RAFFLES INSTITUTION
2015 YEAR 6 PRELIMINARY EXAMINATION
Higher 2

ECONOMICS 9732/01

Paper 1 Case Studies

2 September 2015

2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name, index number and CT class on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for diagrams, graphs or rough working.
Do not use paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

The number of marks is given in brackets [ ] at the end of each part question.

Begin answering each question on a fresh sheet of answer paper.

At the end of the examination, fasten your answer to each question separately.

Attach this cover sheet to your answer for Question 1.

Cover Sheet

Name : ____________________

Civics Class : ____________________

Economics Tutor : ____________________

Question No.	Marks
1	/30

This document consists of **10** printed pages and **3** blank pages.

Raffles Institution
Nurturing the Thinker, Leader & Pioneer

Answer **all** questions.

Question 1 The pharmaceutical industry

Extract 1

The global pharmaceuticals market is worth US$300 billion a year. The 10 largest drugs companies control over one-third of this market, several with sales of more than US$10 billion a year and profit margins of about 30%. Six are based in the United States and four in Europe. It is predicted that North and South America, Europe and Japan will continue to account for a full 85% of the global pharmaceuticals market well into the 21st century.

Companies currently spend one-third of all sales revenue on marketing their products - roughly twice what they spend on research and development. As a result of this pressure to maintain sales, there is now an inherent conflict of interest between the legitimate business goals of manufacturers and the social, medical and economic needs of providers and the public to select and use drugs in the most rational way. This is particularly true where drugs companies are the main source of information as to which products are most effective.

A similar conflict of interests exists in the area of drug research and development (R&D) particularly in the area of neglected diseases. The private sector dominates R&D, spending millions of dollars each year developing new drugs for the mass market. The profit imperative ensures that the drugs chosen for development are those most likely to provide a high return on the company's investment. As a result, drugs for use in the industrialised world are prioritised over ones for use in the South, where many patients would be unable to pay for them.

One solution, which is already taking hold, is pharmaceutical companies working in partnership with government - a great deal of work has already been done to help in the fight against Aids, malaria, meningitis and tuberculosis, for example. Governments will have to devote more resources to fund research and development, rather than relying on the private sector. Collaboration and partnership, then, may have to take the place of profit and competition as the key words in the development of the medicines of the future.

Source: World Health Organisation, 2014

Extract 2

Although trade in medicines is increasing rapidly, most of it takes place between wealthy countries, with developing countries accounting for just 17% of imports and 6% of exports. It is estimated that one-third of the developing world's people are unable to receive or purchase essential medicines on a regular basis.

The provision of access to medicines hinges on affordable prices and sustainable financing. Strategies to increase affordability of medicines include:

- reducing taxes and tariffs

- promoting competition and generic[1] medicines
- equity pricing. This ensures that, from the point of view of the community and the individual, the price of a drug is fair, equitable, and affordable.
- differential pricing (sometimes also called tiered pricing). The sale of the same good to different buyers at different prices, with the aim of improving the affordability of drugs while generating revenue for the pharmaceutical industry. Differential pricing has reduced the price of many anti-retroviral HIV/AIDS therapies by up to 90% in low-income countries, although they continue to be sold at market price in developed countries.

Source: World Health Organisation, 2014

Extract 3: Pharmaceutical industry gets high on fat profits

Pharmaceutical companies have developed the vast majority of medicines known to humankind, but they have profited handsomely from doing so, and not always by legitimate means. Last year, five pharmaceutical companies made a profit margin of 20% or more.

With some drugs costing upwards of $100,000 for a full course, and with the cost of manufacturing just a tiny fraction of this, it's not hard to see why. Last year, 100 leading oncologists from around the world wrote an open letter in the journal 'Blood' calling for a reduction in the price of cancer drugs. Dr Brian Druker, director of the Knight Cancer Institute and one of the signatories, has asked: "If you are making $3bn a year on [cancer drug] Gleevec, could you get by with $2bn? When do you cross the line from essential profits to profiteering?

