Приложение к рабочей программе дисциплины

Иностранный язык

Уровень основной профессиональной образовательной программы – подготовка кадров высшей квалификации
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Учебный план 2016 года

ФОНД ОЦЕНОЧНЫХ СРЕДСТВ

1 Назначение фонда оценочных средств (ФОС) по дисциплине

ФОС по учебной дисциплине – совокупность контрольных материалов, предназначенных для измерения уровня достижения обучающимся установленных результатов обучения, а также и уровня сформированности всех компетенций (или их частей), закрепленных за дисциплиной. ФОС используется при проведении текущего контроля успеваемости и промежуточной аттестации обучающихся.

Задачи ФОС:

– управление процессом приобретения обучающимися необходимых знаний, умений, навыков и формированием компетенций, определенных в ФГОС ВО по соответствующему направлению подготовки (специальности);

– оценка достижений обучающихся в процессе изучения дисциплины с выделением положительных/отрицательных результатов и планирование предупреждающих/ корректирующих мероприятий;

– обеспечение соответствия результатов обучения задачам будущей профессиональной деятельности через совершенствование традиционных и внедрение в образовательный процесс университета инновационных методов обучения;

– самоподготовка и самоконтроль обучающихся в процессе обучения.

2 Структура ФОС и применяемые методы оценки полученных знаний

2.1 Общие сведения о ФОС

ФОС позволяет оценить освоение всех указанных выше дескрипторов компетенции, установленных ОПОП. В качестве методов оценивания применяются: наблюдение за работой (Performance tests), наблюдение за действиями в смоделированных условиях (Simulation tests), применение активных методов обучения, экспресс-тестирование, программированные тесты.

Структурными элементами ФОС по дисциплине являются: ФОС для проведения текущего контроля, состоящие из устных, письменных заданий, тестов, и шкалу оценивания; ФОС для проведения промежуточной аттестации, состоящий из устных, письменных заданий, и других материалов, описывающих показатели, критерии и шкалу оценивания; методические материалы, определяющие процедуры оценивания.

Применяемые методы оценки полученных знаний по разделам дисциплины

Раздел	Текущая аттестация						Промежуточная аттестация
	Входной контроль	Письменное задание	Устный опрос	Тестирование	Презентация	Интерактивные методы контроля	
Тема 1. Обучение в аспирантуре	+	-	+	-	-	+	Экзамен (кандидатский экзамен)
Тема 2. Моя научно-исследовательская деятельность	-	+	++	-	+	+	
Тема 3. Особенности научного стиля	+	-	-	-	+	+	
Тема 4. Участие в конференциях и симпозиумах. Аннотирование прочитанной оригинальной литературы по специальности	-	-	-	-	-	+	

2.2 Оценочные материалы для проведения текущего контроля

2.2.1 Входной контроль

Вопросы устного собеседования с преподавателем:

1. Will you introduce yourself? Can you say a few words about your family?
2. What do you major in? Where and when did you get your Bachelor's and Master's Degrees?
3. What department do you study in? Speak about it.
4. What is your speciality? What is the field of your scientific interest?
5. Have you written or published any scientific articles? What are they about?
6. Who is your scientific supervisor? What do you know about his/her scientific career?
7. What is the theme of your thesis? How can you define the subject and aim of your paper?
8. What methods of scientific research are you going to use?
9. What methods of teaching would you use in your work with students?
10. What have foreign scientists published in the sphere of your research? How do you estimate their approaches?
11. What do you see as your main strengths?
12. What do you see as your main weaknesses?
13. What specific steps have you taken/ are you taking to improve your strengths and weaknesses?
14. Can you give me a specific example of the outcome of your actions to improve?

2.2.2 Прочтите и переведите тексты с английского языка на русский:

1) Прочитайте статью, выделите научные термины, ключевые слова и выражения.

2) Используя англо-русский словарь, переведите выделенные термины, ключевые слова и выражения.

3) Выполните письменный перевод статьи.

