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Кафедра иностранных языков №2

***ТЕМЫ ДЛЯ ДИСКУССИЙ И КОНТРОЛЬНЫЕ ЗАДАНИЯ  
ПО АНГЛИЙСКОМУ ЯЗЫКУ ДЛЯ МАГИСТРАНТОВ***

Topics for Discussion and Grammar Tests  
Guide for Graduate and Postgraduate Students

Минск 2008

УДК 811.111 (075.8)  
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Т 32

С о с т а в и т е л и :

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Т 32      **Темы** для дискуссий и контрольные задания по английскому языку  
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## TEST 1

### AGENDA

#### Grammar

1. Present Simple and Present Continuous
2. Present Simple, Present Perfect, Present Perfect Continuous
3. Past Continuous, Past Perfect, Past Perfect Continuous
4. be going to.
5. Future Simple, Future Continuous and Future Perfect

I. Underline the correct tense in the following sentences.

1. I am staying / stay at the Imperial Hotel till they get my flat ready.
2. The River Amazon flows / is flowing into the Atlantic Ocean.
3. Buying a house nowadays becomes /is becoming more and more expensive all the time.
4. We haven't decided yet, but we think / are thinking of moving house.
5. Whether we play on Saturday is depending / depends on the weather.

II. Choose the correct tense form of the following verbs to fill the spaces.

win discuss originate find try

1. Jazz..... in the United States around 1900.
2. Tom Hanks..... an Oscar several times already.
3. Even when we were children, our parents ..... family problems with us.
4. I ..... to fix this pipe since this morning and it's still leaking.
5. Scientists still..... a cure for cancer.

III. Underline the correct verb form A, B, C or D to fill the spaces.

1. About 100 people..... outside the theatre for tickets when we got there.  
A were queuing B queued C have queued D queue
2. This time last week I..... to Athens.  
A have driven B have drove C was driving D have been driving
3. By the time the teacher arrived, the classroom was empty: the students .....
4. The witness claimed he..... the accused before.  
A did not see B hasn't seen C wasn't seeing D hadn't seen
5. I..... a shower when the telephone rang.  
A had B was having C have had D have

IV. Underline the correct tense in the following sentences.

1. Leave the dishes – I'll / I'm going to do them for you if you like.
2. It's already five to eight – you're going to miss / missing the train.
3. I think / have / I'll have a break now; I'm exhausted.
4. Am I going / Shall I go and get a video for this evening?
5. Look out, you will step /you're going to step on the cat!

V. Underline the correct verb form A, B, C or D to fill the spaces.

1. I can't come tonight –..... my in-laws.  
A I visit                      B I visited                      C I'm visiting                      D I will visit
2. Next month, the National Theatre..... a new production of Hamlet.  
A are putting on                      B shall put on                      C put on                      D putting on
3. .... a successful author one day.  
A I'm being                      B I'm going to be                      C I go to be                      D I be
4. According to the programmer, the show..... at 9 o'clock prompt.  
A is start                      B shall start                      C starts                      D starting
5. .... to John's party on Saturday - do you want to come?  
A I go                      B I will go                      C I going                      D I'm going

VI. Underline the correct verb form A, B, C or D to fill the spaces.

1. This time tomorrow..... on the beach sunbathing and drinking freshly squeezed fruit juice!  
A I'll lie                      B I'll have lain                      C I'll be lying  
D I'll will have been lying
2. By next August, I..... my exams and I'll be ready for a holiday.  
A will have been finishing                      B am finishing                      C will be finishing  
D will have finished
3. Shall I take your letters to the post office?..... there anyway.  
A I will go                      B I'll have gone                      C I'll have been going  
D I'll be going
4. The work..... by next week so we'll be free to do what we want.  
A will be finished                      B are finishing                      C will have finished  
D will have been finishing
5. By August,..... in this house for twenty years.  
A I'll have lived                      B I am living                      C I'm going to live  
D I live

## TEST 2

### AGENDA

#### Grammar

1. Modal verbs
2. Passive voice

#### 1. Modal verbs

##### I. Underline the correct answer.

1. Helen must /had to leave the meeting early because she had a train to catch.
2. What you must /should have done is call the police, not to get involved yourself?
3. I will / could be able to speak better if I practice more.
4. Terry has done so little work, he should / needn't have bothered to come to class today.
5. I didn't need to / couldn't get tickets after all – they were sold out.
6. We mustn't/ don't have to hurry. We have plenty of time.
7. You must/ should remember to write the report. The boss will be furious if you forget.
8. The exhibition was free so I hadn't to/ didn't have to pay.
9. Do you have to/ Should you wear a uniform at your school?
10. We must/ had to wait two hours at security and nearly missed our flight.
11. Had you to/ Did you have to do a lot of homework when you were at school?
12. She's allergic to dairy products so she mustn't/ doesn't have to eat anything made from milk.

##### II. Underline the correct word A, B, C or D to fill the spaces.

1. It..... be weeks before the building is actually finished.  
A must            B would            C ought to            D could
2. You..... even have lost your job by then, who knows ?  
A should            B may            C can            D will
3. It..... be a good movie – the reviews were very good.  
A can't            B should            C could have            D must
4. That..... be Tim coming home now. Go and open the door for him, will you?  
A will            B can            C ought            D shall
5. Things ..... have been worse – everything seemed to be going wrong at once.  
A shouldn't            B couldn't            C mustn't            D may

6. I.... get up early tomorrow as I leave by the 7.15 train.  
A ought      B have to      C am able      D could
7. Peter .... go to London for the weekend, because his sister was getting married there.  
A was to      B needed      C ought      D may
8. It was so dark that we..... hardly find the keyhole to put the key into it.  
A could      B weren't able      C mightn't      D should
9. She..... swim really well when she was just eighteen months old.  
A must      B should      C could      D ought to
10. We..... be going to France this summer, but we're not sure yet.  
A can      B must      C would      D might

III. Complete with the correct form of **be able to**:

1. I \_\_\_\_\_ send any emails since lunchtime.
2. She used to \_\_\_\_\_ speak German really well.
3. I \_\_\_\_\_ do my homework until tomorrow.
4. I'd really like \_\_\_\_\_ dance well.
5. \_\_\_\_\_ you \_\_\_\_\_ come to our wedding? It's on May 10<sup>th</sup>.
6. If I spoke better English, I \_\_\_\_\_ get a job in a hotel.
7. When I've saved another \$1000, I \_\_\_\_\_ buy a new car.
8. She hates \_\_\_\_\_ do what she wants.

IV. Complete with **can/ can't**, or **could/ couldn't** where possible. If not, use a form of **be able to**:

1. I \_\_\_\_\_ talk to you now. I'm too busy.
2. When I lived in Rome I \_\_\_\_\_ speak Italian quite well.
3. I would love \_\_\_\_\_ play tennis very well.
4. If we don't hurry up, we \_\_\_\_\_ catch the last train.
5. My mother \_\_\_\_\_ see much better now with her new glasses.
6. To do this job you need \_\_\_\_\_ speak at least two languages.
7. I \_\_\_\_\_ help you tonight if you want.
8. They \_\_\_\_\_ find a flat yet. They're still looking.

V. Translate into Russian:

1. Passengers must have a valid ticket.
2. Nurses have to wear a uniform.
3. Do you have to go to college tomorrow?
4. You should eat more fruit.
5. Teenagers don't have to go out to work.
6. She might have gone out.
7. She must have left her bag on the train.
8. You mustn't make any noise.

9. You ought to take more exercise.
10. His car needs washing.

## 2. Passive Voice

I. Complete the gaps with the correct form of the verbs (active or passive) in brackets.

A fortune-teller in Colorado, USA, (1)\_\_\_\_\_ (arrest) a few days ago after she (2)\_\_\_\_\_ (trick) a pensioner into giving her \$30,000. As she (3)\_\_\_\_\_ (tell) her fortune one day, Sonya Adamson, 24, (4)\_\_\_\_\_ (persuade) a sixty-four-year-old widow that a curse (5)\_\_\_\_\_ (place) on all her money by evil spirits, and that she would have to take it to her home for the curse (6)\_\_\_\_\_ (remove). When the woman (7)\_\_\_\_\_ (return) in order to pick up her money, she (8)\_\_\_\_\_ (find) that Adamson (9)\_\_\_\_\_ (disappear) and all the furniture (10)\_\_\_\_\_ (take) from her apartment. Police (11)\_\_\_\_\_ (arrest) Adamson as she (12)\_\_\_\_\_ (board) a plane to Miami-her ticket (13)\_\_\_\_\_ (paid for) in cash a few minutes earlier with the old woman's money. «I (14)\_\_\_\_\_ (not usually deceive) so easily», (15)\_\_\_\_\_ (say) the old lady. Her money (16)\_\_\_\_\_ (return) to her a few months later.