Drug companies justify the high prices they charge by arguing that their research and development (R&D) costs are huge. On average, only three in 10 drugs launched are profitable, with one of those going on to be a blockbuster with $1bn-plus revenues a year. Many more do not even make it to market.

Big pharmaceutical companies argue that they only have a limited time in which to make profits. Patents are generally awarded for 20 years, but 10-12 of those are typically spent developing the drug at a cost of about $1.5bn-$2.5bn. This leaves eight to ten years to make money before the formula can be taken up by generic drug companies, which sell the medicines for a fraction of the price. Once this happens, sales fall by 90%-plus.

Source: *BBC News*, 6 November 2014

Extract 4: Pharmaceuticals industry facing fundamental change

Pharmaceuticals is an extraordinarily profitable business. But for how much longer is the question occupying the minds of big pharmaceutical executives. For a start, big pharmaceutical companies are no longer providing the service they once did. "The system has served us well in terms of developing good new medicines, but in the past 10-20 years there has been very little breakthrough in innovation," says Dr Kees de Joncheere at the World Health Organisation. Of the 20 or 30 new drugs brought to the market each year, "many scientists say typically three are genuinely new, with the rest offering only marginal benefits," he says. This dearth of genuinely new potential blockbuster drugs is a grave

[1] A generic drug is a drug product that is comparable to a brand listed drug product in dosage form, strength, quality and performance characteristics, and intended use. They are generally less expensive than brand-name drugs and can be legally produced if a patent has expired.

problem for big pharmaceutical companies, and of course society at large particularly given the industry is falling off a patent cliff the like of which it has never seen.

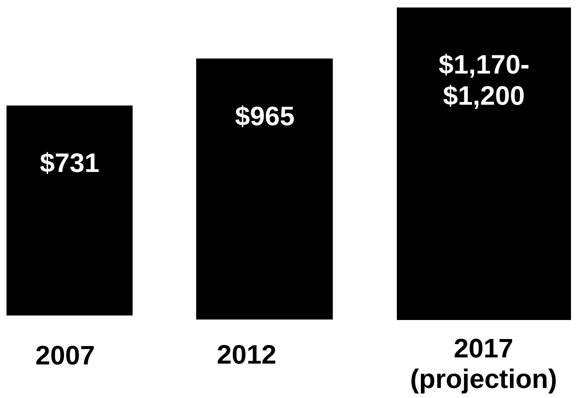
This means a number of important drugs are neglected - the current Ebola crisis being a case in point. Previous outbreaks over the past 30-40 years have been nothing like as serious as that which has claimed thousands of lives in West Africa and threatens to spread to the more developed world.

But the reason why there are so few drugs in the pipeline has more to do with affordability - developing economies do not have the kind of money needed to pay for what would be an expensive vaccine, and no amount of public pressure will override the profit-making incentive of the big pharmaceutical companies.

Big pharmaceutical companies are facing a huge drop in revenue from blockbuster drugs coming off patent, while those increasingly difficult-to-find replacements are simply becoming too expensive. And without generating revenues through sales, these companies will struggle to fund the development of new life-saving drugs.

Source: *BBC News*, 7 November 2014

Figure 1: Global spending on medicines ($ billion)



Source: IMS Institute of Healthcare Informatics, 2014

Table 1: Profits of Pharmaceutical Companies ($ billion)

Company	Total revenue	R&D and Marketing Cost	Profit
Johnson & Johnson (US)	71.3	25.7	13.8
Novartis (Swiss)	58.8	24.5	9.2
Hoffmann- La Roche (Swiss)	50.3	18.3	12

Source: *BBC News*, 2014

Questions

(a) Explain the key feature of the pharmaceutical industry that results in dominance by a few large firms. [2]

(b) Using evidence from the case, what conclusion can you draw about the price elasticity of demand for medicine in developing countries? [2]