Текст 1

Concept of the MC-C engine

The engine concept is based on a mechanical camshaft system for activation of the fuel injection and the exhaust valves. The engine is provided with a pneumatic/electric maneuvering system and the engine speed is controlled by an electronic/hydraulic type governor. Each cylinder is equipped with its own fuel injection pump, which consists of a simple plunger activated by the fuel cam directly. The optimal combination of NOx and SFOC (Specific Fuel Oil Consumption) is achieved by means of the Variable Injection Timing (VIT) incorporated in the fuel pumps (applicable for MC-C engines type 90-46 only). The cam controlled exhaust valve is opened hydraulically and closed by means of an air spring. Lubrication is either by means of a uni-lube oil system serving both crankshaft, chain drive, piston cooling and camshaft or a combination of a main lubricating oil system and a separate camshaft lube oil system. Cylinder lubrication is accomplished by electronically controlled Alpha lubricators, securing a low lube oil consumption, or timed mechanical lubricators alternatively. The starting valves are opened pneumatically by control air from the starting air distributor(s) and closed by a spring

Текст 2

MC-C Engine Description

Please note that engines built by our licensees are in accordance with MAN Diesel & Turbo drawings and standards but, in certain cases, some local stand ards may be applied; however, all spare parts are interchangeable with MAN Diesel & Turbo designed parts. Some components may differ from MAN Diesel & Turbo's design because of local production facilities or the application of local standard components. In the following, reference is made to the item numbers specified in the 'Extent of Delivery' (EoD) forms, both for the 'Basic' delivery extent and for some 'Options'.

Bedplate and Main Bearing

The bedplate is made with the thrust bearing in the aft end of the engine. The bedplate consists of high, welded, longitudinal girders and welded cross girders with cast steel bearing supports. For fitting to the engine seating in the ship, long, elastic holding down bolts, and hydraulic tightening tools are used. The bedplate is made without taper for engines mounted on epoxy chocks. The oil pan, which is made of steel plate and is welded to the bedplate, collects the return oil from the forced lubricating and cooling oil system. The oil outlets from the oil pan are vertical as standard and provided with gratings. Horizontal outlets at both ends can be arranged for some cylinder numbers, however, this must be confirmed by the engine builder. The main bearings consist of thin walled steel shells lined with bearing metal. The main bearing bottom shell can be rotated out and in by means of special tools in combination with hydraulic tools for lifting the crankshaft. The shells are kept in position by a bearing cap.

Текст 3

Cylinder Frame and Stuffing Box

The cylinder frame is either welded or cast and is provided with access covers for cleaning the scavenge air space, if required, and for inspection of scavenge ports and piston rings from the maneuvering side. Together with the cylinder liner, it forms the scavenge air space. The cylinder frame is fitted with pipes for the piston cooling oil inlet. The scavenge air receiver, turbocharger, air cooler box, lubricators and gallery brackets are located on the cylinder frame. At the bottom of the cylinder frame there is a piston rod stuffing box, provided with sealing rings for scavenge air. Oil scraper rings in the stuffing box prevent crankcase oil from coming up into the scavenge air space. Drains from the scavenge air space and the piston rod stuffing box are located at the bottom of the cylinder frame.

Text 4

DC Motors

DC motors have been used in industrial applications for years. Coupled with a DC drive, DC motors provide very precise control. DC motors can be used with conveyors, elevators, extruders, marine applications, material handling, paper, plastics, rubber, steel, and textile applications to name a few.

Basic Construction. Field windings are mounted on pole pieces to form electromagnets. In smaller DC motors the field may be a permanent magnet. However, in larger DC fields the field is typically an electromagnet. Field windings and pole pieces are bolted to the frame. The armature is inserted between the field windings. The armature is supported by bearings and end brackets. Carbon brushes are held against the commutator.

Armature. The armature rotates between the poles of the field windings. The armature is made up of a shaft, core, armature windings, and a commutator. The armature windings are usually form wound and then placed in slots in the core.

