAGE DETERMINATION IN PERFECT COMPETITIVE LABOR MARKET	1. the supply and demand of labor in the perfect competitive labor market. 2. the factors that causes the changes of supply and demand of labor in the perfect competitive labor market 3. the definition and interpretation of graphs that show the changes in the labor market	1. the difference between the labor market and individual demand and supply of labor 2. MRP and MRC in the labor market 3. the labor's choice between work and leisure 4. the economic rents and transfer earnings in the labor market
THE ROLE OF TRADE UNIONS AND GOVERNMENT IN WAGE DETERMINATION	1. the role of trade union in the economy 2. the factors that influences the strength of trade union. 3. The advantages and disadvantages of trade union	1. the effect of trade union on wage 2. the way that the government use minimum wage to influence the wage
MONOPSONY IN THE LABOR MARKET	no requirement	1. the definition and graph of monopsony 2. the way that the monopsonist influences the wage

第五节 效率和无效率、市场失灵和政府干预 EFFICIENCY AND INEFFICIENCY, MARKET FAILURE AND GOVERNMENT INTERVENTION

	Junior Level	Senior Level (including the contents of Junior Level)
EFFICIENCY AND INEFFICIENCY	1. the definition and application of productive efficiency and allocative efficiency	1. the definition and application of productive efficiency and allocative efficiency with graphs 2. the definition and application of dynamic efficiency and pareto efficiency (and pareto improvement)
MARKET FAILURE	1. the definition and application of market failure with public goods, merit goods, demerit goods 2. the definition and application of market failure with asymmetric information 3. the definition and application of market failure with monopoly 4. the definition and application of market failure with factor immobility 5. the definition and application of market failure with externality	1. the different market failures with graphs, examples and detailed explanation 2. the four types of externality with graphs, examples and explanation

	Junior Level	Senior Level (including the contents of Junior Level)
GOVERNMENT INTERVENTION AND GOVERNMENT FAILURE	no requirement	1. the role of government in microeconomics 2. the major forms of government micro interventions with concepts, graphs and explanations including price ceilings (legal maximum price) and price floor (legal minimum price), taxes (direct tax and indirect tax, progressive tax, proportional tax, regressive tax, per-unit tax and ad valorem) and subsidies, government transfer and direct provision, legislation and regulation, government ownership etc. 3. the definition and application of nudge theory 4. the problems of imperfect information, undesirable incentives and policy conflict by government micro intervention 5. the definition and application of conflicts of equity and equality by government policy 6. the concepts and application of the advantages and disadvantages of privatization and nationalization

第三章. 宏观经济学(包括国际经济学和发展经济学)

CHAPTER III. MACROECONOMICS (INCLUDING GLOBAL ECONOMY AND DEVELOPMENT ECONOMY)

第一节 政府重大问题和政策目标 THE BIG ISSUES OF GOVERNMENT AND POLICY OBJECTIVES

	Junior Level	Senior Level (including the contents of Junior Level)
ECONOMIC GROWTH	1. the definitions and calculations of GDP, Nominal GDP and real GDP 2. the different approaches to get GDP 3. the definitions and explanations of economic growth and economic recession 4. the causes and consequence of economic growth and economic recession 5. the government policies to realize the economic growth	1. the differences of GDP, GNP and GNI to calculate the national output 2. the difference between real GDP/GNI per capita to calculate the national output 3. the graph and explanation of economic growth on AD/AS graph 4. the short-run and long-run economic growth 5. the definition and explanation of business cycle

	Junior Level	Senior Level (including the contents of Junior Level)
ECONOMIC DEVELOPMENT	1. the indicates of living standards: Real GDP per capita and HDI 2. the advantages and disadvantages of real GDP and HDI in measuring living standard 3. the difference between absolute poverty and relative poverty 4. the government polices to correct the poverty 5. the factors that influence the population growth 6. the reasons for difference of population growth in different countries 7. the difference in economic development in different countries. 8. the government policies to realize the economic development	1. the differences of Human Development Index (HDI), Measurable Economic Welfare (MEW) and Multidimensional Poverty Index (MPI) to measure economic development 2. the relationship between equality and equity 3. the causes of economic inequality and poverty 4. the different government policies in reducing poverty, income and wealth inequality
PRICE LEVEL	1. the definition of inflation and deflation 2. the measurement of inflation and deflation by using consumer price index 3. the definitions and explanations of demand−pull inflation and cost−push inflation 4. the advantage and disadvantages of inflation 5. the consequence of deflation 6. the polices that might be able to control the inflation and deflation 7. the government policies to realize the low and stable price level	1. the definition of disinflation, stagflation, hyperinflation 2. the inflation that is caused by money supply 3. the graphs related to all types of inflation and deflation 4. the government objectives of high grow and low inflation

	Junior Level	Senior Level (including the contents of Junior Level)
EMPLOYMENT AND UNEMPLOYMENT	1. the definitions and explanations of employment, unemployment and full employment. 2. the changing patterns of employment in the world 3. the definitions and explanations of the claimant count and labor force survey measurement of unemployment 4. the definition and causes of frictional, structural and cyclical unemployment 5. the government policies that might reduce unemployment	1. the calculation of unemployment rate and labor force participation rate 2. the explanations of difficulties of measuring unemployment 3. the costs of unemployment 4. the explanation and graph of the short−run and long−run Philips curve

	Junior Level	Senior Level (including the contents of Junior Level)
INTERNATIONAL TRADE AND GLOBALIZATION	1. the concepts and calculations of absolute advantages and disadvantages 2. the advantages and disadvantages of specialization and globalization 3. the advantages and disadvantages of free trade 4. the methods, reasons and consequences of protectionism 5. the advantages and disadvantages of trade protection 6. the definition of foreign exchange rate 7. the determination of foreign exchange rate in foreign exchange market and causes of foreign exchange rate fluctuations 8. the advantages and disadvantages of a floating foreign exchange rate and fixed foreign exchange rate 9. The structure of balance of payment 9. the causes of current account deficit and surplus 10. the policies to achieve balance of payment and stable exchange rate	1. the definitions and explanations of different trading blocs 2. the advantages and disadvantages of trading blocs 3. the consequences of changes in the exchange rate 4. the devaluation and revaluation of a currency in fixed exchange rate system 5. the depreciation and appreciation of a currency in managed exchange rate system. 6. the relationship between the current account of balance of payment and the exchange rate 7. the method to correct a persistent current account deficit (expenditure switching, expenditure reducing and supply−side policies) 8. the definitions and explanations of the Marshall−Lerner condition and J−curve effect 9. the definition and applications of the terms of trade and the relationship with balance of payment 10. the history of international economic organization such as WTO, World bank and IMF

第二节 总供给和总需求模型 AGGREGATE SUPPLY AND AGGREGATE DEMAND MODEL

	Junior Level	Senior Level (including the contents of Junior Level)
AD/AS MODEL	1. the reasons of movement along the AD curve and the reasons of movement along the AS curve 2. the components of AD 3. the factors that causes the shift of AD curve 4. the factors that causes the shift of short run AS 5. the graphs and explanations of the equilibrium of aggregate demand and aggregate supply	1. the explanations and graphs of the monetarist/new classical views of the AS curve 2. the explanations and graphs of the Keynesian view of the AS curve 3. the application of AD and AS in analyzing the real economic phenomenon.

第三节 政府的经济政策 ECONOMIC POLICIES OF GOVERNMENT

	Junior Level	Senior Level (including the contents of Junior Level)
DEMAND-SIDE POLICIES	1. the tools of fiscal policies: taxation and government spending 2. the definition of budget surplus and budget deficit 3. the explanation of the quality of good tax 4. the explanation of expansionary fiscal policy and contractionary fiscal policy 5. the definition and explanation of money supply 6. the definition of monetary policy 7. the monetary policy measures with different interest rate, money supply, open market operation, minimum reserve requirements, changes in central bank minimum lending rate and exchange rate 8. the explanation of the expansionary fiscal policy and contractionary monetary policy	1. the explanation of process of money creation by commercial banks 2. the explanation of quantitative easing 3. the explanation of determination of equilibrium interest rate 4. the explanation of Keynesian multiplier: 1/MPS+MPT+MPM 5. the explanation of change in an injection in investment, government spending or exports, using the Keynesian multiplier 6. the explanation of effectiveness and constraint of fiscal policy, monetary policy
SUPPLY-SIDE POLICIES	1. the definition of supply-side policy 2. the explanation of supply-side policies include education and training, labor union reform, decreasing direct taxes, privatization and deregulation to increase the aggregate supply 3. the explanation of effects of supply-side policy measures on government macroeconomic aims	the explanation of effectiveness and constraint of supply-side policy.

第三部分.

个人理财测评范围

PART THREE.

FINANCIAL LITERACY

	Junior Level	Senior Level (including the contents of Junior Level)
PERSONAL FINANCIAL PLANNING	1. the explanation of importance of personal financial planning 2. the explanation of SMART goal of financial planning	the calculation of present value and future value of a single amount and annuity
MONEY MANAGEMENT SKILL	the basic understanding of personal financial statements such as personal balance sheet, personal cash flow statement and budgeting activities.	no extra requirement
TAX IN PERSONAL FINANCIAL PLAN	the understanding of different taxes such as income taxes, sales taxes, excise taxes, property taxes, estate taxes, inheritance taxes, gift taxes, and social security taxes etc.	the calculation of personal income taxes
SAVING PLAN	1. the understanding of the major different functions of different financial institutions such as commercial banks, savings and loan associations, life insurance companies, investment companies and finance companies etc. 2. the advantages and disadvantages of different saving plans provided in the financial institutions.	the calculation of the potential return for different savings plans based on interest rate, inflation rate, tax, liquidity, safety, restrictions, and fees etc.
CONSUMPTION AND CONSUMER CREDIT	1. the advantages and disadvantages of renting a house or buying a house. 2. the advantages and disadvantages of using different consumer credit.	1. the calculation of different consumer credit by using different bank rate, especially the annual percentage rate. 2. the calculation of buying house by evaluating house value, mortgage rate, interest rate, tax rate etc.

	Junior Level	Senior Level (including the contents of Junior Level)
PERSONAL INSURANCE	the understanding of coverages of property insurance, health insurance and life insurance.	the calculation of buying insurance by evaluating time value of money and rate of returns etc.
BONDS INVESTMENT	the understanding of government bond and corporate bond.	the calculation of buying bond by evaluating the bond rate information, yield and risk level and other necessary information
STOCK INVESTMENT	1. the understanding of common stock and preferred stocks which include Blue Chip corporations' stocks. 2. the understanding of important stock index such as Dow Jones Industrial Average etc.	the calculation of buying stocks by evaluating important financial data such as earnings per share and price−earnings ratio, dividend yield, stock price and beta index.
MUTUAL FUND INVESTMENT	the understanding of different types of mutual funds such as index fund or ETF	the calculation of buying different mutual fund by evaluating rate of return.
OTHER INVESTMENT	no requirement	the understanding of investing in future, commodities and foreign exchange
RETIREMENT PLAN	the understanding of retirement plan including different pension plan and annuities.	the calculation of returns of different pension plan and annuities based on his or her personal traits

第四部分.

商业知识、案例分析和路演挑战测评范围

PART FOUR.

BUSINESS KNOWLEDGE AND CASE PRESENTATION

	Junior Level	Senior Level (including the contents of Junior Level)
BUSINESS ENVIRONMENT ANALYSIS	1. the understanding of the nature and importance of business objectives 2. the analysis of external business environment including social, social, technological, economic, political, legal and ethical business environment. 3. the analysis of internal business environment including business strategy. 4. the application of SWOT and PEST analysis of business environment.	1. the understanding of McKinsey seven- step analysis. 2. the meaning of corporate strategy, tactics and strategic management 3. the application of Boston Matrix analysis, Porter's Five Forces analysis and Prahalad and Hamel's core competencies analysis. 4. the application of Ansoff Matrix, Force Field Analysis and simple Force Field Analysis. 5. the creation of basic business plans
MARKETING	1. the definition of mass market and niche market 2. the definition and application of different methods of market research: primary and secondary research, especially sampling method 3. the definition and application of 4Ps(product, price, promotion and place) and 4Cs(customer solution, cost, communication, convenience) 4. the definition and application of different pricing strategy including competitive, penetration, skimming, price discrimination, cost-based prices strategy. 5. the definition and application of different promotion and distribution methods	1. the definition and application of forecasting marketing results 2. the creation of basic marketing plan for new products and new services

	Junior Level	Senior Level (including the contents of Junior Level)
FINANCE AND ACCOUNTING	1. the definition and application of basic financial statement including income statement and statement of financial position 2. the definition and application of working capital 3. the definition and application of internal and external sources of finance 4. the definition and application of cash flow forecast	1. the definition and application of some basic financial ratio such as dividend yield, price/earnings ratio, debt/equity ratio, earning per share etc. 2. the creation of basis financial forecasting for new firm and new products and new services
HUMAN RESOURCES	1. the definition and application of different leadership style: autocratic, democratic, laissez−faire 2. the definition and application of financial motivators and non−financial motivators of motivation. 3. the definition and application of recruitment and selection	1. the definition and application of staff evaluation 2. the definition and application of effective communication methods 3. the creation of basic organization chart for new firm
OPERATION	1. the advantages and disadvantages of different operation methods including job, batch, flow and mass customization 2. the factors that determine the location of business such as demographic and the sources of resources etc.	1. the definition and application of quality control 2. the creation of research and development plan for new products and services

	Junior Level	Senior Level (including the contents of Junior Level)
PRESENTATION SKILLS	1. the application of presentation skills such as tones, pause and eye contact etc. 2. the application of team work such as delegating and organizing the tasks. 3. the application of PowerPoint design 4. the application of effective delivery such as showing confidence, and presenting clearly etc. 5. the application of frequent English utterance	the comprehensive presentation skill is highly expected

附录　APPENDIX

APPENDIX I. 自学推荐用书

1. 经济学知识测评

① 《经济学原理》，格里高利·曼昆

② *Economics* by Campbell McConnell and Stanley Brue and Sean Flynn.

③ *Core* 电子书 （免费阅读网址）:https://www.core-econ.org

④ AP、A-level 和 IBDP 经济学教材

2. 商业分析和路演挑战

① *Cambridge International AS and A Level Business coursebook (third edition)* by Peter Stimpson and Alastair Farquharson

② *Business Management for use with the IB Diploma* byPaul Hoang

③ 《市场营销学（第 12 版中国版）》，菲利普·科特勒　王勇贵等译

④ *Case in Point* by Marc P. Cosentino

3. 个人理财

*Focus on Personal Finance, 6ᵗʰ Editio*n by Jack Kapoor and Les Dlabay and Robert J. Hughes and Melissa Hart.

APPENDIX II. 真题：IEOC 2020 PROBLEMS & SOLUTIONS

1. ECONOMCIS

1.1 Open Round Problems & Solutions

- Junior Level

- Senior Level

1.2 Final Round Problems & Solutions

- Junior Level

- Senior Level

2. BUSIENSS CASE

2.1 任务书

2.2 评分表

2.3 评委团

2.4 优秀团队方案展示

- Junior Level

- Senior Level

IEOC Open Round 2020
经济学知识测评(Economics)
新秀组(Junior Level)
时间：2020 年 4 月 25 日 14:00-15:30

1. On Dec, 12, 2019, Beijing Municipal government starts to charge parking in different areas electrically.

   The fees are as follows:

Road parking area		Daytime 7:00-19:00		Night from 19:00 to 7:00 next day (yuan/2 hours)
		first hour (yuan/15 minutes)	After the first hour (yuan/15 minutes)	
Area A	small automobile	2.5	3.75	1
	larger automobile	5	7.5	2
Area B	small automobile	1.5	2.25	1
	larger automobile	3	4.5	2
Area C	small automobile	0.5	0.75	1
	larger automobile	1	1.5	2

   Last Friday, Tom went to area C. The time that he stopped his car in the parking area is 10:30a.m, and when he initiated his car again from the parking area, he paid 18.5 yuan for the charge. When did he initiate his car again from the parking area?

   A.15 a.m.
   B.16 a.m.
   C.17 a.m.
   D.18 a.m.

   答案: C
   Contents: math

2. At the beginning of 2020, U.S. Democrats failed to get White House and other agency documents during the impeachment trial of Donald. J. Trump. The leader of U.S. Democrats at that moment is___

   A. Mike Pompeo
   B. Mike Pence
   C. Nancy Patricia D'Alesandro Pelosi
   D. Joseph Robinette Biden

   答案: C
   Contents: current economic events

3. A person works at home making table cloths. He works for 6 hours each day and makes 15 table cloths an hour. He sells them for $10 each. He then decides to work for only 4 hours each day.
   What can be concluded from the above information?
   A. The lost profit would be $300.
   B. The lost revenue would be $60.
   C. The daily opportunity cost would be 30 table cloths.
   D. The daily opportunity cost would be $50.

   答案: C
   Contents: basic knowledge: opportunity cost

4. Which of the following is not a function of money?
   A. Measure of value
   B. Medium of exchange
   C. Durability
   D. Store of value

   答案: C
   Contents: Basic knowledge: function of money

5. If consumer expenditure is $30 billion, government expenditure is $10 billions, investment is $20 billion, exports are $16 billion and imports are $20 billion, what is GDP?
   A. $ 80 billions
   B. $ 76 billions
   C. $ 56 billions
   D. $ 96 billions

   答案: C
   Contents: GDP

6. Which of the following best describes the economic cycle in an economy?
   A. Successive booms and busts in consumer spending
   B. Recurrent cyclical changes in the rate of growth of real GDP around its trend growth rate
   C. Cyclical changes in price inflation
   D. Seasonal fluctuations in total national expenditure

   答案: B

   Contents: economic cycle

7. Firms can experience problems if they expand scale too much and too quickly. This is called ___.
   A. Purchasing economies
   B. Financial economies
   C. Technical economies
   D. Diseconomies of scale

   答案: D

   Contents: firm's behavior

8. Which of the following mergers between two firms is an example of vertical integration?
   A. A bank and an insurance company
   B. A car rental firm and a carmaker
   C. A tin maker and a coal mine
   D. A restaurant and a hot take-way

   答案: B

   Contents: firm's behavior

9. Tom' average monthly salary for the first months that he worked was $4000. What must his average monthly salary be for each of the next eight months, so that his average monthly salary for the year is $ 4800?

