# STROJÍRENSKÁ ANGLIČTINA

Lenka Hrušková

České Budějovice 2012

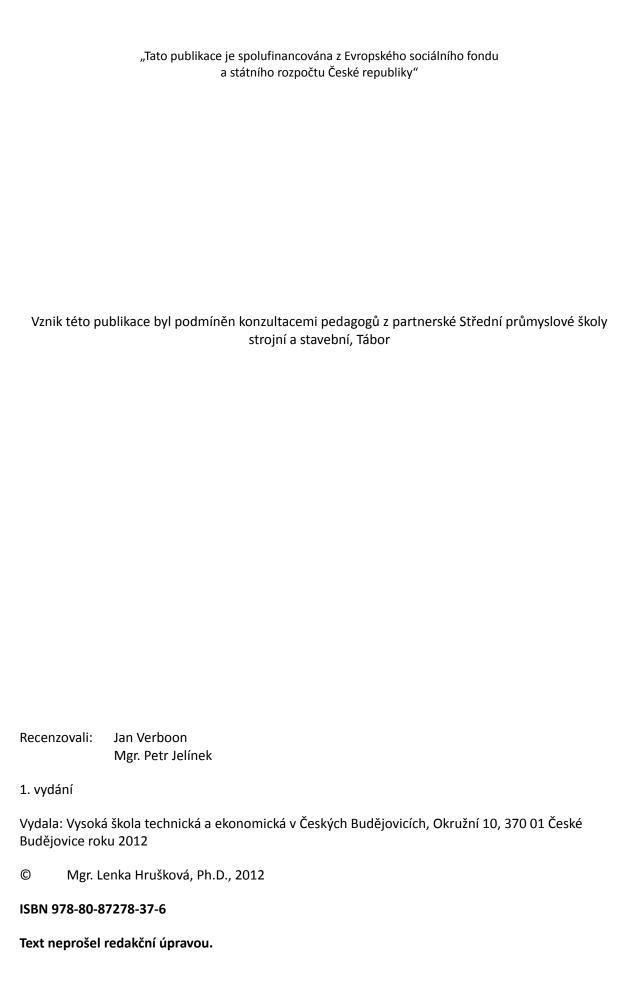






















# Obsah

| 1. How Sequential Gearboxes Work                         | 4  |
|--|----|
| Grammar: Relative clauses                                | 4  |
| How Sequential Gearboxes Work                            | 5  |
| 2. CAM: Computer Aided Manufacturing                     | 8  |
| Grammar: Phrasal verbs. Prepositions of time and place   | 8  |
| CAM: Computer Aided Manufacturing                        | 10 |
| 3. How Does a DC to AC Power Converter Work?             | 12 |
| Grammar: Expressing past habit. Be/get used to something | 12 |
| How Does a DC to AC Power Converter Work?                | 14 |
| 4. The Life Cycle Management of a Nuclear Power Plant    | 16 |
| Grammar: Present perfect simple and continuous           | 16 |
| The Life Cycle Management of a Nuclear Power Plant       | 18 |
| 5. LG 32-Inch LCD HDTV                                   | 20 |
| Grammar: Past perfect simple and continuous              | 20 |
| LG 32-Inch LCD HDTV                                      | 22 |
| 6. How to Use a Fire Extinguisher                        | 24 |
| Grammar: I will; I am going to                           | 24 |
| How to Use a Fire Extinguisher                           | 26 |
| Key:   | 28 |
| Literarture:   | 30 |









# 1. How Sequential Gearboxes Work

#### Transmission differences

- Manual transmission: standard H pattern in shifter
- Sequential transmission: click a shift lever

#### Race cars:

up-shift – push shift lever forwards downshift – pull shift lever backwards

• Formula 1 cars: paddles instead of shift lever; up-shift with left paddle, downshift with right paddle

# **How Sequential Gearboxes Work**

Same process applies for

Motorcycles:

lever moves up or down to shift gear

• Mass produced automobiles:

lever moves backwards or forwards to shift gear

The motions rotate a ratcheting drum which has grooves cut into it.

The grooves (depending on position of gears):

- · control standard control rods
- directly move the gear selector fork

Ratcheting drum=sequential shifting

# Advantages:

- quicker shifting
- no shifting mistakes

**Grammar:** Relative clauses

#### Vocabulary:

- a) gearbox převodovka
- b) lever páka
- c) up-shift přeřadit na vyšší rychlost
- d) downshift podřadit
- e) steering wheel volant
- f) groove zářez
- g) in sequence popořadě
- h) drum buben; válec
- i) advantage výhoda
- j) skip přeskočit, vynechat

leden 2012 4/39









#### 1. Fill in the gaps in the following sentences

#### 2. Make one sentence from two. Use who, that, which

A lorry is parked in front of the pharmacy. It has taken up all the parking spaces.

A gearbox was stolen from a workshop. It has been found in the bin!

A car mechanic changed the wheel on my car. He worked very quickly.

A car has a flat tire. It must pull off the road onto the shoulder immediately. Barbara works for a company. It makes washing machines.

There were some nails in the toolbox. Where are they?

# 3. Complete the sentences using who/whom/whose/where

What is the name of the man ........ tools your borrowed?

Is Czech Republic the country .......... Škoda cars are made?

What do you call the man ......... makes things from wood?

Is this the lady to ............ you sold your car?

I cannot remember the name of the garage ............. I last tanked.

I must call the man to ............. I lent my hacksaw. I need it back!

We met the people .................. daughter won the last design competition.

# 4. Translate

Můj bratr Jim, který žije v Londýně, je lékař.

Anna, co bydlí vedle, je velmi přátelská.

John, který mluví francouzsky a italsky, pracuje jako turistický průvodce.

Paní Bondová stráví pár týdnů v Dánsku, kde žije její dcera.

Bydleli jsme v Hotelu Grand, který nám doporučila Karin.

The following lesson is relevant to English for Technicians, Section 1, Construction Elements and Parts of Machines and Equipment

The article was written by Marshal Brain and is taken from the website <u>www.howstuffworks.com</u> The article is entitled:

#### **How Sequential Gearboxes Work**

If you have read the article on manual transmissions you will know why they use the standard "H" pattern in the shifter.

leden 2012 5/39









If you have ever ridden a motorcycle, you know that the manual transmission in a motorcycle is nothing like this. On a motorcycle, you shift gears by clicking a lever up or down with your toe. It is a much faster way to shift. This type of transmission is called a sequential gearbox or a sequential manual transmission. Most race cars use sequential gearboxes as well.