II. Choosing active or passive. Choose the best way of continuing after each sentence.

1. A man has been arrested for hooliganism.
  - a) He is being held in Dundee police station.
  - b) They are holding him in Dundee police station.
2. Kirk Blane, the controversial rock star, died last night.
  - a) An overdose of sleeping pills was taken by him.
  - b) He took an overdose of sleeping pills.
3. Night of Passion has won first prize at the Cannes Film Festival this year.
  - a) It was directed by Henrietta Calvin.
  - b) Henrietta Calvin directed it.
4. How much is breakfast?
  - a) It's included in the price.
  - b) We include it in the price.
5. A man was attacked outside a local pub last night.
  - a) He was shot in the chest.
  - b) Someone shot him in the chest.
6. Alan Curtis has been appointed as Managing Director of Comco.
  - a) He will be paid a salary of over \$ 50,000.
  - b) A salary of over \$ 50,000 will be paid to him.
7. My brother-in-law is very rich.
  - a) A house in Barbados has just been bought by him.
  - b) He has just bought a house in Barbados.

III. Underline the correct tense.

1. At present, he is being treated / has treated for heart problems.
2. The date of the exams was being announced / was announced yesterday.
3. When they got home, the fence between the two houses was removed / had been removed but no one knew who was responsible.
4. Peace will have been achieved / will be achieved only when all troops have left the country.
5. An election will have been held / will be held in the autumn, the Government announced this morning.

VI. Underline the correct form A, B, C or D to fill the spaces in 1-5.

1. Bill ....before having his photo taken.  
A cut his hair                      B got cut his hair  
C got his hair cut                  D got hair cut
2. ....my phone for a taxi?  
A Shall I had                      B Shall I have                      C Has she                      D Had I
3. .... broken into while we were away on holiday.  
A We had our house              B Thieves had our house  
C It was our house              D They have
4. Surprisingly, he .... as chairperson.  
A got himself elected              B get himself elected  
C getting elected                  D has get himself
5. They ..... last week.  
A get married                      B have married                      C get to marry                  D got married

V. Rewrite the following passage in the Passive.

People from the village of Puddle held a meeting last night after somebody discovered a large object in the local park. Nobody has identified it yet. The villagers have called in experts. They'll examine the object on Sunday. People believe that it could be a spaceship from another planet!

**TEST 3**

AGENDA

Infinitive

Gerund

1. Complete the sentences with *work*, *to work*, or *working*.

I regret not working harder when I was at school.

1. I spent all weekend \_\_\_\_\_ on the computer.



2. I've decided \_\_\_\_\_ abroad next year.
3. You must \_\_\_\_\_ harder if you want to get promoted.
4. My boss often makes me \_\_\_\_\_ late.
5. He isn't very good at \_\_\_\_\_ in a team.
6. I don't mind \_\_\_\_\_ on Saturday if I can have a day off during the week.
7. He's going to the UK \_\_\_\_\_ in his uncle's shop.
8. \_\_\_\_\_ with members of your family can be quite difficult.
- 9 My husband promised not \_\_\_\_\_ on my birthday.
10. I used \_\_\_\_\_ in a restaurant when I was student.

2. Complete with the gerund or infinitive.

- Smoking is banned in all public places. (smoke)
1. It's very expensive \_\_\_\_\_ a flat in the center. (rent)
  2. Are you afraid of \_\_\_\_\_? (fly)
  3. I called the restaurant \_\_\_\_\_ a table for tonight. (book)
  4. Be careful \_\_\_\_\_ a noise when you come home tonight. (not make)
  5. She's worried about \_\_\_\_\_ the exam. (fail)
  6. Everybody went on \_\_\_\_\_ until after midnight. (dance)
  7. \_\_\_\_\_ an only child is a bit boring. (be)
  8. It's easy \_\_\_\_\_ the way if you look at the map. (find)
  9. He's terrible at \_\_\_\_\_ languages. (learn)

3. In which of the sentence pairs is there no change and a change in meaning?

1. a. I used to go back every two years.  
b. I'm used to going back every two years.
2. a. It started raining.  
b. It started to rain.
3. a. I remembered discussing it before the meeting.  
b. I remembered to discuss it before the meeting.
4. a. I didn't like to ask him.  
b. I didn't like asking him.
5. a. I love reading the Sunday papers.  
b. I love to read the Sunday papers.
6. a. He began to tell me about his childhood.  
b. He began telling me about his childhood.
7. a. I forgot seeing him about the flat.  
b. I forgot to see him about the flat.
8. a. I tried to phone him.  
b. I tried phoning him.
9. a. Sally went on to study at university.  
b. Sally went on studying at university.
10. a. They need to cut their hedge.  
b. Their hedge needs cutting.

4. Complete these sentences with either an *-ing* clause or *to* + infinitive with the verb in brackets.

1. He remembered (get) \_\_\_\_\_ in his car on the morning of the accident but after everything was a blank.
2. I try (play) \_\_\_\_\_ squash at least once a week in order to keep fit.
3. She's beginning (understand) \_\_\_\_\_ why she can't have everything her own way.
4. After a successful career as a concert pianist, Maria went on (become) \_\_\_\_\_ a politician.
5. I'm used to (get up) \_\_\_\_\_ early every day so you can count on me to be there on time.
6. He's trying (learn) \_\_\_\_\_ to drive a car but he's making very slow progress.
7. I need (cut) \_\_\_\_\_ my hair as it's getting a bit untidy.
8. I regret (tell) \_\_\_\_\_ you that your services are no longer required.
9. They like (interview) \_\_\_\_\_ you before they give you a loan.
10. We used (go) \_\_\_\_\_ to France for our holidays when we were children.
11. Remember (buy) \_\_\_\_\_ a newspaper on the way home, please.
12. The car needs (clean) \_\_\_\_\_ so I'm going to get it done this afternoon.

5. Change the sentences.

1. It's important to eat enough. (You should)
2. I'd like to go sailing this summer. (I might)
3. She will probably get married in June. (She expects)
4. I said I would help her. (I agreed)
5. It's necessary to make careful plans. (We must)
6. Perhaps he's ill. (He seems)
7. I want to change my job. (I wish I could)
8. I may come and see you next week. (I hope)
9. You don't need to apologize. (You needn't)
10. They will open a new branch in North London. (They have decided)
11. I will certainly pay you on Saturday. (I promise)
12. I couldn't find the ticket office. (I didn't manage)
13. I prefer to go by myself. (I would rather)
14. She said she wouldn't see him again. (She refused)
15. I can play chess. (I've learnt)

6. Put in the correct forms of the verbs.

1. You can't help (like) him.
2. We decided (stay) at home.
3. We expect (hear) from Ann soon.
4. Do you fancy (go) out tonight?
5. I don't feel like (cook).
6. When do you finish (study)?
7. I've given up (smoke).
8. Imagine (be) married to her!
9. I managed (find) a taxi.
10. Would you mind (pass) the bread?
11. I missed (see) the beginning of the film.
12. She pretended (be) ill.
13. Don't put off (see) the doctor.
14. He spends ages (talk) on the phone.
15. I want (see) the manager.
16. Do you enjoy (watch) football?

7. Choose the correct way of completing each sentence.

1. Has she told you about her decision (to go/of going?).
2. I have difficulty (to read/in reading) quickly.
3. We have no hope (to arrive/of arriving) in time.
4. I hate the idea (to leave/of leaving) you.
5. Is there any need (to tell/of telling) Peter?
6. She has a plan (to spend/of spending) three years studying.
7. I won't get married: I don't like the thought (to lose/of losing) my freedom.
8. It's time (to go/for going) home.
9. I have no wish (to meet/of meeting) him again.

## TEST 4

### AGENDA

#### Grammar

1. First and second conditionals
2. Third conditional
3. I wish, if only

I. Underline the correct answer in the following sentences.

1. If you don't hurry /will hurry, you'll miss the train.
2. What can / will I do if she refuses to listen to me?

3. His French won't improve provided / unless he studies more.
4. If I had / will have more time, I would take up tennis.
5. If I were / would be in your position, I'd buy a new suit.

