



FINAL EXAMINATION / PEPERIKSAAN AKHIR
SEMESTER 2 – SESSION 2017 / 2018
PROGRAM KERJASAMA

COURSE CODE : ULAB 1042
KOD KURSUS

COURSE NAME : INTERMEDIATE ACADEMIC ENGLISH
NAMA KURSUS

YEAR / PROGRAMME : 1 – ALL PROGRAMMES / 1 – SEMUA PROGRAM
TAHUN / PROGRAM

DURATION : 2 HOURS / 2 JAM
TEMPOH

DATE : APRIL 2018
TARIKH

INSTRUCTION/ARAHAN :

- i) Answer **ALL** questions in the spaces given.
(Jawab **SEMUA** soalan di dalam ruangan yang disediakan).

- ii) Candidates are required to follow all instructions given by the exam invigilator.
(Calon dikehendaki mematuhi semua arahan daripada penyelia peperiksaan).

(You are required to write your name and your lecturer's name on this question paper)
(Pelajar dikehendaki tuliskan nama dan nama pensyarah pada kertas soalan ini)

STUDENT'S NAME / NAMA PELAJAR	:
I.C NO. / NO. K/PENGENALAN	:
YEAR / PROGRAMME TAHUN / PROGRAM	:
NAME OF COLLEGE NAMA KOLEJ	:
LECTURER'S NAME NAMA PENSYARAH	:

This examination paper consists of **17** pages including the cover
Kertas soalan ini mengandungi **17** muka surat termasuk kulit hadapan



PUSAT PROGRAM KERJASAMA

**PETIKAN DARIPADA PERATURAN AKADEMIK
ARAHAN AM - PENYELEWENGAN AKADEMIK**

1. SALAH LAKU SEMASA PEPERIKSAAN

1.1 Pelajar tidak boleh melakukan mana-mana salah laku peperiksaan seperti berikut :-

- 1.1.1 memberi dan/atau menerima dan/atau memiliki sebarang maklumat dalam bentuk elektronik, bercetak atau apa jua bentuk lain yang tidak dibenarkan semasa berlangsungnya peperiksaan sama ada di dalam atau di luar Dewan Peperiksaan melainkan dengan kebenaran Ketua Pengawas; atau
- 1.1.2 menggunakan makluman yang diperolehi seperti di atas bagi tujuan menjawab soalan peperiksaan; atau
- 1.1.3 menipu atau cuba untuk menipu atau berkelakuan mengikut cara yang boleh ditafsirkan sebagai menipu semasa berlangsungnya peperiksaan; atau
- 1.1.4 lain-lain salah laku yang ditetapkan oleh Universiti (seperti membuat bising, mengganggu pelajar lain, mengganggu Pengawas menjalankan tugasnya).

2. HUKUMAN SALAH LAKU PEPERIKSAAN

2.1 Sekiranya pelajar didapati telah melakukan pelanggaran mana-mana peraturan peperiksaan ini, setelah diperakukan oleh Jawatankuasa Peperiksaan Fakulti dan disabitkan kesalahannya, Senat boleh mengambil tindakan dari mana-mana satu yang berikut :-

- 2.1.1 memberi markah SIFAR (0) bagi keseluruhan keputusan peperiksaan kursus yang berkenaan (termasuk kerja kursus); atau
- 2.1.2 memberi markah SIFAR (0) bagi semua kursus yang didaftarkan pada semester tersebut.

2.2 Jawatankuasa Akademik Fakulti boleh mencadangkan untuk diambil tindakan tatatertib mengikut peruntukan Akta Universiti dan Kolej Universiti, 1971, Kaedah-kaedah Universiti Teknologi Malaysia (Tatatertib Pelajar-pelajar), 1999 bergantung kepada tahap kesalahan yang dilakukan oleh pelajar.

2.3 Pelajar yang didapati melakukan kesalahan kali kedua akan diambil tindakan seperti di perkara 2.1.2 dan dicadang untuk diambil tindakan tatatertib mengikut peruntukan Akta Universiti dan Kolej Universiti, 1971, Kaedah-kaedah Universiti Teknologi Malaysia (Tatatertib Pelajar-pelajar), 1999.