In a race car, the motion of the shift lever is either "push forward" to up-shift or "pull backward" to downshift. If you are in a gear and you want to go to a higher gear (e.g. from 2nd to 3rd), you push the shift lever forward. To go from 3rd to 4th, you push the lever forward again. To go from 4th to 5th, you press it forward again. It is the same motion every time. To drop back down a gear, say from 5th to 4th, you pull the lever backward. In European mass-produced automobiles, the shift lever moves forward and backward to shift into higher and lower gears, respectively. In Formula One cars, there are actually two paddles on the sides of the steering wheel, instead of a shift lever. The left paddle up-shifts, while the right paddle downshifts. On a motorcycle, you do the same thing, but instead of moving a lever back and forth with your hand, you move a lever up and down with your foot.

What these motions are doing is rotating a ratcheting drum. The drum has grooves cut into it which do one of two things:

- If the drum is located away from the transmission's gears, the grooves control standard control rods.
- If the drum is located next to the gears, the grooves directly move the gear selector fork, and no control rods are needed.

So, when you move the lever, it rotates the drum, changing the gears.

Because of the drum, you have to shift in sequence. There is no skipping, for example, from first gear to third. You must always go through second gear to get to third gear. It is the same when downshifting.

The advantage of this system is that shifting is quicker and shifting mistakes are impossible.

# **Questions:**

- 1. What is the standard shifter pattern in a manual transmission?
- 2. On a sequential manual transmission how do you shift gears?
- 3. What are you doing when you "pull back" in a race car?
- 4. In Formula One cars what do they use instead of a shift lever?
- 5. To upshift in a Formula One car which paddle do you use?
- 6. What rotates when moving the lever to change gears?
- 7. What do you understand under the term "shift in sequence"?

#### **Answers:**

- 1. H
- 2. Click a lever (In Formula One cars click a paddle)

leden 2012 6/39











- 3. Downshifting
- 4. Paddles on either side of the steering wheel
- 5. Left paddle
- 6. Ratcheting drum
- 7. You can't skip gears

leden 2012 7/39









# 2. CAM: Computer Aided Manufacturing

# **CAD – Computer Aided Design:**

• conceptual designs for new products



bill of materials

# Advantage:

• no requirement for physical prototypes

### Disadvantage:

• CAD software data needs to be manually converted into manufacturing instructions

# **CAM – Computer Aided Manufacturing**

 bridges the gap between the conceptual design and the manufacturing of the finished product.

#### How?

 CAM software directly converts CAD software data into a set of manufacturing instructions in the form of G-code

#### What is G-code?

Programming language for machine tools

### Why is G-code important?

- G-code instructs machine tools to manufacture a large number of items with perfect precision.
- Machine tools linked into "cells" can therefore perform single steps of a process.

### CAM benefits:

- Reductions in labour costs
- Quick product alterations instant results

# CAM problems:

- Expense of infrastructure
- Lack of universal standard for G-code

**Grammar:** Phrasal verbs. Prepositions of time and place.

### Vocabulary:

- a) to advance pokročit
- b) requirement požadavek
- c) drawing nákres
- d) convert převést
- e) manually ručně, manuálně

leden 2012 8/39









- f) precision přesnost
- g) in conjunction with společně, ve spolupráci
- h) involvement zapojení (někoho nebo něčeho do něčeho)
- i) instant results okamžité výsledky
- i) enable umožnit

# 1. Fill in the gaps in the following sentences

The bus is full. We cannot get .....

I was very tired this morning, I couldn't get .....

How was the exam? How did you get ....?

My German is not very good but I can get .....

My car broke ...... in the middle of the crossroads!

Our plane took ..... on time.

# 2. Fill in the gaps in the following sentences

I have ..... out of petrol.

Technology is moving so fast. I can't ...... up with it.

Are you ...... forward to your new computer game?

I am trying to ...... down on smoking.

I had to ...... in a number of forms to register my new car.

I made a mistake on a form and I ..... it out.

They give us so much new information at the lectures, it is hard to ...... it all in.

# 3. Complete the sentences using a word from List A and a word from List B. You need to use some words more than once.

A: away, back, forward, on, out, up

B: at, of, to, with

My holidays are nearly over. Next week I will be ...... work.

We've nearly run ...... money. We've got very little left.

Martin isn't very happy in his job because he doesn't get ...... his boss.

I love to look ...... the stars in the sky at night.

Are you looking ..... the party next week?

There was a bank robbery last week. The robbers got ........... £30,000.

# 4. Complete the sentences using at, in or on.

There is something wrong with the car. We'd better stop ... the next garage.

Write your name ... the top of the page.

My brother lives... a small village ... the south-west of England.

You'll find the sports results ... the back page of the newspaper.

Always save your work ... a flash disk.

He says he works .... the computer but I think he just plays games!

You can find anything and everything .... the internet.

My office is ... the first floor. It is ... the left as you come out of the lift.

London is ... the River Thames.

I usually make a few phone calls .... my way to work ... the morning.

leden 2012 9/39









The exhibition of classic cars ..... the Technical Museum finished on Saturday.

#### 5. Complete the sentences using at, in or on.

What are you doing ... Saturday?
I hope the weather is nice ... the weekend.
I would like to go on holiday ... the summer.
Liz always goes skiing ... Christmas.
Hurry up! We have to go ... five minutes!
The book was easy to read, I read it ... a day.
I travelled overnight to Dublin and arrived ... 5 o'clock ... the morning.
The CAD course begins ... 7<sup>th</sup> January and ends sometime ... April.

The following lesson is relevant to English for Technicians, Section 2, Tools and Devices in Engineering
The author of the article is unknown. The article was taken from the website <a href="https://www.bestpricecomputers.co.uk">www.bestpricecomputers.co.uk</a>

#### **CAM: Computer Aided Manufacturing**

The field of <u>computer-aided design</u> has steadily advanced over the past four decades to the stage at which conceptual designs for new products can be made entirely within the framework of CAD software. From the development of the basic design to the Bill of Materials necessary to manufacture the product there is no requirement at any stage of the process to build physical prototypes.

Computer-Aided Manufacturing takes this one step further by bridging the gap between the conceptual design and the manufacturing of the finished product. Whereas in the past it would be necessary for a design developed using CAD software to be manually converted into a drafted paper drawing detailing instructions for its manufacture, Computer-Aided Manufacturing software allows data from CAD software to be converted directly into a set of manufacturing instructions.

CAM software converts 3D models generated in CAD into a set of basic operating instructions written in G-Code. G-code is a programming language that can be understood by numerically controlled machine tools – essentially industrial robots – and the G-code can instruct the machine tool to manufacture a large number of items with perfect precision and faith to the CAD design.