II. Choose the best way to complete the sentences below.

1. If I had enough money I'll buy a new motorbike/ I'd buy a new motorbike.
2. When I was younger I'd learn how to swim/ I used to go swimming every day.
3. I wish we had more time to discuss it but unfortunately I have to go now / last night, but unfortunately I had to go.
4. It's time you started looking for a job / will start looking for a job.
5. I wish you wouldn't interrupt me all the time / when I was talking to my mother.

III. Choose the correct alternative.

1. If you/ you've/ you'd told me you wanted one, I would have bought you a ticket.
2. I wish I had/ I'd have/ I've had enough money to buy you a lovely present.
3. If we'd arrived earlier, we had/ would/ would have got to the restaurant before it closed.
4. If he hadn't failed his exams, he'd be work/ 'd be working/ would have been working now.
5. He will/ should/ would never have done it if his friends hadn't encouraged him.

IV. Underline the correct verb form A, B, C or D to fill the spaces.

1. I..... happy to advise you if you'd asked me.  
A had been                      B would have been      C would be                      D will be
2. If she..... her driving test, she would have bought a car.  
A would have passed      B has passed                      C passed                      D had passed
3. I wouldn't have lent him the money if he..... desperate.  
A has not been                      B wasn't been                      C hadn't been                      D couldn't be
4. If you'd run faster, you..... the bus.  
A should've caught      B wouldn't catch      C could have caught      D might catch
5. If I hadn't worked hard when I was young I..... where I am now.  
A won't have been      B would be                      C hadn't been                      D wouldn't be

V. Underline the correct verb form A, B, C or D to fill the spaces.

1. I wish I..... more money.  
A have                      B had                      C will have                      D has
2. If only I..... a little bit slimmer.  
A will be                      B be                      C being                      D were

3. I do wish you..... make less noise.  
A to                      B will                      C did                      D would
4. I wish we..... on the same flight tomorrow.  
A were travelling    B will travel    C would travel    D had traveled
5. If only I ..... the chance to study when I was younger.  
A have had              B will have    C was having    D had had
6. If only I.....turn the clock back five minutes.  
A could                  B can                  C would be able to    D had been able

VI. Put the verb in brackets into the correct tense form.

1. I wish someone .....(invent) a cure for middle-age.
2. I wish Sally .....(speak up). I can hardly hear her.
3. If only I .....(not get) nervous before exams.
4. I wish I.....(never go) to that party.
5. I wish I ..... (not do) it.
6. I wish I.....(buy) it.
7. If only I .....(try) harder.
8. If only I....(can) drive.

VII. Rewrite these sentences so that they have the same meaning, using *It's time*

1. Susan ought to get a job.
2. We'd better go home now.
3. The children should be in bed now.
4. Jo should realize that money doesn't grow on trees.
5. Why don't you learn to cook for yourself?
6. I must buy myself a new watch.
7. Why don't people do more to protect our environment?
8. We should have more women in the government.

VIII. Join a phrase in A with a conjunction in B and a phrase in C to make eight sentences. Use each conjunction twice.

A	B	C
I'd buy a new house	when	you go to work in the morning?
I'll tidy the house		you see her.
I'll call you	if	he gets the job?
If you want a ticket, you should phone the theatre		my guests arrive.
What will he do	before	I won the lottery.
I'm watching TV right now, but I promise I'll help you	as soon as	dinner is ready.
You'll recognize her		the ticket office opens.
		this programme finishes.

IX. Translate into Russian:

1. If I won the lottery, I'd travel around the world.
2. When I get home, I'll have a bath.
3. If it's a nice day on Sunday, we'll have a picnic.
4. I wouldn't mind living in England if the weather were better there.
5. It was impossible to do the translation on the spot. I wish you had given us some reference material beforehand.
6. If I had known you didn't eat meat, I wouldn't have bought it for dinner yesterday.
7. I wish I had had a chance to talk to you before you left yesterday.
8. If Megan and I didn't have e-mail, it would be difficult for us to keep in touch regularly now.

**Test yourself: basic level**

*Choose the correct answer(s). One or more answers may be correct.*

1. She's ... university teacher.  
A a            B an            C the
2. I like ... small animals.  
A the            B – (=nothing)    C every    D all
3. Is this coat ... ?  
A yours        B – (=nothing)    C the yours
4. Is Diana ... ?  
A a friend of yours    B your            C your friend
5. Who are ... people over there?  
A that        B the            C these        D those
6. ... is your phone number?  
A Which      B What        C How
7. Could I have ... drink?  
A other        B an other    C another
8. There aren't ... for everybody.  
A chairs enough    B enough chairs    C enough of chairs

9. They're ... young to get married.

A too much      B too      C very too

10. Most ... like traveling.

A of people      B of the people      C people

11. Ann and Peter phone ... every day.

A them      B himself      C themselves      D each other

12. It's ... weather.

A terrible      B a terrible      C the terrible

13. *The plural of car is cars. Which of these are correct plurals?*

A journeys      B ladys      C minuts      D sandwiches      E babies

14. *Which of these is/are correct?*

A happier      B more happier      C unhappier      D beautifuller

15 This is ... winter of 20 years.

A the more bad      B worse      C the worse      D worst      E the worst

16. She's much taller ... me.

A then      B as      C that

17. He lives in the same street ... me.

A that      B like      C as      D than

18. Her eyes ... a very light blue.

A are      B have      C has

19. ... help me?

A Can you to      B Do you can      C Can you

20. You ... worry about it.

A not must      B don't must      C must not      D mustn't

21. It ... again. It ... all the time here in the winter.

A 's raining, 's raining      B rains, rains      C rains, 's raining      D 's raining, rains

22. I ... she ... you.

A think, likes      B am thinking, is liking      C think, is liking      D am thinking, likes

23. Who ... the window?

A open      B opened      C did opened

24. Why...?

- A those men are laughing?
- B are laughing those men?
- C are those men laughing?

25. What ...?

- A does she want
- B does she wants
- C she wants

26. I didn't ... he was at home.

- A to think
- B think
- C thinking
- D thought

27. ... a hole in my sock.

- A There's
- B There is
- C It's
- D It is
- E Is

28. I'll see you ... Tuesday afternoon.

- A at
- B on
- C in

29. What time did you arrive ... the station?

- A at
- B to
- C –

30. We're going ... the opera tomorrow night.

- A at
- B –
- C in
- D to

### Test yourself: intermediate level

*Choose the correct answer(s). One or more answers may be correct.*

1. I went out without...money.  
A some      B any
2. He's got... money.  
A much      B many      C a lot of      D lots of
3. 'Who's there?' "...".  
A It's me      B It is I      C Me      D I
4. Although he felt very ..., he smiled ... .  
A angrily, friendly      B angry, friendly      C angry, in a friendly way
5. I...to America.  
A have often been      B often have been      C have been often
6. My mother...my birthday.  
A always forgets      B always is forgetting      C forgets always
7. You look...a teacher.  
A like      B as      C the same like
8. How many brothers and sisters ...?  
A have you got      B do you have      C are you having
9. Good! I ... work tomorrow.  
A mustn't      B don't have to      C haven't got to
10. I ... smoke.



- A – (= nothing)                      B use to                                      C used to
11. Andrew ... to see us this evening.  
A will come                      B comes                                      C is coming
12. Alice ... have a baby.  
A will                      B shall                      C is going to
13. I knew that he ... waiting for somebody.  
A is                      B was                      C would
14. ... Gloria last week?  
A Have you seen                      B Did you see                                      C Were you seeing
15. She's an old friend – I ... her... years.  
A 've known, for                      B know, for                                      C 've know, since
16. We met when we ... in France.  
A studied                      B were studying                                      C had studied
17. As soon as she came in I knew I ... her before.  
A have seen                      B saw                                      C had seen
18. This picture ... by a friend of my mother's.  
A is painting                      B is painted                                      C was painting                      D was painted
19. Can you...?  
A make me some tea                      B make some tea for me                      C make for me some tea
20. Try ... be late.  
A not to                      B to not
21. I went to London ... clothes.  
A for buy                      B for to buy                                      C for buying                      D to buy
22. You can't live very long without ...  
A to eat                      B eat                                      C eating                      D you eat
23. I enjoy ..., but I wouldn't like ... it all my life.  
A to teach, to do                      B teaching, doing                                      C to teach, doing
24. Her parents don't want ... married.  
A her to get                      B her get                                      C that she get                      D that she gets
25. I'm not sure what ...  
A do they want?                      B do they want.                                      C they want.
26. The policeman ... me not to park there.  
A asked                      B said                                      C told                      D advised
27. I ... you if you ... that again.  
A hit, say                      B 'll hit, 'll say                                      C hit, 'll say                      D 'll hit, say
28. It would be nice if we ... a bit more room.  
A would have                      B had                                      C have
29. If you ... me, I ... in real trouble last year.  
A didn't help, would have been  
B hadn't helped, would have been  
C hadn't helped, would be  
D didn't help, would be
30. There's the man ... took your coat.  
A which                      B who                                      C that                      D –

## Test yourself: advanced level

Choose the correct answer(s). One or more answers may be correct.