(c) Account for the trend in global spending on medicines in Figure 1. [4]

(d) With reference to Table 1, explain the possible relationships between profit levels and costs incurred in research & development and marketing. [4]

(e) To what extent do you agree with the view that the profit motive has led to ‘a conflict of interest between the business goals of manufacturers and the social, medical and economic needs of the public’? [8]

(f) Discuss possible measures that can be implemented to address the sources of market failure in the pharmaceutical industry. [10]

[30 Marks]

Question 2

Extract 5: Is Germany's miracle about to fade?

Germany, Europe's model austerian, is saving itself to death.

Only months ago, the German economy was widely championed for its dynamism and resilience; its industry had weathered the Eurozone crisis surprisingly well. But in October 2014 it is the pessimists who are setting the tone: the German economy is looking rusty.

Plans for the next budget see Germany taking on no new sovereign debt, an important demonstration of fiscal discipline to the rest of the Eurozone. Some say the obsession with a balanced budget is starving Germany of much-needed investment. Missed investment in infrastructure, education, research and industry might only be felt once it is too late.

Though Germany has fed its manufacturing machine with a steady supply of technicians, engineers and skilled workers through vocational training and technical apprenticeships, there are concerns that German firms are falling behind the digital curve. 'Today people across the world may be buying BMWs and Mercedes cars because of quality engineering, but tomorrow, we may be choosing one car over the other because it has superior software.' The government needs to spend more on teaching IT skills at schools and to do more to support startup companies.

Small and medium enterprises (SMEs) have long formed the backbone of the German economy. Together with industrial giants such as BMW, Siemens and Bosch, they have helped maintain her manufacturing and export prowess. Germany should continue to enjoy export-led growth, based on traditional sectors, as industrialization in emerging economies keeps up demand for machine tools and if German firms innovate fast enough to maintain their dominance in premium niche markets. Nonetheless, continually intensifying international competition will pose a major challenge to German exporters.

Source: *The Guardian*, 19 Oct 2014

Extract 6: Spain economy propped up

As Spain timidly emerges from a blistering double-dip recession that has ripped 7% out of GDP over five years, job-seekers remain desperate. Unemployment is stuck at 26%.

Projected growth of 0.7% next year falls short of the government's own estimates for job creation. And with a planned deficit of 5.8% of GDP adding to an already worrying debt pile, stimulus spending is impossible.

Civil-service pay is being frozen for a fourth year in a row and pensions will not keep up with inflation, yet the public debt will still reach almost 100% of GDP. Spanish companies and households are busy trying to pay off their own debts. After taking a €41 billion bail-out last year, Spain's banks find it safer to lend to the government than to business.

Even so, Spain's story is now one of hope. Deep in the real economy, exciting things are happening. Car plants are humming, taking work from less competitive factories in Europe. Retail sales figures have also crept up in recent months. Recession inflicted a brutal cull on businesses, but those still standing are more efficient and productive than ever. Exports, spurred by Spain's new competitiveness, should grow more than 5% both this year and next, doubling their pre-recession weight in the economy. With exports booming, the current account has swung into surplus. Recovery in the European Union, Spain's main export market, will help further. Almost two-thirds of Spain's exports are with the euro zone.

Even so, two big problems could undo this limited progress. One is the credit crunch. Bank credit for SMEs, which make up more than 99% of Spain's businesses, remains scarce as compared to that in Germany and other Northern European countries.

The second problem is reform fatigue. Spaniards have already accepted a slew of changes, including wage cuts to boost competitiveness. Labour market reforms have helped boost productivity, allowing employers and unions to opt for wage moderation rather than sackings. The government has adopted new rules to limit the power of unions to negotiate collective bargaining agreement across entire industries and also to make it cheaper for companies to dismiss workers. But more reforms are needed: Lowering or scrapping the minimum wage, reducing overly generous unemployment benefits, encouraging mini-jobs and part-time work and reducing the burden of pensions. Taxes could also be cut, but only if public spending is cut.