    A.5200
    B.4400
    C.4100
    D.4000

<div align="right">答案: A</div>
<div align="center">Contents: math</div>
<div align="center">Answering process:{4(4000)+8x}/12=4800</div>

10. On Jan. 9, 2020, Britain was on course to finally end its membership of the European Union (EU). Prime Minister Boris Johnson's fast-track race to "get_____ done" cleared its final hurdle in the House of Commons.
    A. UKexit
    B. Brexit
    C. Britainexit
    D. EUexit

<div align="right">答案: B</div>
<div align="center">Contents: current economic events</div>

11. In which of the following market structures do firms recognize their mutual interdependence?
    A. Oligopoly
    B. Monopoly
    C. Perfect competition
    D. Monopolistic competition

<div align="right">答案: A</div>
<div align="center">Contents: current economic events</div>

12. Which one of following pricing strategies is most likely to be used by a dominant firm trying to undercut new competition?
    A. Penetration pricing
    B. Costing-plus pricing
    C. Price skimming
    D. Destruction pricing

答案: D

Contents: Market structure

13. What could explain why some entertainers earn high wages?
    A. Some enjoy the job more than others
    B. There is high demand for their skills
    C. There is a high number of people wanting to be entertainers
    D. There is not much training required to be an entertainer

答案: B

Contents: Labor market

14. Official statistics in 2010 showed South Africa had a very high unemployment rate at around 25%, yet wages were still double those in Brazil. What might be a reason for South Africa's high wages in a time of unemployment compared with Brazil?
    A. a skilled workforce in Brazil
    B. high levels of savings in South Africa
    C. increased use of labour-intensive production in Brazil
    D. strong trade unions in South Africa

答案: D

Contents: Labor market

15. The table shows a country's trade union membership in millions between 1998 and 2001.

Year	Trade union members in private sector (millions)	Trade union members in public sector (millions)
1998	8.4	3.6
1999	6.6	4.2
2000	5.1	6.1
2001	3.4	7.1

What can be concluded about the country's trade union membership in the period 1998 to 2001?
   A. Trade union had least members in 2000.
   B. Trade union had most members in 2001.
   C. Trade union membership fell between 1998 and 1999.
   D. Trade union membership rose between 1999 and 2001.

答案: C
Contents: Labor market

16. Which of the following represents an external benefit?
   A. A firm that obtains a discount for buying materials in bulk
   B. A historic building blackened by traffic pollution
   C. An increase in a firm's revenue resulting from the success of its advertising
   D. A bigger supply of honey than usual for a bee-keeper thanks to his neighbor's garden flower display

答案: D
Contents: externality

17. A conference representing countries from many parts of the world agreed to ban trade in ivory products in order to try to stop the killing of elephants. Local people also argued that elephants threaten lives and destroy crops. Which policy do the above statements support?
   A. All resources should be exploited fully.
   B. Government regulation of production is unnecessary.
   C. The market system should be used to make profits.
   D. The social costs of production should be considered.

答案: D
Contents: externality

18. What is a reason for collecting national income statistics?
    A. to calculate population changes
    B. to compare standards of living
    C. to fix exchange rates
    D. to keep inflation low

    答案: B
    Contents: economic growth

19. What is most likely to be found in a developing country?
    A. a large proportion of professional people
    B. a large proportion of income spent on entertainment
    C. a small proportion of very old people
    D. a small average family size

    答案: C
    Contents: economic growth

20. The table shows annual percentage changes in the consumer price index in a country. Which of statement about the price level is correct?

Year	% change in CPI
1	16.9%
2	13.4%
3	8.7%
4	4.3%
5	5.6%

    A. It increased over the period
    B. It was stable over the period
    C. It was at its highest at the start of the period
    D. It was at its lowest at the end of the period

    答案: A
    Contents: inflation

21. If a retail price index rises from 150 to 165, what is the inflation rate?
    A. 5%
    B. 15%
    C. 10%
    D. 165%

答案: C

Contents: inflation

22. Look at the labour market data below. What is the unemployment rate and the participation rate?

Working-age population	10 millions
People employed	6 millions
People unemployed	2 millions

	Unemployment rate	Participation rate
Item I.	60%	20%
Item II.	25%	80%
Item III.	20%	60%
Item IV.	33%	60%

A. Item I.
B. Item II
C. Item III
D. Item IV

答案: B

Contents: unemployment

23. Which policy is most likely to reduce cyclical unemployment?
    A. A reduction in government expenditure
    B. A reduction in interest rates
    C. An increase in direct taxes
    D. An increase in indirect taxes

答案: B

Contents: unemployment

24. What might encourage international specialization between countries?
    A. free trade
    B. inefficiencies in production
    C. labour immobility
    D. tariffs

答案: A

Contents: International trade

25. A Japanese car manufacturer decided to produce its cars in a factory in Europe.
    What would not be a reason why they might have chosen to do this?
    A. cheaper wage costs in Europe
    B. the availability of raw materials
    C. to gain external economies from skilled labour in Europe
    D. to increase Japanese self-sufficiency

答案: D

Contents: International trade

26. A monopoly takes over an industry from competitive firms.
    What is not likely to be true about a monopoly compared with a competitive firm?
    A. A monopoly will earn a higher rate of profit.
    B. A monopoly will gain a greater share of the market.
    C. A monopoly will offer a wider choice to the consumer.
    D. A monopoly will operate on a larger scale of production

答案: C

Contents: Market structure

27. The following shows the breakdown of a government's tax revenue. What is the total amount of revenue received from indirect taxes?

Income tax	$ 80 millions
Corporation tax	$ 40 millions
Customs duties	$ 20 millions
Sales tax	$ 70 millions
Inheritance tax	$ 10 millions
Total	$ 220 millions

    A. $30m
    B. $90m
    C. $130m
    D. $220m

答案: B
Contents: Government policies

28. What is meant by 'the separation of ownership and control' in public limited companies?
    A. The companies are owned by shareholders but managed by directors and managers
    B. Consumers both own and control the companies
    C. Workers both own and control the business
    D. The companies are owned by shareholders but managed by the state

答案: A
Contents: Business

29. b = 2.35 + 0.25x

    c= 1.75 + 0.40x

In the equations above, *b* and *c* represent the price per pound, in dollars, of beef and chicken, respectively, *x* weeks after July 1 during last summer. What was the price per pound of beef when it was equal to the price per pound of chicken?

    A. $2.60
    B. $2.85
    C. $2.95
    D. $3.35

答案: D

Contents: Math

Process: 在上述方程式中，b 和 c 分别代表每磅牛肉和鸡肉的美元价格。在去年夏天 7 月 1 日后有 x 周。当每磅牛肉和每磅鸡肉价格相等时每磅牛肉的价格？根据题意，2.35+0.25x=1.75+0.4x 解得 x=4，在把 x=4 带入 b=2.35+0.25x，解得 b=$3.35。这道题选 D。

30. The monthly membership fee for an online television and movie service is $9.80. The cost of viewing television shows online is included in the membership fee, but there is an additional fee of $1.50 to rent each movie online. For one month, Jill's membership and movie rental fees were $12.80. How many movies did Jill rent online that month?

    A.1
    B.2
    C.3
    D.4

答案: B

Contents: Math

Process: 网络电视电影服务每个月的会费是9.80美元。看电视节目的成本已包括在里面，但每使用网络看一个电影需交额外费用1.50美元。某月Jill的会费和租赁费是12.80美元。那么Jill该月在网上租用了几个电影？根据题意列方程式

9.80 + 1.50m =12.80， m=2, 因此这道题选B。

IEOC Open Round 2020
经济学知识测评(Economics)
专业组(Senior Level)
时间：2020 年 4 月 25 日 16:00-17:30

1. Two workers, Tom and Mary, can produce the following amount in one working day if they concentrate on producing only one of the products.

	Unit of banana		Unit of apple		Unit of orange
Tom	8	or	16	or	32
Mary	14	or	42	or	28

They decide to each produce 6 unit of banana at first, and then they specialize in the product that they have comparative advantage.

What will be the total output of apple and orange, in addition to the 12 unit of banana that is produced in one working day?

	Unit of apple	Unit of orange
Item I	4	16
Item II	24	8
Item III	26	11
Item IV	32	12

A. Item I
B. Item II
C. Item III
D. Item IV

<div align="right">答案: B</div>
<div align="right">Content: comparative advantage</div>
<div align="right">This question can be tracked to IEO2018 (16)</div>

解题思路

1) 读题：

Tom 每天能生产商品分别是 4b or 16a or 32o.Mary 每天能生产的商品分别是 14b or 42a or 28o.

今天每人已经生产了 6 个 bananas。

对于 Tom 来说，还剩下 2b or 4a or 8o 的生产能力。对于 Mary，还剩下 8b or 24a or 16 o 的生产能力。

2) Then they specialize in the product that they have comparative advantage.

需要理解评价 comparative advantage 的是 opportunity cost.

Comparative advantage is an economic term that refers to an economy's ability to produce goods and services at a lower opportunity cost than that of trade partners.

Tom:1A=2O, Mary:1A=2/3O,所以同样生产 1A,Mary 的 opportunity cost 更小。

所以 Mary specialize on A，则 Tom specialize on O.

3) 看 Tom 和 Mary 剩下的生产能力，结合 2 的分析结果，看看还能各自生产的商品数量。

对于 Tom 还剩下 2b=4a; 对于 Mary 还剩下 8b=16o.

所以最后的答案是 Tom 生产 4a,Mary 生产 16o.

2. From the age of twenty-five after graduating from University, Steven made a living by purchasing gadgets and re-selling them outside the campus. Now, he runs a restaurant which has been temporarily closed because of coronavirus virus. Which factors of production are likely to be involved in the above events?

A. land, labour, capital, enterprise
B. land and labour only
C. land, labour and capital only
D. land only

答案:A

3. The diagram shows a consumer's short-run and long-run demand curves for peanuts. Initially, the consumer purchases quantity Q0 at price P0 .
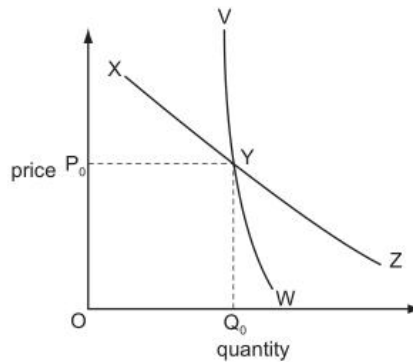
If the price of peanuts increases from P0, the consumer's long-run response is greater than his short-run response. If the price decreases from P0, his short-run response is greater than his long- run response.
What is the consumer's long-run demand curve?

A. VYW
B. VYZ
C. XYZ
D. XYW

<div align="right">答案: D
Content: elasticity</div>

4. Let MUa be the marginal utility of an apple, MUo be the marginal utility of an orange, Pa be the price of a apple, and Po be the price of an orange. When the price of the goods is zero, Steven eats an apple. When Steven has to pay, she eats an orange. When Seven has to pay, which of the following is necessarily true?

A. MUa = MUo = Pa = Po
B. (MUa / Pa) > (MUo / Po)
C. Pa > Po
D. Po > Pa

<div align="right">答案: C
Content: utility</div>

5. The line RS in the diagram shows the different combinations of goods X and Y that a consumer can afford with his present income.
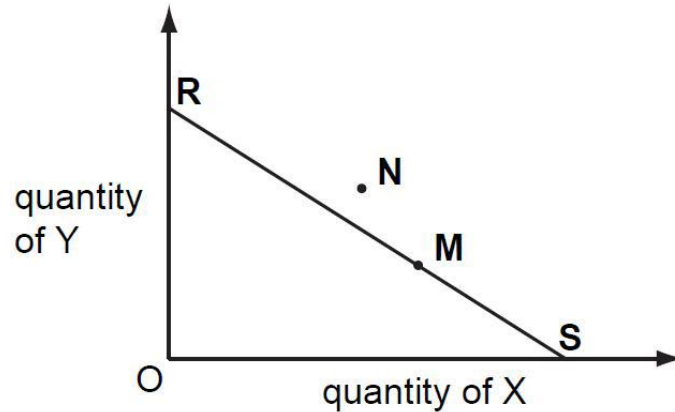
The consumer's original equilibrium is at M. What could explain a change in his equilibrium position to N?

A. a change in his preference
B. an increase in the price of X and a bigger percentage increase in the price of Y
C. an increase in the price of X and an increase in his income
D. equal percentage increases in his income and in both prices

答案: C

Content: indifference curve

6. A group of people were given a mug and then offered the chance to trade it for an equally valued pen. The compensation for the mug that the groups of people required once their ownership of the mug had been established was approximately twice as high as the amount they were willing to pay to acquire the mug
This logical fallacy is called _____.

A. Survivorship bias
B. Confirmation bias
C. Self-fulfilling prophecy
D. Endowment effect.

答案: D

Content: economic theory
This question can be tracked to IEO2018 (14)

7. Instead of being employed at a restaurant at a salary of $30,000 per year, Tom starts his own restaurant. Rather than renting a building that he owns to someone else for $10,000 per year, she uses it as the location for his restaurant. His costs for workers, materials, advertising, and energy during his first year are $135,000. If his entrepreneur talent of $5000 which can be employed to open a bakery and he will take another $5000 per year for his daily use. The total revenue from his restaurant is $175,000, her total economic profit is

A. -$10,000
B. $0
C. -$5,000
D. $10,000
E. $5,000

答案: A
Content: economic cost and profit
The question can be traced to IEO2018 (14)

8. The intersection of the "investment–saving" (IS) and "liquidity preference–money supply" (LM) curves models "general equilibrium" where supposed simultaneous equilibrium in both the goods and the asset markets. This model was first developed by＿＿＿ in 1937.

A. Alvin Harvey Hansen
B. John Hicks
C. John Maynard Keynes
D. Paul Samuelson

答案: B
Content: economist and their theory
The question can be tracked to IEO2018 (6)

9. What makes it most likely that a firm's profits will be subject to huge

fluctuations?

A. It sells its product in a number of different markets.
B. It produces a diversified range of products.
C. It produces basic consumer products.
D. Fixed costs are a high percentage of total costs.

答案: D

Content: different cost

10. Which of the following is true?
A. The accelerator effect will tend to be high when the rate change of consumer income and spending is strongly positive.
B. Firms will respond to growing demand by expanding production and making less use of their existing productive capacity.
C. The surge in capital investment in wind turbines is due to the super-high level of oil and gas prices and a decreasing market demand for renewable energy.
D. An increase in spending in an economy will cause a multiplied increase in gross domestic product because taxes increase as income increases

答案: A.

Content: accelerator theory

11. A perfectly competitive market has 100 firms, each of which has constant $MC = 10$. The demand function is given by $Q = 100-P$. How much will the market price increase if all firms create a cartel and maximize joint profit?
A. by 25
B. by 35
C. by 45
D. by 55

答案: C

Content: profit maximization and profit
IEO 2019 (11)

12. Which of the following is correct?

A. The most profitable level of output for any firm operating in the short run is the level of output at which marginal revenue exceeds marginal cost by the highest amount

B. In the short run, if a firm produces the level of output at which marginal revenue is equal to marginal cost but price is less than average total cost, the firm will expand output to lower its average fixed cost

C. In order to minimize short-run losses, a profit maximizing firm will necessarily shut down production under the conditions that marginal cost is greater than average total cost.

D. Suppose that price in a perfectly competitive industry decreases and it is now below minimum average total cost but remains above minimum average variable cost, firms will produce the output at which marginal cost equals the new price in the short run.

答案: D

Content: Perfectly competitive market

13. The diagram shows the cost and revenue curves of an oligopolist. In the initial situation, AC1 is its average cost curve, MC1 is its marginal cost curve and the firm is in equilibrium at output OQ and price OP. The cost of labour rises, so that AC2 and MC2 become the relevant cost curves.
What should the firm do to maximize profit in this new situation?

A. leave both price and output unchanged
B. leave price unchanged and increase output
C. leave price unchanged and reduce output
D. raise price and leave output unchanged
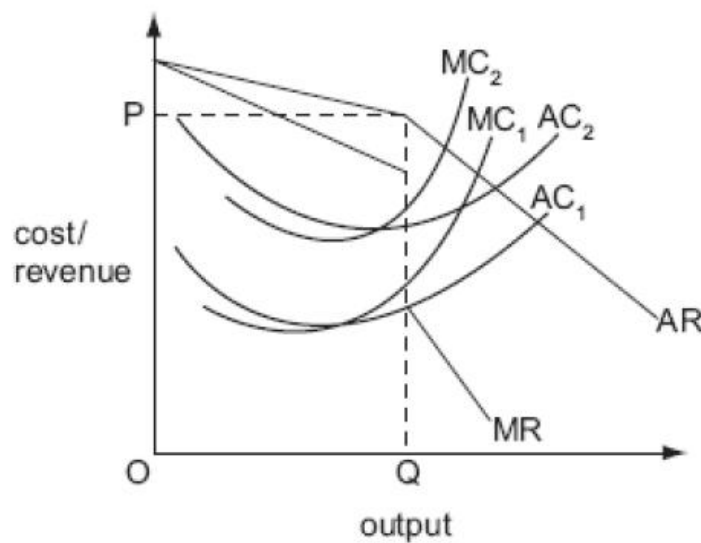
答案: B
Content: Oligopoly
The question can be tracked to IEO2019 (8) (9)

14. The table shows the main characteristics of employment in two occupations.

	Occupation X	Occupation Y
Length of training before being suitable to the job	2 year	4 year
The stability of the job	low	high
Annual working days	350 days	300 days
Annual leave days	15 days	65 days
Annual wage	$300000	$200000

What can be deduced from the table?

