

Шифр:

**ПИСЬМЕННАЯ РАБОТА УЧАСТНИКА
ОЛИМПИАДЫ ШКОЛЬНИКОВ СПбГУ
2014–2015**

заключительный этап

Предмет (комплекс предметов) Олимпиады **СОВРЕМЕННЫЙ МЕНЕДЖЕР**

Город, в котором проводится Олимпиада _____

Дата _____

Вариант 3

Математика (Современный менеджер)

После номера задачи в скобках указывается количество баллов, которое ставится за задачу.

В задачах 1–4 Вам следует обвести в соответствующей графе правильный ответ. (Если Вы случайно выделили не ту клетку, то обведите нужный ответ и напишите его еще раз на полях.)

<i>Задачи</i>		<i>Ответы</i>			
1. (3)	Найдите наибольшее из чисел: $\sin 1, \cos 2, \operatorname{tg} 3, \operatorname{ctg} 4$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. (3)	Сколько целых чисел содержится во множестве решений неравенства $\sqrt{x+1} \leq \frac{6}{\sqrt{x+6}}$?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. (3)	Число $\frac{\sqrt{3} \operatorname{tg} 20^\circ}{\operatorname{tg} 10^\circ \operatorname{tg} 50^\circ}$ равно:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. (3)	Сколько корней имеет уравнение $\cos \pi x + 2x = 1$?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

В задачах 5–8 следует записать ответ справа от условия задачи (в пустой графе)

5. (3)	Диагональ трапеции делит ее площадь в отношении 2 : 1, а отрезок, соединяющий боковые стороны и проходящий через точку пересечения диагоналей параллельно основаниям, равен 2. Найдите основания.	
6. (3)	Решите уравнение $3x^2 - x = 2\sqrt{(x^2 + 1)(x + 3)}$.	
7. (4)	Решите уравнение $\arccos x + \arcsin(x - 1) = 0$.	
8. (4)	Последовательность x_n задана условиями: $x_1 = 1$, $x_{n+1} = \frac{x_n^2}{n}$, $n = 1, 2, 3, \dots$ Каково минимальное n , при котором $x_n < 0,001$?	

В задачах 9–10 следует справа в соответствующей графе написать ответ, однако дополнительно к этому следует записать решение

<p>9. (4) В правильном тетраэдре $SABC$ все ребра равны 1. Точка D лежит на ребре BS и делит его в отношении $2 : 1$, считая от вершины S. Точка E – середина ребра CS. Найдите объем пирамиды $SADE$.</p>	
<p>10. (4) При каких значениях параметра a наименьшее значение функции $f(x) = a \sin^2 x + a \sin 2x + 5 \cos^2 x$ больше 1?</p>	

Математика, решения заданий 9 и 10:

Обществознание (Современный менеджер)

1. Установите соответствие между типами экономики и иллюстрирующими их признаками: к каждой позиции, данной в первом столбце, подберите соответствующую позицию из второго столбца.

ПРИЗНАКИ	ТИПЫ ЭКОНОМИКИ
А. Регулятором выступают обычаи Б. Продукт производится под конкретный заказ В. Между производителями идет конкурентная борьба Г. Доминирует государственная собственность на средства производства Д. Цены устанавливаются централизованно компетентным государственным органом Е. Производители сами определяют объемы и номенклатуру производимых товаров и услуг	1. Рыночная 2. Традиционная 3. Плановая

А	Б	В	Г	Д	Е

2. Запишите слово, пропущенное в таблице

Признаки _____ формы государственного устройства			
Состоит из административно-территориальных образований	Действует единая конституция	Суверенные права сосредоточены в центре	Избирается однопалатный парламент

3. Покажите три экономических последствия, к которым приводит принудительное установление государственных цен на товары ниже рыночных. Приведите примеры.

4. Верны ли следующие суждения о недостатках рыночной системы?

А. Безработица – естественный спутник рыночной экономики

Б. В условиях рынка не гарантировано право на труд.

1. Верно только А

2. Верно только Б

3. Верны оба суждения

4. Оба суждения не верны

5. Что из ниже перечисленного относится и к рациональному познанию, и к чувственному?

А. Создание зрительного образа предмета

Б. Выделение существенных признаков предмета

В. Формирование знания и представления о предмете

Г. Нацеленность на постижение истины

6. Какая ситуация является примером гражданских правоотношений?