1. My family ... thinking of moving to Birmingham.  
A is            B are
2. We watched a ... on TV last night.  
A war film    B war's film        C film of war
3. He was wearing ... riding boots.  
A red old Spanish leather        B old leather red Spanish  
C old red Spanish leather        D Spanish red old leather
4. ... he gets ... .  
A The richer, the more friends he has  
B Richer, more he has friends  
C Richer, more friends he has  
D The richer, the more he has friends
5. It's ... if you take the train.  
A quicker    B the quicker        C quickest        D the quickest
6. He ... very annoying.  
A 's        B 's being
7. That ... be Roger at the door – it's too early.  
A can't    B mustn't        C couldn't
8. At last, after three days, they ... to the top of the mountain.  
A could    B managed to        C succeeded to        D were able to
9. It was crazy to drive like that. You ... killed somebody.  
A may have    B might have        C could have        D can have
10. I wonder if John ... this evening.  
A will phone        B phones
11. Who ... you that ring?  
A 's given        B gave
12. He ... quite different since he ... married.  
A is, has got        B has been, has got        C is, got        D has been, got
13. This is the first time I ... a sports car.  
A 've driven        B 'm driving        C drive

14. On her birthday ... .

A she was given a new car      B a new car was given to her

15. We can't use the sports hall yet because it ... .

A is still built      B is still building      C is still being built

16. I look forward ... you soon.

A seeing      B to seeing      C to see

17. If you have trouble going to sleep, try ... a glass of milk before bedtime.

A drinking      B to drink      C drink

18. This is my friend Joe. I ... met, have you?

A don't think you've      B think you haven't

19. How ... !

A he works hard      B hard he works.

20. Which of these sentences are correct in spoken English?

A Car's running badly      B Seen Peter?  
C Can't come in here, sorry      D Careful what you say.  
E Lost my glasses      F Have heard of her

21. Nobody phoned, did ... ?

A he      B she      C they      D it      E he or she      F anybody

22. If you were ever in trouble, I would give you all the help you ... .

A will need      B would need      C need      D needed

23. My wife will be upset ... .

A if I don't get back tomorrow      B unless I get back tomorrow

24. Tell me at once ... Margaret arrives.

A if      B when      C in case

25. It's time you ... home, but I'd rather you ... here.

A go, stay      B went, stayed      C go, stayed      D went, stay

26. I wish I ... more time.

A had      B have      C would have      D will have

27. John Hastings, ... , has just come to live in our street.

A that I was at school with      B I was at school with  
C with who I was at school      D with whom I was at school

28. She keeps tapping her, ... gets on my nerves.

A which    B what    C that which

29. Can you finish the job ... Friday?

A till    B until    C by    D for

30. There's a supermarket ...our house.

A in front of    B opposite    C facing

## TOPICS FOR DISCUSSION

### SCIENCE

#### *Problem presentation*

Science is both a process of gaining knowledge, and the organized body of knowledge gained by this process. The scientific process is the systematic acquisition of new **knowledge** about a **system**. This systematic acquisition is generally the **scientific method**, and the system is generally **nature** of science.

Despite popular impression of science, it is not the goal of science to answer all questions, only those that pertain to physical reality (measurable empirical experience). Also, science cannot possibly address all possible questions, so the choice of which questions to answer becomes important. Science does not and cannot produce absolute and unquestionable truth. Rather, science consistently tests the currently best **hypothesis** about some aspect of the physical world, and when necessary revises or replaces it in light of new observations or data.

*Before reading the text say what you know about the latest achievements of science in Belarus.*

### SCIENCE IN BELARUS

Belarusian science was actually started in 1922 as the Institute of Belarusian Culture was set up. At present the National Academy of Sciences of Belarus (NASB) is in charge of organizing, conducting and coordinating the fundamental and applied scientific research and development. The Academy of Sciences was founded in 1929 and incorporated the Institutes of Philosophy, Economics, History, Constitution and Law, Linguistics, Literature and Art, Chemistry, Biological Sciences, Agricultural, Physico-Engineering Institutes and others. It was awarded the status «National» in 1997, and now comprises 94 Full Members (Academicians), 130 Corresponding Members. 3 Honorary and 16 Foreign Members of the NASB. The NASB comprises over 130 organizations and enterprises including 70 research institutes, divisions and centers. It employs 16 thousand people.

In 2002, the Academy of Sciences comprised the Departments of Physics, Mathematics and Informatics; the Department of Physical and Engineering Sciences; the Department of Chemical Sciences and Earth Sciences; the Department of Biological Sciences; the Department of Medical and Biological Sciences; the Department of Agrarian Sciences; the Department of Humanitarian Sciences and Arts. It is planned to establish the Department of Economics and Management.

The Academy of Sciences is headed by the NASB Chairman of the President who is the member of the Council of Ministers of the Republic of Belarus and is appointed by the President of the Republic of Belarus.

The NASB is in charge of conducting and coordinating research and development in the most important spheres of natural, engineering, humanitarian, social sciences and arts.

Over the last 10 years, nearly 6 thousand patents for inventions, useful models and designs, over 12 thousand trademarks, 1,140 licensing agreements have been registered.

Over the same period the academic degree of Doctor of Sciences was awarded to 652 and that of Candidate of Sciences to 3,333 candidates. The title of Professor and Assistant Professor was awarded to 450 and 1,896 scientists and specialists, respectively.

Today science in Belarus has a number of problems. After the breakup of the Soviet Union and disruption of economic and scientific relations some branches of Belarusian industry have been left without any scientific basis. A lack of funds has affected the state of some branches of science. There was also a tendency of brain drain from the science sector which emerged in the 1990s. However, the country's scientific and technical basis hasn't been destroyed.

Several branches of the scientific and technical sphere can be brought to the level of competitiveness in the world market. This mainly holds true for laser and plasma technologies, chemical synthesis of substances, biotechnologies and information processes – the areas with a high scientific and technical potential. The outstanding scientists in these fields of science are Fyodor Korshunov, Gennady Yablonski, Sergei Gaponenko, Ivan Bondar, Igor Troyanchuk, Victor Borisenko, Vyacheslav Yarmolik, Rauf Sadykhov, Sergei Ablameyko, Nikolai Kazak and others.

Achievements of scientific schools in the sphere of mathematics, theoretical physics, spectroscopy and luminescence, electronics, automation, thermophysics, machine building, geology, bioorganic chemistry, physiology, genetics, selection, soil science, cardiology, surgery, linguistics, etc. are known worldwide and have been highly appraised in Belarus and enjoyed the international recognition. Findings of some researchers have the highest rank of significance and are registered as scientific discoveries.

The NASB Central Scientific Library, Republican Scientific and Technical Library of Belarus, Republican Scientific Medical, Pedagogical and Agricultural libraries, University libraries and others provide Belarusian researchers and specialists with the needed scientific literature.

*Answer the following questions:*

1. What do you know about the history of science in Belarus?
2. What are the latest achievements of Belarusian science?
3. Name the problems our science is facing at present.
4. Do Belarusian and Russian scientists have much in common in their developments?
5. What are the ways to overcome these problems?
6. How many researchers work in Belarus now?
7. What is the number of Doctors and Candidates of Sciences in our country?
8. What departments does the Academy of Sciences consist of?
9. What kind of scientific literature is available in the republic?

*Before reading the text say what can help guide future innovation to meet the needs of industry in Belarus.*

## FUTURE IN THE HANDS OF SCIENTISTS

We can not overestimate the significance of the 1<sup>st</sup> Congress of Belarusian Scientists. It is a true landmark, denoting a new era of collaboration between science and production. President of Belarus, Alexander Lukashenko, spoke to the delegates and Mikhail Myasnikovich, Chairman of the Presidium of Belarus' National Academy of Sciences, remarked that the event is of major interest to the whole country. «This historical event is vital, not only to the scientific community but for the Belarusian people as whole; effective scientific activity is crucial for energy security and independence», he said. Speaking of science's contribution to Belarus' development, Mr. Myasnikovich stressed the importance of applied research. He added that, currently, positive dynamics are being seen regarding finances, with over 80 percent of science funding being spent on applied research. Between 2001 and 2006, the state spent Blr.787 trillion on scientific research and development, showing the state's interest in Belarus' innovative development.