Modern numerically controlled machine tools can be linked into a 'cell', a collection of tools that each performs a specified task in the manufacture of a product. The product is passed along the cell in the manner of a production line, with each machine tool (i.e. welding and milling machines, drills, lathes etc.) performing a single step of the process.

The benefits are clear. In conjunction with computer-aided design, computer-aided manufacturing enables manufacturers to reduce the costs of producing goods by minimising the involvement of human operators. Also, by removing the need to translate CAD models

leden 2012 10/39









into manufacturing instructions through paper drafts it enables manufactures to make quick alterations to the product design, feeding updated instructions to the machine tools and seeing instant results.

There are problems too. Setting up the <u>infrastructure</u> to begin with can be extremely expensive. Additionally, while all numerically controlled machine tools operate using G-code, there is no universally used standard for the code itself which means it can often be a challenge to transfer data from CAD to CAM software and then into whatever form of G-code the manufacturer employs.

#### **Questions:**

- 1. What has Computer Aided Design cut out the need to do?
- 2. Computer Aided Manufacturing bridges the gap between what two things?
- 3. Data from CAD software can be converted by Computer-Aided Manufacturing software into what?
- 4. What is G-code?
- 5. What do you understand under the word "cell" as referred to in the text?
- 6. What is the main benefit to manufacturers of Computer Aided Manufacturing?

#### **Answers:**

- 1. To build physical prototypes
- 2. Conceptual design/manufacture of finished product
- 3. Set of manufacturing instructions
- 4. A programming language
- 5. A collection of numerically controlled machine tools that each performs a specified task in the manufacture of a product.
- 6. Reduced manufacturing costs

leden 2012 11/39









#### 3. How Does a DC to AC Power Converter Work?

Two basic types of electricity:

- AC Alternating Current switches continuously from negative\to positive
- DC Direct Current always flows in the same direction

Early DC to AC convertors used mechanical switches

Modern DC to AC convertors use two or more electrical switches called transistors

Electricity flows through power lines at 120 – 240 volts (depends on the country).

DC ranges between 12 and 30 volts (far too low to power appliances designed to run from outlets).

How do you run appliances when the voltage is too low?

• Use a DC to AC convertor with a step-up transformer.

AC at home changes polarity 60 times/second.

This is referred to as: 60 Hertz or 60 cycles.

**Grammar:** Expressing past habit. Be/get used to something. Tag questions.

# Vocabulary:

- a) current proud
- b) power grid energetická síť
- c) home appliances domácí spotřebiče
- d) converter měnič proudu, převodník
- e) sine wave sinusová vlna
- f) coil cívka
- g) increase zvýšit
- h) decrease snížit
- i) device zařízení, přístroj
- j) constant stálý

### **Translate**

Denis trávíval u počítače hodiny, ale teď ho sotvakdy zapne. Jim býval mým nejlepším přítelem, ale teď už nejsme kamarádi. Když jsme bydleli v Oxfordu, chodívali jsme často do divadla. Dřív mi nechutnal aglický čaj, ale teď ho miluju! Dřív psala dva nebo tři dopisy týdně, ale teď posílá jenom e-maily. "Hraješ hry na počítači?" "Ne, ale dřív jsem je hrával."

#### Fill in the gaps in the following sentences:

Alice ...... travel a lot but now she doesn't go away much.

I ...... drive a Ford Fiesta. It was my first car.

leden 2012 12/39











| Peter cycle a lot but now he roller skates.   |
|---|
| Did you eat a lot of sweets when you were a child?  |
| Denis didn't smoke but now he smokes 40 cigarettes a day!   |
| There be a gallery here.  |
| Put a question tag on the end of these sentences  |
| There are two basic types of electricity,?  |
| Early DC to AC converters used a mechanical switch,?  |
| In the United States, electricity flows through the power lines at 120 volts,?  |
| The electricity from the second coil can be used to power appliances,   |
| You know how a DC to AC power converter works,?   |
| Peter is an electrician,?   |
| Jane, you haven't got a spare flash disk,?  |
| It is Friday today,?  |
| You didn't use to smoke,?   |
| David used to work for Samsung,?  |
| Fill in the gaps in the following sentences with one of these phrasal verbs: drop out, move in, close down, turn up, show off. Add question tags.  Lisa didn´t  |
| Paul didn't?  |
| You are not friends with Sheila and Helen. They didn't at your party,   |
| ?   |
| Fill in the gaps in the following sentences using (be/get) used to  |
| When I moved to England I driving on the left.  |
| Peter's new flat is on a busy street. He will have to the noise.  |
| University students have to a new timetable every semester.   |
| If yousleeping in a tent, don't go camping!   |
| Fill in the gaps in the following sentences using (be/get) used to + an appropriate verb  |
| Sue moved from a big house to a much smaller one. She had to in much smaller house.   |
| Frank lives alone but he doesn't mind. He alone.  |
| If you have children, you must bed time stories.  |
| The following lesson is relevant to English for Technicians, Section 3, Electro-technical Devices and Computer Technology.  The following article was written by Islah David and taken from the website ways allow som. |
| The following article was written by Isiah David and taken from the website <a href="www.eHow.com">www.eHow.com</a> The article is entitled:  |

leden 2012 13/39









#### How Does a DC to AC Power Converter Work?

There are two basic types of electricity: alternating current (AC) and direct current (DC). AC switches directions dozens of times every second, going from negative to positive and back again. DC, by contrast, always flows in the same direction. Power plants produce alternating current or AC electricity. This electricity is sent through the power grid into houses, businesses and other buildings. Batteries, solar panels and certain other power sources use DC electricity. Home appliances are designed to use AC, since AC flows into the home. A DC to AC power converter lets you use a DC source to power one of these appliances.

Early DC to AC converters used a mechanical switch that would flip back and forth very quickly. This would generate pulses of positive and negative current. Modern AC converters use two or more electric switches called transistors. A computer first sends signals to transistors controlling the positive voltage, causing them to make a positive pulse. It then sends signals to transistors controlling the negative voltage, making a negative pulse. AC power flows as a smooth, continuously alternating wave called a sine wave. Most converters, however, do not create an actual sine wave, but a squared-off approximation of it made out of individual electric pulses.

In the United States, electricity flows through the power lines at 120 volts and, in much of the rest of the world it is as high as 240 volts. DC is usually somewhere between 12 and 30 volts, depending on the source - far too low a voltage to power appliances designed to run from outlets. To increase the voltage, a DC to AC converter uses a component called a step-up transformer. In a transformer, AC electricity flows through a coil of wire. This creates a moving magnetic field, which produces an electric current in a nearby coil of wire. In a step-up transformer, the second coiled wire has more turns than the first, causing it to produce higher voltage. The electricity from the second coil can then be used to power appliances.