A. Those employed in occupation Y attach greater importance to the stability of the job.

B. Those employed in occupation X attach less importance to leisure activities.

C. There will be more competition for places on training courses to enter occupation A than occupation Y.

D. Occupation Y has greater non-pecuniary advantages than occupation X.

答案: D

Content: Labor market

15. The diagram shows an individual's supply of labour curve.
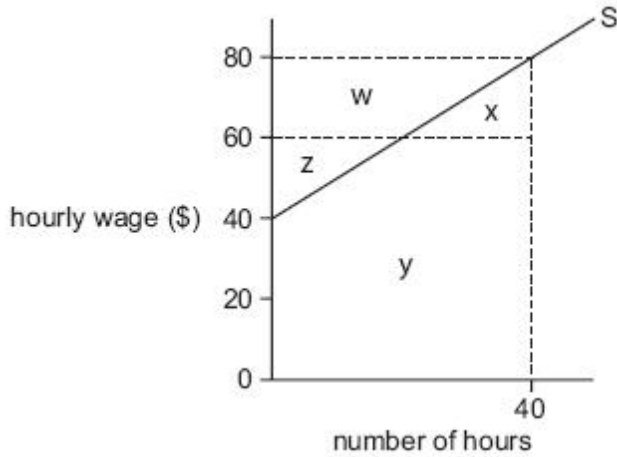
Tom is offered a job which would require him to work a standard 40-hour week. Which area measures the lowest amount he would have to be paid per week to get him to accept this job offer?

A. w + x + z
B. x + y
C. x + y - z
D. y + z

答案: B
Content: Labor market

16. In the diagram below, MRP is the marginal revenue product of a firm's labour and We is the equilibrium wage rate.
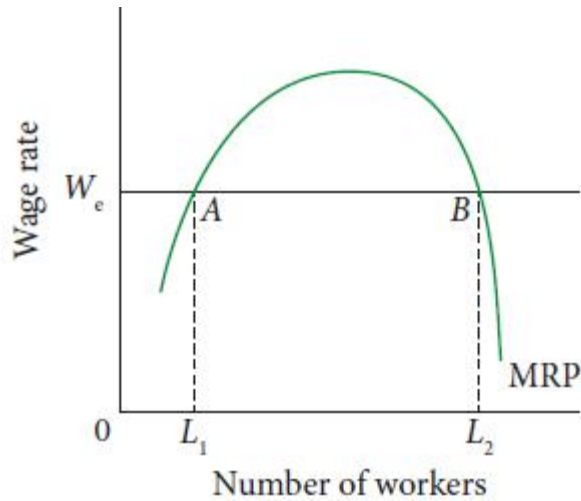
Assuming that this firm is a profit maximiser operating in a perfectly competitive market, which of the following statements is correct?

A. Firm will employ $L1$ workers and operate at A.
B. Profits will be maximised where MRP is above the wage rate We.
C. The firm will employ $L1 - L2$ number of workers.
D. The firm will employ $L2$ workers and operate at B.

答案: D

Contents: factor market

17. A local government is considering to build a bridge between two ends of a river and the government has to choose one of four potential project for building this river. The benefits and costs of each project are shown below. Which project should be chosen?

Unit: Millions

	Private benefit	External benefit	Private cost	External cost
Item I	13	19	0.5	0.1
Item II	18	20	1.5	0.3
Item III	27	12	0.3	2
Item IV	20	17	3	4

A. Item I
B. Item II
C. Item III
D. Item IV

答案: C
Contents: externality
The questions can be traced back to IEO2018 (18)

18. Which of the following is correct?
A. Multilateral aid is aid given by countries to countries.
B. Sometimes in developing countries, governments serve the interest of a narrow range of groups in society with foreign aid.
C. The governments of developing economies often argue for aid rather than trade.
D. The income elasticity of demand for primary products is high, as world incomes have risen, there has been more demand.

答案: B
Contents: economic development

19. A typical grace period offered by many credit card issuers is
A. 0-10 days.
B. 10-20 days.
C. 20-25 days.
D. 30-40 days.

答案: C

Contents: personal finance

20. The rate used to calculate the tax due on the next dollar of income is referred to as the
A. AMT.
B. Average tax rate.
C. Income tax rate.
D. Marginal tax rate.

答案: D

Contents: personal finance

21. Which of the following is not a necessary condition for continuous improvement (Kaizen) to operate?
A. Empowerment
B. Team working
C. Management direction
D. Involvement of all staff

答案: C

Contents: Business

22. Which of the following is incorrect?
A. If prices are rising at high rates then investors are reluctant to invest in new machinery, rising inflation leads to menu costs and those who are on fixed incomes, suffer as any increases lag well behind price rises.
B. Sustainable development ensures that with economic growth both the standard of living and the quality of life improve in the future.
C. The nearer an economy is to full employment, the higher output will be and the higher the living standards people are likely to enjoy.
D. The government may attempt to raise the external value of the currency in order to reduce inflationary pressure.

答案: B

Contents: Government purpose
This question can be traced to IEO 2018(11)

23. As e-commerce expands, which of the following is a disadvantage to the product element of marketing mix?
A. Allow for personalization of the products.
B. Easier to provide product updates as well as detailed product specializations without having to provide printed brochures. thus reducing the environmental impact.
C. The details of the product can now be provided in a more engaging and interactive way using pictures and videos via website enabling a rich introduction to a business and its product.
D. Allows products to be easily copied by competitors.

答案: D
Contents: Business

24. Which of the following statement is correct?
A. Consumer price index is used to measure the change in prices of all goods and service produced in an economy.
B. The real interest earned is the cost of borrowing adjusted for the rate of change in the price level.
C. When Alex purchase his house, he took out a 10-year loan from a bank at a fixed interest rate of 6%, the rate of expected inflation was 3%. If the actual rate of inflation was 4.5%, the bank gained because the real rate of interest increased by 1.5%.
D. In the basic circular flow curve, households are users of resources, and business are sources of saving.

答案: B

Contents: Circular flow curve, inflation

25. Which of the following statement is correct?
A. Unexpected inflation increases the economic well-being of net credits.
B. Inflation occurs when there is a sustained increase in the price of any commodity
C. Hyperinflation is mainly caused by rapid growth of money supply
D. If the inflation rate was 5% last year and 3% this year, it is negative inflation.

答案：C

Contents: inflation.

26. Which of the following is not a problem of measuring unemployment?
A. It ignores retired workers who wish to continue with employment
B. The unemployment rate is an average measure and does not take into account variations in age, reginal, ethnic and gender unemployment
C. It ignores underemployment
D. It overlooks discouraged workers

答案: A

Contents: unemployment

27. Which of the following statement about the Keynesian model and new classical model is correct?
A. The Keynesian model is in fact showing potential output, and the model does not allow the possibility of the output level to rise above the potential level.
B. The new classical model shows the full employment level of output, which cannot exceed full employment level of output.
C. When we need to show an inflationary gap, we should use the Keynesian model.
D. Long run AS curve in Keynesian model shows economic growth

答案: A

Contents: economic policies

28. Which of the following statement is correct?
A. The purchase of United States government bonds by Japanese investors will be included in Japan's trade deficit.
B. If Australia has been experiencing a higher inflation rate than Canada over the past decade, Australia's currency will have appreciated relative to Canada's currency.
C. As a result of higher tariffs imposed by its trading partners, the country can have an increased surplus in its balance of trade.
D. An increase in the international value of United States dollar will benefit United States citizens living overseas on their social security check.

答案: D

Contents: exchange rate, balance of payment

29. Which of the following statement is correct about balance of payment statement?
A. In the economy with freely floating exchange rates, a deficit on the current account of balance of payment will result in a loss of foreign exchange reserves.
B. A country with alternative annual deficits and surplus in the current account mean that the country has a fundamental balance of payment disequilibrium.
C. On the Balance of payment, imported of cars from German is a credit item in current account.
D. When a UK company builds a factory in Kenya, Kenya's visible trade balance might be improved and its invisible trade balance might be worsen.

答案: D

Contents: balance of payment

30. Which of following statement is correct about the exchange rate?

A. One advantage of floating exchange rate system is that the government allows the market to decide the rate.

B. In a managed exchange rate, exchange rates are free to float to their market values over long period of time.

C. A country with a fixed exchange rate experience an increase deficit on the current account of balance of payments, the country's interest rate is likely to increase.

D. Inconvertible currency means that the currency cannot be exchanged in the foreign exchange market and it will help transition smoothly.

答案: C

Contents: exchange rate

2020 International Economics Olympiad

IEOC Final Round

Economics Junior Level

(Multiple-choice Questions)

<u>Answer version</u>

Directions:

1. There are twenty questions.

2. Please write your answers on the answer sheet.

3. All of the 20 multiple choice questions will be graded (4 raw points for the correct answers, minus 1 raw point for the incorrect answers, and zero point for no answers).

Multiple-choice questions

Answer Sheet

Contestant Name:_____

Contestant No.:   _____

Question Number	Answer
1	A
2	B
3	B
4	B
5	D
6	C
7	B
8	B
9	A
10	D
11	A
12	B
13	A
14	C
15	D
16	D
17	D
18	D
19	C
20	D

1. When mother goes to Walmart and find that orange, banana, grape and durian are all have discount, she decides to select one of them. In addition, when father passed by the peddler's market, he finds that apple, orange, banana, grape and pear are all on sale, and he decides to select one of them. What is the possibility of getting different fruits by mother and father together?

A. 0.85
B. 0.75
C. 0.65
D. 0.55

2. Which of the following is correct?

A. On a linear demand curve, when price rises, demand increases.
B. A nonlinear demand curve usually shows negative decreasing slope, meaning its negative slope gets flatter as quantity increases.
C. A nonlinear production possibility curve usually shows negative increasing slope, which means that negative slope gets flatter.
D. The slope in each production possibility curve is calculated by using the point method.

3. U.S.A. experiences a fall in unemployment by COVID-19. How would this be shown about its production possibility curve?

A. A shift of its production possibilities curve to the right.
B. A shift of its production possibilities curve to the left.
C. A movement of its production point towards the production possibility curve.
D. A movement of the production point away from the production possibility curve.

4. Which of following is correct?

   A. Direct taxes such as VAT are taxes on the income and wealth of individuals and firms.

   B. A subsidy given to the producers provides a financial incentive for the firm to supply more.

   C. An increase in the wages paid to workers by itself would raise the cost of production and therefore, cause a decrease in supply. If then the increase in wages is accompanied by an equal rise in productivity, the unit cost will decrease.

   D. Substitute will have a positive PED.

5. Which of following is a key assumption of consumer choice theory?

   A. As consumer becomes richer, they would like more of the commodities.

   B. Marginal return continues to decrease.

   C. Consumers purchase any goods if its explicit cost is equal to its implicit cost.

   D. Consumer maximizes his or her utility.

6. Suppose that for a firm the only variable input into the production process is labor, and the output is 0 when no workers are hired. In addition, when the firm hires 2 workers, the total cost of production is $100. Then, when the firm hires 3 workers, the total cost of production is $120. Assume that the variable cost per unit of labor is the same regardless of the number of units of labor that are hired. What is the firm's fixed cost?

   A. $100

   B. $80

   C. $60

   D. $40

7. A perfectly competitive firm produces and sells 101 units of output at a price of $20 per unit. If its marginal cost of increasing output to a rate of 102 units is $18, which of the following statement is correct?

   A. The total revenue from selling 102 units is the same as the total revenue from selling 101 units.
   B. The total profit from selling 102 units is $2 greater than the total profit from selling 101 units.
   C. The total cost of producing 102 units is $2 greater than the total cost of producing 101 units.
   D. To sell 101 units, the firm must reduce its price below $20.

8. Suppose that beef production creates negative externality. What is the relationship between the equilibrium quantity of beef and the socially optimal quantity of beef?

   A. They are equal.
   B. The equilibrium quantity is greater than the socially optimal quantity.
   C. The equilibrium quantity is less than the socially optimal quantity.
   D. There is not enough information to answer the question.

9. As the tax on a good increases from $1 per unit to $2 per unit and to $3 per unit and so on.

   A. Tax revenue increases at first, but it eventually peaks and then decreases.
   B. Deadweight loss increases at first, but it eventually peaks and then decreases.
   C. Tax revenue always increases, and the deadweight loss always increases.
   D. Tax revenue always decreases, and the deadweight loss always increases.

10. A firm is a monopolist in the industry, and it makes a technological innovation. If the firm lowers its marginal cost and average cost of production, how is the change of the firm's price of the good and the level of its output?

    A. Its price and output remain the same.

    B. Its price will remain constant, but its output will increase.

    C. Its price will increase, but its output will decrease.

    D. Its price will decrease, but its output will increase.

11. On May 23, 2020, the Nobel Laureate and pioneer of the organizational economics dies at 87. He devoted 3 decades in analyzing the structure of organizations and received the most prestigious prize in economics in 2009 for his insights into what's known as the "make or buy" decision: the process by which business choose whether to outsource a process, service or manufacturing function or to perform the work in-house. What is the name of this Nobel Laureate economists?

    A. Oliver Williamson

    B. Paul A. Samuelson

    C. John Richard Hicks

    D. Simon Kuznets

12. Which of the following is correct?

    A. Equity means fairness and base on equity, the rich and the poor need to pay the same taxes.

    B. A windfall tax imposed on high supernormal profits of banks may make enough banks to reduce the charges they impose on customers.

    C. Indirect taxes are not a useful source of income in countries where it is difficult to raise much income from income tax because a significant number of workers work in the informal economy.

    D. Flat taxes are taxes with one tax rate for people within certain income level.

13. According to statistics data, during the epidemic period, the sales of lipsticks has been increasing substantially. This phenomenon shows when people becomes poor and do not have enough money to buy the luxury, such as house or cars. Instead, the sales of cheap price and light luxury has been substantially increased. What is this phenomenon called?

    A. Lipstick effect
    B. Epidemic effect
    C. Wealthy effect
    D. Luxury effect

14. Which of the following is correct?

    A. The balance of payment is a record of all the economic transactions between a country and the rest of the world in a period.
    B. The current account shows the primary income received by the country and the expenditure made by the country in its dealing with other counties.
    C. A high exchange rate might cause a current account deficit, and there might be structural problems.
    D. A relaxation in trade restrictions will make it easier for domestic firms to sell their products to other countries.

15. The changes in the foreign exchange rate of a country leads to the decrease of the value of the country's currency. Which of the following is not inclined to happen?

    A. The country's current account deficit will remain.
    B. The country's residents need to spend more local money to travel abroad.
    C. The country's export company will be able to export more goods aboard.
    D. The country's cost of imported machinery will be lower.

16. The table below shows inflation, interest rates and unemployment conditions for different counties.

	Inflation (%)	Interest rate (%)	Unemployment (%)
country A	1.5	3.3	10.3
country B	3.5	8.5	12.0
country C	3.4	7.5	14.1
country D	1.9	6.1	7.6

What can be concluded from the information in the chart?

A. The county with the lowest unemployment has the highest interest rate.

B. The country with the lowest price level has the lowest interest rate.

C. Countries with higher interest rates have lower inflation

D. Countries with higher inflation have higher interest rate.

17. The table below shows the consumer price index (CPI) for a country over 5 years.

Year	CPI
2000	100
2001	104
2002	105
2003	106
2004	111

Between which years was the rate of inflation the greatest?

A. From 2000 to 2001

B. From 2001 to 2002

C. From 2002 to 2003

D. From 2003 to 2004

18. A Country wishes to follow a policy of trade protection. Which action would it take?

   A. to decrease the import quota

   B. to reduce import tariffs.

   C. to remove exchange controls

   D. to subsidize producers

19. A country imports oil that is used in the production and distribution of goods. The country has also experienced a rise in income which has resulted in a large increase in the demand for goods, some of which it imports. What is likely to happen to the country's balance of trade in goods and to the price of oil?

	Balance of trade in goods	Price of oil
A	worsens	falls
B	improves	falls
C	worsens	rises
D	improves	rises

20. The table below shows the percentage of national income owned by the richest group and the poorest population in four countries.

	The riches 20%	The poorest 20%
Country A	40.5%	8%
Country B	54.8%	4.1%
Country C	43.5%	6.7%
Country D	65%	2.8%

Which of the countries have the greatest poverty?

   A. Country A

   B. Country B

   C. Country C

   D. Country D

(The end)

2020 International Economics Olympiad
IEOC Final Round
Economics Junior Level

(Open Questions)
<u>Answer version</u>

Directions:

1. Solve no more than 4 problems out of 5. Indicate your choice of problems on your paper.

2. If you provide solutions for all 5 problems, all of them will be commented by the Jury, but only 4 will be added to your score. In this case, if you do not specify which to grade, the maximum grade of 5 will be excluded.

3. Every problem is worth 30 points.

4. Please write your answers below each question.

Contestant Name:_____

Contestant No.: _____

Problem 1 (30 points)

This is front page and back page of credit card brochure designed by a Grade 12 student.
Look at the credit card brochure below.

(front page of the brochure)

Beware the identity thieves!