Over recent years, dozens of high-tech machines have been constructed in Belarus – in demand both domestically and abroad; over 60 percent of Belarus' largest enterprises' goods are exported. «This is the result of join work by the Industry Ministry and companies' design bureaus; they've been collaborating with the country's scientific establishments», Mr. Myasnikovich explained. Over 800 scientific developments are implemented in the real sector of the Belarusian economy each year and the number of patents is ever growing (over 300 annually). Despite this, scientific integration with education and production is not yet being fully realized, according to Belarus' Education Minister, Alexander Radkov. «Many scientific developments lack demand due to non-conformity with the technical requirements of factories, rather than low quality», he noted. To solve the problem, general seminars and exchanges should be organized – with the participation of manufacturers and representatives of scientific establishments. Their join discussions should help guide future innovation to meet the needs of industry.

Mr. Radkov also noted that Belarus' educational system faces burning problems, since there are fewer young people going into the scientific sphere. «We need to find ways of attracting young, talented specialists into science. To a large extent, the recent decree increasing grants for those studying science should help this problem», said the Minister. Mr. Lukashenko places great emphasis on scientists and their achievements in the contemporary development of the country. However, much is yet to be achieved and science needs to play leading role in Belarus' innovative development, stimulating investment projects.

Last year, the 3<sup>rd</sup> All-Belarusian People's Assembly adopted a rather ambitious programme to guide Belarus' socio-economic development for 2006–2010, through which living conditions are to be enhanced. «The programme envisages an innovative trend in economic development, stimulating efficient investment projects, structural reorganization, technological modernization, restructuring of production and national security. Science will play a key role and we are ready to see success», said the Head of State. The strategy for achieving scientific-technical development is being outlined for the next decade or so.

«Lay out your discoveries and tell me how should launch them. This meeting should be a starting point for efficient scientific work; the time has come for us to demand a great deal for our scientists», stressed Mr. Lukachenko. Despite the USSR's collapse, Belarus has managed to preserve its major intellectual core and continues to develop. Over the past 6 years, domestic funding for investigations and research has increased 8 fold. The Head of State is hopeful that the meeting will outline major targets and elaborate ways of solving the scientific problems.

*Answer the following questions:*

1. What can you say about applied research in Belarus?
2. Over recent years, dozens of high-tech machines have been constructed in Belarus – in demand both domestically and abroad, haven't they?
3. What problems does Belarus' education system face?

*Before reading the text say what current problems of Russian science you know.*

## THE CURRENT PROBLEMS OF RUSSIAN SCIENCE

In pre-Revolutionary Russia fundamental science was supported by the state mainly through the self-governed Academy of Sciences.

During the Soviet era, the principal motive of the ruling authorities was to create a war machine that could stand up to the rest of the opposing world. That required a cutting-edge military science. The country's Communist leaders understood that the results they needed could only be reached by a high level of fundamental science. As a result, by the 1980s, Soviet science ranked second in the world.

In the 90s the scientific sector became a serious problem. As a result, many talented people emigrated, the most enterprising went into business, while the most passive became lumpenized. The inflow of fresh blood – young scientists – stopped

completely. Some university graduates went abroad, others started working as programmers at banks and other commercial institutions, while the rest took whatever jobs were available as long as they were not in science since it is the lowest paid profession.

Putin's move was to set the level of funding for scientific research programs at 4 per cent of the national budget – a level that was never actually achieved but that was, at least, something to fight for. The latest initiative by the Putin administration, however, is a reduction in the number of scientific research institutes because of the low effectiveness of scientific organizations. Paradoxically, bad as the present situation may be, this effectiveness is, as a matter of fact, extremely high – its source is the unflagging energy and fanaticism of Russian scientists. True, the number of patents is not a problem of fundamental (or even applied) science, but the problem of industry's primitive orientation toward the raw materials sectors which does not generate demand for inventions and innovations.

There are serious internal problems in the organization of Russian science. Its administrative-managerial apparatus – from the Presidium of the Russian Academy of Sciences to almost every scientific research institute – is self-centered, acting on self-interest. Competitive bidding on the allocation of funds within the Academy and the ministry, which is required by law, is seldom implemented. It is a purely bureaucratic procedure – a private divvying up within a narrow circle of directors and government officials.

An internal reorganization of scientific sector may only come second – after the state has drastically revised its science policy, in particular boosting budget spending on scientific research programs.

*Answer the following questions:*

1. Why was it possible to achieve a high level of the fundamental science during the Soviet era?
2. What changes took place in the scientific sector in 90s?
3. Why did the number of young scientists decrease in that period?
4. Do you consider reasonable to set the level of funding scientific research at 4 per cent of national budget?
5. How can you account for high effectiveness of Russian science at present?
6. What is understood by the phrase 'a private divvying'?

*Before reading the text say what you know about the history of British science.*

## HOW BRITISH SCIENCE IS ORGANIZED

The British Association for the Advancement of Science was founded in 1831, and at that time almost every serious scientist in Britain belonged to it. There were so few of them that most of the year's work in a given branch of science could be discussed in a few days. In fact it merited the title of «Parliament of Science» which is still bestowed on it by some newspapers.



Since then the situation has completely changed. At present there are a number of societies, for example the Royal Astronomical Society, the Chemical Society, the Genetical Society, the Geological Society and the Physiological Society which are composed of scientists only. Finally there is the Royal Society of London for Improving Natural Knowledge. This has 384 scientific fellows, 49 foreign members, and 15 British fellows. When it was founded nearly 300 years ago, it included every scientist in England, who were interested in science. But now it only includes a small fraction of scientists, and its discussions are less lively than those of the societies concerned with individual sciences. On the other hand, the British Association is concerned with matters other than science. It has sections devoted to psychology, education and economics.

But except for the Royal Society, the scientific societies have no money to subsidize research. This is done by universities, the government, industrial firms, and endowed bodies. There is no organization of research on a national scale. Some of the government and industrial research is secret, and therefore of no value to science. For science means knowledge.

The British Association is able to spare a few hundred pounds yearly for grants in aid of research. But its main function now is discussion. New results are generally announced at meetings of smaller societies, and the public hears very little of them. Both in Russia and in Scandinavia the press has far better scientific news than in Britain.

If science is to advance in this country as it should, we need more democracy in the laboratories, and also more democratic control of expenditure on research. This will only be possible if the people are educated in science, and they are at present deliberately kept in the dark. For a knowledge of science leads to a realization of the huge amount of knowledge which could be applied to the public benefit in industry, agriculture and transport were organized for use and not for profit.

*Answer the following questions:*

1. When was the British Association for the Advancement of Science founded?
2. What societies are composed of scientists only?
3. The scientific societies have no money to subsidize research, have they?

*Before reading the text say what you know about American structure of science.*

## HOW AMERICAN SCIENCE IS ORGANIZED

American scientific establishments are a series of pragmatic responses to society's specific needs. The Federal government sponsors the major part of the country's research through contract systems. The government supports about 75 per cent of all scientific research carried on in universities. It also maintains a large system of its own government laboratories run by government workers and national laboratories run by outsiders. Many of them depend on universities as a source of permanent research personnel, and on government policy for guidance of their

research programs. Such government and national laboratories as Oak Ridge National Laboratory<sup>1</sup>, the National Research Laboratory<sup>2</sup> and others are concerned with basic research.

The important thing is that at present the giant Rand D spenders are the Pentagon and NASA<sup>3</sup> which is a government agency. At present it is common for individual firms to sponsor research done through a contract system in universities. Usually an industrial sponsor finds research of interest to a university and then the sponsor and the university pool their resources of scientific talent and equipment, with the work usually taking place on the university campus. This cooperative university-industry research is beneficial for both partners, and it is an ideal vehicle for fostering technology transfer from basic research to the market place.

This, the first major player in American science today is the Federal government which supports a lot of basic and applied research. Then comes private industry which has a large share in basic research but plays a dominant role in funding applied research and development. The third major player is the university. And then come the so-called non-profit institutions<sup>4</sup>.