Many electronic devices, from computers to TVs to cell phone chargers, require various DC (direct current) voltages to supply power to circuitry. For those appliances and devices that get their power by plugging them into an electrical wall outlet, a circuit must be designed to convert the 120 volt AC power to a desired DC voltage.

Alternating current, as is found in your home's electric outlets, changes polarity 60 times a second, referred to as "60 Hertz," or "60 cycles". The voltage increases from zero to its maximum positive voltage and then swings below zero to its maximum negative voltage, in a smooth sine wave transition. In a DC voltage supply, the polarity remains constant; plus (+) and minus (-) polarity points do not change, as with a torch battery.

#### **Questions:**

- AC always flows in the same direction true or false?
- 2. How does electricity get into people's homes?
- 3. The word "appliances" is used in the text what do you understand under this term?
- 4. AC power flows as a smooth, continuously alternating wave. What name is given to this wave?

leden 2012 14/39











- 5. When AC electricity flows through a coil of wire in a transformer what produces the electric current?
- 6. In terms of changes in polarity what alternative word is used for cycles?

#### **Answers:**

- 1. False
- 2. Through the power grid
- 3. Fridge, freezer, microwave, toaster, kettle, etc. (i.e. any white or brown goods)
- 4. Sine wave
- 5. A moving magnetic field
- 6. Hertz

leden 2012 15/39





approach to the consequences of decision making.





4. The Life Cycle Management of a Nuclear Power Plant

Long-term nature of a nuclear power plant requires the adoption of a similarly long-term

Managing the life cycle stages of a nuclear power plant involves decisions that create a balance between:

- safe operation, and
- stewardship of asset

This requires understanding of:

- life cycle stages
- mission of the owners
- political and economic environment
- long term strategic direction
- ability to assess the impact of decisions taken

#### What is Life Cycle Management?

 safety management+ageing management+business management decisions+economic considerations

What period of time is considered to be a NPP's life cycle?

• That period of time that covers all stages from design through to decommissioning, including recovery of the site and the disposal of fuel and waste.

**Grammar:** Present perfect simple and continuous

#### Vocabulary:

- a) long term dlouhodobý
- b) consequence důsledek
- c) profound understanding dokonalá znalost, porozumění
- d) outweigh převážit, být mnohem větší než...
- e) nuclear waste nukleární odpad
- f) decommissioning vyřazení z provozu
- g) require vyžadovat
- h) cover pokrývat, zahrnovat
- i) stage fáze, stupeň

# 1. Put the verbs in brackets in the correct form

leden 2012 16/39











| 2. | Complete the answers. Some sentences are positive and some are negative. Use these verbs: happen, meet, eat, read, have |  |
|----|---|--|
|    | What is George's sister like? – I don't know, her.  |  |
|    | What is the new book like? – I have no idea,it.   |  |
|    | Are you hungry? – Yes, much today.  |  |
|    | Did you enjoy your holiday? – Yes, it was the best holiday for a long time.   |  |
|    | The car broke down again yesterday. – Not again! That's the second time this week! (the week is not finished)           |  |
| 3. | Translate:  |  |
|    | It has been raining for two hours already.  |  |
|    | How long have you been learning English?  |  |
|    | Debbie has been playing tennis since she was six.   |  |
|    | David has been working for the company for three years already. I haven't been feeling well recently.                   |  |
| 4. | Read the situations and write two sentences using the words in brackets:  |  |
|    | Tom started to read a book an hour ago. He is still reading and now he is on page 35.                                   |  |
|    | (read / an hour)  |  |
|    | (read / 35 pages so far)  |  |
|    | When they left college, Sue and Mary started making films together. They still make films.                              |  |
|    | (make / ten films since they left college)  |  |
|    | (make / films since they left college)  |  |
| 5. | Read the situations and write questions using the words in brackets   |  |
|    | You meet a man who tells you that he works at a nuclear power plant. You ask him:                                       |  |
|    | (how long / work / there?)  |  |
|    | You see somebody fishing by the river. You ask:   |  |
|    | (how many fish / catch?)  |  |
|    | A friend of yours is saving money to go on holiday. You ask:  |  |
|    | (how much money / save?)  |  |
| 6. | Are the underlined verbs right or wrong? Correct them if they are wrong.  |  |
|    | The weather is awful. It's raining again!   |  |
|    | The weather is awful. It's raining all day.   |  |
|    | I like your house. How long <u>are you living</u> there?  |  |
|    | Graham is working in a shop for the last few months.  |  |
|    | That is a very old bike. How long do you have it?   |  |

The following lesson is relevant to English for Technicians, Section 4, Industrial Management
The following article was published by the International Atomic Energy Agency and taken from the website

leden 2012 17/39









www.iaea.com
The article is entitled:

#### The Life Cycle Management of a Nuclear Power Plant

Given the very long-term nature of a nuclear power plant and its associated site, it is essential to adopt a similarly long-term approach to the consequences of decision making and strategic direction from an early stage in the life of the nuclear power plant. Some management decisions will have significant implications and consequences that could affect the nuclear power plant for many decades.

In managing the life cycle stages of a nuclear power plant, many decisions have to be taken which can influence safe operation, but which must also balance long term stewardship of the organizations assets. Managing nuclear liabilities and assets requires profound understanding of the stages which make up the total life cycle of the nuclear power plant, the mission of the owners, the political and economic environment within which it operates, the long term strategic direction, and the ability to assess the impact of decisions taken

For example, decisions taken during the conceptual design could have a substantial impact on waste handling and final decommissioning costs. The affect can be so great as to outweigh the income and benefit obtained through the operational stage of the nuclear power plant life.

Life cycle management is the integration of safety management, ageing management and business management decisions, together with economic considerations over the life of the nuclear power plant.

The nuclear power plant life cycle should therefore be considered as a single period covering all stages from design through decommissioning. This encompasses the early conceptual phase through approval, financing, construction, operation (including periodic safety reviews supporting plant life extensions), shutdown, and decommissioning to the eventual recovery of the site and includes the eventual disposal or re-accountability of responsibility for the fuel and waste. Therefore, in economic terms the full scope of the "life cycle" of a nuclear power plant describes that period when financial charges can be made against the nuclear power plant.