Identity thieves are those people who will steal your personal information. Credit card is one of the things they will target on.
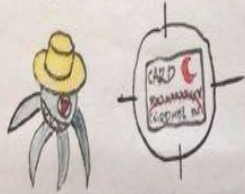
In order to prevent identity thieves, you should make your credit card password complex!
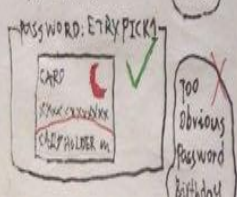
What should you do if you lost it?

If you lost your card by accident, your should...

Call the credit card center of the bank you got the card from.

So your card will be freeze.

What else should you be cautious about?
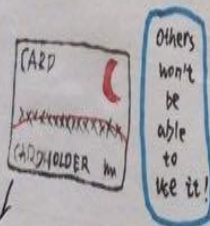
Even though credit card is a very useful tool, you shouldn't abuse it due to you will have debt afterwards.

If you really need to use credit card, make sure you have planned your budget.
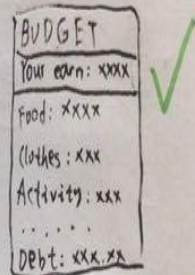
Or, your debt will have a huge possibility of getting bigger...
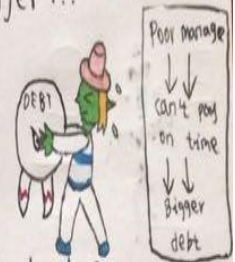
...and bigger...

...until it crushe you.

(back page of the brochure)

Based on the brochure, answer the following questions:

1. Make a summary of information that the designer wants to show to the users of credit card. (10 points)

Key points: what is credit card, how to protect the identity theft, what are the functions of credit card, how to prevent the accumulation of debt.
Best answer should give complete and logical description with at least four items with conclusion.

2. Discuss the two advantages and two disadvantages of using credit cards. (10 points)

Key points: advantages: convenient, get some other services, disadvantages: overspending, debt crisis etc.
Best answer should give clear and logical explanation about 2 points of both sides and make a conclusion.

3.   Discuss two advantages and two disadvantages of two types of personal finance methods. (10 points)

Key points: (1) banking saving: the advantages are safety and convenient to use, and the disadvantages are low interest and cannot use credit spending, (2) stocks, the advantages are the high returns and the owner's status and the disadvantages are the high risks and low liquidity.

Best answer should give clear and logical explanations about two advantages and disadvantages of two tools and have a conclusion. The answer can also describe the advantages and advantages of bond, mutual funds, futures etc.

Problem 2 (30 points)

Home to millions of residents, Shanghai, Beijing, and many other cities have long been troubled by mounting pressure of garbage disposal. To tackle its ever-growing waste problem, Shanghai, Beijing, and many other cities have enforced new garbage sorting standards. Look at the pictures below.

Based on the photos, answer the following questions:

1. Using the economic theory that you have learned about economic growth and economic development in your economic class, discuss two reasons why the garbage soring is very necessary in China? (10 points)

Key points: garbage might create environmental problem and healthy problem. In addition, the recycle some of the garbage will create some economic welfare. The theory can be HDI, real GDP per capita etc. etc.
Best answer should give clear and logical explanations about two reasons why garbage soring is very necessary in China. The essay should use economic theory such as HDI, real GDP per capita etc. The essay should have a conclusion.

2. Using the economic theory that you have learned about employment and unemployment in your economic class, discuss what might be the two kind of impacts of the implementation of garbage sorting on employment and social life? (10 points)

Key points: it might create new job opportunities and it might make some staff lost job in the future. The impact on social life: some people might not welcome it and some people might need time to adapt to it.
Best answer should give clear and logical explanations about two impacts of employment and social life each. In addition, students should use the economic theory of employment and unemployment and give a conclusion.

3. List three approaches that will guarantee the effective and sustainable implementation of the policy of garbage soring. (10 points)

Key points: Using brochure to let pubic know, using the local community as the place to educate people, give some punishment if not implemented etc.
Best answer should give clear and logical explanations about the three approaches and give a conclusion.

Problem 3 (30 points)

The picture below shows how U.S. debt has been accumulated. Look at the picture.

How Much the U.S. Debt Grew Under Each President

$21 Trillion Total Debt

1 block = $3 Billion

Donald Trump
2018-2021
$4.78 Trillion*

Barack Obama
2010-2017
$8.59 Trillion

George W. Bush
2002-2009
$5.85 Trillion

Bill Clinton
1994-2001
$1.40 Trillion

George H.W. Bush
1990-1993
$1.55 Trillion

Ronald Reagan
1982-1989
$1.86 Trillion

Jimmy Carter
1978-1981
$299 Billion

Gerald Ford
1975-1977
$224 Billion

Richard Nixon
1970-1974
$121 Billion

Lyndon B. Johnson
1965-1969
$42 Billion

John F. Kennedy
1962-1964
$23 Billion

Dwight Eisenhower
1954-1961
$23 Billion

Harry Truman
1946-1953
$7 Billion

Franklin D. Roosevelt
1934-1945
$236 Billion

Herbert Hoover
1930-1933
$6 Billion

Calvin Coolidge
1924-1929
-$5 Billion

Warren G. Harding
1922-1923
-$2 Billion

Woodrow Wilson
1914-1921
$21 Billion

FY 1789 - FY 1913
1789-1913
$2.9 Billion

Article & Sources:
https://howmuch.net/articles/usa-debt-by-president
Debt from 1929 to 2017 - https://www.treasurydirect.gov
Debt from 2018 to 2021: FY 2019 budget - https://www.whitehouse.gov

* As projected in the FY 2019 budget

howmuch.net

Based on the picture, answering the following questions.

1.Explain what the main topic of the photo is and the possible reasons of our discussing the topic. (10 points)

Key points: from the administration of Reagan, the debt has been accumulated so fast. The students can describe any of the big changes about the debt from this. For example, during the Obama administration, 2008 financial crisis might create the huge increase in national debt.
Best answer should describe clearly about the big changes of U.S. debt and the reasons with the change

2. Discuss the two advantages and two disadvantages of a huge government debt? (10 points)

Key points: the debt might help solve the government budget deficit, help people to go out critical moment etc. the disadvantages of debt might be higher interest, and heavy burden for next generation.
Best answer should explain two advantages and disadvantages of government debt and with a conclusion.

3.Discuss the fiscal policies the U.S. and U.K government use during the COVID-19 and their effects. (10 points)

Key points: fiscal budget deficit, such as government spending for different group of people, Tax cut for some employers. The positive effects might be to help poor people out of the recession period and support the firms to recover their business. The negative effects might be long run government debt and interest payment.
Best answer should give a clear explain about the fiscal policies used and their positive and negative effects with a conclusion.

Problem 4 (30 points)

The photos below show the market for beverage and milk in a supermarket.

Based on the pictures, answer the questions.

1. Explain two reasons why the packages of milk boxes are usually square and two reasons why the packages of beverages bottles are usually round. (10 points)

Key points: it is easy to store the milk to save the storage area in the refrigerator and save the cost of shipping while it is convenient for people to drink with round shape and also save the cost by using the round shape.
Best answer should clearly explain the two reasons for shapes of milk and shapes of beverage and with a conclusion.

2. Using examples, compare the two differences between the market of milk and beverage and the market of tap water in the world? (10 points)

Key points: the market for milk and beverage is in the monopolistic competitive market and the market for tap water is usually natural monopolies.
Best answers should use examples to explain the differences of both output market structures and give a conclusion.

3. The designing of iPhone 12 Pro Max is rectangle in shape with the fringe in trapezoid. Discuss two reasons that the designers of both iPhone and milk box want to use the shape of rectangle as their product shape, and what are functions of both products with different sizes? (10 points)

Key points: milk each to store, iPhone not exactly rectangle and the fringe is in trapezoid, it might be convenient for the customers. It also depends the different size of the products, small iPhone might be within their hand, and might be enough to put in the pocket and the size of milk box must be just enough for people to drink and digest once.
Best answers should give a clear explain about the functions of these special designs with a conclusion.

Problem 5 (30 points)

Look at the cartoon below:

Based on this cartoon, answer the following questions:

1. Explain the main ideas of this cartoon. (5 points)

Key point: the central bank of the United states is considering keeping its federal fund rate.
Best answer should give a general description about the central bank is considering doing something about interest rate. Since some students are learning the UK system, and if the students are mentioning about the bank is considering change interest rate, it should be given at least 4 points

2. How the central bank of U.S and U.K is doing to regulate their economic recession during the COVID-19? (10 points)

Key point: the central bank lower interest rate (U.S federal fund rate and U.K base rate etc.) and also make the QE.
Best answer should clearly explain about how the central bank is using its monetary policies to control the economy during the COVID-19 with a conclusion. Students should mention about the monetary policies instead of fiscal policies.

3. Discuss about the purposes of U.S and U.K government, and how they can do to try to realize their purposes? (15 points)

Key point: economic growth and economic development, low inflation, low unemployment, stable balance of payment and exchange rate. They might control the money supply and think about the proper polices of government spending and tax and subsides etc.
Best answer should discuss at least 3 types of government purposes and how the government use their polices toward them.

(The end)

2020 International Economics Olympiad

IEOC Final Round

Economics Senior Level

(Multiple-choice Questions)

<u>Answer version</u>

Directions:

1. There are twenty questions.

2. Please write your answers on the answer sheet.

3. All of the 20 multiple choice questions will be graded (4 raw points for the correct answers, minus 1 raw point for the incorrect answers, and zero point for no answers).

Multiple-choice Questions

Answer Sheet

Contestant Name: _____

Contestant No.: _____

Question Number	Answer
1	C
2	A
3	B
4	D
5	B
6	A
7	B
8	B
9	B
10	D
11	C
12	B
13	D
14	B
15	A
16	C
17	A
18	B
19	C
20	B

1. The following table showing Steven's total benefit from purchasing apple and orange from grocery store.

	Total benefit of apple ($)	Total benefit of orange ($)
1	24	24
2	42	42
3	54	54
4	60	60
5	63	63

Assume that price of an apple is $3, and the price of an orange is $6. Steven has a budget of &30 to maximize her total benefit. Then a promotion campaign is made to drop the price of orange to $3, and Steven still wants to spend all her money to maximize his total benefit.

The cross-price elasticity of demand for apple with respect to the change of the price of orange from $6 to $3 is ___

A. -1
B. 1
C. -0.5
D. 0.5

2. The table below shows the output a firm produces using different amounts of labor and capital. The market for labor and capital are perfectly competitive. The rental price is $100 per unit, and the wage rate is $250 per unit.

labor	Output with one capital	Output with two capital
0	0	0
1	8	18
2	18	55
3	25	80

Assume now that the firm currently has two units of capital and is using three units of labor. If the firm's output is sold in a competitive market, what is the lowest output price at which the third unit of labor would be hired?

  A. 10
  B. 15
  C. 25
  D. 35

3. Tom's bakery and Mary's bakery dominate the market in Jack's town. Tom is deciding whether to open at 8:00 a.m. or to open at 8:30 a.m., and Mary is deciding whether to provide individual cake design service or not. The payoff matrix below shows the annual profits for each combination of actions that the firms might be able to choose.

		Mary's bakery	
		Individual Cake Service	No individual Cake Service
Tom's bakery	8:00 a.m.	$26, $20	$51, $19
	8:30 a.m.	$15, $45	$40, $39

Assume initially, both firms know all the information in the matrix and act simultaneously and independently. Then, Tom proposes a plan to cooperate with Mary. Tom would agree to 'open at 8:30 a.m.' and Mary would agree to 'no individual case service'. If either firm breaks the agreement, it must deduct $10 from its profit, add to the other firm's profit. Mary is a profit-maximizing firm, and there are no antitrust concerns. If Mary accepts Tom's proposal, what will be Mary's new profit?

  A. 19
  B. 29
  C. 39

D.49

4. A monopolist is in the market for space tourism. The demand for its service is discrete: consumers are eager to pay 12M USD for the first trip, 11M USD for the second trip, etc., up to 1M USD for the 12th trip. To organize a trip, the firm must spend 4M USD. What is the difference between the maximum profit that the monopolist can obtain with the perfect price discrimination compared to linear pricing?

 A. 4M
 B. 8M
 Ç. 12M
 D. 16M

5. Which of the following is correct?

 A. The Keynesian view argues that the economy cannot be below full capacity in the long term.
 B. The classical view suggests that real GDP is determined by supply-side factors: the level of investment, the level of capital and the productivity of labour.
 C. The new classical model shows the full employment level of output, which cannot exceed full employment level of output.
 D. When we need to show an inflationary gap, we should use the Keynesian model.

6. Which of the following is correct?

 A. An economic model's power stems from the elimination of irrelevant detail, which allows the economist to focus on the essential features of the economic reality he or she is attempting to understand.
 B. The optimization principle means prices adjust until the amount that people's demand of something is equal to the amount that is supplied.

C. It is at least conceivable that at any given time peoples' demands and supplies are compatible, and hence something might not be changing.

D. The reservation price is the lowest price that a given person will accept and still purchase the good.

7. The table shows average total cost and marginal cost for a firm in perfect competition for a range of output.

Output	1	2	3	4	5
Average total cost ($)	12	7.5	6	5.25	4.8
Marginal cost ($)	3	3	3	3	3

What can be concluded from the above information?

A. The firm is operating with diseconomies of scale.

B. The firm's average variable cost is constant.

C. The firm's fixed cost is $12.

D. The firm's revenue will not cover cost for this output if AVC is constant.

8. Which of the following is true?

A. The indifference curve exhibits a diminishing marginal rate of substitution, which means that the amount of the good A that a person is willing to give up for an additional amount of good B as the amount of good A increases.

B. The shape of indifference curves implies that they usually have negative slope.

C. Perfect complements are goods that are always consumed together in fixed proportions, and they always show a slope of negative one.

D. It is clear that transitivity of preferences is necessarily a property that preferences would have to have.

9.The firms in a perfectly competitive industry agree to form a monopoly. What would prevent a deadweight loss resulting?

A. the government imposes a tax on the monopolist's product.

B. the government requires the monopolist to charge price which equal to marginal cost.

C. the government requires the monopolist to charge a breakeven price.

D. the monopolist charges from first-degree price discrimination to the second-degree price discrimination.

10. Which of the following is correct?

A. A premium reimburses you for hospital stays, doctors' visits, and medications.

B. A premium is the amount your employer will pay for your health insurance coverage.

C. Disability income insurance pays actual medical costs.

D. Health insurance plans may reimburse an individual for hospital stays, doctors' visits, and medications.

11. A psychologist is making an experiment and tells the subjects of the following situation: a dreadful potential disease might cause 600 people to die. There are two treatment plans available. The result of plan A is expected that 200 people might be cured. The result of plan B is expected that 1/3 chances of all 600 people might be cured, and 2/3 chances of all 600 people will die. When facing such choices, the majority of the subjects choose plan A.

At the same time, the psychologist tells the subjects another two potential plans that might help to cure the 600 people. The result of plan C is expected that 400 people will die. The result of plan D is expected that 1/3 chances of all 600 people might be cured and 2/3 chances of all 600 people might die. When facing such choices, the majority of the subjects choose plan D.

The subjects' reaction to the above experiment shows which of the following economic theory?

A. Survivorship bias

B. Confirmation bias

C. Framing effect

D. Endowment effect.

12.Which of the following statement is right?

A. Suppose the country's marginal tax by the country's taxpayers is as follows: for the first $5000, the tax rate is zero; from $5001 to $10000, the tax rate is 10%; above 10000, the tax rate is 20%. Therefore, it is proportional over the range of income above 10000.

B. If increased advertising by a firm in an imperfectly competitive industry leads to an increase in demand for the industry's product, but there is a fall in the firm's profit, this happens might because this firm's rival firms respond by increasing their advertising outlays.

C. In an open economy, when autonomous investment increases by 100, equilibrium national income increases by 300, the marginal propensity to save plus marginal tax rate is 1/3.

D. Real output in an economy grows by 2.5%, but at the same time the level of employment decrease, and population of working age has fallen.

13. Real GDP grows by 2.5% in an economy, but at the same time, the level of unemployment increases. What can be deduced from the information?

A. Productivity by the factors of production has decreased.

B. Labor force has fallen.

C. An increase of the rate of inflation.

D. Actual output has grown more slowly than potential output.

14. Which of the following is correct?

A. Tightening reserve asset requirements for financial institutions is classified as a U.S. government's policy measure.
B. The fact that a government decreases the tax rate on goods and services is likely to make more equal distribution of income.
C. Between 2002 and 2004, a country experienced economic growth but there was a fall in its Human Development Index. This phenomenon might indicate that the country's people's life expectancy increases.
D. In the less developed economies, saving ratios might be high and population growth might be also high.

15. Which of the following statement is correct?

A. By academic definition, the real exchange rate is high when goods abroad are relatively expensive, and the domestic currency has a relative low value.
B. A traded weighted exchange rate is an exchange of the value of a currency against a basket of currencies. These are weighted according to the relative importance of this country's trade with that of other countries.
C. A country uses managed float exchange rate. If the demand for the country's currency rises about the given band, the central bank would buy the domestic currency to increase the currency's supply.
D. A reduction in the value of a fixed exchange rate to a lower level is known as depreciation, and an appreciation occurs when the government raises the exchange rate to a new and higher fixed rate.

16. Which of following statement is correct?
A. If exports are inelastic, inflation might not cause current account deficit because foreign customers will still buy the exports even if the price of exports is high.
B. A country's current account position is heavily influenced by its relative export and import prices. Multinational exchange rate is a measure of the ratio of export prices and import prices.

C. The Marshall-Leaner condition and J-curve work in reverse if a high exchange rate might increase current account deficit. A rise in exchange rate might reduce current account deficit in the short run before increasing the current account deficit in the long run.