*Answer the following questions:*

1. What part is played by the government in subsidizing science in America?
2. What institutions are concerned with basic research?
3. How is research done in universities?
4. What fosters technology transfer from basic research to the market place?
5. Which country – in your opinion – has the most advanced way of organizing science and why? Discuss it with your partners.
6. So, as you see, a great part of research and development is carried out by Academies and Universities in many countries. Choose any National Academy or University in Europe. Using reference material make a table comprising the following information:

Name	Moscow University
Date of Foundation (the Founder)	1755. M. Lomonosov
Source of Funding (if mentioned)	-

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<sup>1</sup> Oak Ridge National Laboratory – Oak Ridge, Tennessee – independent non-profit, widely diversified research and development organization owned by the US Government Principal fields of research: nuclear energy development, biochemical and environmental problems, basic energy sciences, studies on properties of materials, etc.

<sup>2</sup> National Research Laboratory – Cincinnati, Ohio, Field of R and D: microbiology, basic and product – oriented research in immunohematology.

<sup>3</sup> NASA [‘n-es-] – National Aeronautics and Space Administration, a government agency.

<sup>4</sup> Non-profit institution – organization not intending or intended to earn profits.

Major Fields of Research	Initially philosophy law medicine	At present mathematics, physics, mechanics, geography, geology, economics, psychology
Outstanding Researchers	Stoletov, Sechenov, Timiryazev, Vernadsky, Vavilov	Writers: Griboedov, Lermontov, Goncharov, Turgenev, Chekhov
Important Achievements		
Current Trends in Research		

*Compare your table with that of your neighbour. Make a short report about the Academy or University chosen.*

*Make a short report about one of the famous scientists and his invention. Choose a topic. Here are some possible ideas:*

- a) Choose a famous scientist. Find out as much as possible about him/her.
- Write his/her biography. Describe his/her early life.
  - Tell a story from his/her life.
  - Describe and comment on the results of his/her work.
  - Explain why his/her work is important.

b) Choose any discovery / invention. Find as much information about it as you can about it.

- Describe what problems existed before the discovery / invention was made
- Give some information about the difficulties the scientist encountered during his work.
- Describe and comment on the results of the discovery/invention.

*Before reading the text say why it is important to develop international scientific cooperation.*

## SCIENTIFIC COOPERATION OF BELARUS WITH OTHER COUNTRIES

It is hard to imagine peaceful coexistence of nations without all-round scientific and engineering cooperation among the states. Besides, there are fields which cannot be developed effectively only on a national scale, such for instance, as environmental protection, space exploration, development of nuclear and solar

energy, rational use of the ocean's resources, etc.

The policy of our state with regard to scientific and technological cooperation with other countries rests on respect for sovereignty, equality and mutual advantage. International contacts in science and technology are regarded as a means of speeding up socio-economic progress of all the countries.

An integral part of the national scientific and technical policy of the Republic of Belarus is the international scientific cooperation within the framework of which Belarusian scientists and specialists conduct research jointly with foreign counterparts, and establish strong relations with international academic organizations. The international intergovernmental treaties and agreements serve as a legal basis for such cooperation. The Republic of Belarus concluded and executes over 30 bilateral and more than 10 multilateral (within the CIS) agreements on scientific and engineering cooperation. The collaboration is being intensified with the International Association for Promotion of Cooperation with Scientists from the New Independent States of the former Soviet Union (INTAS), International Science and Technology Center (ISTC), International Center for Scientific and Technical Information (ICSTI), Joint Institute of Nuclear Research (JINR), European Center for Nuclear Research (CERN), NATO Science Committee, etc. The Belarusian scientists participated in implementation of over 300 research projects through annually held INTAS open contests. The UNESCO, IAEA, INCO-Copernicus, CRDF and other organizations' projects are also being implemented. The scientific and engineering cooperation with CIS countries and Russian Federation within the framework of the Belarus-Russia union state is prioritized.

Bilateral scientific and technical cooperation of Belarus with the Ukraine, Kazakhstan, Armenia, Azerbaijan, Georgia, Moldova is growing. Belarus seeks cooperation with many countries, which is indicative of its multi-vector foreign policy.

Belarus signed the long-term agreements on cooperation in science and engineering with Bulgaria, Great Britain and Northern Ireland, Hungary, Germany, Egypt, India, Iran, CYPRUS, China, Poland, Rumania, Slovakia, the USA, Turkey, Japan, the United Arab Emirates.

Belarus is a host as well as a participant of a great number of international conferences and symposia such as «Tibo», «Alternative Sources of Energy», «Prevention of Natural Disasters», to name only some of them.

## COOPERATION TO CONTINUE

Belarus' Prime minister tells us that UN programmers in Belarus are worth over \$100m at present.

He recently met Cihan Sultonoglu, who has just finished her term as the UNDP Resident Representative/UN Resident Co-ordinator for Belarus and is now appointed Deputy Director of the UNDP Regional Bureau for Europe and the CIS. Mr. Sidorsky thanked her for her huge personal contribution to promoting UN programmers in the republic. «For Belarus – a permanent UN member – this organisation's work and decisions are extremely important, alongside our ability to express our opinions to the

international community. The Belarusian people and the Government are committed to a peaceful policy and our President has always advocated a multi-vector principle towards foreign policy», Mr. Sidorsky added.

Ms. Sultanoglu, in turn, stressed Belarus' great role within the UN. Saying, «Our success rests on firm collaboration with the republic's Government, the Belarusian people and our international partners». She noted that Belarus has accumulated huge experience in fulfilling key public health programmers, including AIDS mitigation and that other countries could learn from the republic. Ms. Sultanoglu said that, in her three and a half years of office in Belarus, significant result had been achieved, UN agency activities had been expanded and many serious projects had been gotten underway. She hopes that co-operation will continue between the UNDP and the republic. «We'll continue our work here as long as the Belarusian Government is interested and as long as Belarus remains on the list of states having the right to receive aid», she asserted.

*I. Answer the following questions:*

1. What are the fields of science which cannot be developed effectively only on a national scale?
2. What are the aims and principles of international scientific cooperation?
3. What are the means of speeding up socio-economic progress of all countries?
4. How can Belarus contribute to the solution of the problem of environmental protection; medical service and public health; development of supercomputers; industrial automation; Creating new kinds of materials etc.? Give examples of Belarus's contribution into these areas.
5. Which of our neighbor states can be regarded as the best partner in scientific cooperation? Give your reasons.

*II. Speak about the latest achievements of Belarus in establishing bilateral scientific and technical cooperation with Venezuela.*

## RESEARCH WORK

### *Problem presentation*

You are doing your research work. The following information will help you.

1. *The research question is the most critical part* of your research proposal – it defines the proposal, it guides your arguments and inquiry, and it provokes the interests of the reviewer.

2. *The research question should be evocative* – they should catch the interest of the reviewer and draw him into the proposal, innovative approaches to the exploration of problems.

3. *The research question should be relevant.* Questions that clearly demonstrate their relevance to society, a social group, or scholarly literature and

debates are likely to be given more weight by reviewers. Research is more likely to be funded if it is seen as a part of a larger intellectual project.

4. *Make connections.* Even if you are working on a narrow topic or in a specific place, ask questions that help relate the research to broader trends, patterns, and contacts.

5. *The research question should be clear.* Clear questions tend to be short, conceptually straightforward, and jargon-free. Keep your questions as lucid and simple as possible.

6. *Ground the questions.* Keep your questions close to the topic or place you are researching. Questions that are too abstract make it difficult for the reader to determine your question's relevance and intent.

7. *Limit variables.* If a question is burdened with too many variables it becomes both difficult to read and difficult to research.

8. *The research question should be researchable.*

Many very practical questions need to be considered when choosing your research question. First among them is: How long will the research take to carry out? Next, do you have the appropriate background to carry out the research? Are there ethical constraints? Is the project likely to be approved by your advisor and your university's committee for the protection of human subjects? Can you obtain the cooperation from all the necessary individuals, communities and institutions you need to answer the question you have asked? Are the costs of conducting the research more than you will be likely to raise? If I can't complete this project well, can I break it down and address the most important component? Remember that writing a research question is an iterative process and such concerns need to be carefully considered in your research design and budget.

*Before reading the text say what kind of research work you are engaged in.*

## MY RESEARCH WORK

I'm a system analyst at one of the departments of the Belarusian State University of Informatics and Radioelectronics. My special subject is hardware design of the digital system for static image compression. I combine my practical work with scientific research. I'm a post-graduate student now.