The OECD also urged Spain to improve vocational training and to encourage greater scale and specialization of universities and research organizations to strengthen innovation and competitiveness.

Source: *The Economist*, October 12, 2013

Extract 7: Talks on Trans-Atlantic Trade and Investment Partnership

In July 2013, the European Union and the United States started negotiations on a trans-Atlantic free trade agreement, Trans-Atlantic Trade and Investment Partnership (TTIP). The aim of the agreement is to create growth and jobs on both sides of the Atlantic.

On top of cutting tariffs, the TTIP aims to reduce or eliminate barriers based on complex regulations, which currently represent the greatest obstacle to business. Removal of bureaucratic barriers can impact small businesses more than large companies that already have the scale and resources in place to manage them. Improved market access would benefit European companies and consumers alike.

A deal is expected to have huge benefits for both the US and the EU.

Source: *www.euraactiv.com*, October 3, 2014

Table 2: GDP growth (annual, %) and Unemployment rate (%)

		2010	**2011**	**2012**	**2013**
Germany	GDP growth (annual)	4.1	3.6	0.4	0.1
	Unemployment Rate	7.1	5.9	5.4	5.3
Spain	GDP growth (annual)	0	-0.6	-2.1	-1.2
	Unemployment Rate	20.2	21.7	25.2	26.6

Source: The World Bank

Table 3: Expenditure of GDP (%), for Spain and Germany, 2013

	Spain	Germany
Household final consumption expenditure	58.2	55.9
Gross fixed capital formation	19	20
Government final consumption expenditure	19.5	19.3
Exports of goods and services	31.6	45.6
Imports of goods and services	28.1	39.8

Source: The World Bank

Table 4: Composition of major exports and imports between Spain and Germany, 2013

Spain's main exports to Germany	Spain's main imports from Germany
• Road vehicles (including cars, vehicle parts, trucks, vans) (US$8.88b) • Fruits and vegetables (US$2.88b) • Electrical machinery and appliances (US$2.13b) • Pharmaceutical products (US$1.14b) • General Industry Machinery, equipment, parts (US$954m) • Power generating equipment (US$839m) • Wine (US$540m)	• Road vehicles (including cars, vehicle parts, trucks, vans) (US$8.27b) • Electrical machinery and appliances (US$2.03b) • General Industry Machinery, equipment, parts (US$2.21b) • Pharmaceutical products (US$1.86b) • Power generating equipment (US$1.52b) • Organic Chemicals (US$1.27b) • Machinery specialized for certain industries (US$887m)

Source: The Atlas of Economic Complexity

Table 5: Top US world exports, 2013

- Road vehicles (including cars, vehicle parts, trucks, vans)
- Electrical machinery and appliances
- General industry machinery equipment, parts
- Power generating machinery
- Pharmaceutical products
- Machinery specialized for certain industries

Source: The Atlas of Economic Complexity

Table 6: Relative Unit Labour costs- Overall economy, Indices (2010=100)

	2010	2011	2012	2013
Germany	100	98.6	96.6	100
Spain	100	97.6	89.7	89

Source: OECD Statistics

Questions

(a) Describe the changes in GDP for Spain and Germany between 2010 and 2013. [2]

(b) With reference to Table 3, explain how you might expect the size of the multiplier to differ between Germany and Spain. [2]

(c) To what extent can the theory of comparative advantage account for the composition of the main items of trade shown in Table 4. [4]

(d) Explain why the Spanish government should be concerned about high unemployment. [4]

(e) Discuss whether the unemployment situation in Spain is more likely to be improved by adopting supply-side or demand-side measures. [8]

(f) Discuss the factors that would determine the extent of gains for Germany and Spain from the Trans-Atlantic Trade and Investment Partnership with the US. [10]

[30 Marks]