D. The Prebisch-Singer hypothesis suggests that terms of trade tend to move towards primary producing countries.

17. Which of the following statement is correct?

A. A persistent rise in foreign currency reserves would identify a country with a fundamental balance of payments disequilibrium.

B. A corporation borrows money from a commercial bank in foreign countries in order to pay a lower interest rate than from banks from its local countries, capital account and primary income account in the balance of payment will affected.

C. If a country has a surplus in its balance of payments, its money supply is likely to fall because more of its goods were purchased by foreign consumers than by consumers at home.

D. Reserve assets in balance of payment are kept to settle international debts and influence the value of the foreign exchange rate. Addition to the reserves are shown as credit items, while reductions to the reserves are shown as debit items.

18. Which of the following statement is correct?

A. Keynesians argue that holding money balance for speculative motive is interest inelastic.

B. Monetarists argue that attempts to reduce unemployment by increasing government spending will only succeed in raising inflation in the long run.

C. Milton Friedman believed that the role of government is to control money supply, so the government might help economy go out of unstable situation.

D. John Maynard Keynes firstly developed the intersection of the "investment–saving" (IS) and "liquidity preference–money supply" (LM) curves model.

19. When might destroy the results of fiscal expansion in increasing the level of GDP?

A. when it leads the price of government bonds to increase.
B. when there is a simultaneously increase in the money supply.
C. when it results in the international value of its currency.
D. when there is no inflation after the above action.

20. Which of the following is correct?

A. An open market purchase of security by the central bank would result in a reduction in the volume of bank deposit.
B. If a 7% increase in money supply results in a 5% increase in the level of money income, there might be a decrease in the velocity of circulation.
C. A fall in the price of bonds would cause an increase in the transactions demand for money.
D. Broad money consists of a range of items that are concerned with money's functions as a store of value.

(The end)

2020 International Economics Olympiad
IEOC Final Round
Economics Senior Level

(Open Questions)

Answer version

Directions:

1. Solve no more than 4 problems out of 5. Indicate your choice of problems on your paper.

2. If you provide solutions for all 5 problems, all of them will be commented by the Jury, but only 4 will be added to your score. In this case, if you do not specify which to grade, the maximum grade of 5 will be excluded.

3. Every problem is worth 30 points.

4. Please write your answers below each question.

Contestant Name:_____

Contestant No.:   _____

Problem 1 Economic recession (30points)

In 2009 a recession occurred in America and Europe, and people's incomes fall as employers cut wages and jobs. While the sales of luxuries declined, consumers looked for something such as lipsticks. The recession has made consumers more likely to demand value for money.

In 2020, a pneumonia called COVID-19 spread across China and the world. As many people in America and Europe are compelled to stay at home, many industries have been hit hard. Meanwhile, it has been reported that the customers of online game, online education, online shopping have soared. Meanwhile, the government and central banks in American and European countries have initiated many plans to stimulate the economy.

**Based on the above information, answer the questions:**

1. Explain with examples of the lipstick effect. In addition, explain with example how might the counter-cyclical industry work during the recession period? (10 points)

Key points: the lipstick effect is the theory that when facing an economic crisis consumer will be more willing to buy less costly luxury goods. Instead of buying expensive fur coats, women will buy expensive lipstick. The underlying assumption is that consumers will buy luxury goods even if there is a crisis. When consumer trust in the economy is dwindling, consumers will buy goods that have less impact on their available funds. Obviously, men will not be buying lipstick, but could be tempted by expensive beer or smaller, less costly gadgets. Many companies and factories have been closed down when the sports industry does not "decrease" but "increase" ，sports goods production continue to benefit called "lipstick effect.

Best answers should explain clearly with examples about lipstick effect and how counter-cycle industry works. The answers should be logical with a conclusion.

Reference:

宠物经济就呈现非常鲜明的抗周期性，在 2008-2010 美国经济衰退期，总体消费都在缩减，而在宠物身上的消费去逆市上涨 12%，有兴趣具体了解一下吗？

U.S. Pet Industry Grew During the Recession of 2008 to 2010
(market size, $ in billions)
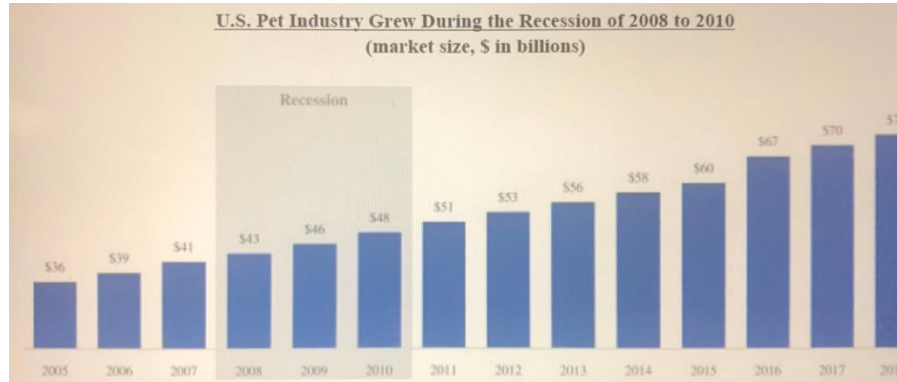
2. Compare how the U.S or European government and central banks respond similarly and differently with these two economic recessions. (10 points)

Key points: the last one is subprime crisis and this one is because of the spread of COVID-19. Both U.S. and European central banks and government use expansionary fiscal policy (cut taxes and increase government debt) and monetary policy (lower the interest rate and QE) the difference might be that this time make a lot of transfer payment and lower the interest rate immediately and even larger QE etc.

Best answers should talk about the similarity and difference of the policies by either U.S.A or European countries. The answer should be able to use the economic terms and explain logically with a conclusion.

3. Discuss how the COVID-19 recession might affect the external debt and external value of the currency of emerging economy such as Brazil. (10 points)

Key point: the external debt will not be paid on time, and debt crisis and the substantial depreciation of local money.

Best answer should talk deeply with the influence of their external debt and value of their local currency. Short-term will be offset with the zero interest U.S dollar but long run depreciation of local currency and asset outflow and give a conclusion.

Reference:
近 45 年，世界范围内共发生了 8 次大的经济危机，其中 5 次发生在美元指数突破 100 的时间段内，1973 年第一次石油危机、2008 年次贷危机、2010 年的欧洲债务危机、拉美债务危机，亚洲金融危机，均为美元指数在 100 时发生。

新兴市场国家债务风险比较
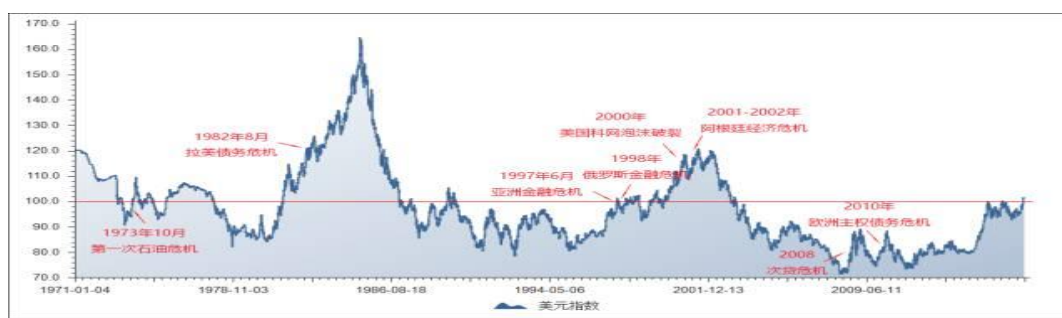
国家	一季度汇率变化（%）	短期外债/GDP（%）	短期外债/外储（倍）	经常账户余额/GDP（%，过去3年均值）	私人部门杠杆率（%）	外贸总额/GDP（%）
阿根廷	-7.1	19.5	2.23	-3.57	21.10	31.89
巴西	-22.5	4.3	0.23	-1.87	72.60	28.63
波兰	-8.4	9.4	0.49	-0.16	79.50	109.30
俄罗斯	-20.4	3.2	0.14	4.23	64.80	51.42
菲律宾	-0.6	4.8	0.22	-1.15	N/A	74.77
韩国	-5.2	8.2	0.34	4.26	195.00	84.47
马来西亚	-5.1	25.9	0.95	2.73	135.50	153.26
墨西哥	-19.6	5.2	0.39	-1.28	42.30	80.45
南非	-21.4	10.0	0.75	-3.04	74.80	65.27
泰国	-9.0	11.0	0.28	7.39	115.80	126.39
土耳其	-8.8	16.4	1.60	-2.12	80.20	60.01
乌克兰	-15.6	10.6	0.67	-2.12	N/A	102.91
印度	-5.3	4.0	0.25	-1.52	56.00	42.86
印尼	-15.1	4.2	0.38	-2.42	40.50	41.45
越南	-0.3	N/A	N/A	2.21	N/A	208.31
智利	-10.9	7.8	0.56	-3.25	153.10	58.42

阿根廷目前有违约风险的外债达 660 亿美元，除了阿根廷之外，巴西受疫情影响严重，经济几近崩溃。巴西货币雷亚尔，今年已经下挫了 40%。

据 2018 年的统计，新兴市场的债务规模已经达到 400 亿之巨，是其 GDP 总和的 170%，过去十年，新兴市场债务增长了 54%，未来三年迎来还债的高峰期，偏偏在这时，疫情发生了，美元飙升了。

新兴市场的经济比较单一（例如：泰国 12% 的 GPD、牙买加 34% 的 GDP 来自旅游业，尼日利亚政府预算 65% 来自于卖石油），借美元外债是新兴市场发展经济的重要手段。因为美元汇率比较稳定，汇率风险比较小；大家都喜欢借美元。这几年新兴市场国家债务一直上升，与 2008 年全球金融危机期间，许多发展中国家的情况甚至还倒退。尽管整体新兴市场外债规模 400 万亿，但好在美元处于零利率，而且美联储从 2 月以来印了大量钞票，美元泛滥，这二方面对冲了美元指数上升带来的风险。但如果巴西、南非等相继违约，可能引发市场恐慌。

新兴市场危机对中国的影响相对较小一些，因为我们外债较少，同时外汇管制，资本的流动基本上是体内循环。但是，如果新兴市场持续暴雷，可能导致部分外资回流美国。美元上升，人民币汇率承受压力。近期，因为疫情导致海外对中国情绪发生变化，德意志银行调查显示：41%的美国人表示不再买中国货。中美贸易关系最近又有些恶化，美国对中国科技的封锁，从华为开始，目前逐步升级，这对许多依赖海外技术的上市公司，可能构成威胁，特别是高估值的伪科技公司，面临价值重估。但是，美国的技术封锁，可能加速国产软硬件替代化进程。

Problem 2 Starbuck Coffee (30 points)

The costs of most of Starbucks coffee, such as Americano, Café latte, and Mocha vary by only a few cents. However, the prices are dramatically different, as the largest Vanilla iron can be nearly RMB38, with the smallest Americano being around RMB25 in Beijing. In the meantime, the average prices of Starbucks coffee are charged significantly around the world.

Answer the following questions:

1. Starbucks is trying to separate the market between price conscious customers and those who are 'price blind.' By using the economic theory, explain why Starbuck is using different prices and different strategies to increase the sales of their coffee. (10 points)

Key points:
(1) Second-degree price discrimination:
Second-degree price discrimination acknowledges the observation that consumers may choose to buy additional amounts of a good if the price decreases. Thus, firms may offer lower prices with the purchase of successively larger quantities: the first batch sold will be at the highest price, the second at a lower price, and so on.

Instances of this kind of price discrimination by quantity include:
a. 'buy two, get one free' offers in retail markets of food and consumer items (here, buying items in threes reduces the average price, while technically preserving the higher price of the first two units).
b. frequent-flyer programmes that award free or reduced rate flights to good customers.
c. season tickets for concerts or sports team events d. public utility companies charging less for extra units of power or water.
d. bulk buying on behalf of a company (a manufacturer of large family cars probably pays less per unit for auto-quality steel than does a much smaller sports car company).
e. rewards programmes of all kinds, offered by many retail stores, which offer special deals and discounts to loyal buyers.

In the case of Starbucks, loyalty customers are offered free drink etc.

(2) Third-degree price discrimination acknowledges and takes advantage of the fact that different consumer groups have differing price elasticities. It moves to separate the groups and charge them the highest price possible. This type of price discrimination is quite prevalent, and can be seen in

a. bars offering 'happy hours' when drink prices are lower to draw customers in at an unusual or off-peak times;
b. women being charged more for dry cleaning than men;
c. phone companies offering lower prices at off-peak times (weekends and evenings);
d. airlines charging more to customers who book closer to flight date;
e. restaurants and cinemas charging less to children, elderly people and students.

In the case of Starbucks, customers of different groups are charged differently.

Best answers should use the second and third price discrimination and other economic theory to explain how Starbucks treat different customers to increase their revenue and profit.

2. Even though Starbucks has a world supply chain of Coffee, the average prices sold around the world are significantly different. Using economic theory, discuss the possible reasons why the average price of Starbuck coffee is sold significantly different around the world. (10 points)

Key points:
The problem is getting these materials from point A to point B. "Transporting coffee beans from, say, Colombia to the port of Tianjin is about the same as transporting them from Colombia to the port of Los Angeles," says David Wolf, a public relations professional and expert in Chinese business.

For example, "It's getting them from the port in Tianjin to the store in Beijing that's expensive." China has invested billions of dollars over the years to improve its port and transportation infrastructure, but the combination of taxes, fees, and middle-men add to logistics costs—which are then passed on to customers in the form of marked-up frappuccinos and lattes

Financial analysts attribute these exorbitant prices to the fact that in these countries Starbucks is positioning itself as a luxury brand, designing elaborate, high-end coffee houses, tapping into the culture of how Starbucks represents American affluence. Whereas in the US Starbucks customers range from corporate executives to teenagers, in these countries the coffee chain is seen as exotic, and a sign of elevated status.

Reference:

在温哥华，一杯星巴克只要 3.38 美元，25 元人民币都不到。而在圣地亚哥、布宜诺斯艾利斯、伊斯坦布尔、马尼拉、开罗、利马等城市，星巴克相当便宜，只要 3 美元左右就能喝到。一杯星巴克在里还不到 1.5 美元，10 块人民币还不到。连锁品牌，星巴克在全球售价差这么多呢。主要原因：(1) 人工成本：星巴克在全球的价格差异，大致是符合市场经济规律的。售价排名前十的国家里，大部分都是发达国家。因此，在这些国家，星巴克员工的工资水平也要比其他国家高很多。比如在瑞士、挪威、德国等国家，服务业员工待遇相当高，无形中，这就推高了星巴克用人成本。而这些人工成本最终会算到消费者 (passed on to customers) 头上，因此价格高(marked-up price)自然就不奇怪了。(2) 物流费用差异大。上乘的咖啡豆，才能烘焙出上等的咖啡。但是，因为气候原因，咖啡豆只在地球特定地区才能种植起来。这些地方位于中低纬度，气温比较高，被称为咖啡种植地带(The Bean Belt)。
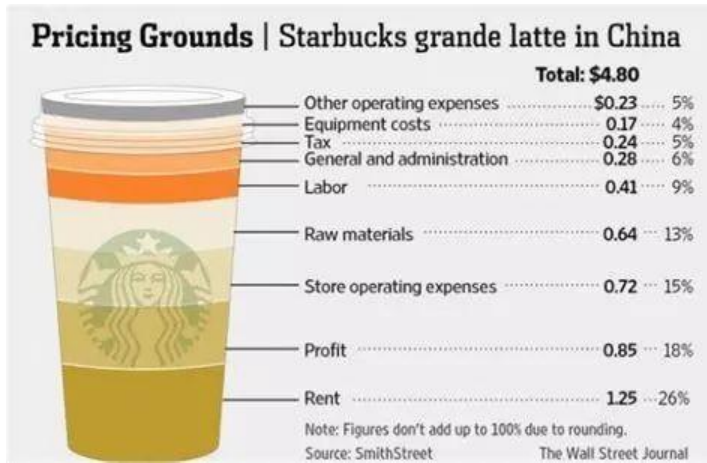
因此，对于很多北半球国家来说，比如所有欧洲国家、北美、中国等在内的亚洲国家的星巴克门店来说，把咖啡豆从原产地运输到这些门店，物流费是一笔非常大的开支。而对于处在咖啡种植地带的国家，比如巴西、印度、菲律宾来说，当地就产有咖啡豆，星巴克根本不需要出运输费，所以咖啡价格自然就低啦。

此外，各国的基础建设、物流运输成本，也会直接影响各地星巴克咖啡价格。把咖啡豆从原产地哥伦比亚运输到天津港的价格，和咖啡从哥伦比亚运到洛杉矶费用差不多。

但将这些豆子再从天津港送到北京的开销就大了。近年来，虽然中国加强了港口建设、运输设备性能提高，但是税费等其他开支都算到物流费里，最终这些开支都转嫁到了消费者买咖啡的账单上。（3）星巴克的体验溢价：抛去这些经济因素，星巴克还贵在它的"体验溢价"。正如《逻辑思维》的罗振宇，曾说过：

过去的消费者花钱买东西，是为了满足衣食住行的基本需求；而现在，消费者追逐的是体验，以及体验给自己带来的人生意义。星巴克带来的是一种中产、小资的体验，是商务人士和办公室白领的身份象征。这种体验感，就如同买Gucci包包、迪奥香水、圣罗兰美妆一样，带来的一种高端感和成就感。这就是为什么：即使中国普通民众的人均年收入约7200美元/年，而美国普通民众的收入是中国的6.5倍。但在中国，星巴克依旧生意红火。毕竟，在中国，星巴克已经不再是咖啡饮品这么简单了，更是一种高端的身份体验。

这些国家（中国和俄罗斯），星巴克被定位为奢侈品牌，咖啡屋设计高端，标榜的是该品牌所代表富足美国的文化形象。然而，在美国，星巴克消费者层次不等，既有公司高管，也有普通青少年。但在中美，星巴克代表的是带有外国情调的高端产品。在中国门店售卖的一杯中杯拿铁(Grande latte)，这里的利润到底有多少？一杯咖啡，又分别有哪些成本费用吧。价格剖析--中国星巴克中杯拿铁价格包括哪些？

Pricing Grounds | Starbucks grande latte in China

Total: $4.80

Other operating expenses	$0.23	5%
Equipment costs	0.17	4%
Tax	0.24	5%
General and administration	0.28	6%
Labor	0.41	9%
Raw materials	0.64	13%
Store operating expenses	0.72	15%
Profit	0.85	18%
Rent	1.25	26%

Note: Figures don't add up to 100% due to rounding.
Source: SmithStreet The Wall Street Journal

（图表来自《华尔街日报》）

在中国星巴克，门店租金是最烧钱的。我们买的一杯星巴克咖啡，26%的钱都是星巴克用来付房租的。此外，门店运营费、原材料费也是大头，分别占到了15%和13%。当然啦，刨去所有的成本，一杯星巴克咖啡大概有18%的利润呢。

3. You have heard the scandal of another coffee brand: Luckin. Explain the market failure of Luckin coffee. Be specific and discuss how, and to what extent, they harm the society. (10 points)

Key point: information failure, moral hazard and adverse selection etc.