Brushes. Brushes ride on the side of the commutator to provide supply voltage to the motor. The DC motor is mechanically complex which can cause problems for them in certain adverse environments. Dirt on the commutator, for example, can inhibit supply voltage from reaching the armature. A certain amount of care is required when using DC motors in certain industrial applications. Corrosives can damage the commutator. In addition, the action of the carbon brush against the commutator causes sparks which may be problematic in hazardous environments.

Text 5

Basic DC Motor Operation

Magnetic Fields. There are two electrical elements of a DC motor, the field windings and the armature. The armature windings are made up of current carrying conductors that terminate at a commutator. DC voltage is applied to the armature windings through carbon brushes which ride on the commutator.

In small DC motors, permanent magnets can be used for the stator. However, in large motors used in industrial applications the stator is an electromagnet. When voltage is applied to stator windings an electromagnet with north and south poles is established. The resultant magnetic field is static (nonrotational).

Magnetic Fields. A DC motor rotates as a result of two magnetic fields interacting with each other. The first field is the main field that exists in the stator windings. The second field exists in the armature. Whenever current flows through a conductor a magnetic field is generated around the conductor.

Right-Hand Rule for Motors. A relationship, known as the right-hand rule for motors, exists between the main field, the field around a conductor, and the direction the conductor which tends to move. If the thumb, index finger, and third finger are held at right angles to each other and placed so that the index finger points in the direction of the main field flux and the third finger points in the direction of electron flow in the conductor, the thumb will indicate direction of conductor motion. Conductors on the left side tend to be pushed up.

Conductors on the right side tend to be pushed down. This results in a motor that is rotating in a clockwise direction. The amount of force acting on the conductor to produce rotation is directly proportional to the field strength and the amount of current flowing in the conductor.

Text 6

Types of DC Motors

The field of DC motors can be a permanent magnet, or electromagnets connected in series, shunt, or compound.

Series Motors. In a series DC motor the field is connected in series with the armature. The field is wound with a few turns of large wire because it must carry the full armature current. A characteristic of series motors is the motor develops a large amount of starting torque. However, speed varies widely between no load and full load. Series motors cannot be used where a constant speed is required under varying loads.

Shunt Motors. In a shunt motor the field is connected in parallel (shunt) with the armature windings. The shunt-connected motor offers good speed regulation. The field winding can be separately excited or connected to the same source as the armature. An advantage to a separately excited shunt field

is the ability of a variable speed drive to provide independent control of the armature and field. The shunt-connected motor offers simplified control for reversing.

Compound Motors. Compound motors have a field connected in series with the armature and a separately excited shunt field. The series field provides better starting torque and the shunt field provides better speed regulation. However, the series field can cause control problems in variable speed drive applications and is generally not used in four quadrant drives.

Text 7

Crankshaft

The crankshaft is mainly of the semi built type, made from forged or cast steel throws. In engines with 9 cylinders or more the crankshaft is supplied in two parts. At the aft end, the crankshaft is provided with the collar for the thrust bearing, and the flange for the turning wheel and for the coupling bolts to an intermediate shaft. At the front end, the crankshaft is fitted with the collar for the axial vibration damper and a flange for the fitting of a tuning wheel. The flange can also be used for a Power Take Off, if so desired. Coupling bolts and nuts for joining the crankshaft together with the intermediate shaft are not normally supplied.

Thrust Bearing

The propeller thrust is transferred through the thrust collar, the segments, and the bedplate, to the end chocks and engine seating, and thus to the ship's hull. The thrust bearing is located in the aft end of the engine. The thrust bearing is of the B&W Michell type, and consists primarily of a thrust collar on the crankshaft, a bearing support, and segments of steel lined with white metal. Engines type 60 and larger with 9 cylinders or more will be specified with the 360º degree type thrust bearing, while the 240º degree type is used in all other engines. MAN Diesel & Turbo's flexible thrust cam design is used for the thrust collar on a range of engine types. The thrust shaft is an integrated part of the crankshaft and lubricated by the engine's lubricating oil system.