SECTION A (50 marks)

READING: TEXT 1 (35 marks)

Read the passage below and answer all the questions that follow.

- I First came steam power; then electricity and assembly lines; then computerisation. So what comes next? Some call it the fourth industrial revolution, or industry 4.0, but whatever you call it, it represents the combination of Artificial Intelligence, Big Data, Cloud Computing and the Internet of Things (communication between machines). In short, it is the idea of smart factories in which machines are equipped with web connectivity and connected to a system that can visualise the entire production **chain** and make decisions on its own. And, it is well on its way and will change most of our jobs.
- II The world has seen three such revolutions in the past. The first began in 1784 when humans made use of steam power and systematically **shifted** away from animals. The second came about in the late 19th and early 20th century, as new forms of power generation, electricity and division of labour brought about mass production of industrial products. Digital systems, modern communications and the arrival of the modern computers paved the way for the third industrial revolution, bringing to us products such as the smartphones and social media.
- III Each revolution is built on the progress made in the previous era and the fourth industrial revolution is no different. In this fourth revolution, we are facing a range of new technologies that combine the physical, digital and biological worlds. These new technologies will impact all disciplines, economies and industries, and even challenge our ideas about what it means to be human. Advances in robotics and automation, artificial intelligence, nanotechnology and material sciences will **fuel** this era and fundamentally change the functions of the modern economy. These technologies have great potential to continue to connect billions more people to the web using mobile devices with extraordinary processing power, storage capacity and unlimited access to knowledge.
- IV Like the **revolution** before it, the fourth industrial revolution has the potential to raise global income levels and improve the quality of life for populations around the world. To date, those who have gained the most from it have been consumers who are able to afford and access the digital world. In other words, technology has made possible new products and services that increase the efficiency and pleasure of our personal lives. Ordering a cab, booking a flight, buying a product, making a payment, listening to music, watching a film or playing games – any of these can now be done remotely. In the future, technological innovation will drastically improve the efficiency and productivity of businesses and organisations and thus driving economic growth.

- V However, there are also grave potential risks associated with these technologies. The effects of the fourth industrial revolution are expected to be deeper, for better and for worse, than what we have ever seen. Many experts suggest that the fourth industrial revolution could lead to greater inequality in the society. It will benefit the rich much more than the poor, especially as low-skill, low-wage jobs disappear in favour of automation. The effects are already being seen in the form of weak job growth and stagnant wages in traditional sectors in contrast to the dazzling fortunes of technology unicorns (new, relatively young companies valued at over \$1 billion) and their founding members. The benefits are accumulating for those who are literate and capable of taking advantage of **emerging** technologies.
- VI Automation and robots have led to much of the gloom in industrialised economies. At the beginning of this century the United States employed over 15 million people in the manufacturing sector. In the 17 years since, the country has lost close to three million manufacturing jobs while manufacturing output has increased by almost 30 per cent. New research by Prof. Daron Acemoglu of Massachusetts Institute of Technology and Prof. Pascual Restrepo of Boston University concludes that there are 'large and robust negative effects of robots on employment and wages'. They found that the **adoption** of a robot for every 1,000 workers decreased employment by 6.2 workers and wages by 0.7 per cent in the United States. These industrial robots have destroyed jobs in sectors that have traditionally created millions of blue-collar jobs such as the manufacturing of cars, electronics, metals, plastics and chemicals.
- VII **While industrialised economies are already losing jobs, the risk to developing economies is far greater.** A World Bank report suggests that two-thirds of all jobs in the developing world are at risk of being lost through automation. This is because developed economies have wealth, institutions capable of implementing forward-looking policies, and a historic track record of successfully dealing with the industrial revolutions of the past. For emerging economies, the risks, if they materialise, can drastically affect the economic and social gains these economies have made in recent years. A number of emerging economies witnessed high levels of growth by utilising their cheap labour to manufacture goods for the rest of the world. For instance, Foxconn, a company that manufactures **core** components for Apple in China and employs an army of workers, recently replaced over 60,000 workers with robots at a single factory.
- VIII While industrial robots are already replacing blue-collar workers, automation through artificial intelligence is beginning to replace service-sector jobs as well. A report discussed at the World Economic Forum held recently in Switzerland suggested that over five million mostly white-collar jobs will be destroyed by this revolution in 15 industrialised and developing economies by 2020. JPMorgan Chase & Co., for example, recently initiated a programme called COIN (for *Contract Intelligence*) which automated 360,000 hours of work conducted by lawyers every year to review and interpret

commercial-loan agreements. The software takes only seconds to review documents, is less error-prone and never asks for vacation.

