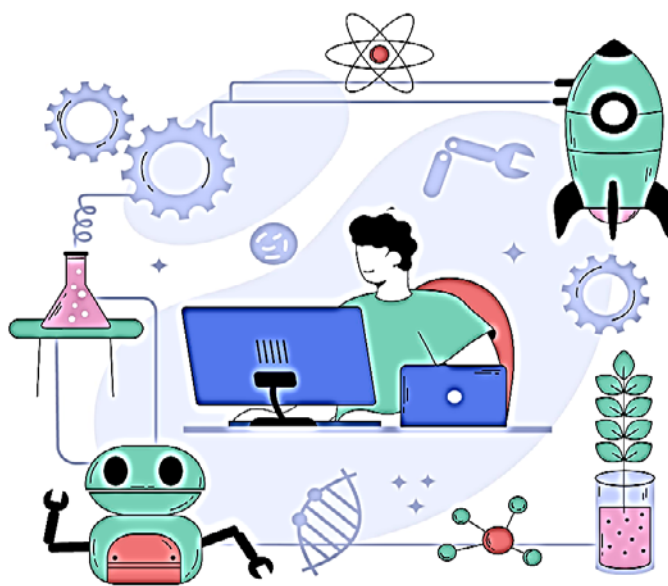


МИНИСТЕРСТВО ОБРАЗОВАНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ
Учреждение образования
«Витебский государственный технологический университет»

ИНОСТРАННЫЙ ЯЗЫК (АНГЛИЙСКИЙ)

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для студентов специальностей

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технологий», 7-07-0712-02 «Теплоэнергетика и теплотехника»



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UNIT I. ENGINEERING



Think!

A. Rank the things given below due to the most/least important for your future job. Why?

B. Continue the list.

money job satisfaction career prospects job security training
recognition free time professional development

VOCABULARY & READING

1. Translate the words (1-4); match them with the topic below.

Topic: *a) work and career; b) education; c) science; d) employment;*

1) advertisement, shortlist, applicant, references, interview;

2) degree, research, post-graduate, academic, bachelor;

3) physicist, experience, opportunity, skills, duties;

4) progress, knowledge, physics, laboratory, experiment.

2. Match the following words to their Russian equivalents below:

*a) единая энергетическая система; b) производственное оборудование;
c) робототехника; d) системы обогрева и охлаждения; e) автомобиль;
f) "железо", детали компьютера; g) настольный ПК; h) плавательное
средство; i) цифровой; j) распределение; k) содержание и техническое
обслуживание.*

Hardware _____

Robotics _____

Desktop computers _____

Power grid _____

Maintenance _____

Distribution _____
Digital _____
Heating and cooling systems _____
Motor vehicle _____
Watercraft _____
Industrial equipment _____

3. Write out the odd one, translate the words.

1. information, fiction, observation, investigation, explanation;
2. impact, effect, conflict, knock, contact;
3. scientific, desirable, good, perfect, flawless;
4. technology, archeology, ecology, terminology, vocabulary;

4. Fill the gaps with the correct phrase below.

Analyze information; communicate well; problem solving; good at making decisions; the 21st century; age of technology.

We are living in

- 1) _____. Some people call it the
- 2) _____. We need to learn skills such as
- 3) _____ and we need to be able to
- 4) _____ with other people around the world.

Employers are looking for people who can

- 5) _____ well, people who are able to recognize whether information is reliable or not. They also like people who are
- 6) _____ without asking for help.

READING

1. Read the text about what employers are looking for and write down correct paragraphs' headings below.

Communication skills; Imagination; Critical analysis; Problem solving; Decision-making.

Professional skills for the 21st-century

We need to develop all kinds of skills to survive in the 21st century. Some, like

ICT skills and knowledge of the digital world, are taught explicitly in schools in the UK. Here are five less obvious ones for you to think about. These are the sorts of skills that employers may ask you questions about in interviews, so it's a good idea to think about how good you are in these areas. What are your strengths and weaknesses?

1. _____

In the age of technology that we are living in now, it is no longer enough to keep on making the same products. Employers need people who can imagine new approaches and new ideas. Think: Think of an object or gadget you use every day. How could it be improved? Can you think of three improvements?

2. _____

Employers will value workers who are able to see problems before they happen and come up with creative solutions. Think: Imagine you are organizing an end-of-term social event at school. Think of some problems that you could face. Can you think of any solutions?

3. _____

Workers will have to be good communicators. They will have to be able to negotiate and discuss key issues and also write in a clear way without using too many words. Think: How do people communicate with each other in the 21st century?

4. _____

Employers want workers who are able to recognize the difference between information that can be believed and false information. Think: Use the internet to find out three facts about a celebrity or famous figure. Can you verify the information by checking other websites?

5. _____

Individual workers have a growing amount of responsibility. It is important to be able to evaluate a situation and be confident in making a decision. Think: Which three things could you do to (a) be healthier (b) do better at school and (c) help others? Make a decision now to do at least one of these things. Then ... just do it!

2. Choose True (T) or False (F) for these sentences.

1. 21st-century skills are not taught in schools in the UK. ____
2. Employers like workers to be imaginative. ____
3. Employers want workers to think about possible problems. ____
4. Employers like workers to be original when solving problems. ____
5. Future workers will need to be able to write concisely. ____
6. People communicate with each other less in the 21st century. ____
7. Employers believe it is useful to know a lot of information about celebrities. ____
8. Employers don't want workers to make decisions without asking them. ____

3. Fill the gaps with the correct word below.

Solve; make; have; teach; value; discuss; develop; differentiate;

2. Put the words and expressions in the correct order to make sentences.

1. the week / with / start / a quick / We / meeting / usually / .

2. work / Do / for / you / travel / sometimes / ?

3. for / arrives / work / late / never / She / .

4. I / weekend / don't / at / often / the / take / home / with / work / me / .

5. to / speak / you / David / Do / once a week / ?

6. work / to / I / underground / the / take / don't always / .

7. minutes / The / twenty / team / meets / rarely / for / than / more / .

8. work / don't / usually / on / I / Mondays

3. Fill the gaps with the right variant.

1. you want to get some really cheap clothes, you need to arrive early. (When; Why; How about;)

2. You get to the shop one or two hours before it opens. (shouldn't; look like; should;)

3. If you see people who they go to a lot of sales, follow them. (should; look; look like;)

4. If you see clothes that designer clothes, go and look at them first. (look; look like; maybe)

5. If you see clothes that old and boring, walk past them and keep looking. (look; look like; should be;)

6. You waste time trying clothes on. Just have a look at them. (look like; should; shouldn't;)

7. ask a friend to save you a place in the line to pay while you look for more clothes? (How about; Why don't you; Let's;)

8. you get home, you can show your friends and family what you bought. (How about; When; If;)

SELF-CHECK & TRANSLATION

1. Read the text and choose the word (A–D) for each gap.

Finding a job

As a new graduate, you've achieved your 1) ____ qualifications and are full of enthusiasm about starting work. You're hoping to 2) ____ a great salary and work decent hours for a company which has state-of-the-art technology and a fantastic location in the center of town. You're hoping for job 3) ____ and are pretty confident that employment 4) ____ are good. The reality for many new graduates is somewhat different.

Many young people start out in jobs unrelated to their degree for the sake of getting some professional 5) _____. Some may have already worked in part-time jobs while studying, either to save up or support themselves through university. Such jobs include working as sales 6) _____ in clothing stores, or other customer 7) _____ jobs in fast-food outlets or for tele-marketing companies to increase their range of workplace 8) _____. While these may not be your ideal job, having any kind of position will automatically make you more marketable.

Many 9) _____ of employment have openings for young people with little or no experience, and this can be invaluable for new graduates. Working as a career, for example, may not be your personal 10) _____, but by demonstrating a desire to learn and showing 11) _____ to a job, no matter what level it is, will prove to potential employers in fields that you really do want to work in that you're perfect for your dream job.

- | | | | |
|-----------------|-----------------|------------------|--------------|
| 1. A academic | B education | C student | D learning |
| 2. A deserve | B collect | C save | D earn |
| 3. A security | B certainty | C safety | D guarantee |
| 4. A roles | B opportunities | C circumstances | D occasions |
| 5. A background | B history | C experience | D tradition |
| 6. A companions | B assistants | C colleagues | D attendants |
| 7. A help | B supply | C duty | D service |
| 8. A talents | B techniques | C skills | D capacities |
| 9. A areas | B departments | C parts | D sections |
| 10. A object | B goal | C end | D result |
| 11. A promise | B obligation | C responsibility | D commitment |

2. Translate the text into Russian.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

WRITTEN INTERACTION

1. Work in pairs. Arrange Electrical Engineer CV skills from the box into hard (technical) and soft (transferable) skills (8 in each column.). Add two or more skills appropriate for you to each category.

microcontrollers (PIC, 8051, etc.), organization, reverse engineering, programming languages (C, Java), precision, circuit design, collaboration, NFPA Standards, decision-making, PCB design, communication, active learning, programmable logic controllers (PLC), leadership, problem-solving, CAD	
Hard (technical) skills	Soft (transferable) skills

a) Match words and collocations in italics with their meanings (a-h).