Текст 8

Turning Gear and Turning Wheel

The turning wheel is fitted to the thrust shaft and driven by a pinion on the terminal shaft of the turning gear, which is mounted on the bedplate. The turning gear is driven by an electric motor with built in gear with brake. A blocking device prevents the main engine from starting when the turning gear is engaged. Engagement and disengagement of the turning gear is effected manually by an axial movement of the pinion.

The control device for the turning gear, consisting of starter and manual control box, can be ordered as an option.

Axial Vibration Damper

The engine is fitted with an axial vibration damper, mounted on the fore end of the crankshaft. The damper consists of a piston and a split type housing located forward of the foremost main bearing. The piston is made as an integrated collar on the main crank journal, and the housing is fixed to the main bearing support.

For functional check of the vibration damper, a mechanical guide is fitted, while an electronic vibration monitor can be supplied as an option.

Текст 9

Auxiliary Blower

The engine is provided with electrically driven scavenge air blowers. The suction side of the blowers is connected to the scavenge air space after the air cooler. Between the air cooler and the scavenge air receiver, non return valves are fitted which automatically close when the auxiliary blowers supply the air. The auxiliary blowers will start operating consecutively before the engine is started in order to ensure sufficient scavenge air pressure to obtain a safe start.

From the exhaust valves, exhaust gas is led to the exhaust gas receiver where the fluctuating pressure from the individual cylinders is equalized, and the total volume of gas is led further on to the

turbocharger(s). After the turbocharger(s), the gas is led to the external exhaust pipe system. Compensators are fitted between the exhaust valves and the receiver, and between the receiver and the turbocharger(s). The exhaust gas receiver and exhaust pipes are provided with insulation, covered by galvanized steel plating. A protective grating is installed between the exhaust gas receiver and the turbocharger.

Текст 10

Fuel Valves and Starting Air Valve

Each cylinder cover is equipped with two or three fuel valves, starting air valve (SAV), and indicator valve.

The opening of the fuel valves is controlled by the high fuel oil pressure created by the fuel oil pump, and the valves are closed by a spring. The fuel valves are cooled by the fuel. An automatic vent slide allows circulation of fuel oil through the valve and high pressure pipes when the engine is stopped. The vent slide also prevents the compression chamber from being filled up with fuel oil in the event that the valve spindle sticks. Oil from the vent slide and other drains is led away in a closed system. The starting air valve is opened by control air from the starting air distributor and is closed by a spring. The control air supply is regulated so that the starting valves deliver starting air to the cylinders тin the correct firing order.

2.2.3 Составьте краткий пересказ научной статьи на английском языке

Текст 1

Job Hunt: After Graduation, What's Next?

Are you ready for what lies ahead once you stroll across the graduation stage? Will you be able to steer yourself through the job hunt and, ultimately, your first job? Answer these six questions to find out.

Do You Know What You Want? You might think employers will appreciate your "I'm willing to do or learn anything" approach to getting a job. However, most employers interpret that as "I'm desperate" or "I have no focus, so I'm just taking a shot at whatever I stumble across."If you're fuzzy about the type of job you want, now is the time to work with a career counselor at your school. There, you can take a career assessment test, learn how and why informational interviewing can help you gain focus and talk over your specific concerns with someone trained to help you.

Do **You Have Experience?** Employers look for evidence that you've gained experience in your field through internships, part-time jobs, full-time jobs or even volunteering. If you haven't picked up this type of experience yet, it's a good bet many of your peers have and will likely have an edge over you in the entry-level job market.

But don't despair if you lack experience. You can get it now or after you graduate by doing a postgraduation internship, volunteering or temping.

Do **You Know Your Chosen Field?** Imagine going into an interview and saying, "I love this field and know a lot about it - that's why I want to get into it myself." The interviewer replies by saying, "Interesting. Tell me what you know." If you've been cheating to that point, you're in trouble. Once you've chosen your field, study it thoroughly so prospective employers know you understand it. Research the field's major players by reading industry publications, visiting industry Web sites, and participating in professional organizations and attending their conferences and seminars.