А. Гражданка К. приобрела акции фирмы, на которой работает

Б. Гражданин Б. не оплатил проезд в общественном транспорте

В. Гражданин Л. прошел собеседование при приеме на работу

Г. Гражданка М. проникла в квартиру соседа и вынесла ценные вещи

7. При авторитарном режиме, в отличие от тоталитарного

А. руководит государством общенациональный лидер – вождь

Б. государство является главным институтом политической системы

В. сохраняется значение традиционных институтов: церкви и армии

Г. правовые нормы поддерживаются государством

8. Ниже приведен ряд терминов. Все они, за исключением двух, относятся к понятию «социальные нормы».

Назовите их.

1) Ритуалы

2) Традиции

3) Толерантность

4) Этикет

5) Мораль

6) Конфликт

Ответ: _____

PART THREE

Questions 16-21

- **Read the following article about marketing and ethics and the questions.**
- **For each question (16-21), mark one letter (A, B, C or D).**

Corporate social responsibility and sustainability are ethical choices that companies make about how they do business. Current thinking indicates that, as a society, we are beginning to appreciate more fully that there must be limits to our consumption of natural resources, and that business activities must take greater account of this impact on society and economies, as well as the environment in which we live. It is well documented that the corporate sector is in a position of unparalleled dominance and that the global resources of a rising number of multinational companies dwarf many of the national economies in which they operate.

Market liberalisation and privatisation have created new global markets, and extended the role of the private sector in public services and civil infrastructure projects. As a result, businesses are now heavily involved in public policy issues throughout the world. For these reasons, businesses must be accountable - not just to shareholders but to consumers, employees and other stakeholders. This means that as corporations continue to grow in power, their responsibility grows too, increasing the number of ethical considerations they must face. Companies who ignore this development will increasingly find themselves challenged by different groups of stakeholders questioning the values and practices of businesses.

These issues present major challenges for the role of marketing, and an opportunity for a timely response for individual marketers to consider what this means in their day-to-day work. Marketing is the guardian of the brand, so a company's marketing team must be able to take account of how social and cultural changes impact on the health of the brand. How is this to be addressed by marketers? How widely does marketing engage with the company's stakeholders? A more holistic inclusive approach across the business is required to safeguard the brand's intangible assets of trust, goodwill and long-term value to the business. Marketers may aim to establish whether they can connect with customers in a way that extends the marketer's role beyond merely communicating the offer to prospective buyers. Marketing's role could well come to be seen more broadly in terms of connecting with stakeholders not only in terms of value, but values. In a world where intangible assets and corporate reputation are critical components of corporate success, it is inevitable that these newer approaches to marketing are becoming involved with ethics and sustainability issues. It means that marketers can enjoy new opportunities to add value to brands. There are tangible benefits to be gained in product development, innovation and competitive advantage when broader sustainability and ethical considerations are taken into account.

But if marketing is about selling more and sustainability is about consuming fewer resources and producing less pollution, how on earth are marketers supposed to pursue both goals at the same time? Perhaps it's easy to overestimate the depth and scale of the opposition between these goals - and to underestimate the degree to which marketers can align traditional corporate objectives with those of ethics and sustainability. Marketing's core role is to align what the business produces to what the market wants - the route to increased sales.

It all means that the firm must invest money, people and resources only in the things that add value for customers. It requires the business not to waste any effort, money or resources doing things that don't add value for users. Responsible marketing, in other words, is actually all about helping business avoid and eliminate waste, as well as continuing to manage natural or manmade resources. It is an important role for marketers and one that has not been fully recognised or appreciated in terms of potential to create innovative solutions.

16. What change does the first paragraph mention?

- A a decrease in the size of certain economies
- B a growth in knowledge of how resources affect economies
- C a decrease in the resources available to companies
- D a growth in the number of choices available to companies

17. According to the second paragraph, businesses are now encountering

- A a wider range of obligations.
- B greater public criticism.
- C problems they should have foreseen.
- D an increase in internal disagreement.

18. In the third paragraph, it is suggested that marketers

- A should devise stricter social and financial categories.
- B need to attract new categories of customers.
- C should have a greater input in the design of products.
- D need to expand their areas of activity.

19. What development is mentioned in the fourth paragraph?

- A Product design is becoming secondary to ethical considerations.
- B A company's reputation is growing in importance over its brands.
- C Ethical considerations can lead to effective innovation.
- D Competitiveness is becoming harder to maintain over time.

20. What comment is made in the fifth paragraph?

- A The challenge facing marketing may be impossible in the long term.
- B Marketing activity should move away from traditional goals.
- C Conflicts confronting marketing may be less extreme than expected.
- D Marketing should focus on promoting goods which last longer.