#### **Questions:**

- 1. Why is it is essential to adopt a long-term approach to decision making at an early stage in the life of a nuclear power plant?
- 2. In the text reference is made to the "stewardship" of assets. What synonym is used in the text for "stewardship"?
- 3. Decisions taken during the conceptual design phase could have such an effect as to do what?
- 4. In the text it states that: A profound understanding of the life cycle of the nuclear power plant is required in order to properly managing nuclear liabilities and assets. Which other four considerations are required to properly managing nuclear liabilities and assets?
- 5. From your understanding of the text express what "liabilities" and "assets" are in terms of "plusses" and "minuses".
- 6. In economic terms what is the full scope of the "life cycle" of a nuclear power plant?

leden 2012 18/39









#### **Answers:**

- 1. Some management decisions will have significant implications and consequences for decades to come.
- 2. Management
- 3. As to outweigh the income and benefits over the lifetime of the nuclear power plant.
- 4. the mission of the owners
- the political and economic environment
- the long term strategic direction
- impact assessment of decisions taken
- 5. Liability is a minus/Asset is a plus.
- 6. The period when financial charges can be made.

leden 2012 19/39









#### 5. LG 32-Inch LCD HDTV

#### Full HD 1080p resolution

- double the pixel resolution
- superior picture quality

# **Dolby Digital**

- 5.1-channel surround sound
- great audio quality whatever the media
- audio exactly as intended

### 100,000:1 Dynamic Contrast Ratio

- stunning colours
- deeper blacks

#### Picture Wizard

- easy self-calibration
- on-screen reference points for key picture quality elements

#### Clear Voice II

- enhances and amplifies the frequency range of the human voice
- keeps dialogue audible when background noise swells.

# Other reasons for choosing the LG 32-Inch LCD HDTV?

- crystal-clear image
- multiple AV Modes
- 4ms (millisecond) response time
- USB drives to play MP3 audio files and JPEG photo slideshows
- 20 watt stereo speakers
- three HDMI inputs

#### **Grammar:** Past perfect simple and continuous

#### Vocabulary:

- a) inch palec (měrná jednotka)
- b) pound libra (váhová jednotka)
- c) affordable cenově dostupný
- d) multiple mnohonásobný
- e) compelling přesvědčivý
- f) intend zamýšlet
- g) enhance zvýraznit, zlepšit
- h) audible slyšitelný
- i) visible viditelný

#### 1. Put the verbs in brackets in the correct form

leden 2012 20/39









|    | The car was dirty. They   |
|----|---|
| 2. | Put the verb into the correct form, past perfect (I had done etc.) or past simple (I did  |
|    | etc.) I felt very tired when I got home, so I   |
|    | plane! We were driving along the road when we (see) a car which (stop) to see if we could help.   |
| 3. | Translate Odpoledne jsme přišli domů a zjistili jsme, že se nám někdo vloupal do garáže a ukradl všechno nářadí. Před pár dny jsem potkala Helgu. Právě se vrátila ze školení o solární energii. Alex nabízel Sue něco k jídlu, ale neměla hlad. Právě se nasnídala. Přivezl mí lístky na koncert, ale nevzala jsem si je. Právě jsem si je taky koupila. |
| 4. | Read the situations and make sentences form the words in brackets  There was nobody in the room but there was a smell of cigarettes. (somebody / smoke / in the room)  When I got home, Daniela was sitting in front of the CD player. She had just put another CD in. (she / listen / CDs / three hours)   |
|    | Anna woke up in the middle of the night. She was frightened and did not know where she was. (she / dream)   |
| 5. | Put the verb into the most suitable form, past continuous (I was doing), past perfect (I had done) or past continuous (I had been doing)  We were happy with the new kitchen. We  |

leden 2012 21/39









| It was very noisy outside. The workers  | (resurface)                       |
|---|-----------------------------------|
| the ro  | oad.                              |
| When I arrived, everybody was sitting round the ta  | able with their mouths full. They |
| (eat).  | ·                                 |
| When I arrived, everybody was sitting round the talempty but their stomachs were full. They |                                   |
| The factory closed down last week. Sarah  | (work) there for five             |
| years.<br>When the factory closed down, Sarah   | (work) there for five years       |

The following lesson is relevant to English for Technicians, Section 5, Technical Written Communication. The following information was taken from the American website www.amazon.com

#### **LG 32-Inch LCD HDTV**

#### **Technical Details**

Full HD 1080p Resolution 100,000:1 Dynamic Contrast Ratio Picture Wizard II Smart Energy Savings ISFccc Ready

#### **Product Details**

Product Dimensions: 2.9 x 31.5 x 19.9 inches; 17.9 pounds

**Shipping Weight:** 28 pounds

**Shipping:** This item is also available for shipping to select countries outside the U.S.

ASIN: B0039RRCJ8

Item model number: 32LD450

#### **Product Description**

A great way to get into high-definition entertainment, the affordable 32-inch LG 32LD450 LCD HDTV offers 1080p Full HD resolution for crystal-clear detail, multiple AV Modes to optimize the picture depending on what you're watching (Cinema, Sports, or Games), and an amazing 100,000:1 dynamic contrast ratio for more stunning colours and deeper blacks. Other features include a 4ms (millisecond) response time, capability to play MP3 audio files and JPEG photo slideshows from a USB drive, stereo speakers with 20 watts of power and Dolby Digital decoding, and three HDMI inputs.

#### **Key Features**

leden 2012 22/39









#### **Full HD 1080p resolution**

This stunning picture is the reason you wanted HDTV in the first place. With almost double the pixel resolution, Full HD 1080p gives it superior picture quality over standard HDTV. You'll see details and colours like never before.

#### **Dolby Digital**

Dolby Digital lets you experience compelling 5.1-channel surround sound. And you can trust that you'll get the same great Dolby Digital audio quality no matter what you're watching--a DVD or Blu-Ray Disc, TV programming or downloaded content. Best of all, you can be confident that you'll hear the audio exactly as it was intended, because Dolby Digital is also used to create the soundtracks for movies and games.

# **Questions:**

- 1. In Europe what measures would be used instead of inches and pounds?
- 2. What does "p" stand for in the description "Full HD 1080p Resolution".
- 3. What added benefit does the 100,000:1 dynamic contrast ratio offer?
- 4. What compelling experience does Dolby Digital give?
- 5. The simple-to-use Picture Wizard takes the what out of picture-adjustment?
- 6. What does Clear Voice II do to help keep dialogue audible?

#### 100,000:1 Dynamic Contrast Ratio

No more worrying about dark scenes or dull colours. The dynamic contrast ratio of 100,000:1 delivers more stunning colours and deeper blacks than you can imagine.

# **Picture Wizard**

Get easy self-calibration with on-screen reference points for key picture quality elements such as black level, colour, tint, sharpness and backlight levels. Take the guesswork out of picture adjustments with this simple-to-use feature.