- IX Throughout the years, manufacturing companies from industrialised countries have been attracted to set up their production plants in developing countries to take advantage of the relatively cheaper labour there. However, technological advances brought about by the fourth revolution could **eliminate** this economic benefit. As industrial robots become ever-cheaper and advances in material sciences enable 3-D printing of products, companies would not stand to gain as much by moving their manufacturing to developing economies. In fact, they would be attracted to setting up manufacturing in industrialised economies due to the availability of skilled labour capable of using these technologies.
- X If developing economies are to grow, they must implement policies that equip people with the skills required to operate and develop new technologies. Basic reading and writing skills will not be enough. The workforce of the fourth industrial revolution must know how to write and read computer code and work in conjunction with sophisticated hardware and software. **The fourth industrial revolution is like a bullet train coming and it is up to policymakers to prepare and enable the masses to either get on board or risk being a casualty in its path.**

Marr, B. (2016, Apr 5). *Why Everyone Must Get Ready for the 4th Industrial Revolution*. FORBES /Tech. Retrieved from <https://www.forbes.com/sites/bernardmarr/2016/04/05>

Adapted from

A I Write the main ideas for paragraphs II, III, IV, VI, and VIII in the blank spaces provided.

Paragraph	Main Idea
II	
III	
IV	
V	The risk of greater societal inequality posed by the fourth revolution
VI	
VII	The risks of losing jobs is greater in developing economies than in industrialised countries
VIII	
IX	Preference to set up manufacturing in industrialised economies due to the availability of capable skilled labours

(5 x 1m = 5 marks)

A II State whether each of the statements given below is True (T) or False (F).

1. The first, second, and third industrial revolutions were characterised by computerisation, electricity and assembly lines and steam power respectively. []
2. The introduction of smartphones and social media paved the way for the third industrial revolution. []
3. The fourth industrial revolution is expected to improve global income levels and quality of life of the world's populations similar to the earlier revolutions. []
4. Between 2000 and 2017, automation has replaced almost three million blue-collar jobs in the United States. []
5. Automation results in developing economies risk losing most of their available jobs. []

(5 x 1m = 5 marks)

A III Choose the correct meaning of the words highlighted in the following sentences according to the context in which they are used. Circle the correct option.

1. In short, it is the idea of smart factories in which machines are equipped with web connectivity and connected to a system that can visualise the entire production **chain** and make decisions on its own.
 - A. a connected metal link or ring
 - B. a unit of length for measuring land
 - C. a series of connected things or people

2. The first began in 1784 when humans made use of steam power and systematically **shifted** away from animals.
 - A. to move from one place to another
 - B. to change in emphasis, direction or focus
 - C. to change or keep changing the position of one's body

3. Advances in robotics and automation, artificial intelligence, nanotechnology and material sciences will **fuel** this era and fundamentally change the functions of the modern economy.
 - A. to produce heat or power by burning
 - B. to increase the amount or intensity
 - C. to supply something with power generating material

4. Like the **revolution** before it, the fourth industrial revolution has the potential to raise global income levels and improve the quality of life for populations around the world.
 - A. a great change
 - B. a complete circular movement
 - C. an attempt to change government

5. The benefits are accumulating for those who are literate and capable of taking advantage of **emerging** technologies.
 - A. coming out of a place
 - B. developing and becoming important
 - C. surviving a difficult situation with expected results

6. They found that the **adoption** of a robot for every 1,000 workers decreased employment by 6.2 workers and wages by 0.7 per cent in the US.
- A. an act of using something new
 - B. an act of choosing something as your own
 - C. an act of legally taking a child as your own
7. For instance, Foxconn, a company that manufactures **core** components for Apple in China and employs an army of workers, recently replaced over 60,000 workers with robots at a single factory.
- A. the central part of an object
 - B. the hard centre of certain fruits
 - C. the most important part of something
8. However, technological advances brought about by the fourth revolution could **eliminate** this economic benefit.
- A. kill
 - B. defeat
 - C. remove

(8 x 1m = 8 marks)

A IV Answer the following questions based on the text.