21. According to the final paragraph, businesses now need to

- A revise certain aspects of their activity.
- B conduct research into the efficient use of man-made resources.
- C ensure their range of investments is ethical.
- D communicate new sets of values to customers

Вариант 3

Английский язык (Современный менеджер)

Vocabulary and Grammar

Part One

Questions 1-10

Fill in the gaps with the missing word in the idiomatic expression.

The nose is at the centre of the face, so it is often associated with direction. For example, if you are told to**(1)**

your nose, it is obvious that you must keep straight on without turning to the right or left. If you**(2) your nose to the grindstone**, you will have no time to look to right or left because you will be working so hard. A grindstone might be uncomfortable, but at least it will not harm you.

However, if you **cut off your nose to(3) your face**, you will be doing yourself more harm than good. For example, if you decide not to have a holiday at all rather than go to a place your friend has chosen, then you would be doing just that. Alternatively, you could do everything your friend wanted, without question or argument. In that case, your friend would be**(4) you by the nose**, like a docile animal.

Your nose can lead you all over the place. A**(5) person** is someone who is always interested in other people's business. In fact, he**(6) his nose into** everything. Someone who has a very different kind of personality might do just the opposite to that and**(7) up his nose** at a lot of people and things because he considers them not good enough for him. A person who behaves like this is sometimes called a**(8) -nose** or a snob.

If you are not an observant person, something might happen right**(9) your nose** and you wouldn't even notice it.

Finally, there is one more rather odd expression concerning noses. If you bought something that was extremely expensive you would say unhappily that you had had to**(10) through the nose** for it.

Part Two

Questions 1-4

Think of one word only which can be used appropriately in all three sentences. Here is an example (0).

(0) It's going to be difficult to finish the work by the deadline, but I'm sure I'll manage it.

I run most aspects of the business myself, but I have an accountant to manage the financial side.

That box looks really heavy - can you manage to lift it by yourself?

1. When the Socialists were elected to power, it was a.....moment in the history of the country.

The company director refused to resign, even though the report was.....of his performance.

Recent research has shown that diet is to the prevention of many types of cancer.

2. Sarah didn't come into work this morning, but she seemed well when I saw her last night.

I.....understand your objections, but I still think we should accept the recommendations.

He always seems to have..... combed hair, even when the wind is blowing!

3. Sven was the star in the school revue with his impersonations of all the teachers.

It'll be my to cook a meal for us both next weekend.

Don't drive too fast as you approach the next because there's a sharp embankment.

4. There are to be fewer than 4000 tigers surviving in the wild in India.

It's an interesting idea, but I wouldn't have it was very practical.

The nearest village was five miles away, but he nothing of walking there to do his shopping.

Part Three

Questions 1-4

Read the text below. Use the words in the box to the right of the text, to form **one word** that fits in the same numbered space in the text. The exercise begins with an example (0).

OPERA REVIEW	
For a work that is often regarded as one of the key operas of the (0) <u>twentieth</u> century, there are surprisingly few (1) _____ performances of Wozzeck. This new version is just about the best around at the moment. Although there are moments which are far from perfect – the (2) _____ of the character of Wozzeck is only (3) _____ successful - at others the characterization and singing are impressive especially the almost faultless performance of Angela Denoke as Marie. Denoke has just the right mix of passion and (4) _____ : her cruel treatment at the hands of fate produces a final scene which is genuinely touching.	(0) TWENTY (1) STAND (2) INTERPRET (3) OCCASION (4) TENDER

Reading

PART ONE

Questions 1-8

- Look at the statements below and at the five extracts from an article about how employees are motivated.
- Which section of the article (A, B, C, D or E) does each statement (1-8) refer to?
- For each statement (1-8), mark one letter (A, B, C, D or E).
- You will need to use some of these letters more than once.

1. People may perceive the same type of work very differently.
2. It is important that staff gain recognition for what they have done.
3. The behaviour of staff may be influenced by disappointment with what their organisation provides.
4. Traditional ways of motivating staff cannot be put into practice these days.
5. A good salary alone is no longer enough to motivate staff.
6. It is desirable for staff and their employers to have similar objectives.
7. Staff should be able to improve their abilities through their work.
8. Not all companies see a need to find out what motivates their staff

A Ensuring employees arrive at work geared up and ready to give their all is a major challenge facing managers today. It used to be so easy. A fat pay cheque and the promise of promotion was all that was needed to keep people committed, loyal and happy. But the world of work has changed, and nowadays, organisations cannot rely on the corporate cheque book to give them the edge. Numerous employee surveys have shown that although pay still makes people tick, a whole raft of other issues have entered the motivation equation.