I'm doing research in the field of image processing. This branch of science has been rapidly developing for the last decade and the obtained results have already found wide application in most varied spheres of science, technology and national economy.

I'm particularly interested in image compression algorithms because hardware realization of different algorithms is much faster than their software realization. I have been working on the problem for a year. I got interested in it when a student. I work in close cooperation with my colleagues. We also closely cooperate with several institutions and enterprises of our republic and other countries.

There are several research teams at our department. The team I work in is headed by Doctor of Technical Sciences Professor Petrov. He is my scientific

adviser. I always consult him when I encounter difficulties in my research. We often discuss the data obtained.

I have not completed the experimental part of my thesis (dissertation) yet but I'm through with the theoretical part. For the moment I have 5 scientific papers. Some of them were published when I was a student. Two papers were published in the journals of Germany and Russia.

I take part in various scientific conferences where I make reports on my subject. I willingly participate in scientific discussions and debates.

I'm planning to finish writing the dissertation by the end of the next year and prove it in the Scientific Council of the University. I hope to get the scientific degree of a Candidate of Technical Sciences.

*I. Speaking about your research work, answer the following questions:*

1. What field of science are you doing your research in? Is it very promising?
2. Is this field of science developing rapidly? What are the results obtained?
3. Have the results found any application in national economy?
4. What are you interested in?
5. What is the subject of your research? Is it of practical or theoretical importance?
6. How long have you been working at the problem?
7. Do you collaborate with anybody in your research?
8. What theory is your research based on?
9. What difficulties do you encounter in your research? Do you discuss them with your scientific adviser?
10. Have you done the theoretical/experimental/ part of your thesis?
11. Have you got any scientific papers published?
12. When are you going to finish your thesis?
13. Do you take part in scientific conferences?

*II. Imagine you are to make a report on the subject of your investigation at a scientific conference. First make a plan of your report and use it while speaking.*

*Before reading the text say what job prospects in computer programming you know.*

## COMPUTER PROGRAMMER

«Computer programming» has become a vague term, one comparable in some respects to «business management». Both phrases have meaning, but nearly everyone defines that meaning differently.

With regard to programming, the confusion stems from the still-evolving nature of the computer and information processing businesses. Years ago, when computers were few and far between, it was important for organizations owning computers to

maintain staffs that could perform routine setups and run specialized programs; thus, the computer programmer. In the intervening years, computer software development has become concentrated in consulting or services organizations that provide programs of varying size for databases, transaction processing, statistical functions, and financial management. Many computer users in this arrangement employ data processing or 'information' staffs that input data and periodically upgrade the system. The computer programming work done by the software-developing businesses is often similar to that done by the software-using businesses, though the job titles differ. Software programs can have a cumulative value (in terms of hours invested in their installation and operation) that equals or exceeds the cost of the hardware that runs the programs.

The microcomputer, or personal computer (PC), has further scrambled an already fragmented field. There are probably more computer programmers working in a PC environment than with minicomputers or mainframes. (There are definitely more microcomputers than other types; the dollar value of PC software and hardware is fast approaching that of the larger computers.)

Here are some of the hot job prospects in computer programming currently.

Computer-aided engineering (CAE) programming. The market for engineering workstations – computers midway between a powerful microcomputer and a minicomputer – is booming, with sales growth projected at 30 percent a year. Engineers use these; programs to run design or analytical operations for projects that used to be done with pencil and paper. The control program called UNIX dominates.

Computer-aided software engineering (CASE) programming. Programmers are automating everything else – why not their own work as well? Although it would seem to be a process of working oneself out of a job, CASE, is becoming an essential tool for programmers. In large part this is because the time it takes to write a new program is often so long that the business reasons driving its development may have changed in the meantime, altering its specifications, or a client organization may cancel the project because of a loss of revenue while awaiting its completion. The main point here is to shorten the program's development time so that organizations can take advantage of it more quickly. Automation of programming techniques can help accomplish this. Microcomputer software companies, for example, are notorious for failing to meet delivery schedules for new programs.

Transaction processing programming. Transaction processing involves making multiple, simultaneous entries to a database or file of records very rapidly. Transaction processing is what enables automatic teller machines to perform many functions, and it keeps Wall Street stock traders on top of a 100-million-share trading day. The banking and financial services industries have big plans for expanding their automatic services.

Microcomputer software development. Microcomputer software, according to industry observers, now resembles the music industry in this regard: sales of software (recorded music) no longer depend on sales of hardware (record players). This development is a significant factor in the growth of the software industry. Now, with tens of millions of microcomputers in use – in homes and businesses – software



developers can count on a base of users who will buy any program, as long as its usefulness is demonstrated. In the past, a new application couldn't be successfully marketed until the potential users of that program also purchased a microcomputer. Job seekers are well advised to know the relatively new computer language C, which is often used in the microcomputer realm.

Artificial intelligence (AI) programming. AI has a bad rap; it has been expected to «turn the corner» from laboratory curiosity to commercial product for almost twenty years now. Although many people still don't accept its legitimacy (many believe that what is termed «computer intelligence» is simply better programming), AI has indeed entered the commercial realm. Near-term market growth is projected at 50 percent per year.

Finally, it is worth noting that contract work remains a common job classification for programmers. «Contract programming» is simply an agreement between employers and independent workers that a certain amount of work will be done during a set period of time. Contract programming, by its very definition, is unstable – there is no guarantee that a new contract will be forthcoming when an existing one ends – but it does represent a way to gain programming experience in diverse computing environments in fairly short order.

*Answer the following questions:*

1. What are the hot job prospects in computer programming currently?
2. Why is it necessary to shorten the program's development time?
3. What do transaction processing programmers do?
4. Why does microcomputer software resemble the music industry now?
5. What is «contract programming»?

*Before reading the text say how you can define the term 'AI'. Answer the following questions:*

1. The world is changing. It's really true. There are some outstanding people who have already changed it and are changing now. Who surprised you with new discoveries and inventions during last decades?
2. Could you predict new discoveries in the field of AI, computer science of the 21<sup>st</sup> century? Compare your predictions with your groupmates' ones.
3. Are you optimistic or pessimistic about the future discoveries of the world?

## ARTIFICIAL INTELLIGENCE

Artificial intelligence (AI) is not defined in the same way by all who use the term because of disagreement over what intelligent behavior is. One faction within the AI community defines intelligence as the ability to cope with change and to incorporate new information in order to improve performance. Existing technologies

don't appear capable of this. The broader view, however, is that artificial intelligence is that which mimics human reasoning or sensing. We already see examples of this capability in expert systems, industrial robots, machine vision, parallel processing, and neural networks.

Because AI is hard to define, it is hard to state who works in it and to describe their occupations. Workers include researchers with advanced degrees and software designers who have a bachelor's degree in computer science with an emphasis on AI. Currently, relatively few people are engaged in developing AI products, no more than 8,000 according to knowledgeable sources. Rapid growth in demand for workers to develop this software is expected, but the number of new jobs in this area will still be relatively small.

The most commercially successful AI application is the expert system. An expert, or knowledge-based, system is a computer program that acts as a consultant to decision makers. The program contains information on a particular subject, known as the knowledge base, that is most frequently represented as a series of «if-then» rules, although in some systems the knowledge is represented as frames, objects, or semantic networks. When applied to a problem, the system searches for solutions in the same logical patterns that human experts would use. The largest and most complex expert systems have over a thousand rules and may take 2 years or more to create. Development takes so long because, for the system to be usable, the expertise to be captured must be clearly defined, and all the steps a human expert would take to draw a conclusion must be spelled out beforehand. This is the job of the knowledge engineer, who is the link between the software developer and the end user.

Expert systems are only one of a cluster of AI technologies with commercial significance. Others involve creating equipment with a human-like ability to move, see, and communicate. The problems encountered so far have driven home to scientists just how complex we humans are and how difficult it is to simulate even our most basic reasoning processes. Getting a robot to do something that a baby does naturally requires hundreds, perhaps thousands, of detailed instructions.

Most researchers now concede that it could be a long time before the necessary breakthroughs occur that will lead to the production of machines that think or reason in any fully human sense of the word, or that act autonomously, or that speak and understand human speech in all its complexity. Nevertheless, researchers keep making advances in these areas.

Demand for computer professionals with AI skills will continue to rise. Even if further advances in basic technology aren't made – and this is highly unlikely – the development, integration, implementation, and maintenance of products based on existing technologies will require many additional skilled workers. Demand for workers will also increase as more organizations use AI products.