Best answer should explain clearly and specifically how each market failure will harm the society.

Problem 3 ETC and the gasoline charge (30 points)

As the electronic toll collection (ETC) system has been widely used in the Expressway throughout China, the passing efficiency has been greatly increased. However, a lot of people prefer not use ETC because the charges paid by ETC tends to be high than that of staff services.

1. Discuss the advantages and disadvantages of using ETC service in Express way. List some suggestions to improve the service of ETC. (10 points)

Key points:
Advantages: There has been a new change in the highway toll standard, that is, the system of abolishing toll stations at the provincial boundary has been implemented, and the manual toll is accurate to "yuan". However, ETC charges are accurate to "cents". In addition, trucks are also adjusted to charge according to vehicle models, but the total fee does not increase .It stands to reason that the use of ETC can improve driving efficiency and reduce traffic congestion, allowing car owners to quickly charge at high speeds.

（中文参考：）

优势：高速公路收费标准有了新变化，那就是实行了取消省界收费站制度，人工收费精确到"元"。而 ETC 收费精确到"分"，此外，货车也调整为按车型来收费，但总费额不上涨，按道理说，使用 ETC 后可以提高行驶效率，和缓解交通拥堵，让车主可以快速办理高速收费。

Disadvantages:

The highway billing accuracy is higher, so the highway fee is a bit more expensive than before. The same situation occurs in all toll stations, that is, the ETC channel is more blocked than the manual channel, because once the ETC charge fails, the manual channel will be more efficient to handle the charges. Many ETC car owners have discovered many charges of unknown origin. In addition to the cost of taking the highway, there are also a lot of a few dollars and a few cents. The date is even more messy, and some ETC owners have discovered that their cards have been stolen.

（中文参考：）

劣势：高速公路的计费精确度更高了，所以高速费就比之前贵了点。收费站都出现同一种情况，那就是 ETC 通道比人工通道还要堵，因为一旦 ETC 收费出现故障时，反而走人工通道办理收费效率会更高。不少 ETC 车主发现很多来历不明的收费，除了走高速公路的费用，还有很多几块几毛的费用，日期更是一塌糊涂，而且还有个别 ETC 车主发现自己的卡被盗刷。

Suggestions:1. Update the equipment to ensure the proper operation of ETC equipment 2. Update the equipment to make it to calculate correctly 3. Lower the cost of charge by ETC etc.

Best answer needs to explain logically both sides with a conclusion.

2. Similar to pay entrance fee on expressway, drivers need to pay for gasoline. As a lot of countries' governments continue to increase the tax for gasoline, the gasoline prices might continue to increase. Discuss the consequences of the introduction of an indirect tax on gasoline (petrol) for consumers, producers, and the government. (10 points)

Key points:

When the government imposes taxes on gasoline, consumers will be the biggest victim because they have to use it even when the price increases. They will share more burden than producers do.

For gasoline producers, their total revenue will decrease, but not as much as their counterparts in other markets with more elastic demand will do. After the tax is imposed, producers will increase the price while quantity demanded will not decrease a lot since the demand for gasoline is inelastic. However, they will still suffer because they cannot transfer all the taxes to consumers since it will cause surplus in the market. Producers have to share some of the tax burden, although the burden might be smaller than consumers. Their total revenue will decrease.

Government will be the biggest winner. Their revenue will increase, especially for goods with inelastic demand since the quantity demanded will not be influenced too much by taxes and thus the government is able to collect as much revenue as possible without worrying about serious unemployment problems. However, in the long run things might be different. People might create new energy as substitutes to gasoline. Therefore, the demand for gasoline will become more elastic, which will cause producers to share more tax burden because sales will drop significantly if producers transfer too much tax burden on consumers. If producers share too much taxes, their total revenue will decrease which might cause unemployment. Then the government will have to deal with the problem. That is why government always prefers to impose taxes on goods with inelastic demand.

答题提示：
　　答案最好从不同利益相关者角度分析汽油税的影响，并且考虑了从短期到长期市场发生的变化以及可能的造成的结果。

　　征收的高额汽油税收，是好环境和免费高速公路必要的成本。而公众之所以抱怨油价高，是因为他们根本没有从成品油征税中获得任何好处，相反是付出了更大的成本。
　　每隔一段时间，中石化的官方微博就会转发世界各国油价排行，根据微博中的数据显示，中国的油价比美国高但比英德低，居世界中游位置。同时微博还指出，中国汽油价格中税收占比约50%，美国约15%、英国59%、德国56%。

这几年来，油价太高一直为公众所诟病。中石化这一微博可谓石油公司回应公众的质疑和批评的经典案例。国际比较来看，油价的差异主要体现在两个方面：第一，针对汽油征收的税费，第二，汽油品质和开采炼油效率等。中石化的微博正好是从这两方面来回应的。

据全球汽油价格网的数据对比各国汽油价格中的税收占比可见，附加在汽油上的税收是各国油价差异的最大因素。

其实，高税负本身并没有问题。欧洲汽油的税负高，但欧洲英德挪威等国家环境之好也是全球共知，其在履行碳排放的减排义务，德国等国家也通过提高汽油税来限制汽油消费，同时这些国家的高速公路大多也是免费通行。所征收的高额汽油税收，是好环境和免费高速公路必要的成本。相比之下，美国降低碳排放的动力不如欧洲强，燃油税也只用于支付高速公路的修建和养护，税率就要低得多。这也是美国油价仅为德国一半的原因。

对比之下，中国油价中的税收包括增值税、消费税和附加费。根据商务部石油行业经济运行的数据，2013 年全国消费成品油为 2.51 亿吨，据国家统计局的数据，其中交运邮政行业的汽油和柴油的消费量分别为 0.38 亿吨和 1.07 亿吨。成品油消费税从量，价内征收，按 2013 年的税率计算，每年至少征收 1500 亿。而成品油的增值税从价，价外征收，由于 2012-2013 年油价较高，成品油的增值税总额预计要超过消费税，税额也将超过 1500 亿。两者合计税额就高达 3000 亿。这个规模的税收是什么概念？2012 年全国收费公路的通行费收入也不过 3281 亿元。

为什么公众会抱怨油价高？因为他们根本没有体会到从成品油征税的好处。2008 年，中国进行成品油税费改革，取消征收公路水路的养路费、附加费等六费以及其他收费，捆绑在油价上提高成品油消费税，当年每升汽油的消费税一下子从 0.2 元调整为 1 元。这么多年下来，公众没有感受到消费税提高带来的好处，虽然政府还贷的二级及以下等级公路可以免费通行，但高等级公路大多都是收费公路，通行费收入甚至是新增消费税的 200% 以上。而且，去年 11 月以来的连续三次提高成品油消费税，按 2013 年成品油消费量进行估算，三次提税为 2015 年税收增长的贡献将超过 1600 亿，相当于消费税率翻倍，是 2014 年全国总税收的 1.54%。

回过头来再看中美两国的税收。中国高速公路里程全球第一，为 11.2 万公里，美国也不少，近 9 万公里，美国的公路总里程是 651 万公里，比中国多出 200 万公里。但美国多数公路（包括高速）是免费通行，道路修建养护资金从公共财政和燃油税中提取。相比之下，中国的高速公路既是收费的，又有公共财政的投入，征收税率又远超过美国的成品油税收。这样的油价又怎么能不被吐槽呢？

征收的高额汽油税收，是好环境和免费高速公路必要的成本。而公众之所以抱怨油价高，是因为他们根本没有从成品油征税中获得任何好处，相反是付出了更大的成本。

3. Using examples, discuss whether the indirect tax is better than direct tax in regulating the economy. (10points)

Key point: direct tax on income, indirect tax on consumption and can be transferred to others. Direct tax might be better because it taxes directly to the party which should pay.

Best answer should explain whether direct tax is better in allocating resources with a conclusion.

Problem 4 Economic Growth and garbage sorting (30 points)

The new classical growth model with technological innovation is $Y = F(AN, K)$, where AN means effective working (the level of technology A times the working N), and K means capital. The new classical growth model assumes that the output is the function of effective working and capita. As time goes on, the working efficiency has been improved significantly. The example that has most influence on improving the efficiency during the 20th century is the mass production of assembly line by Ford and owing to this technological innovation, the time for assembling the main components of an automobile has been shortened from 12.5 hours per automobile to 1.5 hours per automobile.

1. Using the economic theory that you have learned in your class and the above new classical growth model, discuss the possible factors of economic growth. (15 points)

Key point: economics growth is from effective working: level of technology and the effect of working. How the technology will lead to economic growth? How hard working will lead to economic growth? How the accumulation of capital will lead to economic growth? How to combine them to make economic growth? Which factors are most important depends on time and depends on different countries?
Best answer should explain the theory of economic growth and discuss the different factors with some application and deep analysis. The essay need to evaluation which factors are most important and with a conclusion.

2. Using the economic theory that you have learned about economic growth and economic development in your economic class, discuss whether the garbage sorting will be helpful with the economic growth and economic development? (15 points)

Key points: garbage might create environmental problem(some of the pollutants cannot be easily dissolved) and healthy problem (people eat the elements of garbage from their food) . In addition, the recycle some of the garbage will create some economic welfare. The theory can be HDI, real GDP per capitaetc. garbage sorting might create new job opportunities.

Best answer should give clear and logical explanations about two reasons why garbage sorting will create economic growth and economic development. The essay should use economic theory such as GDP, GNP, real GDP per capita, HDI, single indicator of economic development and with a conclusion.

Problem 5 Cake Consumption (30 points)

Tom, Mary, Jack and William are siblings in a family.

Situation 1: Tom likes the cake of orange flavor, and Mary likes the cake of lemon flavor; Jack likes the apple flavor, and William likes the cake of cheese flavor. Their mother bought a cake which has the orange flavor, lemon flavor, cheese flavor and apple flavor, and the cake is split into 4 equal pieces randomly.

Question: Is there Pareto equilibrium and (or) Pareto improvement? Why? (15 points)

Key points: if the pieces that all of 4 kids get are exactly the flavor that they like, then it is Pareto equilibrium. If there is condition that the exchange between the four kids will make them to have more of the pieces of cake of their favorite flavor, then there is Pareto improvement.

Best answer should make a clear and logical analysis of the Pareto equilibrium and Pareto improvement with a conclusion

Situation 2: Their mother wants to split one cake into four pieces and distribute each piece to her kids. Every kid wants to eat as much cake as possible. If at first their mother asks William to cut the cake into four pieces by the way he likes, then each of his siblings takes their pieces orderly and William will take his piece at the end.

Question: How will William cut the cake to make each one of her siblings and himself all happy? (5 points)

Key points: divide them into 4 equal pieces.
Best answer should explain this answer and explain the reason.

Situation 3: Their mother wants to split one cake into four pieces and distribute each piece to her kids. Every kid wants to eat as much cake as possible. Neither child is happy if he or she gets less than a certain share of a cake. In particular, Tom will be happy if he gets at least a piece of size x, Mary needs at least y, Jack needs at least z, and William needs at least p. For every kid, getting a piece of the minimum required size is better than getting no cake, which is, in turn; better than getting a piece of less than the minimum required size. If one kid is already happy, he or she nevertheless prefers getting more cake to less cake. Their mother knows that the total piece of the cake is one, but she does not know how big the least a piece that each of her four kids wants, and her four kids know all the four numbers.

Question: Under which mechanism of x, y, z and p ensures each of the four kids to be happy? (10 points)

Key points:
(1) $x+y+z+p <= 1$.

(2) The following mechanism can be applied:
William (or any one of the kids) offers some distribution of the cake to her siblings. Each of the siblings then votes in or against this distribution. All the other three siblings have incentives to accept such distribution because they will get nothing otherwise. Otherwise, no one gets anything. (0 is better than not satisfied piece) Best answers should mention clearly about the arrangement logics.

(Notes: This question is from IEO open question 2019 and I have made some changes to this questions)

(The end)

2020 INTERNATIONAL ECONOMICS OLYMPIAD IEOC FINAL ROUND BUSINESS CASE

The IEOC 2020 business case is based on a real problem. The desired outcome of the business case is a coherent business plan that could ideally be readily used by a start-up in the industry to source venture capital funding. Both **on-paper solution** and **presentation** skills are important.

Requirements for Submission

1. Participating teams may start to work on proposals once the case has released.

2. In accordance with the guidelines of previous international contest, the business plan is recommended to be no more than 10 pages (cover excluded), 1 extra page of team profile is allowed. A PowerPoint version should be provided for onsite presentation, another pdf version should also be submitted for print. Note slides after p.10 will not be printed, however, if time permits, presenting slides after p.10 will be allowed.

3. Both versions should be submitted by 24:00, Aug 6th, 2020.

4. Team/Group code must be shown on the cover.

5. School-related information (e.g. school name etc.) is prohibited in the proposal

6.Filename:

For Seniors: " Team code +Team name.pdf", " Team code +Team name.pptx".

For Juniors: "Group code.pdf""Group code.pptx".

Please edit the slides in 16:9 scale, horizontal layout.

Attention: Slides cannot be changed after submission.

2020 INTERNATIONAL ECONOMICS OLYMPIAD IEOC FINAL ROUND BUSINESS CASE

Introduction:

Millennial Chinese parents are willing to spend more time and efforts on cultivating the artistic attainment of their children since their early stages, which initiates the prosperity of extracurricular piano learning.

Li Fang is a current middle school student who started leaning piano 6 years ago. The experience was never fun for him, though he has got the certification of National piano level 6. Learning instrument requires persistence and long-term concentration, which could be especially challenging for young learners such as Li Fang. Due to his inability to stay focused during long periods of practices, his parents had no other option than to accompany him in completing home assignments after long hours of working, though they know little about piano. For this reason, their parent-child relationship has worsened over the years.

Li Fang is not the only child who has such experiences. Many Li Fang's classmates who also learn piano have expressed the fear of their parents and their parents' inability to provide precise feedbacks. Learning piano for both young learners and their parents could be miserable, where a third party could come in and mitigate the situation. Professional piano sparring partners who accompany young learners while practicing, with professional knowledge to offer effective feedbacks are now facing an expanding demand in the ever-evolving piano training industry.

Li Fang wishes to start a company that provides professional piano sparring partners, helping students to gain more professional feedbacks and reduce the anxiety their parents imposed on them. However, for he does not have enough business knowledge, he decided to ask for your help.

Your task is to help Li Fang in starting a company providing professional piano sparring partners to students aged from 5 to 18 in China. The start-up fund will be 1 million CNY at year 1, invested by an angel capital. Full operation starts at the September of 2020.

Specific tasks:

Develop a business plan including the following sections:

1、 Market analysis

1）Define the major needs of each stakeholder in the market of piano sparring partners in China.

2）Estimate the market size（CNY）of piano sparring partners of China in 2020.

3）Present the reasoning process of estimation.

2、 Business model analysis:

1) Choose your business model among online mode, offline mode and online-offline mixed mode.

2) Provide the rationales of your choice.

3 、 Product and service design:

1) Develop an insightful analysis of your target users, including customer traits, demand, etc.

2) Describe the firm's product's and service's key features.

4、 Marketing:

1) Describe the distribution channel and strategy in delivering your product and service.

2) Include detailed marketing campaign plan in advertising your product and service

5、Financial model:

The firm will start with an initial funding of 1 million CNY at year 1, from Sep. 2020. Construct a 12-month financial model for the firm, including revenue, cost and profit. The model should present performance forecast of each month.

Additional information

Additional information serves to assist you in better constructing your business plan. The data may or may not be consistent with real-world data. Information and data from other sources are available for use, however, the sources must be attached.

Part 1: Two roles of sparring partner in practicing piano

There are two roles of sparring partner:

1) **Elementary sparring partner.** Elementary sparring partners provides technical support only (e.g. error correction/proficiency improvement). Elementary sparring partners are available for both online and offline modes.

2) **Senior sparring partner.** Senior sparring partners are capable of capturing the emotional experience of learners. They pay additional attention to training students' sensibility and ways to utilize it in playing. Senior sparring partners may only be available for off-line mode, for personal sensations are conveyed mainly through face-to-face interaction.