Career ladder; Commercial awareness; Extracurricular activities; Amateur experience; A good cultural fit; Academic project; Volunteering; Transferable skills;

1.	a) abilities which can be transferred from one context to another
2.	b) they are not part of the course that a student is doing at school or college
3.	c) a carefully planned piece of work to get information about or to improve smth relating to education at college or university level
4.	d) knowledge or skill that you get from doing av-activity just for pleasure, not as your job
5.	e) a series of levels which someone moves up and down within an organization, profession, or society

6.	f) knowledge or understanding of issues related to business
7.	g) ability to adapt to the cultural environment fast and easily
8.	h) doing something without expecting any reward or payment

b) Write down all transferable skills from exercise 1 you have developed at university, and which ones at work. Add examples, which demonstrate the development of these skills.

At university	At work

ROCK YOUR BRAIN

Write down solution for the tasks:

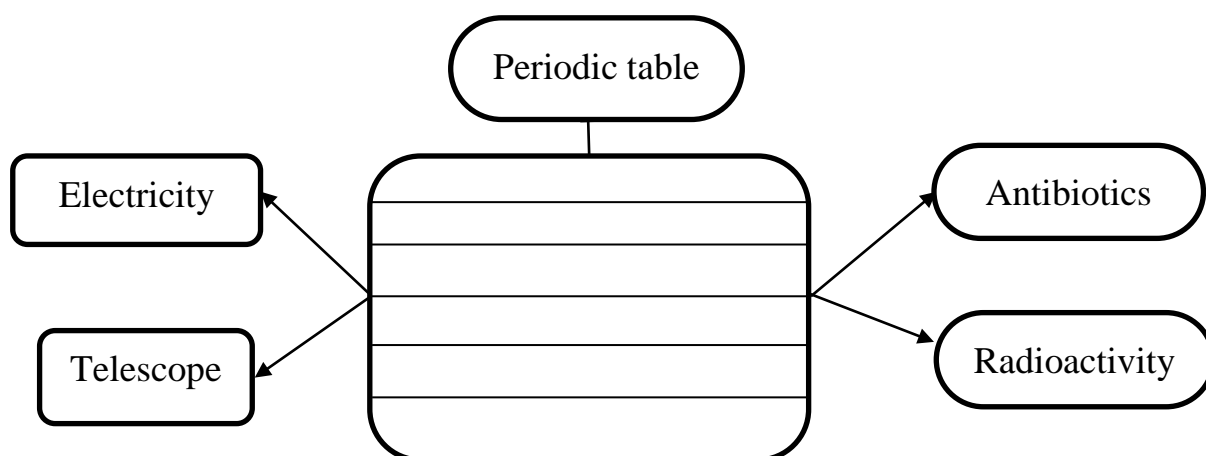
In 40 seconds or less, and without using a calculator, figure out which is greater:
 354×357 or 355×356 .

UNIT II. IDEAS AND INNOVATIONS



Think!

Rank these advances of the past, given below due to the most/least important for you. Why? Continue the list with modern advances. Explain which of these past or modern advances have had the most positive or negative influence on the modern development?



VOCABULARY & READING

1. Complete the definitions with a word from the list below, translate them.

Artificial intelligence (n); biotechnology (n); cell (n); technology (n); brain (n); giant (n); device (n); security (n); chip (n); drone (n); science fiction (n); explosive (n).

1. The application of practical sciences to industry or commerce is

2. A substance that decomposes rapidly under certain conditions with the production of gases, which expand by the heat of the reaction is

3. The study of modelling of human mental functions by computer programs is

4. A tiny wafer of semiconductor material, such as silicon, processed to form a type of integrated circuit or component such as a transistor is

5. The basic structural and functional unit of living organisms is

6. A person or thing of exceptional size or reputation is

7. A pilotless radio-controlled aircraft is

8. The soft convoluted mass of nervous tissue within the skull of vertebrates that is the controlling and coordinating center of the nervous system and the seat of thought, memory and emotion is

9. The state of being secure is

10. A machine or tool used for a specific task is

11. A literary genre that makes imaginative use of scientific knowledge is

12. The technique of using microorganisms, such as bacteria, to perform chemical processing such as waste recycling or to produce other materials, such as beer or wine, cheese, antibiotics, hormones, vaccines is

2. Match the following synonyms (a-l) to the words (1-12):

a) to start; b) brain power; c) to deal with; d) illness; e) to make; f) gadget; g) extra; h) strong; i) form; j) business; k) to get; l) synthetic.

- 1) device _____
- 2) to base _____
- 3) to launch _____
- 4) additional _____
- 5) intelligence _____
- 6) to raise _____
- 7) process _____
- 8) industry _____
- 9) powerful _____
- 10) to create _____
- 11) disease _____
- 12) artificial _____

3. Rearrange letters properly of the words in parentheses.

1. Musk has _____ (onenunadc) he will remove the blocking feature.
2. _____ (rymeflro) known as Twitter.
3. _____ (tirsrect) individual accounts.
4. Block is going to be _____ (dtelede) as a feature.
5. Musk's _____ (holareuv) of his platform.
6. _____ (yfsalof) of employees.

4. Write down all the good and bad things about these social media platforms. Add media platform more and their characteristics.

Social media platforms	Good Things	Bad Things
Facebook		
TikTok		
YouTube		
Instagram		
Reddit		

READING

1. Read the text. Put the available title below.

Elon Musk has announced he will remove the blocking feature from accounts on X, formerly known as Twitter. Mr Musk, who is the owner of X, said users would no longer be able to block comments from unwanted followers. Under the new policy, X users will be unable to restrict individual accounts from contacting them, following them or seeing their posts.

However, people will still be able to block direct messages. Musk wrote on Friday: "Block is going to be deleted as a 'feature,' except for DMs." He added that being allowed to block other people's comments "makes no sense". The change would be the latest in Musk's overhaul of his platform. Others include the name and logo change and layoffs of employees.

Many X users are up in arms over Mr Musk's latest proposal. They believe the block function is essential to keep people safe and to prevent hateful content and harassment from appearing in their feeds. Changpeng Zhao, the CEO of the crypto-currency company Binance, said Musk should concentrate his efforts on making X safer and easier to use. He said: "X should really solve the bots and spam problems before removing blocks." Another critic said the lack of a blocking feature could make bullying more common. He said it could inhibit the free speech of users who are the targets of bullies and predators. Another observer said people, "need a mechanism to block abusive users".

2. Choose True (T) or False (F) for these sentences.

1. Twitter is formerly known as X. ____
2. X users will still be able to block direct messages. ____
3. Elon Musk said blocking people's comments made sense. ____
4. Elon Musk said he was considering changing his name. ____
5. Many people raised their arms when Twitter became X. ____
6. A crypto-currency CEO said Elon Musk should focus on spam. ____
7. A critic said the new X could increase free speech for targets of bullies. ____
8. Not allowing blocking could increase bullying. ____

GRAMMAR FOCUS

1. Put the words and expressions in the correct order to make sentences.

1. blocking from will He the remove accounts . feature

2. able from block comments unwanted Be followers . to

3. accounts . individual will be unable to restrict Users

4. Musk's his in latest overhaul of platform . The

5. Others logo and layoffs . and name include change,

6. users X Many in arms . are up

7. is essential people safe . The keep to function

8. solve should bots X really problems . the

9. It inhibit the speech of users . free could

10. People a abusive block need users . mechanism to

2. Fill the gaps with the words below:

deleted, unwanted, formerly, layoffs, longer, direct, sense, restrict.

Elon Musk has announced he will remove the blocking feature from accounts on X, 1) _____ known as Twitter. Mr. Musk, who is the owner of X, said users would no 2) _____ be able to block comments from 3) _____ followers. Under the new policy, X users will be unable to 4) _____ individual accounts from contacting them, following them or seeing their posts. However, people will still be able to block 5) _____ messages. Musk wrote on Friday: "Block is going to be 6) _____ as a 'feature,' except for DMs." He added that being allowed to block other people's comments "makes no 7) _____". The change would be the latest in Musk's overhaul of his platform. Others include the name and logo change and 8) _____ of employees.

SELF-CHECK & TRANSLATION

1. Read the text and choose the word (A–D) for each gap.

Elon Musk has announced he will remove the blocking feature from accounts on X, 1) ____ known as Twitter. Mr Musk, who is the owner of X, said users would no 2) ____ be able to block comments from unwanted followers. Under the new policy, X users will be unable to 3) ____ individual accounts from contacting them, following them or seeing their posts.