Do You Have a Strong Resume? You may be the best entry-level job candidate the world has ever seen. But if you don't market yourself effectively on your resume and cover letter, no one will ever know. So make your resume the best it can be. Tailor it to each specific job you pursue, watch out for the most common mistakes and be sure the document looks as good as it reads. Learn how you can put together a decent resume, even as a recent graduate. There is a lot of information in books or Internet about how to write a resume that can be an enormous help.

Текст 2

A **postgraduate degree** is an academic award or qualification that is undertaken after an undergraduate degree. A postgraduate degree can take the form of a master's degree, a PhD or an industry-specific qualification.

A bachelor's degree is usually a minimum requirement for entry, but there are some exceptions if the student has many years' experience working directly within the field of study and can meet other entry requirements.

The way a postgraduate degree is structured differs depending on which route you choose. Some courses are taught using lectures, others are research-based and involve undertaking an original research study, while others offer practical training.

Master's Degrees

Master's degrees take a traditional academic approach. Students are taught by lecturers and carry out original research to complete a dissertation as part of their course requirements.

A master's degree usually takes one to two years to complete. Although there are various specialised master's degrees, some of the most popular include:

- Master of Science (MSc)
- Master of Arts (MA)
- Master of Engineering (Meng)
- Master of Business Administration (MBA)

For undergraduates interested in pursuing a career in research, a **Master of Research (MRes)** may be a preferred route. The taught element is minimal, with a strong focus on independent research.

A **Master of Philosophy (MPhil)** is a master's programme that consists entirely of independent research.

Some four-year undergraduate courses incorporate a master's degree within them, meaning that successful graduates earn both a bachelor's degree and a master's degree from the same course.

Other academic postgraduate awards include the **Postgraduate Diploma (PGDip)** and the **Postgraduate Certificate (PGCert)**. The level of study presents the same challenge as a master's degree but these courses are shorter – the Postgraduate Certificate takes four months and the Postgraduate Diploma takes nine months.

They do not contain the dissertation element of a full master's degree, which makes them viable options for those wishing to advance their skills in the workplace or improve their CV without having to undertake a research project.

Текст 3

PhDs and Doctorates

A PhD is an abbreviation for **Doctor of Philosophy**. It is referred to as a DPhil when awarded by the University of Oxford.

Unlike the traditional taught model of a master's degree, PhDs and professional doctorates are **research-based** qualifications. This means that the student works independently to plan, carry out and evaluate a full research project at an advanced academic level.

A PhD usually takes three or four years of full-time study to complete, after which, students submit a comprehensive thesis (often up to 90,000 words in length) detailing their research study and findings.

A PhD is the highest level of degree awarded in the UK education system. The depth of study and the amount of time and focus dedicated to one specific area means that Doctors of Philosophy are considered experts in their field.

The entry requirements for a PhD course usually demand a First or 2:1 classification bachelor's degree as well as a master's degree. Successful applicants may have access to bursaries and scholarships to fund their PhD, and council grants may be available to some.

Studying for and completing a PhD or doctorate is often a gateway into a career in academia. However, professional doctorates are available for students on a vocational career path, such as medicine

or teaching, and are supported by employers. They usually involve a more significant teaching element and have a smaller research component.

A professional doctorate requires the same level of study and standard of original research as a PhD, with a tight focus on the chosen industry. For example, an engineer can be awarded an Engineering Doctorate (EngD) that is directly relevant to their field of work.

There are some alternative routes of study that result in a doctorate. Some universities now offer a four-year course called a **New Route** or **Integrated PhD**. The first year of the course is a Master of Research degree programme involving studying research methods and techniques, leading to a three year PhD.

Experts in a particular field of study can submit previously published works, such as articles or books, to apply for a doctorate award by demonstrating a substantial contribution to advances in their area. Professionals wishing to take this route must have graduated from their first degree many years earlier and be established in their career.