#### **Clear Voice II**

Get audio the way it was meant to be heard. Clear Voice II enhances and amplifies the frequency range of the human voice to help keep dialogue audible when background noise swells.

#### **Answers:**

- 1. Centimetres and kilograms
- 2. Pixels
- 3. Stunning colours and deeper blacks
- 4. Surround sound
- 5. The guesswork
- 6. Enhances and amplifies the frequency range of the human voice.

leden 2012 23/39









# 6. How to Use a Fire Extinguisher

#### Step 1

• Call the emergency services

### Step 2

 Check for your own safety physical capability clear exit toxic smoke

# Step 3

- Assess the fire
  - is it a contained fire?
  - use your instincts

# Step 4

- Check the type of extinguisher
  - water, dry chemical, halon, CO<sub>2</sub>, powder
  - fire extinguisher type must be compatible with the fire you are going to extinguish

# Step 5

- Ready the fire extinguisher
  - break the seal
  - pull the safety pin

#### Step 6

• Aim for the base of the fire

Grammar: I will; I am going to

Comparisons, superlatives

#### Vocabulary:

- a) fire extinguisher hasící přístroj
- b) encounter přijít do styku s..., setkat se s...
- c) emergency nebezpečí, nenadálá situace
- d) emergency services záchranné složky
- e) tackle potýkat se
- f) assess změřit, zhodnotit
- g) compatible slučitelný
- h) focus zaměřit, zamířit
- i) skill dovednost

# 1. Complete the sentences using will ('II) or going to

"Your car is very dirty." "I know, ...... it this afternoon. (I / clean) "I have a headache." "Oh, have you? Wait there and ...... an aspirin for you." (I / get)

"Why are you filling the watering can with water?" "...... the flower

leden 2012 24/39











|    | beds." (I / water)  "What does he need the extension cable for?" "  |
|----|---|
|    | "Did you post the letter for me?" "I am sorry, I forgot   |
| 2. | Read the situations and complete the sentences using will ('II) or going to It is a nice day. You have decided to sit in the garden. Before going outside you tell your friend. YOU: The weather is too nice to sit indoors |
|    | John has to go to the airport to catch a plane tomorrow morning.  JOHN: Ann, I need somebody to take me to the airport tomorrow morning.  ANN: That's no problem  |
| 3. | Translate<br>Nářadí v OBI je levnější než v Baumaxu.  |

Křeslo je pohodlnější než židle.

Je čím dál těžší najít dobrou práci.

Čím dříve začneme, tím dříve skončime.

Čím jste unavenější, tím těžší je se soustředit.

# 4. Complete the sentences. Use superlatives.

| It is a very cheap TV. It isTV in the shop.                          |
|--|
| This phone is very expensive. It is phone I have seen.               |
| Sam is a rich man. He is one of men in the world.                    |
| Mount Everest is mountain in the world.                              |
| Alice's wedding day was day in her life. (happy)                     |
| It is not a very valuable part. It is probably part in the workshop. |
| It was a very bad experience. It was experience in my life.          |

The following lesson is relevant to English for Technicians, Section 6, Health and Safety at Work The author of the following article is unknown. The article was taken from the website www.wikihow.com

leden 2012 25/39









The article is entitled:

#### How to Use a Fire Extinguisher

Fire! It is a scary word, isn't it? There is a high chance of you encountering an out-of-control fire at least once in your life and being prepared by knowing how to use a fire extinguisher is an important skill to be able to resort to. This article explains the process of using a fire extinguisher in an emergency. Naturally, it makes the most sense if you learn this on the off chance you might need it one day, rather than trying to work out what to do in the event of a fire!

### Step 1

The emergency services are always on standby to help. Call them before attempting to extinguish a fire. The fire may take hold much faster than you're capable of dealing with it, and if help is on the way, it removes one less concern for you.

#### Step 2

Check for your own safety before starting to extinguish a fire. There are some key things to check for before you start fighting a fire using a fire extinguisher. Are you physically capable of extinguishing a fire? Ensure that there is a clear exit for immediate escape should this become necessary. Leave fires emitting toxic smoke to the professionals.

# Step 3

Assess the fire. Only a contained fire should be fought using a fire extinguisher. They contain a limited amount of extinguishing material and need to be properly used so that this material is not wasted. Use your instincts. If your instincts tell you the fire's too dangerous to tackle, trust them.

#### Step 4

Check the type of extinguisher. The extinguishing agent might be water, dry chemical, halon,  $CO_2$ , or a special powder. You'll need to decide quickly on what type of fire you have, and ensure that your fire extinguisher is compatible with the fire you are attempting to extinguish.

#### Step 5

Ready the fire extinguisher. Break the seal and pull the safety pin from the handle. Only then can you use the fire extinguisher by squeezing the lever which discharges the fire extinguishing agent.

#### Step 6

Aim for the base of the fire. By focusing the extinguisher's spray at the base of the fire or the source, you're extinguishing the fuel.

#### **Questions:**

1. To "extinguish" a fire means to – a) to put off b) to put back c) to put out or d) to put in?

leden 2012 26/39









- 2. Although not directly referred to in the text name three emergency services.
- 3. What is the first thing you must do before starting to extinguish a fire?
- 4. A fire extinguisher must only be used to fight what type of fire
- 5. When going to tackle a fire that might be too dangerous what advice is given?
- 6. What are water, halon, and CO<sub>2</sub>?
- 7. The fuel of the fire is in the flames true or false?

# **Answers:**

- 1. C
- 2. Fire brigade, ambulance, police, (air rescue, lifeboat, armed forces)
- 3. Check your own safety
- 4. A contained fire
- 5. Trust your instincts
- 6. Extinguishing agents
- 7. False

leden 2012 27/39









#### Key:



#### 1. KEY

#### 1. Fill in the gaps in the following sentences

My car is broken. The man repairing my car is a car mechanic.

Somebody riding a motorcycle is a motorcyclist.

The man teaching you how to drive a car is a driving instructor.

A new gearbox was stolen from the workshop. Police are looking for the thief.

There is a big lorry parked in front of the pharmacy. It has taken up all the parking spaces! Something called an engine is needed for a machine to work.

#### 2. Make one sentence from two. Use who, that, which

The lorry which / that is parked in front of the pharmacy has taken up all the parking spaces.

The gearbox which / that was stolen from a workshop has been found in the bin!

The car mechanic who changed the wheel on my car worked very quickly.

A car which / that has a flat tire must pull off the road onto the shoulder immediately.

Barbara works for a company which / that makes washing machines.

Where are the nails which / that were in my toolbox?

# 3. Complete the sentences using who/whom/whose/where

What is the name of the man whose tools your borrowed?