However, people will still be able to block direct messages. Musk wrote on Friday: "Block is going to be deleted 4) ____ a 'feature,' except for DMs." He added that being allowed to block other people's comments "makes no 5) ____". The change would be the latest in Musk's overhaul of his platform. Others include the name and logo change and 6) ____ of employees.

Many X users are up in 7) ____ over Mr Musk's latest proposal. They believe the block function is essential to keep people safe and to prevent 8) ____ content and harassment from appearing in their feeds. Changpeng Zhao, the CEO of the crypto currency company Binance, said Musk should concentrate his efforts 9) ____ making X safer and easier to use. He said: "X should really 10) ____ the bots and spam problems before removing blocks." Another critic said the lack of a blocking feature could make bullying more common. He said it could 11) ____ the free speech of users who are the targets of bullies and predators. Another observer said people, "need a 12) ____ to block abusive users".

- | | | | |
|-----------------|--------------|---------------|---------------|
| 1. a) formerly | b) firmly | c) femur | d) framer |
| 2. a) shorter | b) lengthen | c) longer | d) shorten |
| 3. a) detach | b) unlock | c) restrict | d) annihilate |
| 4. a) has | b) was | c) be | d) as |
| 5. a) sense | b) sensible | c) sensory | d) senses |
| 6. a) layabouts | b) layoffs | c) layouts | d) laybys |
| 7. a) heads | b) legs | c) hands | d) arms |
| 8. a) hatefull | b) hateful | c) hatred | d) hated |
| 9. a) in | b) at | c) on | d) by |
| 10. a) evolve | b) solve | c) involve | d) devolve |
| 11. a) entreat | b) stencil | c) smoke | d) inhibit |
| 12. a) mechanic | b) mechanism | c) mechanical | d) machine |

2. Translate the text into Russian.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

WRITTEN INTERACTION

1. Work in pairs. Read the job advertisement below. Underline hard and soft skills, which are necessary for the successful candidate.

Graduate Electrical/Mechanical Engineers

Re&M

23 Main Road

Surrey

£25,000 a year – Permanent

This is an outstanding opportunity to join one of the UK's leading Energy/Environmental Consultancies. They are seeking a number of high calibre, recent Graduates in Electrical or Mechanical disciplines. A minimum of 2.1 is required and Engineers with 1/2 years' experience will also be considered. Although no previous commercial experience is required, candidates should be self-motivated, effective team players with the ability to work without supervision.

a) Look through the Mechanical Engineering CV personal statement below and find out if the candidate suits the position above. What other skills are necessary? Rewrite the personal statement in the best possible way.

Hard-working, highly motivated BSc in Mechanical Engineering. Seeking to join Re&M to help improve consultancy on major energy and environmental issues. Completed a 6-month long internship with ABC Company, regularly using AutoCAD, Suretrak, and Primavera.

[illegible]

b) Find the job advertisement you would like to apply for. Write an impressive personal statement highlighting the key points that the employer is looking for.

For example: highly motivated, results-focused recent graduate with deep knowledge of ... and excellent communication skills

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface.

c) Write down pairs of synonyms. Complete with their definitions so that your partner could guess the word.

Candidate; get ready; honesty; concise; intimidate; job; explain; specific;

Work; particular; applicant; prepare; articulate; succinct; integrity; daunt;

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

ROCK YOUR BRAIN

Write down solution for the task.

A figure is divided into two squares by drawing one straight line. The original figure could have been a/an:

(a) nonrectangular trapezoid; (b) triangle; (c) square; (d) circle; (e) octagon.

UNIT III. IMPROVEMENT AND DEVELOPMENT



Think!

A. Rank these words below. Put the things we should never throw away at the top.

Clothing, shoes, cellphones, computers, books, bicycles, carpets, newspapers.

B. Write down alternatives to these plastic things:

Plastic things	Alternative	Better?
bags		
straws		
bottles		
utensils		
pens		
furniture		

VOCABULARY & READING

1. Match the materials (1-8) to their definitions (a-h).

- | | |
|--------------------|---|
| 1) stainless steel | a) a metal used to make brass, and in galvanized coatings on steel |
| 2) zinc | b) the predominant metal in steel |
| 3) iron | c) a type of steel not needing a protective coating, as it doesn't rust |
| 4) bronze | d) a dense, poisonous metal |
| 5) lead | e) rocks from which metals can be extracted |
| 6) hardwood | f) an alloy made from copper and tin |
| 7) ore | g) timber from pine trees |
| 8) softwood | h) timber from deciduous trees |

2. Fill the gaps with the words below:

alternatives, utensils, centuries, landscape, hand, invented, pleas, waste.

Plastic has been a blight on the 1) _____ and a deadly threat to wildlife for decades. Environmentalists have issued many

2) _____ for us to reduce the amount of plastic we use or switch to biodegradable 3) _____. One solution to this problem may be at 4) _____. Scientists have developed a form of biodegradable plastic. This means that the billions of plastic bags, cups, straws and 5) _____ that we dispose of each day could be "compostable" – they could decompose and break down as naturally as organic 6) _____. The scientists are from the University of California, Berkeley. They say they have 7) _____ a plastic that could break down within a few weeks, rather than 8) _____, using just heat and water.

3. Match the key properties, different types and grades below to the following materials.

Water-resistant, abrasion-resistant, corrosion-resistant, shock-resistant, tough, brittle, elastic, durable, heavy, lightweight, thermally stable.

Materials	Properties, different types, grades
steel	
glass	
aluminium	
titanium	
gold	
plastic	

4. Rearrange letters properly of the words in parentheses.

1. more technologically _____ (ndeadvca).
2. The _____ (xulyur) carmaker.
3. The car giant unveiled its _____ (tisruitfuc) car.
4. The four _____ (laiztpicade) letters.
5. the car would not be available for _____ (shacepru).
6. in the _____ (npteocc) stage of production.

READING

1. Read the text. Put the available title below.

Plastic has been a blight on the landscape and a deadly threat to wildlife for decades. Environmentalists have issued many pleas for us to reduce the amount of plastic we use or switch to biodegradable alternatives. One solution to this problem may be at hand.

Scientists have developed a form of biodegradable plastic. This means that the billions of plastic bags, cups, straws and utensils that we dispose of each day could be "compostable" – they could decompose and break down as naturally as organic waste. The scientists are from the University of California, Berkeley. They say they have invented a plastic that could break down within a few weeks, rather than centuries, using just heat and water.

The new, biodegradable product involves embedding polyester-eating enzymes into the plastic during the production process. When these enzymes are exposed to heat and water, they eat away at the plastic and reduce it to lactic acid. This provides nutrients for the soil when composted.

Professor Ting Xu said up to 98 per cent of the plastic her team made degraded into small molecules. She said: "We are basically saying that we are on the right track. We can solve this continuing problem of single-use plastics." She added: "Look at all the wasted stuff we throw away – clothing, shoes, electronics like cellphones and computers. We are taking things from the earth at a faster rate than we can return them."

2. Choose True (T) or False (F) for these sentences.

1. The article says plastic is very bright in the landscape. ____
2. The article says scientists have several solutions for plastic. ____
3. The scientists said the plastic they created could be compostable. ____
4. The new biodegradable plastic could take weeks to decompose. ____
5. The new plastic contains enzyme-eating polyester. ____
6. The new plastic biodegrades into lactic acid and feeds the soil. ____
7. A professor said her team are on the left track. ____
8. A professor said we are taking things from Earth at a slower rate. ____

GRAMMAR FOCUS

1. Put the words and expressions in the correct order to make sentences.

1. blight the has on been Plastic a landscape .

2. to deadly threat for A wildlife decades .

3. to use . amount of plastic the Pleas reduce

4. as down waste . Break organic as naturally

5. say invented They plastic . they have a

6. to exposed enzymes these When heat . are

7. for when composted . soil the nutrients provides This

8. track . on we're We're saying basically the right

9. earth . the are taking We from things

10. return faster than we A rate can them .

2. Complete the following sentences using: *from, with or of*.

1. Bronze contains significant amounts _____ copper.

2. Galvanized steel is steel-coated _____ zinc.

3. Steel is an alloy derived _____ iron.

4. Pure metals can usually be recovered _____ alloys.

5. To produce stainless steel, iron is mixed _____ other metals.

6. Stainless steel contains quantities _____ chromium and nickel.

7. Glass tableware contains traces _____ metals, such as lead.

8. When new metal is extracted _____ ore, the costs can be high.

SELF-CHECK & TRANSLATION

1. Read the text and choose the word (A–D) for each gap. Put the available title below.

Car makers are 1) ____ a lot of money on electric cars. In the future, electric cars will replace petrol cars. Environmentalists believe this will 2) ____ the amount of CO₂ put into the atmosphere. A big problem for electric cars 3) ____ charging the battery. Some batteries in today's electric cars can take up to 12 hours to charge fully.