1. What are the main features of the fourth industrial revolution?

(1 mark)

2. How do technologies in the fourth industrial revolution differ from the technologies in the third revolution?

(2 marks)

3. i) What is the attitude of the writer towards the anticipated effects of the fourth industrial revolution on the society?

(2 marks)

- ii) Select **TWO** relevant phrases to support your answer.

a. _____

b. _____

(2 x 1m = 2 marks)

4. The writer claimed, "***While industrialised economies are already losing jobs, the risk to developing economies is far greater....***" (Paragraph VII). What is the basis for this claim?

(2 marks)

5. In Paragraph VIII, what is the risk of automation the writer intends to highlight using the JPMorgan Chase & Co. scenario?

(2 marks)

6. The writer believed that, in the fourth revolution, manufacturers in industrialised countries will change in their preference to set up factories in developing countries. Why?

(2 marks)

7. What are the skills required of the workforce of the fourth industrial revolution?

(2 marks)

8. ***"The fourth industrial revolution is like a bullet train coming and it is up to policymakers to prepare and enable the masses to either get on board or risk being a casualty in its path."***
(Paragraph X).

What does the writer mean by this statement?

(2 marks)

TEXT II (15 marks)

Read the text carefully and answer the questions that follow.

- I The technology-driven world in which we live is a world filled not only with promises but also challenges. Although these technologies increase productivity and improve our lives, their use will replace some work activities that humans currently perform—a development that has raised much public concern.
- II Most companies are constantly striving for more efficient, economical, working processes. Increasingly, they are looking into adopting automation to save time and resources. In about 60 per cent of occupations, at least one-third of the component activities could be automated. This suggests that there will be significant workplace transformations and changes for all workers in the near future. While technical feasibility of automation is important, it is not the only factor that will influence the pace and extent of automation adoption. Other factors include the cost of developing and starting automation solutions for specific uses in the workplace, the labor-market dynamics (including quality and quantity of labor and associated wages), additional benefits of automation other than reduction in labour costs, and regulatory and social acceptance.
- III A research conducted in 2016 by McKinsey Global Institute (MGI) estimates that by 2030, automation could take away 15 per cent of all global work hours from human beings. This means around 400 million workers will lose their jobs or be **displaced**. Results differ significantly by country, reflecting the influence of two forces: the mix of activities currently performed by workers and their wage rates. The following chart shows the share of work hours in 2016 with potential for automation by 2030 in selected countries.