After long-term practices, at some point, the students would gain a better understanding of teachers' guidance and be enabled to solve upcoming problems by themselves, where a sparring partner is no longer needed.

Part 2: Increasing market of piano learning

A report in 2016 released by Chinese Musicians Association revealed that the number of students learning piano aged from 5 to 18 had reached 30 million in China, with 10% annual growth rate. On average, each student will attend 30 main classes per year. The price of each main class is about 300 CNY. The learning cycle is generally 4 to 6 years.

Piano sparring partner classes are generally after main classes, helping students to practice main-class assignments. The market penetration rate of sparring partner among piano students is about 3% by 2020.

On average, students have three sparring partner sessions after a main class. Each sparring partner session takes one hour. The average price of off-line sparring partners is 150 CNY per hour and 75 CNY per hour for on-line sparring partners. The demand for both on-line and off-line sparring partners are identical.

Part 3：*Business model: off-line mode, on-line mode, and mixed mode*

These modes have their differing advantages and disadvantages. Offline mode's comparative advantages lie in face-to-face interpersonal interactions. However, the core disadvantages of offline mode are the constraints of time and location and high fixed costs.
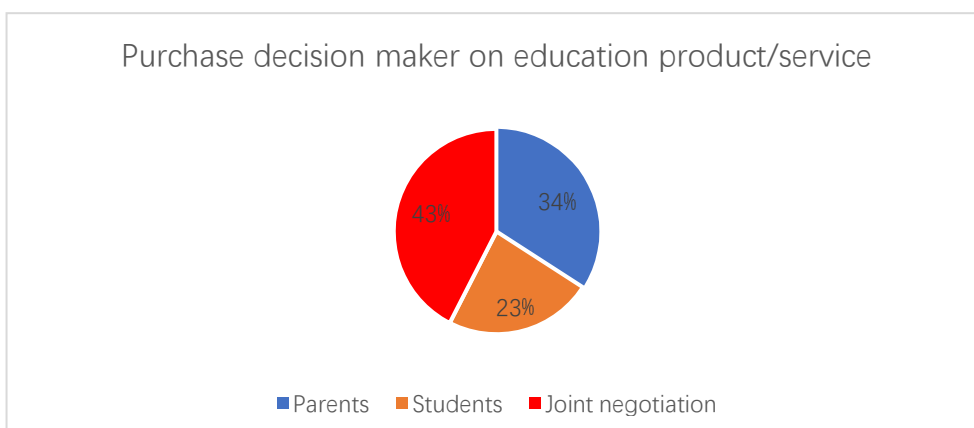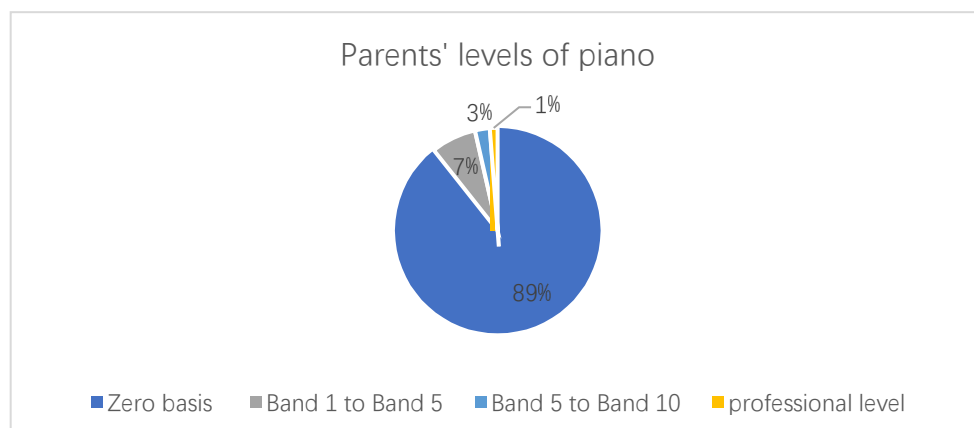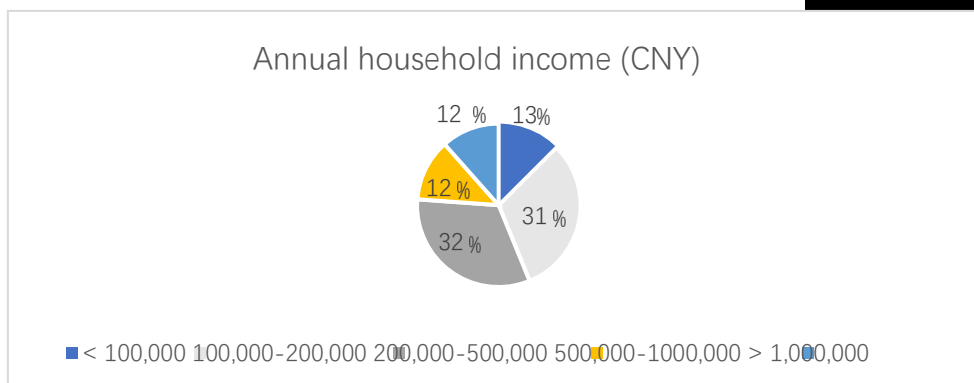
On the other hand, accessibility unconstrained by time and location is the core advantage of online mode. The digital technologies in data recording and usage in improving product, service, marketing strategy, and corporate governance have empowered online mode businesses in surpassing their offline counterparts. Yet, the disadvantages of online mode are the long learning curve of technological tools for some users, and the challenge to gain customers' trust without face-to-face contacts.

Online-To-Offline (O2O) mode aims at combining the advantages of online and offline mode in creating seamless and integrated user experience. Firms are not limited to operate under a single mode over differing stages. For instance, extensive marketing campaign could be deployed through online social medias in attracting new users, the goods and services could then be delivered offline. On the other hand, firms may also choose to employ mass offline-marketing strategies through setting up experience centers where customers could place orders directly through mobile application. Though O2O seems to be a better option, many O2O start-ups went down as such mode does not guarantee better efficiency and lower cost, and customer trust built under such mode could be more fragile.

Offline mode remains the dominating mode in the education industry, for no online technology is capable of achieving the same level of interactive experience as the traditional mode. With accelerated development of video communication technology, online educational institutions have increased drastically. Various modes of online education such as one-to-one coaching, group study and recorded broadcast have emerged. The O2O mode and its derivatives are still evolving. Some online institutions are planning offline experience and teaching centers while some offline institutions are trying to gain customers through live broadcast and short video.

Part 4: Customer analysis

A recent authoritative survey of 10, 000 parents of piano learners aged from 5 to 18 revealed the following facts:

Annual household income (CNY)

12 % 13%
12 %
32 % 31 %

■ < 100,000 ■ 100,000-200,000 ■ 200,000-500,000 ■ 500,000-1000,000 ■ > 1,000,000

Parents' levels of piano

3% 1%
7%
89%

■ Zero basis ■ Band 1 to Band 5 ■ Band 5 to Band 10 ■ professional level

Purchase decision maker on education product/service

34%
43%
23%

■ Parents ■ Students ■ Joint negotiation

Part 5: Financial Modelling: supplementary information

Winning business plans are backed by solid financial models. The following information will serve as a useful guide as you start building your financial model.

In the piano sparring partner industry, companies normally spend the first 3 months on R&D (research & development stage), testing products with seed users. No income will be generated until the 4th month.

Prices & Costs:

Offline mode: 150 CNY/hour; 2700 CNY to obtain a new customer.

Online mode: 75 CNY/hour; 1350 CNY to obtaining a new customer.

2020 IEOC Final Round Business Case
Marking Sheet

	Market analysis& Business model (30 points)	Product/service design& Marketing strategy (30 points)	Presentation (30 points)	Judge Assessment (10 points)
Description	1. **Market analysis:** Stakeholders should at least include parents, students, piano teachers. Other stakeholders may include individual/institutional investors and cooperative institutions. 2. **Market sizing** should be based on the number of students learning piano in 2016, its annual growth rate, the market penetration rate of sparring partner service, the number of sparring classes each student takes over a year, and the price of sparring partner service. 3. **Business model** should focus the rationales of the choice.	1. Contestants should define the major demands of the targeted customers. 2. The marketing strategy should resonate with the major concerns of customers and highlight the key features of the product/service. 3. Contestants should present the basic assumptions and data of their financial model.	1. **Presentation performance.** Presented with full knowledge of the material, confidence, and direct eye contact. 2. **Teamwork.** Clear division of work and responsibility, and strong team co-operation. 3. **Q&A.** Concise, logical, and coherent answers.	Valuation of the solution's creativity, practicality, and profitability, along with overall presentation performance.
Dimension	1. **Width of analysis:** all major dimensions of the solution have been analyzed. 2. **Depth:** lucid cause-effect-solution logic chain (analyzed at 3-4 levels) . 3. **Structure and Logic:** Structurally and logically coherent and reasonable. Recommended range of points H:20-30; M:10-20; L:0-10	1. **Width of analysis:** all major dimensions of the solution have been analyzed. 2. **Depth:** lucid cause-effect-solution logic chain (analyzed at 3-4 levels). 3. **Structure and Logic:** Structurally and logically coherent and reasonable. Recommended range of points H:20-30; M:10-20; L:0-10	1. **Presentation skills：** Outlook and presentation skills. 2. **Teamwork：** Clear division of work and responsibility, and strong team co-operation. 3. **Q&A：** Concise, logical, and coherent answers. Recommended range of points H:20-30 ; M:10-20; L:0-10	Recommended range of points H:7-10 M:4-6 L:0-3

2020 IEO China Finals BC Marking Sheet					
ROOM #	Market analysis& Business model	Product/service design& Marketing strategy	Presentation	Judge Assessment	Total (100)
Description	1. Market analysis 2. Market sizing 3. Business model	1. Product/Service design 2. The major demands of the targeted customers. 3. The marketing strategy	1. Presentation performance 2. Teamwork. 3. Q&A.	Valuation of the solution's creativity, practicality, and profitability,	
Dimension	1. Width of analysis 2. Depth 3. Structure and Logic Recommended range of points H:20-30; M:10-20; L:0-10	1. Width of analysis 2. Depth 3. Structure and Logic Recommended range of points H:20-30 ; M:10-20; L:0-10	1. Presentation skills 2. Teamwork 3. Q&A Recommended range of points H:20-30 ; M:10-20; L:0-10	Recommended range of points H:7-10 M:4-6 L:0-3	
Team #	Market analysis& Business model (30)	Product/service design& Marketing strategy (30)	Presentation skills (30)	Judge Assessment (10)	Total (100)	RANK

Jury signature:_____

IEO中国区终选
创业项目路演挑战
评审专家介绍

2020 IEO中国区终选评审名单及简介（按姓氏拼音排列）

评委姓名	评委简介
Richard Galletly	Richard Galletly is a Senior Teaching Fellow at IBSS and a Senior Fellow of the Higher Education Academy (SFHEA); he has a BSc (hons) in Psychology from the University of Manchester, a Masters in Business Administration (MBA) from Birmingham City University and a Postgraduate Certificate in Higher Education (PGCert) from Aston University.
Samuel KWOK	Dr. Samuel Kwok is an accomplished professional accountant, an entrepreneur, and a professional doctorate on Work-Based Learning. He is a member of the Chartered Accountants Worldwide, a Fellow of ICAEW, ACCA, HKICPA, and an Academic Fellow of the Association of International Accoutant-UK. Samuel is an international certified eCommerce specialist(ICEC-USA) and is appointed as an Industry Expert by the Suzhou Science & Technology Bureau. Dr.Samuel Kwok is also a Council member of GLG Research, USA.
陈劼	陈劼博士于耶鲁大学获得经济学博士学位。她曾任教于新加坡国立大学，研究领域涉及发展经济学、应用计量和经济不平等。现任上海科技大学创管学院副教授。
陈阳	陈阳博士于新加坡南洋理工大学获得博士学位，现任西交利物浦国际商学院教师，主要研究兴趣为城市经济学，中国经济以及发展问题。
杜瑛卓	杜瑛卓先生先后于清华大学自动化系和英国剑桥大学电子工程系获得学位，现任启迪控股集团高级副总裁，负责启迪集团全球创新业务。
傅莹	傅莹先生现任北京王府学校经济学和商学教师，AP经济学、剑桥A-Level商学阅卷官和剑桥MSE口语考官，IEO中国区学术委员会委员。
黄宗盛	黄宗盛博士，于西南交通大学取得博士学位。主要研究方向：电子商务环境下的运作与营销管理。现任上海海事大学副教授，硕士生导师，指导学生多次荣获全国级管理、创业、电子商务大赛一等奖。
江岳	江岳博士具有经济学和金融学教育背景，现任教于西交利物浦国际商学院，研究领域为宏观经济学，国际经济学与货币经济学。

2020 IEO中国区终选评审名单及简介（按姓氏拼音排列）

李刚健　　李刚健先生是第一批中国品牌咨询人，有超过20年的品牌咨询与客户端实操经验。曾任电通安索帕中国首席顾问、思睿高中国区策略群总监、扬特品牌同盟客户总监兼品牌资深顾问。

李晶　　　李晶博士，于浙江大学管理学院取得博士学位，现任苏州大学东吴商学院副教授、硕士生导师。主要研究方向为创业与创新管理。

李明阳　　李明阳先生，现任招商证券股份有限公司投资银行部高级经理，注册会计师。先后任职于普华永道中天会计师事务所、招商证券，具有丰富的资本运作及财务审计行业的相关经验。

李通　　　李通先生为上海擎朗智能科技有限公司创始人CEO，他开创的企业是全球服务型无人配送机器人行业头部企业。入榜全球最具影响力的商业杂志之一《财富》(FORTUNE) 2020年"中国40位40岁以下的商界精英"、荣膺2017NBI"商业影响力新锐人物"、2019恰佩克"杰出创业者奖"等。

刘隽　　　刘隽女士，任职于《哈佛商业评论》。《哈佛商业评论》是国际商界最具影响力的刊物，是先进管理理念的发源地，致力于给全世界的专业人士提供缜密的管理见解和最好的管理实践。

马征　　　马征博士，于清华大学获得计算机科学学士学位，耶鲁大学获得博士学位，曾就任于人人网，以及风险投资基金凯鹏华盈 (KPCB) 和波士顿咨询（BCG），主导和参与了多家互联网和科技行业的投资和退出。现为迈塔学院创始人 (www.metaschool.cn), 立志推动全球创业和创新教育。

秦弋　　　秦弋博士，先后于北京师范大学、中国科学院、香港中文大学取得心理学和管理学学位。IEO中国区学术委员会委员。

汤嘉　　　汤嘉女士，现任苏州经贸学院金融系教师，经济学独立讲师。

唐文纲　　唐文纲博士，上海昕尧投资管理有限公司董事长，上海紫竹孵化器商学院副校长，投资和管理多家专业新媒体公司、互联网及人工智能应用公司和环保高科技公司。

2020 IEO中国区终选评审名单及简介（按姓氏拼音排列）

陶娟	陶娟博士，于英国拉夫堡大学取得博士学位，现任教于西交利物浦大学国际商学院。主要研究兴趣为：股票债券市场信息不对称和流动性风险研究，金融市场有效性研究和金融产品估值分析，资产证券化以及公司并购重组等。
田雨苗	田雨苗博士，于英国提塞德大学取得博士学位，曾任教于英国谢菲尔德商学院，并为英国政府组织UKTI, NECC和LEP服务多年，从事欧亚市场的拓展开发工作。现任西交利物浦大学国际商学院副教授。
汪亮	汪亮先生，为北大纵横管理咨询集团高级合伙人，拥有逾14年管理咨询经验，任上海交通大学安泰经济与管理学院行业研究专家、MBA面试官、职业发展导师。专长领域：战略规划、知识型员工激励、灵活雇佣、人才测评。
王浩翔	王浩翔先生，博士就读于复旦大学&英国杜伦大学，现任珠海横琴华安君盛资产管理有限公司总经理。
王昕	王昕女士，美国加利佛尼亚州执照律师，英国和威尔士执照律师。现任基金管理合伙人，负责跨境并购股权投资业务。
王昳	王昳女士，北京掌慧纵盈科技股份有限公司和北京维太格科技有限公司CFO兼董事会秘书，协助两家公司先后完成蚂蚁金服等多家知名机构数轮融资，之前任职摩根大通、汇丰、风险投资基金等。
韦佳	韦佳女士，于英国朴茨茅斯大学，法国蒙彼利埃大学取得学位，EAP 高级企业执行师，上海交通大学财富管理项目特聘讲师 。13年以上金融行业经验，目前担任博习堂教育咨询公司合伙人兼副总经理。
翁明红	翁明红女士，十多年财务管理专业背景，先后在好孩子、小南国担任财务总监和CFO一职，擅长财务预算管理、投资管理、企业内控等。现任厦门陈纪乐胥居食品有限公司财务副总裁。
张文静	张文静女士，现任启迪控股湖南公司总经理，负责湖南地区启迪之星孵化+投资业务。在运营多个国家级创新平台工作中，深耕科技服务行业一线，2017年获评教育部首批全国万名优秀创新创业导师，担任湖南省"互联网+"大学生创新创业大赛专家委员会委员、评委，湖南大学、中南大学、长沙理工大学等高校创业导师。