However, a company in Israel says it has 4) ____ a lithium-ion battery that people can charge in just five minutes. This is the same amount of time it takes to fill a 5) ____ of gas with petrol. The new lithium-ion batteries were developed by the

Israeli company StoreDot. They are 6) ____ manufactured by a Chinese company called Eve Energy. The new batteries could 7) ____ transform driving. They would mean electric cars would be able to travel as far as petrol cars.

Many people with electric cars today suffer from "range anxiety". This 8) ____ stress caused by worrying about the battery running out of electricity. A StoreDot representative said: "You're either 9) ____ that you're going to get stuck on the highway or that you're going to need to sit in a charging station for two hours." The new batteries would end 10) ____ anxiety.

A StoreDot spokesperson said: "We're at the 11) ____ of achieving a revolution in the electric vehicle charging experience". He said it means the switch from petrol to electric cars will happen much 12) ____.

- | | | | |
|----------------|-------------|------------|------------|
| 1. a) spending | b) spent | c) spends | d) spender |
| 2. a) deuce | b) deduce | c) reduce | d) induce |
| 3. a) are | b) is | c) will | d) be |
| 4. a) creating | b) creation | c) creates | d) created |
| 5. a) tank | b) cup | c) box | d) carton |
| 6. a) be | b) being | c) been | d) be in |
| 7. a) totals | b) totality | c) total | d) totally |
| 8. a) has | b) is | c) be | d) have |
| 9. a) fright | b) scary | c) afraid | d) petrify |
| 10. a) these | b) how | c) what | d) this |
| 11. a) stand | b) step | c) rim | d) point |
| 12. a) fast | b) faster | c) fasten | d) fasts |

2. Translate the text into Russian.

WRITTEN INTERACTION

1. Work in pairs. Study the video resume script and write your video resume script, filling in the information from a relevant online job advertisements.

Video Resume Script

Hi, Team! My name is (Name), and I would love to take some time of your busy schedule to tell you how I can help you (Job Role).

I am currently working as a (Current Designation) at (Company Name). In my last two years at (Company Name), I have been assigned the responsibility of (Responsibility1) and (Responsibility2). I have successfully managed to scale our (Department) process by 100%. This includes (Task1), (Task2), and (Task3). In addition to this, I have played an active role in designing/developing (Task4) and (Task5). I have also contributed equally towards documenting (Task6). My team leads have always praised me for the work I do. They have seen a (Number) % increase in the (Overall Task Name) ever since I joined this organization.

Finally, I simply love (Job Name). (Job Role) excites me and I look forward to (Activity Related to Job Role). I'm passionate about my work and can ensure you that you will not regret hiring me. I thank you for your time and look forward to meeting you.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Maddison Hernandez

Florida

- (124) 003-3237
- maddison@hernandez.com
- linkedin.com/in/maddison-hernandez

Highly skilled Mechanical Engineer with extensive experience in designing and optimizing manufacturing processes, leading to significant increases in efficiency, productivity, and profitability. Proven track record of managing teams to complete

major projects ahead of schedule and under budget, and implementing innovative systems that reduce downtime and improve product quality. Eager to leverage my expertise in mechanical design, project management, and process optimization to drive operational excellence in my next role.

CAREER EXPERIENCE

Mechanical Engineer

• 01/2024 – Present

CyberSafe

☐ Directed the design and implementation of a new manufacturing process, resulting in a 30% increase in production efficiency and a 20% reduction in maintenance costs.

☐ Managed a team of 10 engineers, successfully completing a major project 15% under budget and 2 months ahead of schedule, enhancing the company's competitive edge.

☐ Introduced a predictive maintenance program that reduced equipment downtime by 25%, leading to an increase in overall productivity and profitability.

Design Engineer

• 03/2023 – 12/2023

DynaTech Corporation

☐ Coordinated the successful redesign of a key product line, improving its performance by 35% and reducing production costs by 20%.

☐ Implemented a new CAD software system, improving design accuracy and reducing the time taken for design revisions by 40%.

☐ Conducted rigorous failure analysis on critical machinery, leading to a 30% reduction in breakdowns and a significant increase in operational uptime.

Junior Mechanical Engineer

• 11/2021 – 03/2023

Phoenix Capital

☐ Played a key role in the design and development of a new product range, which increased the company's market share by 15%.

☐ Optimized existing assembly line processes, resulting in a 20% increase in throughput and a 10% reduction in labor costs.

☐ Introduced a new quality control system, reducing product defects by 25% and improving customer satisfaction ratings.

SKILLS

☐ Manufacturing Process Design and Implementation

☐ Team Leadership and Project Management

☐ Predictive Maintenance Program Development

☐ Product Redesign and Improvement

☐ CAD Software Implementation and Utilization

☐ Failure Analysis and Troubleshooting

☐ New Product Design and Development

☐ Assembly Line Process Optimization

☐ Quality Control System Implementation

☐ Cost Reduction and Efficiency Improvement

EDUCATION

Bachelor of Science in Mechanical Engineering

University of Dayton

Dayton, OH

2016-2020

CERTIFICATIONS

Certified Manufacturing Engineer (CMfgE)

04/2024

Society of Manufacturing Engineers (SME)

Professional Engineer (PE) License

04/2023

National Society of Professional Engineers (NSPE)

Certified Reliability Engineer (CRE)

04/2022

American Society for Quality (ASQ)

c) Put the details in the correct groups in the box below. Add your information.

Developed 50+ electrical circuits for scientific instruments. Achieve 25% efficiency increase	High levels of critical thinking, creativity and problem-solving skills	MSc Electrical Engineering, Manchester University (2013–2014)
Perfect communicator who brings friendliness, confidence and empathy to leadership skills	Programmed 50+ assembly-line machine processes with PLC	Proficient with Microsoft Office, Programming Languages (C, Java)
BSc Mechanical Engineering, Columbia University (2023)	BA in Philosophy, Politics and Economics, University of Oxford (June 2002)	Used CAD to plan, design, and develop 60+ electrical systems for broadcast equipment
Skills	Education	Work experience

--	--	--

ROCK YOUR BRAIN

Write down solution for the task:

Suppose a car goes uphill a distance of 1 mile, then immediately turns around and goes downhill the same distance, and suppose the average rate of the car for the whole trip is 20 miles per hour. What is the total time spent going uphill and downhill in minutes?

- (a) 6;
- (b) 8;
- (c) 10;
- (d) cannot be determined unless the time going downhill is given;
- (e) cannot be determined unless the speed going uphill is given.

For the solution of this task you can use the formula $\text{Rate} \times \text{Time} = \text{Distance}$, that is $r \times t = d$. For the uphill trip, r (uphill) \times t (uphill) = 1 mile. For the downhill trip, r (downhill) \times t (downhill).

UNIT IV. DESIGNING



Think!

A. Rank these words and phrases below. Put the jobs, which most need humans (not AI) at the top:

gaming coders, moviemakers, teachers, newsreaders, lawyers, sales assistants, police officers, doctors.

B. How will artificial intelligence affect these industries? What are the good and bad things? Complete the table.

Industries	Good Things	Bad Things
Gaming		
Movie-making		
English-teaching		
Accountancy		
Writing		
Customer service		

VOCABULARY & READING

1. Match the following words below (1-7) to their definitions (a-g):

1) emergence, 2) consternation, 3) all manner of, 4) went on strike, 5) safeguard, 6) bot, 7) overall.

- _____ a. A feeling of anxiety or dismay.
_____ b. Refuse to work as a form of organized protest for better wages or conditions.
_____ c. Taking everything into account.
_____ d. Many different kinds of.
_____ e. An autonomous program on the internet or another network that can interact with systems or users.
_____ f. The process of coming into existence or prominence.
_____ g. An action taken to protect someone or something or to prevent something bad from happening.

2. Fill the gaps with the words below:

sector; decade; overall; emergence; association; strike; process; manner.

The 1) _____ of artificial intelligence has brought consternation to people in all 2) _____ of industries. The investment bank Goldman Sachs has reported that AI could replace more than 300 million jobs worldwide in the next 3) _____. Hollywood actors went on 4) _____ earlier this week demanding safeguards against AI replacing humans. One 5) _____ that could benefit from bots is gaming. Dr Richard Wilson, boss of the UK games 6) _____ TIGA, said artificial intelligence would, "lead to more games being made and more jobs". He said: "AI would reduce the cost of making games and speed up the 7) _____. Reducing 8) _____ development costs means more game studios, and therefore more jobs."

3. Rearrange letters properly of the words in parentheses.

1. The _____ (mreegence) of artificial intelligence.
2. brought _____ (nsecarnttioon) to people.
3. _____ (aesaugrfd) against AI replacing humans.
4. One _____ (tcseor) that could benefit.
5. the UK games _____ (isoastacion).
6. Reducing _____ (eoarvl) development costs.