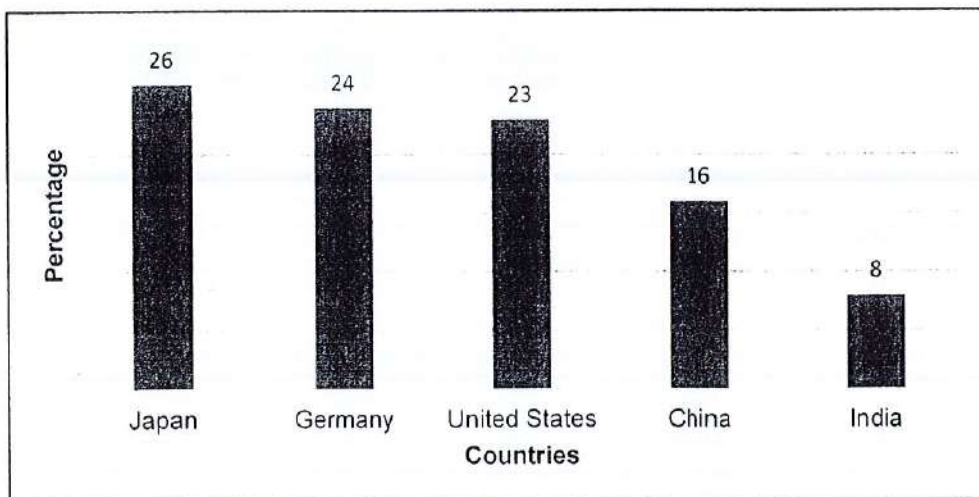


Figure 1: Share of Current Work Hours with Potential for Automation by 2030

- IV According to the McKinsey's findings, **employees in Japan are expected to be hit hardest by these developments**. Twenty six per cent of work hours in 2016 in Japan has the potential for automation. Japan is rich, but its economy is projected to grow slowly to 2030. Therefore, it faces the combination of slower job creation resulting from economic expansion and a large share of work that can be automated as a result of high wages and the structure of its economy. It is expected that Japan will see its workforce shrink by four million people by 2030. Similarly, Germany and the United States could also face significant workforce displacement from automation by 2030. However, their projected future growth—and hence new job creation—is higher. It is estimated that 24 and 23 per cent of work hours could be shifted away from employees in Germany and the United States respectively. This would equate to the loss of four million jobs in Germany and 39 million jobs in the United States.
- V At the other extreme is India, a fast-growing developing country. It has relatively modest potential for automation over the next 15 years, reflecting low wage rates. India's labour force is expected to grow by 138 million people by 2030, or about 30 per cent. Thus, India could create enough new jobs to offset automation and employ these new entrants. For China, another fast-growing developing economy, 16 per cent of the current work hours would be replaced by automation. Compared to India, China has higher wages and so is likely to see more automation.
- VI In summarising the research findings, MGI's Chairman and Director, James Manyika said, "There are two sides to this: on the one hand, I think we want companies, governments, and countries to embrace these technologies because of all the benefits that they bring to business and to the economy. We have to have an embracing conversation. At the same time, **we also have to face up to the transitions and challenges**, and we have to help workers manage their way through this transition."

Adapted from
Armstrong, M. (2017, Nov 30). *Autocomplete: Jobs under threat from automation*. Retrieved from
https://www.statista.com/chart/12066/autocomplete_-_jobs-under-threat-from-automation/

A V Circle the correct answer.

1. One challenge brought about by the use of technologies today is that it will
- A. increase work productivity
 - B. improve the quality of our life
 - C. replace some existing jobs that people do

(1 mark)

2. Which of the following factors influence the pace and extent of automation adoption?

- I automation is technically feasible
 - II the cost involved to set up and deploy automation
 - III labour costs reduced
 - IV regulatory and public acceptance
- A. I, II and III
- B. II, III and IV
- C. I, II, III and IV

(1 mark)

3. In paragraph III line 3, the word **displaced** is best substituted with

- A. replaced
- B. misplaced
- C. transferred

(1 mark)

4. In Figure 1, the share of current work hours with potential for automation in 2030 for Germany is

- A. three times than that of India
- B. the same as that of the United States
- C. significantly smaller than that of Japan

(1 mark)

5. Based on Figure 1, which of the following statements is **FALSE**?

- A. Japan has the biggest share of current work hours with potential for automation in 2030 among all other countries.
- B. The share of current work hours with potential for automation in 2030 for India is twice as much as the share of current work hours for China.
- C. The percentage of current work hours with potential for automation in 2030 for developed countries is significantly higher than that of the developing nations.

(1 mark)

A VI Answer the following questions based on the text.

1. In McKinsey's study, what factors influence the share of current work hours with potential for automation by 2030?

(2 marks)

2. Why did the writer state "...*employees in Japan are expected to be hit hardest by these developments*"? (Paragraph IV)

(2 marks)

3. Why does China's share of current work hours with potential for automation by 2030 differ significantly from India's even though they are both developing countries?

(2 marks)

4. i) What is James Manyika's attitude towards the adoption of automation by governments and businesses?

(1 mark)

- ii) Quote a relevant phrase / sentence to support your answer in (i).

(1 mark)

5. "**...we also have to face up to the transitions and challenges**". (Paragraph VI).
What does James Manyika mean by this?