If a committee decides that an applicant's work is of the required standard, they may award a title such as Doctor of Literature, Doctor of Law or Doctor of Music.

Текст 4

Conversion Courses and Professional Qualifications

A postgraduate conversion course enables people to change career path or take a different direction with their studies after completing a bachelor's degree. Conversion courses are usually master's level and entry requires a bachelor's degree in any subject. Some universities may specify a minimum degree classification of a 2:1.

Unlike a traditional master's degree, a conversion course focuses on **practical training** rather than a research dissertation. The intended outcome is that the student is ready and qualified to enter into a new profession. Conversion courses usually take one year to complete.

Several professions demand a certain level of training and expertise before allowing people to register and practice. These requirements are often fulfilled with a postgraduate conversion course or professional qualification:

- A **Graduate Diploma in Law (GDL)** allows non-law graduates a chance to train for a career in legal practice, just as a **Legal Practice Course (LPC)** opens doors to a career as a solicitor.
- A **Post Graduate Certificate of Education (PGCE)** is required for a career in teaching.
- Other conversion courses prepare for work in a wide range of industries such as medicine, social work, psychology, IT, accountancy and engineering.

The vocational nature of a conversion course means that they are often open to funding opportunities. If an employer considers the training and development of a staff member to be an asset, they may have funding programmes in place to support this.

Employer funding is more likely if your postgraduate conversion course results in registration with a professional body.

Teaching courses are often incentivised with government funding for candidates with a solid bachelor's degree classification.

If self-funding a postgraduate degree, students can expect to pay between **£6,000 to £12,000**, depending on the course, so exploring funding options before applying is advisable.

Текст 5

Pros and Cons to Taking a Postgraduate Course

The time and cost demands of studying for a postgraduate degree of any kind mean that a candidate must be sure of their decision before making a commitment. Here are some key pros and cons to consider:

Pros

- Further study allows you to **broaden your skill set**, better equipping you for progression in the workplace or a change of career altogether.

- If you study in an area you are particularly interested in, you are likely to get a lot of **enjoyment** from dedicating time to studying it more closely.
- Postgraduate study displays a commitment to learning and reflects well on your work ethic – both qualities that **appeal to employers**.
- A postgraduate degree may be a **requirement** for the field of work you wish to pursue.
- **Future earning potential** is very likely to increase after being awarded a postgraduate degree.
- No matter where your career takes you in your future, you will always have the **qualifications** you've worked hard for – no one can take them from you.
- A postgraduate degree will help you **stand out from the crowd**. The graduate job market is very competitive and your additional qualifications may give you the edge over your peers.

Cons

- Dedicating an extended period of time to your studies has an immediate **effect on your income** as you are unlikely to be able to work at the same time.
- Postgraduate study can be **very demanding**; you will be expected to put in significant hours dealing with complex academic material.
- **Course fees** can be very expensive without funding help.
- Choosing to enter into further study can sometimes be a symptom of not knowing what you want from your career and can lead to **wasted time** studying for a field you are not sure you want to work in.
- A postgraduate degree **may not be necessary**. Many careers are accessible without studying at a postgraduate level or may offer alternative entry routes such as workplace training.

Текст 6

What Qualifications Are Needed to Take a Postgraduate Degree?

A bachelor's degree is a basic requirement for study at postgraduate degree level. Many universities ask for a certain level of degree classification, often a First or 2:1 bachelor's degree, although some may accept a 2:2.

The type of postgraduate degree also affects the entry requirements. For study at master's level, a good bachelor's degree is usually sufficient. For PhD and doctorate courses, a master's is a minimum requirement.

Those applying for a PhD will also usually have significant work experience in the industry.

It is worth noting that there are alternative ways of gaining postgraduate recognition which do not necessarily require recent study. An awarding body or university committee following a strict criterion may award a PhD for contributions to research or previously published work. This is often applied to those well established and advanced in their career.

How to Apply for a Postgraduate Degree

The most important point to consider when applying for a postgraduate degree is to **do your research**. Universities may require different methods of application and have different time frames for submission.