4. Match the following synonyms (a- l) to the words (1-12):

a) only, b) worry, c) made, d) change, e) time, f) take over from, g) invented, h) occur, i) difficulty, j) scared.

1. replace _____
2. problem _____
3. just _____
4. developed _____
5. manufactured _____
6. transform _____
7. anxiety _____
8. afraid _____
9. point _____
10. happen _____

READING

1. Read the text. Put the available title below.

Cars are becoming more and more technologically advanced. In the past decade, we have seen improvements in electric car technology and driverless cars. The latest advance comes from Mercedes-Benz. The luxury carmaker has unveiled a car that lets you use your mind to control certain things. The car giant unveiled its futuristic car at the IAA Mobility show in Munich earlier this week. The car is called Vision AVTR.

The four capitalized letters at the end of its name are to make people think of the movie Avatar. This movie was about using the brain to connect with nature. A Mercedes spokesperson said the car would not be available for purchase any time soon. It is currently in the concept stage of production. Mercedes is using a technology called brain-computer interface (BCI) in the Vision AVTR.

The car's computers "read" brain signals and translate them into actions. Mercedes says the system needs about a minute to get to understand a new driver's thought processes. The driver will then be able to perform certain functions in the car using just their thoughts. Mercedes representative Britta Seeger spoke about how exciting she thought the futuristic car was. She said: "Mercedes-Benz is setting another milestone in the merging of man and machine." The Mercedes website says: "As soon as you get in, the car becomes an extension of your own body and a tool to discover the environment."

2. Choose True (T) or False (F) for these sentences.

1. Cars are becoming less technologically advanced. ____
2. The car was unveiled at the New York Motor Show. ____
3. Mercedes named the car based on the movie Avatar. ____
4. The Mercedes car will be on sale from next year. ____
5. Computers in the car spend one minute "reading" the driver's mind. ____
6. A spokeswoman said the car wasn't so futuristic. ____
7. A spokeswoman said the car shows man and machine were joining. ____
8. Mercedes said the car would allow people to discover the environment. ____

GRAMMAR FOCUS

1. Put the words and expressions in the correct order to make sentences.

1. becoming more advanced . Cars are more and technologically

2. electric have in seen technology . We car improvements

3. use that your car mind . A you lets

4. its car giant futuristic The unveiled car .

5. in It's stage of currently production . the concept

6. interface . technology Mercedes using a is brain-computer called

7. Get understand a to new driver's thought processes .

8. the How was . futuristic thought she car exciting

9. man merging milestone machine . Another and in

10. becomes body . an extension The your of car

2. Complete the following sentences using:

in; above; around; beneath; within.

1. Projecting _____ the chair was a cluster of ropes' tied to 42 helium-filled weather balloons.

2. Anchor ropes were fastened _____ the bumper of the car.

3. Larry Walters had an air gun inserted _____ his pocket.

4. The helium contained _____ the balloons warmed up in the sun'

5. After takeoff, the anchor ropes remained suspended _____ the chair.

SELF-CHECK & TRANSLATION

1. Read the text. Choose the word (A–D) for each gap. Put the available title below.

The 1) _____ of artificial intelligence has brought consternation to people in all 2) _____ of industries. The investment bank Goldman Sachs has reported that AI could replace more than 300 million jobs worldwide in the next decade. Hollywood actors went 3) _____ strike earlier this week demanding safeguards against AI replacing humans. One 4) _____ that could benefit from bots is gaming. Dr Richard

Wilson, boss of the UK games association TIGA, said artificial intelligence would, "lead to more games being made and more jobs". He said: "AI would reduce the cost of making games and 5) ____ up the process. Reducing 6) ____ development costs means more game studios, and therefore more jobs." Gaming has greatly advanced because of AI and was one of the first industries to 7) ____ it. Daniel Wood, co-CEO of the games body UKIE, told the BBC how important AI has been for his 8) _____. He said: "The video games industry is always at the cutting edge of technology, so we are already using AI in many areas, including production, art, 9) ____ with in-game characters, and community management to create even more exciting and 10) ____ experiences for our players." He added: "The future possibilities of AI promise a lot of exciting opportunities for our sector." However, 11) ____ believe that it is only a matter of time before newly created jobs in gaming will be 12) ____ over by the bots.

- | | | | |
|-------------------|----------------|---------------|----------------|
| 1. a) emerge | b) emergent | c) emerged | d) emergence |
| 2. a) banner | b) banter | c) matter | d) manner |
| 3. a) off | b) on | c) in | d) at |
| 4. a) vector | b) hector | c) sector | d) nectar |
| 5. a) speeds | b) sped | c) speed | d) speedy |
| 6. a) overall | b) coverall | c) covet | d) enthrall |
| 7. a) utility | b) utilize | c) utile | d) futile |
| 8. a) trade | b) tirade | c) tread | d) thread |
| 9. a) contraction | b) interaction | c) production | d) distraction |
| 10. a) marrying | b) divorcing | c) engaging | d) courting |
| 11. a) scenarios | b) scepters | c) sceptics | d) scents |
| 12. a) been | b) done | c) given | d) taken |

2. Translate the text into Russian.

[illegible]

1. Work in pairs. Do the tasks and discuss the results with your partner.

What is Video Resume?

They helps your prospective candidates to market their skills and their capabilities to you and your hiring team. It helps you understand your candidates better as video resumes are often used talk about something that is not mentioned in the resumes.

achievements, their career aspirations or simply let you to know why they are the best fit for your roles. Know your candidates a bit more closely will help you shortlist the best-fit candidates faster.

b) Write down the advantages of a video resume.

c) Choose the appropriate word to fill in the gaps in the sentences below.

Vocabulary

1. First of all, CV tells the _____ about the person and his qualifications.
a) interviewee; b) employee; c) interviewer; d) candidate.
2. Your CV should be _____, easy to read and well-written.
a) concise; b) short; c) brief; d) compact.
3. The interviewer mostly wants to know about your _____ skills rather than just the straightforward qualifications that you have on your CV.
a) transfer; b) transferal; c) transitional; d) transferable.
4. _____ CV helps the applicants hide employment gaps.
a) Hybrid; c) Reverse-chronological;
b) Functional; d) Combination.
5. Your resume should _____ your skills and achievements.
a) present; b) reflect; c) depict; d) highlight.

Grammar

6. It is vital to ensure the script is relevant to each job application, rather than _____ the same generic CV.
a) sending; b) being sent; c) to send; d) to be sent.
7. To showcase achievements it is worth _____ evidence of how targets were exceeded, and ideas created, but always be honest.
a) being offered; b) to be offered; c) offering; d) to offer.
8. Jack is supposed _____ on his CV for a fortnight.
a) to have been; c) to have worked;
b) to be working; d) to work working.
9. After _____ the interview, the applicant realized that he hadn't sent his cover letter to the potential employer.
a) being left; b) having been left; c) leaving; d) having left.
10. He couldn't _____ the job of electrical engineer. He didn't have enough qualifications.
a) offer; b) have been offered; c) be offered; d) have offered.

ROCK YOUR BRAIN

Write down solution for the tasks:

One of the numbers between 3,000 and 4,000 with digits increasing from left to right is 3,457. How many different numbers are there with digits that increase from left to right between 4,000 and 5,000?

UNIT V. MANUFACTURING AUTOMATION



Think!

A. Match the following explanations below in italics to the expressions in the table:

manufacturing car parts; TV sets; investment from foreign companies; serving people; steel works; when industry is owned by the government; making things; involving computers; involving new and innovative technology; selling off state enterprises to private companies; involving little or no computer technology; using standard, proven technology; partly state-owned, partly owned by private industries or businesses; money/grants which enable it to stay in profit.

Expression	Explanation	Opposite expression	Explanation
heavy industry	_____	light industry	_____
	_____		_____
manufacturing industry	_____	service industry	_____
	_____		_____
high-technology	_____	low-technology	_____
	_____		_____
cutting-edge technology	_____	conventional technology	_____
	_____		_____
privatisation	_____	nationalisation / state ownership	_____
	_____		_____
public-private partnerships.	_____		

subsidy	_____		

inward investment	_____		

B. Write down types of industries you would like to work in. Explain it.

VOCABULARY & READING

1. Use the expressions in italics below to rewrite the underlined parts of these sentences with more appropriate vocabulary.

Cutting edge/conventional; service industries/manufacturing industries; heavy industry/light industry; high-technology/high-tech industries, low-technology/low-tech industries; state ownership/nationalization, privatization.

1. The economy cannot depend only on businesses like restaurants and hotels.

We need to encourage industries that make things we can sell.

2. In this area, there are many industries that use computers and things, while in the north, they depend more on industries that don't use such up-to-date technology.

3. The latest, innovative technology is very expensive, so the company has to rely on existing, standard technology.

4. The idea that industries should be owned by the government is less popular than it was, but the trend towards selling off these industries has slowed down.