CONTENT

Market analysis

Product & Service

Marketing

Appendix

Finance & Accounting
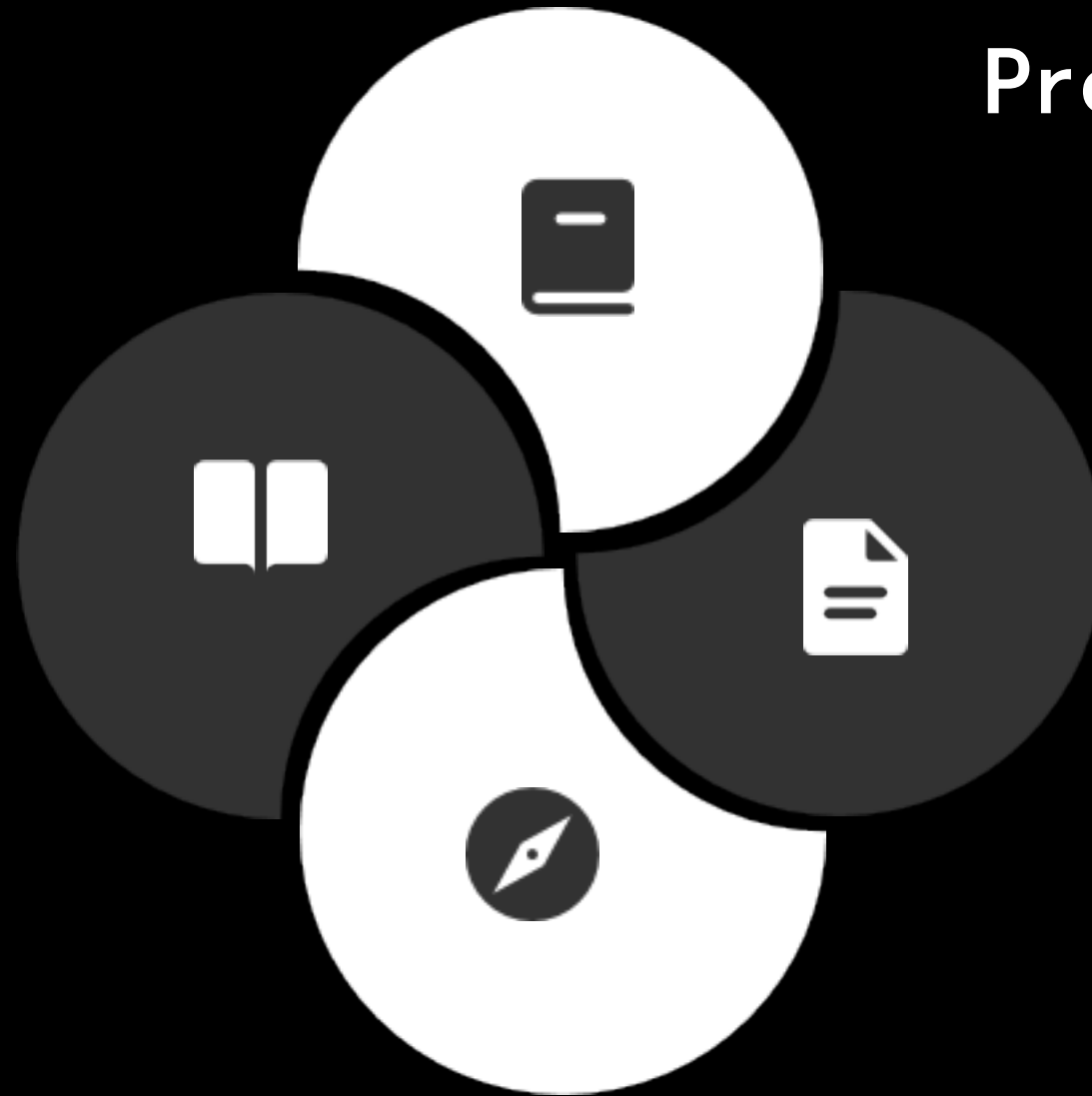
Market Analysis

01

Market Scale

- 30million--study piano

- ¥20billion in piano sparring

02

Market Share

- 50% -teaching market

03

Offline or Online?

- 4%--choose online

- 96%--choose offline

OPEN MOST
CLOSED SOMETIMES

Marketing strategy

Objective

- Long Run & Short Run

- Leader in the market

- Sense of social responsibility to contribute

PIANA

Our product is an application which dedicate to improve the piano class quality and express the anxiety of kids and their parents by providing them with sparring partners.

Categories of teachers	Elementary partners	Senior partners
Function	help kids with technical support	spend more attention on kids' emotional experience and promote their sensitivity

Features

Two-way feedback

Customized
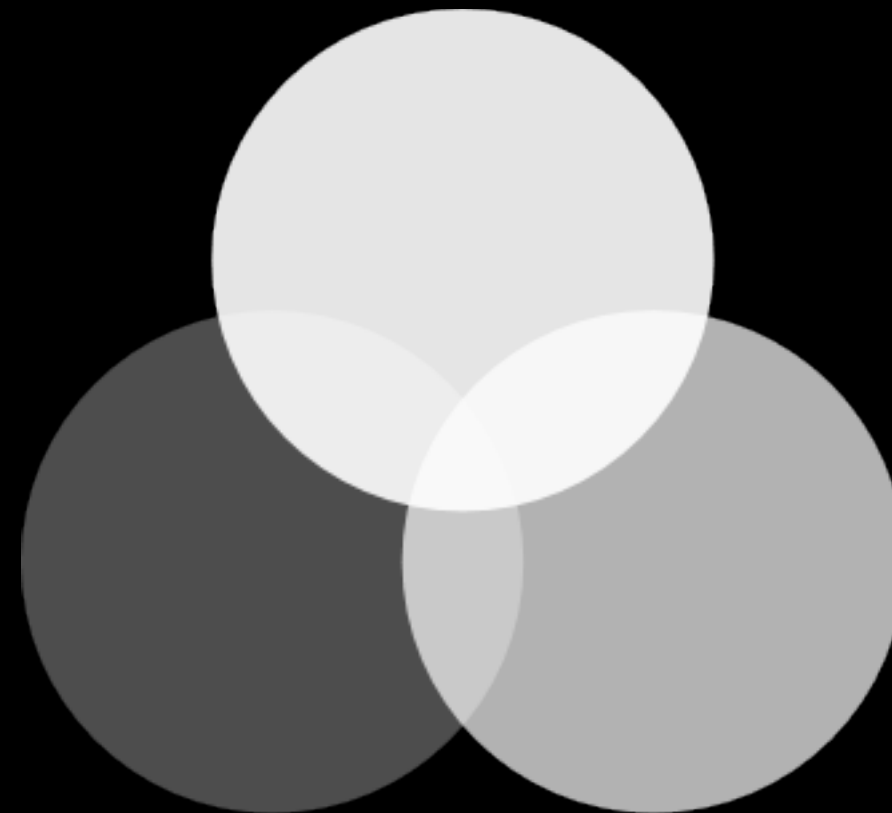
Quality
assurance

Flexible

Confirm and activate account

Pass

Offline interview

Pass

Online resume and application form

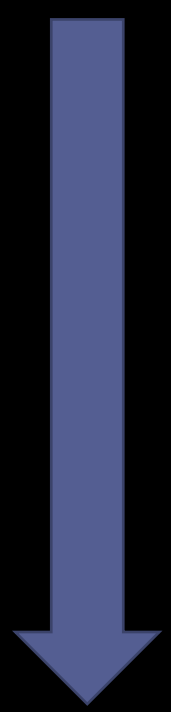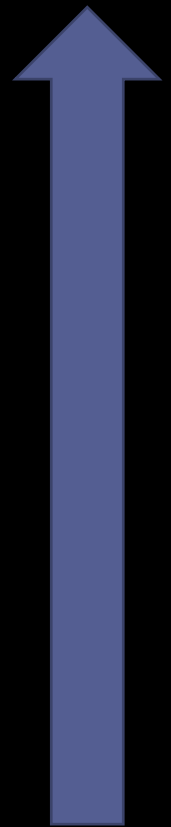Create account

Partner mode

Operation of Piana

Student mode

Application form

Matching partners

Having classes

Rank

SWOT Analysis

Strengths

Weaknesses

Opportunities

Threats

Marketing Strategy

Product-packaging--attractive
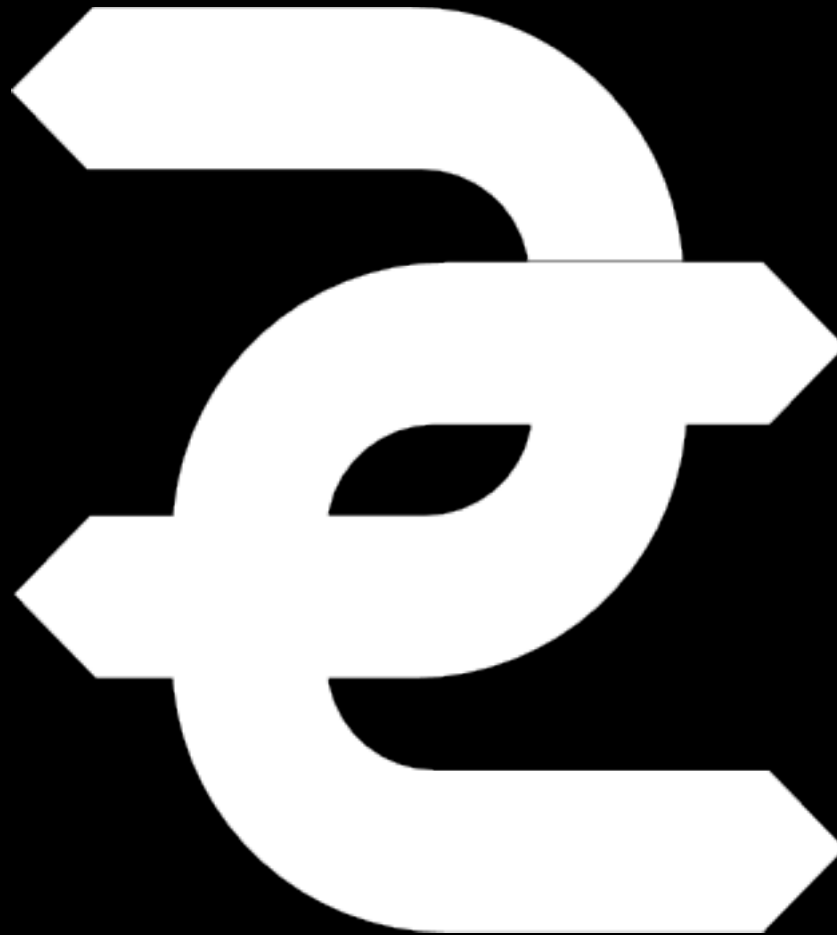Price- cost-–plus pricing
Promotion- ATL&BTL
Place- China's first - and second tier cities.

Distribution Channel

E-commerce
QR code

Download the
app directly

From Bilibili

Go on tour in the primary
and high school

Financial

MTH	Customer	Revenue (thous)	Cost (thous)	Cumulative Profit (thous)
9	0	0	290	-390
10	0	0	290	-680
11	0	0	290	-970
12	2500	1400	480	-50
1	7500	3300	480	2770
2	10000	4400	530	6640
3	19000	8950	530	15060
4	20000	12000	600	26460
5	21000	12360	600	38220
6	33000	20240	900	57560
7	44000	27000	900	83660
8	55000	45080	900	127840
total		134730	6790	

Accumulative profit graph

Profit-Accumulated (thousands)
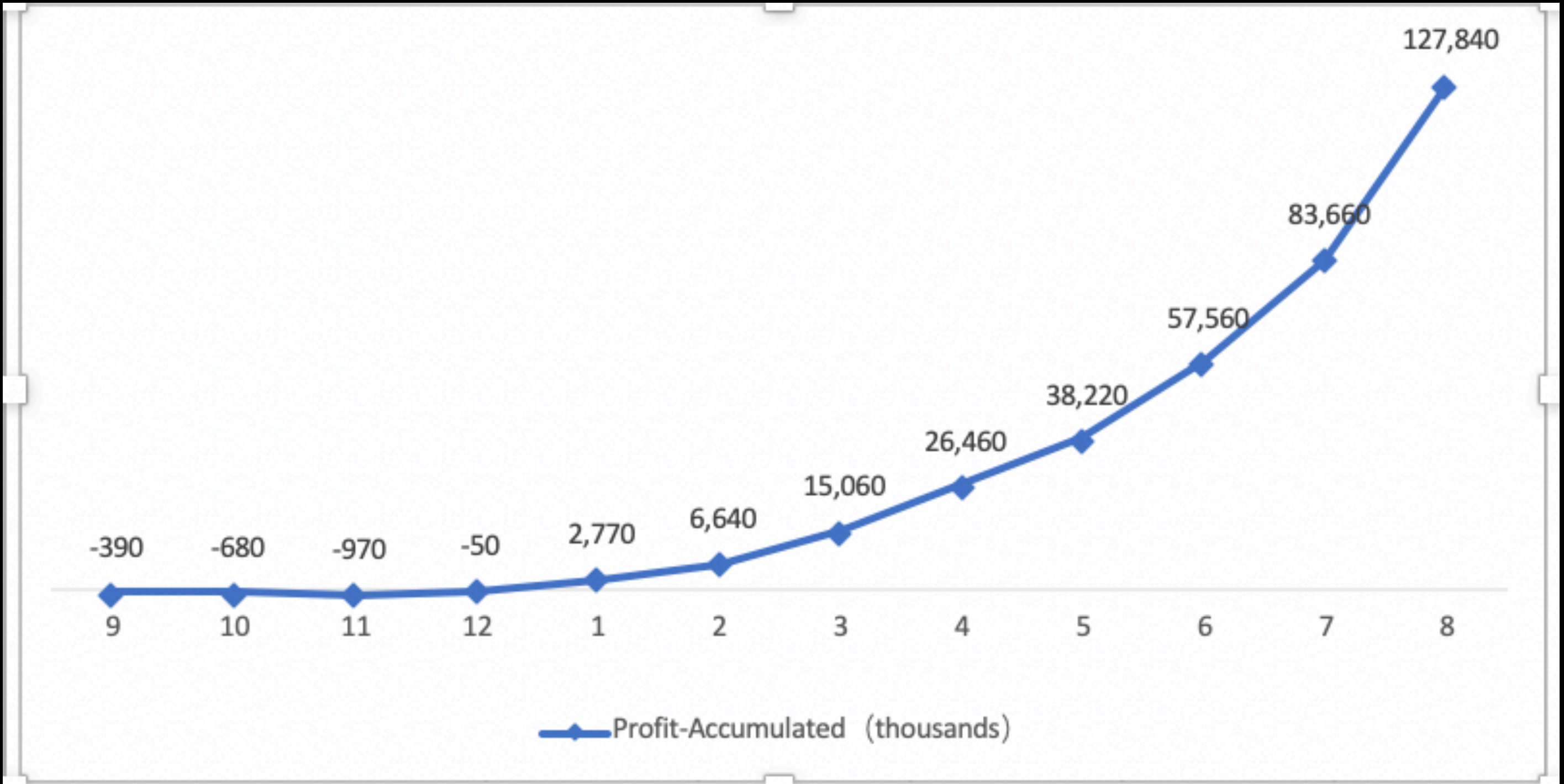
Appendix

Monthly net profit calculation

Fundamental cost

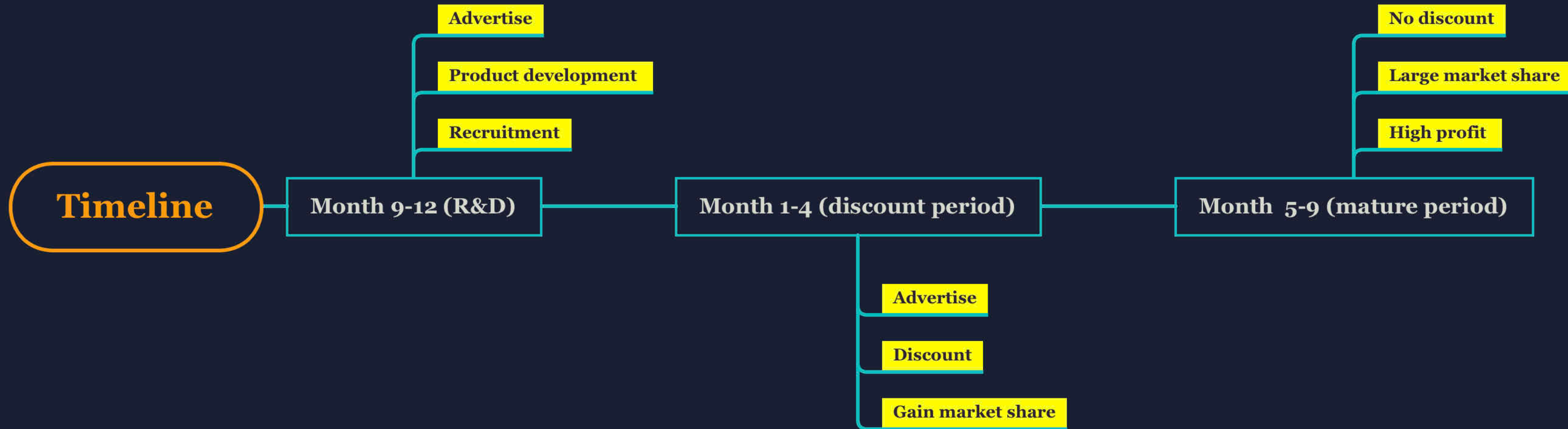HR fee + engineering fee + customer support fee

Advertising cost

Social media views/1000 * 3 + numbers of elevator advertisement * weeks * 200

Revenue

Price of online elementary partner * hours * consumers +Price of offline elementary partner *
hours * consumers + Price of offline senior partner * hours * consumers

Appendix

Appendix

Supplements and future plans

1. Free microphones to teachers and consumers for good sound quality

Potential Cost = 150 * number of online consumers and teacher

2. Profit-related pay to universities

Potential Cost = profit generated by the school students * fixed rate

THE END

THANK YOU