B One of the problems is that managers often don't appreciate they are playing in a completely new ball game, and a reliance on old-style motivational techniques just won't work in today's technology-driven, fast-paced business environment. For example, an employee could be working in South Africa, with a boss sitting in London and the main client they are dealing with based in Asia. So for someone who is very motivated by face-to-face contact and a collegiate environment that could be a huge problem.

C What most employees expect is the chance to work flexibly, on interesting and stimulating tasks that give them the opportunity to develop their skills and talents. Managers on the ground may not always be able to influence pay and working practices - but, if they are to extract top performance from their teams, they need to know how to press the right buttons and create a culture that will inspire their workforce, a culture in which achievement is acknowledged and people feel valued.

D Organisations should focus on asking people what they want - a relatively simple task that is too often considered unnecessary. However, questions about motivation have to be asked skillfully, or you won't get to the bottom of what really makes people go that extra mile. Two people may both say they want an interesting and stimulating job, but have widely divergent ideas of what would constitute such a position: a city trader would probably find business consultancy boring, and a consultant might be scared by the city trader's job, but both may be very satisfied with their own job.

E There are huge gaps between what employees expect from employers and what they actually get. For instance, employers' emphasis on employability (equipping workers with 'marketable' skills) may be somewhat misguided. One study showed that what people really wanted was not employability but job security. As a result, employees had the feeling that their employer wasn't delivering, which had a detrimental effect on the employees' workplace performance and attitudes. The problem lies partly in a lack of communication: to ensure mutual understanding and to align employees' values and goals with those of the organisation, much more conversation is needed.

PART TWO

Questions 9-15

- Read this introduction to an article about an approach to management.
- Choose the best sentence to fill each of the gaps.
- For each gap (9-15), mark one letter (A-H).
- Do not use any letter more than once.

INTRODUCING T-SHAPED MANAGEMENT

Despite their best efforts, most companies continue to squander what may be their greatest asset in today's knowledge economy. (9) This seems a great shame, because capitalising on those intellectual resources - using existing knowledge to improve performance or combining strands of knowledge to create something altogether new - can help companies respond to a surprising array of challenges, from fending off smaller, nimbler rivals to integrating businesses that have been forced together in a merger.

..... (10). I suggest another approach, one that requires managers to change their behaviour and the way they spend their time. The approach is novel but, when properly implemented, quite powerful. I call it T-shaped management.

T-shaped management relies on a new kind of executive, one who breaks out of the traditional corporate hierarchy to share knowledge freely across the organisation (the horizontal part of the T) while remaining fiercely committed to individual business unit performance (the vertical part). (11) Although this tension is most acute for heads of business units, any T-shaped manager with operating unit obligations must wrestle with it.

You might ask, why rely so heavily on managers to share knowledge? Why not just institute a state-of-the-art knowledge management system? The trouble is that those systems are best at transferring explicit knowledge; for example, the template needed to perform a complicated but routine task. (12) In fact, this implicit knowledge sharing is crucial to the success of innovation-driven companies. Furthermore, merely moving documents around can never engender the degree of collaboration that is needed to generate new insights. (13)

Effective T-shaped managers will benefit companies of almost any size, but they're particularly crucial in large corporations where operating units have been granted considerable autonomy. Although giving business units greater freedom generally increases accountability and spurs innovation, it can also lead to competition between units, which may hoard, rather than share, expertise. (14)

So, how do you successfully cultivate T-shaped managers and capitalise on the value they can create? Energy giant BP Amoco provides some provocative answers. My in-depth examination of their management practices highlighted five specific types of value that T-shaped managers can generate. (15) It is important to follow these, because the benefits of T-shaped management will not be realised if the concept is poorly implemented. Senior executives must put in place mechanisms that simultaneously promote and discipline managers' knowledge-sharing activities.

A However, direct personal contact is more typically needed to effectively transfer the kind of knowledge that must be creatively applied to particular business problems or opportunities.

B For that, companies really have to bring people together to brainstorm.

C Many companies have tried, with mixed success, to leverage this underused asset by centralising knowledge management functions or by investing heavily in knowledge management technology.

D The entire history of the T-shaped manager is one of evolution, a process that continues to this day.

E The successful T-shaped manager must learn to live with, and ultimately thrive within, the stress created by this dual responsibility.

F By encouraging collaboration, a T-shaped management system can be a powerful counterbalance to such negative behaviour.

G Their experience also suggests guidelines for creating an environment in which T-shaped managers will flourish.

H I am referring to the wealth of expertise, ideas and latent insights that lie scattered across or deeply embedded in their organisations.