Is Czech Republic the country where Škoda cars are made?

What do you call the man who makes things from wood?

Is this the lady to whom you sold your car?

I cannot remember the name of the garage where I last tanked.

I must call the neighbour to whom I lent my hacksaw. I need it back!

We met the people whose daughter won the last design competition.

# 4. Translate

My brother Jim, who lives in London, is a doctor.

Anna, who lives next door, is very friendly.

John, who speaks French and Italian, works as a tourist guide.

Mrs. Bond is going to spend a few days in Sweden, where her daughter lives.

We stayed at the Grand Hotel, which Karin recommended to us.

leden 2012 28/39











#### 2. KEY

#### 1. Fill in the gaps in the following sentences

The bus is full. We cannot get on.
I was very tired this morning, I couldn't get up.
How was the exam? How did you get on?
My German is not very good but I can get by.
My car broke down in the middle of the crossroads!
Our plane took off on time.

### 2. Fill in the gaps in the following sentences

I have run out of petrol.

Technology is moving so fast. I can't keep up with it.

Are you looking forward to your new computer game?

I am trying to cut down on smoking.

I had to fill in a number of forms to register my new car.

I made a mistake on a form and I crossed it out.

They give us so much new information at the lectures, it is hard to take it all in.

# 3. Complete the sentences using a word from List A and a word from List B. You need to use some words more than once.

A: away, back, forward, on, out, up

B: at, of, to, with

My holidays are nearly over. Next week I will be back at work.

We've nearly run out of money. We've got very little left.

Martin isn't very happy in his job because he doesn't get on with his boss.

I love to look up at the stars in the sky at night.

Are you looking forward to the party next week?

There was a bank robbery last week. The robbers got away with £30,000.

# 4. Complete the sentences using at, in or on.

There is something wrong with the car. We'd better stop at the next garage.

Write your name at the top of the page.

My brother lives in a small village in the south-west of England.

You'll find the sports results at the back page of the newspaper.

Always save your work on a flash disk.

He says he works on the computer but I think he just plays games!

You can find anything and everything on the internet.

My office is on the first floor. It is on the left as you come out of the lift.

London is on the River Thames.

I usually make a few phone calls on my way to work in the morning.

The exhibition of classic cars at the Technical Museum finished on Saturday.

leden 2012 29/39









# 5. Complete the sentences using at, in or on.

What are you doing on Saturday?

I hope the weather is nice at the weekend.

I would like to go on holiday in the summer.

Liz always goes skiing at Christmas.

Hurry up! We have to go in five minutes!

The book was easy to read, I read it in a day.

I travelled overnight to Dublin and arrived at 5 o'clock in the morning.

The CAD course begins on 7<sup>th</sup> January and ends sometime in April.

leden 2012 30/39













3. KEY

#### 1. Translate

Denis used to spend hours on the computer but now he hardly switches it on. Jim used to be my best friend but we are not friends any more. When we lived in Oxford, we used to go to the theatre often. I did not use to like English tea but now I love it! She used to write two or three letters every week but now she only sends e-mails. "Do you play computer games?" "No, I don't but I used to."

# 2. Fill in the gaps in the following sentences

Alice used to travel a lot but now she doesn't go away much.
I used to drive a Ford Fiesta. It was my first car.
Peter used to cycle a lot but now he roller skates.
Did you use to eat a lot of sweets when you were a child?
Denis didn't use to smoke but now he smokes 40 cigarettes a day!
There used to be a gallery here.

# 3. Put a question tag on the end of these sentences

There are two basic types of electricity, arent't there?

Early DC to AC converters used a mechanical switch, didn't they?

In the United States, electricity flows through the power lines at 120 volts, doesn't it?

The electricity from the second coil can be used to power appliances, can't it?

You know how a DC to AC power converter works, don't you?

Peter is an electrician, isn't he?

Jane, you haven't got a spare flash disk, have you?

It is Friday today, isnt'it?

You didn't use to smoke, did you?

David used to work for Samsung, didn't he?

# 4. Fill in the gaps in the following sentences with one of these phrasal verbs: *drop out, move in, close down, turn up, show off.* Add question tags.

Lisa didn't move in with Jack, did she?

Peter shows off with his new gadgets all the time, doesn't he?

The computer shop at the end of the street closed down last week, didn't it?

Paul didn't drop out of the marathon, did he?

You are not friends with Sheila and Helen. They didn't turn up at your party, did they?

# 5. Fill in the gaps in the following sentences using (be/get) used to

When I moved to England I wasn't used to driving on the left.

Peter's new flat is on a busy street. He will have to get used to the noise.

University students have to get used to a new timetable every semester.

leden 2012 31/39









If you aren't used to sleeping in a tent, don't go camping!

**6.** Fill in the gaps in the following sentences using (be/get) used to + an appropriate verb Sue moved from a big house to a much smaller one. She had to get used to living in a much smaller house.

Frank lives alone but he doesn't mind. He is used to living alone.

If you have children, you must be used to reading/telling bed time stories.

leden 2012 32/39













#### 4. KEY

#### 1. Put the verbs in brackets in the correct form

They told me the name of the new nuclear power plant but I have forgotten it. Peter can't find his car keys. He has lost them.

I don't want anything to eat because I have just had lunch.

Don't worry about buying tickets to the cinema. I have already bought them.

# 2. Complete the answers. Some sentences are positive and some are negative. Use these verbs: happen, meet, eat, read, have

What is George's sister like? – I don't know, I have never met / I haven't met her.

What is the new book like? – I have no idea, I haven't read it.

Are you hungry? – Yes, I haven't eaten much today.

Did you enjoy your holiday? – Yes, it was the best holiday I have had for a long time.

The car broke down again yesterday. – Not again! That's the second time it has happened this week!

#### 3. Translate:

Už dvě hodiny prší.
Jak dlouho už se učíš/učíte anlicky?
Debbie hraje tenis od šesti let.
David už pro tu společnsot pracuje tři roky.
V poslední době se necítím dobře.

#### 4. Read the situations and write two sentences using the words in brackets:

Tom started to read a book an hour ago. He is still reading and now he is on page 35. (read / an hour) Tom has been reading a book for an hour. (read / 35 pages so far) Tom has read 35 pages so far.

When they left college, Sue and Mary started making films together. They still make films. (make / ten films since they left college) Sue and Mary have made ten films since they left college.

(make / films since they left college) Sue and Mary have been making films since they left college.

# 5. Read the situations and write questions using the words in brackets

You meet a man who tells you that he works at a nuclear power plant. You ask him: (how long / work / there?) How long have you been working there?

You see somebody fishing by the river. You ask: (how many fish / catch?) How many fish have you cought?