5. Industry with big factories producing things like steel and so on has declined, and now we're more dependent on industry that makes things like radios and furniture.

2. Here are some more expressions in italics relating to problems in industry. Make sure you know what they mean, then use them to fill the gaps in the sentences below. Use a dictionary if necessary:

black market; copyright infringement; industrial piracy; industrial espionage; money laundering.

1. _____ is a serious problem in many parts of the world, with factories producing illegal copies of top brand names.
2. It was a serious case of _____. The designs for the new aircraft were photographed illegally and sold to a rival company.
3. _____ is a problem for people who make a living writing books. Illegal editions mean that the author receives no payment.
4. _____ is a huge international problem, as police and banks try to trace money from the illegal drugs trade and terrorism.
5. There is a big _____ in the importation of untaxed luxury cars in some countries.

3. Match the following words in italics below (1-7) to their definitions (a-g):

realization; replica; miniature; involve; snowball; secured; berth.

- | | |
|-------|--|
| _____ | a) A place on a ship, train, plane or other means of transport. |
| _____ | b) The fulfillment or achievement of something desired or hoped for. |
| _____ | c) An exact copy or model of something, especially one on a smaller scale. |
| _____ | d) Increase quickly in size, intensity, or importance. |
| _____ | e) Include something as a necessary part or result. |
| _____ | f) Of a much smaller size than normal; very small. |
| _____ | g) Succeeded in getting something, especially with difficulty. |

4. Fill the gaps with the words below.

Predominantly; cubed; parachuted; brainchild; expanse; harsh; nature; stratosphere.

Cutting-edge technology is getting back to (1) _____. A company has tested a new satellite that is (2) _____ made from plywood. The satellite is called Woodsat. It is the (3) _____ of engineer Jari Makinen, co-founder of a Finnish company called Arctic Astronautics. It is just 10 cm (4) _____ in size. He has already successfully tested his DIY, but high-tech, device in the (5) _____. He attached it to a weather balloon, which took it to an altitude of 30 km above Earth – just before the endless (6) _____ of space itself. The balloon exploded (as planned) and Woodsat safely (7) _____ back to Earth. Mr Makinen happily reported that all communications equipment survived the (8) _____ conditions.

READING

1. Read the text. Put the available title below.

Cutting-edge technology is getting back to nature. A company has tested a new satellite that is predominantly made from plywood. The satellite is called Woodsat. It is the brainchild of engineer Jari Makinen, co-founder of a Finnish company called Arctic Astronautics. It is just 10 cm cubed in size. He has already successfully tested his DIY, but high-tech, device in the stratosphere.

He attached it to a weather balloon, which took it to an altitude of 30km above Earth – just before the endless expanse of space itself. The balloon exploded (as planned) and Woodsat safely parachuted back to Earth. Mr Makinen happily reported that all communications equipment survived the harsh conditions. Makinen plans to launch Woodsat into space later this year. He said it was the realisation of a dream.

He started a company to produce fully functional wooden replicas of orbit-ready miniature satellites called CubeSats. These are used for space research, education and hobby purposes. Makinen explained: "I've always enjoyed making model planes that involve a lot of wooden parts. Having worked in the space education field, this got me wondering why we don't fly any wooden materials into space."

He came up with the idea for Woodsat in 2017 and "the project just snowballed". He said: "We found commercial backing, and secured a berth on an Electron launcher from Rocket Lab in New Zealand."

2. Choose True (T) or False (F) for these sentences.

1. The article says nature is becoming cutting edge. ____
2. A new satellite is made entirely from wood. ____
3. The satellite is one meter in width, depth and length. ____
4. The balloon that took the satellite to the stratosphere exploded. ____
5. The satellite's creator will launch it into space for the first time in 2023. ____
6. The satellite's creator used to make model airplanes. ____
7. The satellite's creator got the idea for the satellite from a snowball. ____
8. The creator found a place on a rocket launcher in New Zealand. ____

GRAMMAR FOCUS

1. Write the words and expressions in the correct order to make sentences.

1. is to nature . technology getting back Cutting-edge

-
2. made from that plywood . is satellite predominantly A

-
3. in cubed is It size . 10cm just

-
4. before of expanse the space endless itself . Just

-
5. harsh communications All conditions . survived equipment the

-
6. space launch Makinen Woodsat into to plans later .

-
7. replicas . A wooden fully functional to produce company

-
8. wooden a involve parts . of that Planes lot

-
9. space . We any materials don't fly wooden into

-
10. up came the with He Woodsat . for idea
-

2. Put the verbs in brackets in appropriate form so that conditional sentences are correct. Translate the sentences.

1. If he (get) his bachelor's degree, he can apply for the position of an engineer.

-
2. If she came on time for the interview, she (get) the job.

3. I ... always (work) hard to help your business grow if you hire me.

4. I (succeed) in the interview provided I had not told lies.

5. If I (be) you, I would read all the tips before the interview.

6. If she (write) her CV for hours, she would not have made so many mistakes.

7. If he studies hard, he always(get) good results.

8. Had they prepared for the interview, they (know) answers to all the questions.

SELF-CHECK & TRANSLATION

1. Read the text. Choose the word (a–d) for each gap. Put the available title below.

There is a special job (1) ____ for eight people who love riding motorbikes, enjoy long, hot summers, and like feeling the wind in their (2) _____. The position is a summer internship for the legendary motorcycle maker Harley-Davidson. The company is (3) ____ for people to learn to ride its bikes and then ride them across the USA all summer. It is offering this job to celebrate the 115th anniversary of the (4) ____ of Harley-Davidson. The successful candidates will get special training to ride a Harley and must then (5) ____ their experiences of their adventures of riding around the USA on social media. The lucky riders must also attend (6) ____ number of events, including anniversary celebrations. Harley-Davidson CEO Matt Levatic explained (7) ____ his company wants eight interns to ride motorcycles all summer. He said: "We're continuously working to (8) ____ the sport of motorcycling. What better way to engage future riders than to have a (9) ____ team of newly-trained enthusiasts share personal stories as they immerse themselves in motorcycle (10) ____ and community – all while gaining marketable career skills. I'm looking forward to following their journeys, learning about their experiences, and seeing them (11) ____ on the road." To qualify, candidates must show they are good storytellers, be able to use social media (12) ____, and describe what freedom means in an essay, video or photo portfolio.

- | | | | |
|----------------|-------------|--------------|--------------|
| 1. (a) closing | (b) opening | (c) entering | (d) changing |
| 2. (a) hairy | (b) hair | (c) hairs | (d) hairline |

WRITTEN INTERACTION

1. Work in pairs. Match the beginning of the sentences (1-6) with their endings (a-h) to work out the sample of creating a good first impression at the job interview.

- a) my supervisor for helping the company find ways to increase sales by improving customer service standards;
- b) capabilities, and I can manage a significant workload;
- c) see a positive return on your investment;
- d) a positive role model for the company;
- e) the opportunity to be interviewed for this position today;
- f) record of achievement;
- g) for my ongoing professional development;
- h) the qualities, and the qualifications needed to excel in the role.

- 1. Thank you for giving me _____ .
- 2. Having studied the job description, I am confident I have the skills _____ .
- 3. I am a fast learner; I possess excellent problem-solving _____ .
- 4. I have an impressive track _____ .
- 5. For example, in my previous role I was praised by _____ .
- 6. The type of person I am means I always act as _____ .

a) Complete the collocations with the nouns a-h from the table. Write their Russian translation.

- a) parts; b) process; c) lies; d) key; e) explanation; f) prospect; g) panic; h) passion.

- 1. The to acting – _____ .
- 2. A bit of a _____ .
- 3. To meld together – _____ .
- 4. An exhaustive _____ .
- 5. Absolute _____ .
- 6. Reflective _____ .
- 7. To tell outright _____ .
- 8. Daunting _____ .

b) Replace the words in bold with their synonyms from the box.

**candidates; person; to brush up; ruin; rude; aim; etiquette; ignoring;
professional; qualified**

Poor etiquette in a job interview can **destroy**/_____ your chances of landing a position, even if you're highly **skilled**/_____. It is important to find the right balance between coming across as a confident **specialist**/_____ while remaining humble and polite. Avoid these common interview **decorum**/_____ mistakes.

When it comes to arriving at the right time, most interview **applicants**/_____ are worried about being late. However, arriving too early is poor etiquette, too.

Target/_____ to arrive no more than 10 minutes early – if you need to hang out in the lobby for a few minutes, that's OK. Use the time **to refresh your memory**/_____ on your notes or practice your introductory speech.

Many interviews have two or more interviewers in the room and **disregarding**/_____ certain people in the interview committee can ruin your chance of landing the job. Be sure to address every **individual**/_____ conducting the interview, making eye contact and speaking directly to them in turn. Many job candidates tend to only address the highest-ranking person in the room, which comes across as **discourteous**/_____.

c) Match the strengths with their meanings and fill in gaps 1-8 with one word only.