Growth will occur in software houses and hardware developers producing AI products and in large corporations who are developing their own AI capabilities. In these organizations, demand will be strongest for programmers who can program in LISP or other AI languages. Demand is also growing for knowledge engineers, who can work closely between the programmer and the user to design expert systems.

Artificial intelligence is clearly merging with the field in which most computer professionals are employed, the development and maintenance of management information systems (MIS). In this environment, the strongest demand will be for programmers and systems analysts with experience in regular systems and a good working knowledge of AI.

*Answer the following questions:*

1. What spheres of industry, business, technologies can the specialists in the field of AI work in?
2. What is the most commercially successful application of AI?
3. Why is the demand for workers in the field of AI increasing nowadays?

## ATTENDING A CONFERENCE

### *Problem presentation*

Science knows no boundaries and its development becomes faster due to international cooperation. Scientific exchanges and discussions are always useful because they contribute to general scientific advance. Scientific conferences and symposia give sufficient food for thoughts.

*Before reading the text discuss your experience of attending in international scientific conference.*

## THE WORLD CONFERENCE ON COMPUTERS IN EDUCATION

A conference is an important event in a researcher's life. You can get the information about the coming conference from scientific magazines or from special circulars that are often sent to universities and other scientific organizations.

If you want to be invited to the conference you should send a short abstract of your report (200 words) to the Organizing Committee. In case your abstract is accepted and you are invited to the conference you will have to submit your paper some weeks before the conference and make a hotel reservation.

The World Conference on Computers in Education took place in Switzerland some years ago. It brought together more, than 500 people concerned with the development and use of computers in primary, secondary and university education, as well as in vocational training. The Conference was organized by the Swiss Federation of Automatic Control, on behalf of the International Federation for Information Processing, and had the backing of UNESCO.

The atmosphere of the conference was very friendly. The delegates talked mostly about science and discussed their research. There you could see prominent scholars.

The chairman declared the conference open. He welcomed the guests and the participants of the conference and wished them success. He also introduced honorary guests.

After the conference was opened, the chairman read the agenda and explained the work to be done. Everyone who wanted to take the floor had to ask the chairman in advance. The chairman required every speaker to keep to the point.

The chairman said that the conference would follow a new practice introduced for scientific gatherings with numerous participants: the papers were divided between sections and generalized by a principle speaker for each section with the discussion following afterwards.

In addition to the Congress a youth world programming tournament was being held in different countries. The national winners were invited to present their entry at the Conference. At the same time an exhibition was set up to present educational material and a range of hardware and software, going from the smallest personal computer to the largest distributed informatics network, a concrete illustration of the multiple resources of these techniques applied to teaching and education.

The Conference put the accent on the relations between informatics and the teaching of other disciplines (computers in the teaching of physics, humanities at school, engineering, economics and social sciences) and on the impact of new technologies. Moreover, the social impact of informatics on teachers and students, as well, as on leisure were discussed during the conference.

Other contributions presented reviews of national policies and models of computer education; a special emphasis was put on the identification of the needs of developing countries and on the definition of the means to meet them.

To sum up, at a scientific conference you can:

- demonstrate the results of your research to your colleagues;
- get acquainted with the latest achievements in the branch of science you are engaged in;
- probably find investors for your further investigation;
- have a good opportunity to master your language skills.

*1. Answer the following questions:*

- Why is it important to take part in an international scientific conference?
- Where can you get the information about the coming conferences from?
- How big should an abstract of your report be?
- What should you do if you are invited to the conference?
- When do you have to submit your paper to the conference?
- What are the duties of the chairman of the conference?
- What is the difference between plenary and section meetings?
- Do all participants of the conference have an opportunity to exchange opinions and discuss scientific problems?

2. Speak about the scientific conference you have recently attended. Was it really useful for you and why? Use the words and expressions from the text above.

3. You are a specialist in the field of computer technology. You have come to the international scientific conference. You are to make a report there. Make a list of the most important points of the research you are doing at the moment which will serve you as a plan of your report. Make the report.

## ENVIRONMENTAL PROBLEMS

### *Problem presentation*

In recent years, questions concerning the environment, both at a domestic level and in a global scale, have gained much media attention. Scientists study the environment. When there is a problem, they try to find out the reason. Then they look for ways to solve it.

*Before reading the text say what should be done to create a system of ecological security.*

There are a lot of problems facing people nowadays. But the most urgent one is the ecological problem.

Ecology is the science that studies the conditions of the habitat of man, animals and plants for the benefit of present and future generations. The environment is everything around us: all living things and the soil, the air, the water.

We need certain things to stay alive and healthy. We need clean air to breathe and pure water to drink. We need also food that is safe to eat and housing to shelter us. But we can't get all these things by ourselves. We live in community so we can solve our health problems only working together. Human activities can make the environment unhealthy.

Air becomes polluted in many ways. Cars, trucks, buses and airplanes are among the worst polluters. They send partly burned gases into the air. Air can also be polluted by smoke and gases from factories, some of harmful gases are invisible. Dirt, smoke and gases in the air may be carried away by wind and by air currents, or settle over as a blanket of smog. Air pollution can cause or make worse diseases. Everyone can feel uncomfortable and lack energy when air isn't clean.

Water pollution is caused by dumping wastes into lakes, rivers and other bodies of water. Harmful wastes may also get into the soil or drain off fields that have been sprayed with pesticides. Pesticides are often used to kill insects and weeds in cities or on farms. Polluted water can spread many diseases.

There are also problems caused by climate crisis. They are holes in the ozone layer, the greenhouse effect, acid rains, causing ultraviolet radiation, global warming.

Nuclear power stations can go wrong and cause nuclear pollution. After the Chernobyl accident Belarus has become the zone of ecological disaster. Thousands of

hectares of forests and agricultural lands are contaminated with radioactive elements and are forbidden to be used for farming purposes.

In order to decrease the influence of radiation on people considerable work was done during the post-accident period. Measures were taken to evacuate the people from the most dangerous districts, to provide for their medical check up and treatment. Other measures were carried out – radioactive decontamination, agricultural treatment of soil, provision of clean food.

The basic ecological problems of the Republic of Belarus are:

- high level of radioactive pollution of a significant part of the republic after the disaster at the Chernobyl power plant;
- slow reduction of wastes and dumps of polluting substances into the environment;
- irrational use of natural resources. The Republic of Belarus uses a much larger amount of raw materials, power resources per unit of production than advanced industrial countries do;
- reduction in some species of animals like elks, wild boars, muskrats, beavers etc.

Protecting the environment is the main priority of the state policy of the Republic of Belarus. The basic purpose of this policy is the maintenance of ecologically safe conditions for the population. A complex republican program of environmental protection, «Ecology», includes measures, directed at improving ecological conditions, preserving and strengthening the natural potential of the republic.

The Republic has powerful scientific potential in the field of environmental protection. Ecological problems are the subject of 5 scientific institutions of the Ministry of Natural Resources, 10 scientific-research academies of sciences of Belarus and many scientific groups of higher educational institutions.

Nature protection should become everybody's concern. If we don't realize that we are all responsible for what is happening around us, we will never feel secure about the future of the world we live in.

### **What should be done to protect nature:**

- increase our efforts to find a non-polluting source of energy to avoid further nature damage;
- rationally use natural resources;
- reduce wastes and dumps of harmful substances into the air;
- consume less, recycle more;
- make good filters for power stations, factories and plants;
- find the way to reduce the level of contamination of the part of the Republic after the Chernobyl disaster, etc.

*1. Answer the following questions:*

- What are the main ecological problems?

- What sources of air, land and soil pollution can you name?
  - What is the ecological situation in Belarus?
  - When did the Chernobyl accident happen?
  - What were the consequences of the Chernobyl disaster? How did it influence the ecology?
  - What should be done to create a system of ecological security?
2. Speak on the problem: Man's activities for keeping the environment safe and clean.
  3. Imagine you are a researcher in the field of environment protection. You are to make a report on the subject: «Latest achievements in creating a system of ecological security» Find the necessary information and get ready for the presentation.

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Учебное издание

ТЕМЫ ДЛЯ ДИСКУССИЙ И КОНТРОЛЬНЫЕ ЗАДАНИЯ  
ПО АНГЛИЙСКОМУ ЯЗЫКУ ДЛЯ МАГИСТРАНТОВ

Topics for Discussion and Grammar Tests  
Guide for Graduate and Postgraduate Students

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