A friend of yours is saving money to go on holiday. You ask: (how much money / save?) How much money have you saved?

leden 2012 33/39









# 6. Are the underlined verbs right or wrong? Correct them if they are wrong.

The weather is awful. <a href="It's raining">It's raining</a> again! Right

The weather is awful. <a href="It's raining">It's raining</a> all day. <a href="It's raining">Wrong</a>. – It has been raining all day. <a href="It's like your house">It's raining</a> are you living there? <a href="It's like your house">Wrong</a>. – How long have you been living there?

Graham <u>is working</u> in a shop for the last few months. Wrong. – Graham has been working in a shop for the last few months.

That is a very old bike. How long do you have it? Wrong. – How long have you had it?

leden 2012 34/39











#### 5. KEY

#### 1. Put the verbs in brackets in the correct form

The car was dirty. They had not cleaned / hadn't cleaned it for a month.

I was looking forward to talking to Karin at the party but she wasn't there; she had gone home already.

I was very pleased to see Tim again. I had not seen / hadn't seen him for five years. Peter bought a new cupboard but he could not assemble it because he had lost the instructions.

Alice and Paul wanted to go on holiday abroad but in the end they didn't go because Paul had had a car accident.

# 2. Put the verb into the correct form, past perfect (I had done etc.) or past simple (I did etc.)

I felt very tired when I got home, so I went straight to bed.

Peter saw the LCD television he liked in the sale, so he bought it.

The house was very quiet when I arrived. Everyone had gone for a trip to the lake. I waited for them at the airport but they did not arrive. They had missed the plane! We were driving along the road when we saw a car which had broken down, so we stopped to see if we could help.

#### 3. Translate

We came home in the afternoon and found out that someone had broken into the garage and stole all the tools.

I met Helga a few days ago. She had just come back from a training on solar energy. Alex was offering Sue something to eat but she wasn't hungry. She had just had breakfast

He brought me tickets for a concert but I didn't take them. I had just bought them, too.

#### 4. Read the situations and make sentences form the words in brackets

There was nobody in the room but there was a smell of cigarettes. (somebody / smoke / in the room) Somebody had been smoking in the room.

When I got home, Daniela was sitting in front of the CD player. She had just put another CD in. (she / listen / CDs / three hours) She had been listening to CD's for three hours.

Anna woke up in the middle of the night. She was frightened and did not know where she was. (she / dream) She had been dreaming.

The kids were very tired when they came home. (they / raking leaves/ all afternoon) They had been raking leaves all afternoon.

# 5. Put the verb into the most suitable form, past continuous (I was doing), past perfect (I had done) or past continuous (I had been doing)

We were happy with the new kitchen. We had designed it ourselves.

leden 2012 35/39









I had a call from a friend. I could not understand her well because the line was cracking.

I was sad when I sold my car. I had had it for a long time.

We were very tired at the end of the week. We had been setting up the new ply cutter. It was very noisy outside. The workers had been resurfacing the road.

When I arrived, everybody was sitting round the table with their mouths full. They had been eating.

When I arrived, everybody was sitting round the table and talking. Their plates were empty but their stomachs were full. They had eaten.

The factory closed down last week. Sarah had worked there for five years.

When the factory closed down, Sarah had been working there for five years.

leden 2012 36/39













6. KEY

#### 1. Complete the sentences using will ('II) or going to

"Your car is very dirty." "I know, I am / I'm going to clean it this afternoon.

"I have a headache." "Oh, have you? Wait there and I will get an aspirin for you."

"Why are you filling the watering can with water?" "I am / I'm going to water the flower beds."

"What does he need the extension cable for?" "He is /He's going to drill a hole in the wall to hang the new picture."

"I don't know how to use the new camera." "It's quite easy, I will you."

"I have decided to repaint this room." "Have you? What colour are you going to paint it?"

"Did you post the letter for me?" "I am sorry, I forgot. I will do it now."

"What would you like to drink?" "I will have a Guiness, please."

"The ceiling in this room doesn't look very safe, does it?" "No, it looks as if it is / it's going to fall down."

# 2. Read the situations and complete the sentences using will ('II) or going to

It is a nice day. You have decided to sit in the garden. Before going outside you tell your friend.

YOU: The weather is too nice to sit indoors. I am / I'm going to sit in the garden.

FRIEND: That's a good idea. I think I will join you.

John has to go to the airport to catch a plane tomorrow morning.

JOHN: Ann, I need somebody to take me to the airport tomorrow morning.

ANN: That's no problem. I will take you. What time is your flight?

JOHN: 10.50.

ANN: OK, we will leave at about 9 o'clock then.

Later that day, Joe offers John to take him to the airport.

JOE: John, do you want me to take you to the airport?

JOHN: No, thanks, Joe. Ann is going to take me.

#### 3. Translate

Tools in OBI are cheaper than tools in Baumax.

An armchair is more comfortable than a chair.

It is (becoming) harder and harder to find a job. Nebo It is (becoming) more and more difficult to find a job.

The sooner we start, the sooner we finish.

The more tired you are, the more difficult it is to concentrate.

#### 4. Complete the sentences. Use superlatives.

It is a very cheap TV. It is the cheapest TV in the shop.

This phone is very expensive. It is the most expensive phone I have seen.

leden 2012 37/39









Sam is a rich man. He is one of the richest men in the world.

Mount Everest is the highest mountain in the world.

Alice's wedding day was the happiest day in her life.

It is not a very valuable part. It is probably the least valuable part in the workshop.

It was a very bad experience. It was the worst experience in my life.

leden 2012 38/39









#### Literarture:



BLOEMENDAL M. G., PONSIONEN – VAN EIJSBERGEN B. C., *EQUIPPED! English for Technicians*, *S1*, Vydavatelství Gause s.r.o., 1995, 55s. ISBN 80-901545-1-4.

BLOEMENDAL M. G., PONSIONEN – VAN EIJSBERGEN B. C., *EQUIPPED! English for Technicians, S2,* Vydavatelství Gause s.r.o., 1995, 64s. ISBN 80-901545-2-2.

JOHN & LIZ SOARS, *HEADWAY Student's book*, Oxford University Press, 1987, ISBN 963-05-6060-7.

SWAN M., WALTER C., *The Cambridge English Course 2, Practice Book,* SPN, 1991, ISBN 80-04-25925-1.

MURPHY R., English Grammar in Use. A reference and practice book for intermediate students, Cambridge University Press, 1994, ISBN 0-521-43680-X

THORNE T., LEES G., English on Business, P&R Centrum, 1990, ISBN 80-85333-00-7.

leden 2012 39/39