1. Disciplined and focused	a) You are 1) innovative problem-solver, you always seek ways to overcome difficult challenges.
2. Flexible and versatile	b) You will require little supervision or monitoring moving forward, you are going to take ownership 2) your own professional development.
3. Resourceful	c) You understand the importance of effective teamwork and that you are required to support your co-workers when carrying 3) difficult team tasks.
4. Loyal and trustworthy	d) You will think outside of 4) box when overcoming difficult challenges.
5. Collaborative	e) You are the type of person

 5) will always focus on the details and you will carry out your duties to a very high standard.
6. Detail orientated and attentive	f) You are prepared to take on duties and responsibilities which are outside of your job description that you are available to help out the organization 6) short notice whenever required
7. Creative and innovative	g) You can be relied upon to complete tasks on time 7) to the necessary standard.
8. Fast learner	h) You always act as a positive 8) model for the company and can be relied upon to carry out your duties in line with organizational policies and procedures.

d) Read the example of presenting your strengths and fill in gaps 1-9 with one word only.

My strengths include the fact that I 1) _____ commercially aware. This means I will always work 2) _____ to help your business grow, and the work I do for you will always be efficient and effective. Other 3) _____ include my collaborative approach to working. I strongly believe that a team can achieve brilliant things when they support 4) _____ other, when they are respectful of everyone's opinions and contributions, and when they are all focused 5) _____ the same goal. Finally, perhaps my greatest strength is my 6) _____ and trustworthiness. You can rely 7) _____ me to always be a positive role 8) _____ when representing your company, and if you hire me, I will be committed 9) _____ the business for many years to come.

ROCK YOUR BRAIN

Write down solution for the task.

If you are in an elevator stopped on the thirty-ninth floor of a hotel and the cable breaks and no help is available, what do you do to save yourself?

- (a) Just before the elevator hits the ground, you jump up.
- (b) Hold on to anything and stay still.
- (c) Lie down flat in the elevator.
- (d) You can't do anything.

UNIT VI. AUTOMATED ELECTRICAL MACHINES



Think!

A. Match the words *electrical* (adj) and *electric* (adj) to their definitions.

1. _____ refers to something that runs on electricity, is produced by electricity or used for carrying electricity. _____ is used when the object has been specified. For example, _____ light, kettle, etc.

2. _____ refers to something relating to electricity or using electricity. _____ is used in a more general sense. For example, _____ equipment, appliances, etc.

B. Write down what can be “*electric*” and “*electrical*”.

_____ engineer; _____ wires; _____ current; _____ goods; _____ cooker; _____ charge; _____ motor; _____ engineering; _____ power; _____ energy.

VOCABULARY & READING

1. Match the words below (1-9) with a similar meaning (a-i). Check any unknown words in a dictionary.

1. Like; 2. To step down; 3. To reverse; 4. To step up; 5. Fission; 6. To occur; 7. To repel; 8. Friction; 9. To harness.

- | | |
|-------|-----------------|
| _____ | a. To raise |
| _____ | b. To use |
| _____ | c. Rubbing |
| _____ | d. The same |
| _____ | e. To lower |
| _____ | f. To push away |
| _____ | g. Splitting |
| _____ | h. To change |
| _____ | i. To happen |

2. Fill the gaps with the words below:

first; wide; fact; entirely; kind; imagine; stem; example.

Scientists say that a new 1) _____ of robot can reproduce – it can create baby robots. This is an 2) _____ of science fiction

becoming science (3) _____. The scientists, from the Universities of Vermont, Tufts and Harvard, created the world's 4) _____ "living" robots. They are called "xenobots". Scientists created them in 2020 from the 5) _____ cells of an African frog. Its scientific name – "xenopus laevis" – gave the xenobot its name. The xenobots are less than a millimetre 6) _____. They can move, work together in groups and self-heal. Although they are not what we 7) _____ robots to be, scientists say they are technically robots. They are a machine-animal hybrid. The scientists say xenobots are "an 8) _____ new life-form".

3. Rearrange letters properly of the words in parentheses.

1. A new kind of robot can _____ (uodrperc).
2. This is an example of _____ (ciesenc fiction).
3. What we _____ (mnagiei) robots to be.
4. Scientists say they are _____ (nhciltlycae) robots.
5. They are a machine-animal _____ (bihyrd).
6. An _____ (itylnere) new life-form.

4. Match the following synonyms (a-j) to the words (1-12).

a) collected; b) totally; c) visualize; d) fix; e) give birth; f) do; g) made; h) advantages; i) reality; j) for.

1. reproduce _____
2. fact _____
3. created _____
4. imagine _____
5. entirely _____
6. shape _____
7. gathered _____
8. carry out _____
9. repair _____
10. benefits _____

READING

1. Read the text. Put the available title below.

The path followed by an electric current is known as an **electric circuit**. The simplest electric circuit contains only three parts, i.e. one **load** one **voltage source**, and conductors. Most complete electric circuits contain six parts: 1. an energy source to provide the voltage 2. conductors through which the current can travel, 3.

insulators **to confine** the current to the desired paths, 4. a load to control the amount of current and convert the electric energy taken from the energy source 5. a control device, often **a switch**, to start and stop the flow of current and 6. a protection device to break the circuit in case of a circuit **malfunction**. Basic types of circuits are **a series circuit** and **a parallel circuit**. The series circuit offers a single, continuous path for current flow from the negative side of the **electromotive force** source to the positive one. Different electrical devices like flashlights, doorbells are connected by wires that give only one path to follow. In a parallel circuit, for example, two or more appliances are placed parallel to each other so that the current has more than one path through which it can flow. If one burns out, the current will flow through the other appliances in a circuit. **Household appliances** are connected by parallel circuits so that the whole circuit does not **fail** if one piece of electrical equipment **burns out**.

Electric circuits have to be protected. If there are too many electrical devices, the conducting wire may **overheat** and cause fire or serious **injuries**. To prevent this, **fuses**, through which all the current in the circuits passes, are built into the circuits. A fuse is an intentionally weakened element that opens the circuit automatically if it is **overloaded**. It has a wire with a low **melting** point and when the fuse heats up, the wire melts and the circuit is broken.

2. Choose True (T) or False (F) for these sentences.

1. The required components of a simple circuit include only wires, bulbs and switches. ____
2. Conductors confine the current to the desired circuits. ____
3. The series circuit offers more than one path through which the current can travel. ____
4. Most household appliances are connected by series circuits. ____
5. If any of the appliances in a parallel circuit fails, current still continues to flow through the other appliances in a circuit. ____
6. To prevent fire or other serious injuries, switches are built into the circuits. ____

GRAMMAR FOCUS

Put the words and expressions in the correct order to make sentences.

1. for creating record a Set highest heat . the
2. more this than for 17 It minutes . did
3. supply near-endless of Create clean a energy .
4. scientists want The develop the sun . to artificial
5. costs will this run \$1 trillion over Total year .
6. the been have trying . world Scientists around
7. energy . way the clean It's best produce to
8. fuels . fusion fossil no needs process nuclear The
9. not fusion technology enough is advanced still Nuclear

10. important step . an is project EAST The

SELF-CHECK & TRANSLATION

1. Read the text. Choose the word (a–d) for each gap. Put the available title below.

China has (1) ____ a record for creating the highest heat ever recorded. Scientists created temperatures of (2) ____ to 70,000,000°C in an "artificial sun". The new record was for keeping the heat at a temperature that is five times hotter than the sun. It did (3) ____ for more than 17 minutes. The extreme heat was created in a nuclear fusion reactor. The reactor is part of the Experimental Advanced Superconducting Tokamak project (EAST). It (4) ____ the natural reactions that happen inside our sun and other stars. The scientists want to develop the artificial sun to create a (5) ____-endless supply of clean energy. The EAST project has cost China more than \$950 billion. Total costs will (6) ____ over \$1 trillion this year. Scientists around the world have been (7) ____ for decades to develop nuclear fusion. They say it is the best way (8) ____ produce clean energy. The nuclear fusion process needs no fossil fuels and leaves behind (9) ____ dangerous waste. If scientists can make it work, the world will become greener and cleaner. It could also mean (10) ____ fuel bills. EAST set the new record in a laboratory. Nuclear fusion technology is still not advanced (11) ____ to become a global industry. However, researcher Dr Gong Xianzu, a nuclear fusion expert, says the EAST project is an important step. He said: "The recent operation lays a solid scientific and experimental foundation towards the (12) ____ of a fusion reactor."