(2 marks)

SECTION B: WRITING (10 marks)

Situation:

A survey was carried out by Eaton Research recently on the perceptions of employers and employees regarding the effects of automation at their workplace. Two hundred employers and 200 employees from various industries took part in the survey.

Task:

Based on the data presented in Figures 1 and 2, write a report (200-250 words) comparing the opinions of employers and employees on the advantages and risks of automation at the workplace.

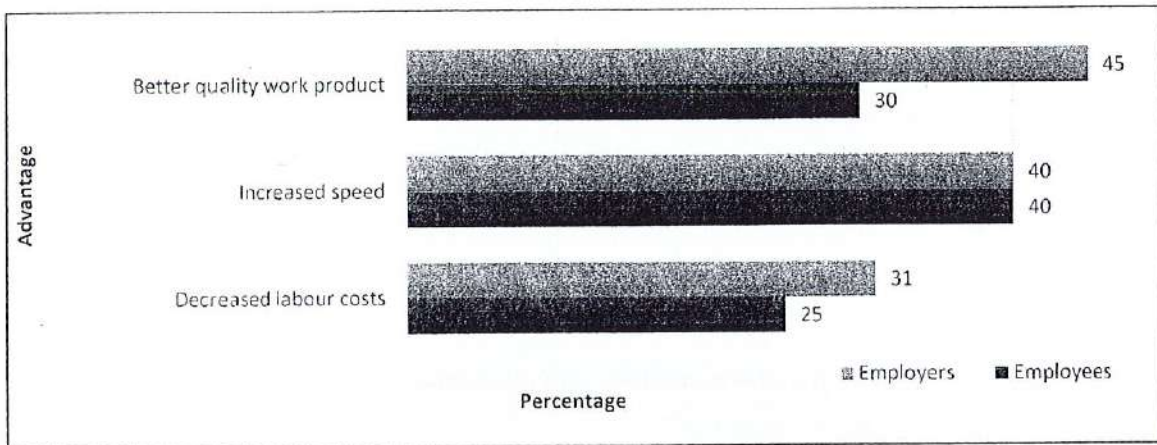


Figure 1: Advantages of Automation at the Workplace

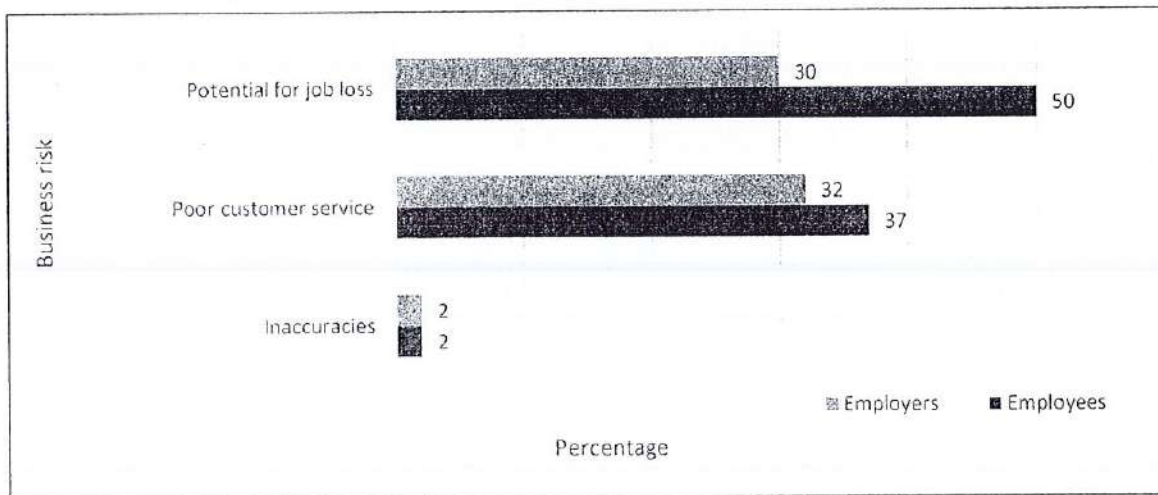


Figure 2: Risks of Automation at the Workplace

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