- | | | | |
|-------------------|---------------|------------|---------------|
| 1. a) set | b) let | c) bet | d) wet |
| 2. a) down | b) along | c) up | d) over |
| 3. a) these | b) them | c) this | d) there |
| 4. a) takes place | b) occurs | c) happens | d) reproduces |
| 5. a) near | b) close | c) far | d) distant |
| 6. a) walk | b) run | c) chase | d) dash |
| 7. a) try | b) tries | c) tried | d) trying |
| 8. a) for | b) to | c) of | d) at |
| 9. a) not | b) never | c) no | d) no's |
| 10. a) cheaply | b) decrease | c) lesser | d) lower |
| 11. a) ample | b) sufficient | c) plenty | d) enough |
| 12. a) walking | b) running | c) dashing | d) sprinting |

2. Translate the text into the Russian.

[illegible]

3. Translate the following sentences into English.

1. – Какие условия существуют для протекания электрического тока? – Во-первых, между двумя точками проводника должна существовать разность потенциалов. Во-вторых, необходим путь для движения электронов.

2. – Ты случайно не знаешь, что Павел чертит на доске? – Если я не ошибаюсь, он чертит простейшую электрическую цепь, которая состоит из источника, нагрузки и проводников.

3. – Разве ты не помнишь основные источники постоянного тока? Мы их обсуждали на прошлой лекции. Это электрохимические батареи, а также фотоэлектрические или солнечные элементы.

4. В последовательной электрической цепи ток имеет только один путь протекания, поэтому недостатком такого соединения является то, что если хоть один элемент выйдет из строя, ток пропадет во всей цепи.

5. – Что ты делал вчера весь вечер? – Я готовился к экзамену по физике. Я

повторял основные понятия и единицы измерения электричества, а также виды электрического тока и электрических цепей.

6. – Вы все еще будете изучать техническую документацию, когда мы вернемся? – Да, конечно, мы также будем составлять инструкции по технике безопасности.

7. – Почему бытовые приборы в квартире необходимо соединять параллельно? – Насколько я знаю, это более эффективно, поскольку, если один из приборов перегорит, все остальные продолжат свою работу.

8. – Где Иван? – Он устанавливает предохранитель в электрическую цепь. Это важное устройство, которое служит для защиты цепи от повреждений и возгорания.

9. Оборудование работало так шумно, что я не мог услышать, что говорил главный инженер.

10. Вчера в 8 часов вечера они все еще обсуждали недостатки и преимущества нового проекта.

WRITTEN INTERACTION

1. Work in pairs. Do the following tasks to be good at answering the question ‘What’s your biggest weakness?’

Avoid 3 weaknesses:

1. I am not very good at working with other people.
2. I am not very good at time keeping.
3. I am not very good at managing multiple tasks or projects.

However, here are 3 tips for structuring your answer:

1. Give an honest weakness.
2. Do not say you are a perfectionist! Everyone uses this!
3. Explain what you are doing to improve on the weakness.

a) Match the weaknesses you can use at your job interview with the way how to speak about them and fill in gaps 1-8 with one word only.

1. I focus too much 1) _____ detail during projects or tasks.	a) I currently lack experience in taking the lead on projects, but this is something I am keen to improve on now. If I am to reach my full potential, this is an area I need to gain experience in.
2. I find it difficult to 2) _____ other people for help.	b) However, I am learning to remain calm in difficult situations and to focus on what I can do to help that the project finish on time and to the necessary standard.
3. I find 3) _____ hard saying 'no' to people.	c) I always try to figure things out for myself. However, I do understand it would be more beneficial to seek advice from other more experienced people in my team and I am taking steps to improve in this area.
4. I lack experience 4) _____ leading project work.	d) If you asked now to take the lead on something, I wouldn't feel confident in doing so. However, to improve in this area I would seek to observe how managers and team leaders tackle projects and tasks so I can then learn how to do it myself when the opportunity presents itself.
5. I 5) _____ too sensitive at times.	e) I would genuinely love to have the confidence to stand up in front of a group of people and give a talk. However, I am trying to improve in this area and I recently purchased a book from Amazon on how to improve confidence when public speaking.

6. I don't yet have 6) _____ leadership experience.	f) I am a detail orientated person, but I am trying to be more mindful and I am learning to focus more on the end goal of the project or task that I am responsible for.
7. I get stressed 7) _____ a project runs over the deadline.	g) I always say 'yes' to everything even if I don't have the capacity to do so. I have sometimes become overwhelmed by taking on too many responsibilities. Now I take my time to assess my own workload to make sure I do have the capacity to commit to the extra work responsibilities.
8. I am not very good 8) _____ presenting to large groups of people.	h) However, I do understand that for me to continually improve professionally I need to view other people's comments as constructive and productive. So, I am learning to be more mindful when people are simply trying to help me improve and develop.

b) Read about two more weaknesses and fill in gaps 1-9 with one word only.

I'm not very good 1) giving people feedback. If someone asks me 2) feedback, I would rather avoid it as I don't want to hurt their feelings. However, I do appreciate feedback is 3) important part of self-development and I have 4) trying to improve in this area by forcing myself to give people feedback when it is requested.

I can 5) too judgmental of others. In my last role I would automatically judge people if they 6) ... either late finishing a project or if their standard of work 7) not up to scratch. However, I have been trying to improve in this area and I no longer jump to conclusions relating 8) other people's performance.

Instead, I try to offer my help or support so they can improve which ultimately serves to help the team move 9)

c) Choose one job advertisement from the given below and write the Letter of Application (at least 120 words). Remember to include all necessary information to write a good letter.

JOB OPPORTUNITY

A fire fighting equipment manufacturing company is looking for

Mechanical Engineer

BSc Engineering in Mechanical,
fresh or working experience in engineering company.

Draftsman

Graduate with diploma in Autocad,
fresh or working experience in engineering company.

Apply via E-mail: hr@firechief.com.pk Or send your CV at

HASEEN HABIB
CORPORATION (PRIVATE) LTD.

123/3, Quaid-e-Azam Industrial Estate,
Haseen Habib Road, Lahore.
Tel: (042) 3512 4400 Fax: (042) 3512 3197

MECHANICAL ENGINEER

We are seeking a Mechanical Engineer who is able to visually observe, listen, hear, and talk with non-native English speakers in person, on the phone and in video and audio conference calls. You will bring your ability to work across North American, European and Asian time zones, including attending meetings that are outside normal business hours. Excellent customer service skills will be reflected in your ability to respond quickly to customer and company needs.

REQUIREMENTS

- MS or equivalent in thermal / mechanical engineering.
- 5+ years using 3D CAD, Solidworks preferred (ProE Wildfire a plus).
- Proficient in CFD and thermal modeling, Icepak preferred (Flotherm a plus).
- Proficiency in analytical modeling of heat exchangers and thermal systems.
- Demonstrated competence creating 2D drawings for machining with GD&T.
- Experience prototyping in fast paced environment.
- Good with hands (building prototypes, retrofitting server and PC chassis). Prior experience building PC's. Experience building racks and servers a big plus.
- Working knowledge of specifying fans and pumps.
- Excellent thermal lab testing skills, working with DAQ, thermocouples, wind chamber, and noise testing.
- Ability to prioritize, manage multiple tasks, and meet deadlines with minimal direction.
- Ability to not only report results — but also identify and articulate where to exploit areas of strength.
- Strong interpersonal as well as oral and written communication abilities.
- Energetic, motivated, and a self-starter.

<http://legendarystaffing.com/2012/08/20/mechanical-engineer/>

Piktochart
make information beautiful

d) Choose the appropriate word to fill in the gaps in the sentences below.

Vocabulary

1. Getting ready for the interview try to nervousness and shortness of breath.
a) cope; b) overcome; c) get rid; d) manage.
2. The interviewer always tries to find out whether you can apply your knowledge to with real-word problems.
a) deal; b) solve; c) fulfill; d) accomplish.
3. The applicant should be ready to give specific examples to show what you ... and what you learnt from it.
a) received; b) got; c) obtained; d) achieved.
4. Poor communication and language can discredit you at the interview.
a) sign; b) common; c) body; d) foreign.
5. Use the time before the interview to practice your introductory speech, but don't from memory, be as natural as possible,
a) retell; b) recite; c) tell; d) report.

Grammar

1. Had he read the job description earlier, he about the qualifications required.
a) would have known; d) must have known;
b) would know; c) won't know.
2. If only she much experience in engineering but still, she doesn't have any.
a) has; b) has had; c) had; d) has got.
3. It's high time the 4th year students working on their diploma projects.
a) had started; b) have started; c) start; d) started.
4. I couldn't remember any of my weaknesses at the interview. I wish I ... at least one.
a) mention; b) had mentioned; c) have mentioned; d) mentioned.
5. Original solutions and ideas were required to solve the problem. If only we inventive enough to solve it.
a) have been; b) could be; c) had been; d) were.

ROCK YOUR BRAIN

Write down solution for the task.

What is the next number in the following sequence: 0 0 1 2 2 4 3 6 4 8 5 ?

- (a) 6; (b) 8; (c) 10; (d) 12.

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