Unlike undergraduate applications, which are entirely managed by UCAS, postgraduate applications are often **made directly to the university** offering the course. Details and admission requirements will be listed on the university website and in their prospectus.

However, UCAS do retain some involvement with the postgraduate application process. UCAS postgraduate has links with 12 UK universities including the University of Winchester and the University of Westminster. You will also apply through UCAS for teacher training as well as some nursing or social work MAs.

It may take some time identifying institutions that offer the course you want, and you need to be sure that the logistics and practicalities of studying at each one works for you. The course model of your chosen degree makes a big difference here, as taught courses require you to be on campus more frequently than research-based courses, where distance learning makes up the majority of the research element.

Carefully **check closing dates** for applications and consider starting your application up to a year before the course commences.

Текст 7

Ask Dr. H: "Who Do You Credit For Your Scientific Interests?"

Dr. Holdren delivered the 9th Annual Peter M. Wege Lecture on Sustainability at the University of Michigan, March 22, 2010 (*John P. Holdren is Assistant to the President for Science and Technology and Director of the White House Office of Science and Technology Policy).*

From the earliest age about which I can remember much — three and a half or four — I was curious about how machines work, how nature works, and how society works. My mother, Virginia Holdren, was a voracious reader of both fiction and nonfiction and turned me into the same. (She made a weekly trip to the library, returning each time with a large shopping bag of books for both of us.) My parents bought me the 1953 edition of the World Book Encyclopedia when I was nine, and over the next two years I read it all from A to Z. I had some superb teachers in the public schools I attended growing up in San Mateo, California, starting with the Beresford Park elementary school where my sixth grade teacher, in particular, Mrs. Azevedo, had an effect on my intellectual growth and ambitions second only to that of my mother. Both of them told me that any career I might want was open to me except music (because I couldn't hold a tune) and medicine (because I couldn't stand the sight of blood). In high school my most inspiring teachers were an algebra teacher, an English teacher, and a Latin teacher. All of them were great at communicating their excitement about their fields in a way that got the students excited about learning … and got some of us, including me, interested in the idea that we might one day want to teach, too. But the high school experience that most shaped my career trajectory was reading two books as a sophomore — C. P. Snow's THE TWO CULTURES and Harrison Brown's THE CHALLENGE OF MAN'S FUTURE — that opened my eyes to the proposition that many of the most important challenges facing society could only be understood — and thus could only be met — by combining knowledge from the natural sciences and engineering, from the social sciences, and from the humanities. The challenges they were writing about were poverty, hunger, disease, resource scarcity, conflict, and weapons of mass destruction. It struck me then, and I never changed my mind thereafter, that the most rewarding thing somebody interested equally in natural and social science, technology, and the humanities could do is try to learn enough about all of them to be able to contribute to "putting the pieces together" in the way Snow and Brown argued was needed to address these great, interdisciplinary challenges.

So I ended up at MIT with an aerospace engineering major and a humanities minor in German literature and philosophy, while also taking all the courses for a physics degree but for one lab course. (I had decided, based on a number of exciting experiences, that taking lab courses was dangerous to my health AND to that of my classmates.) I had great professors at MIT in all the fields I was interested in, and one of the many things I learned from them was that university teaching is a great job — you get the rewards of teaching combined with opportunities to team with industry on practical problems and to get involved in policy in advisory roles for government.

For my PhD at Stanford I worked on a problem in theoretical plasma physics that was germane both to astrophysics and to harnessing fusion energy; I chose that field and that problem both because of the challenging math and physics involved and because there was an application to one of the great societal challenges — providing abundant energy for civilization — that I had become interested in. Through a series of coincidences I also ended up working in parallel with biologists at Stanford (on the causes and consequences of global environmental change) and, through them, meeting life scientists and Earth scientists and social scientists from all around the country who were working on this set of problems in an interdisciplinary way.

Текст 8

Prospects of my scientific career

I think ***science is important*** for most people living in modern world for a number of reasons. In particular, science is important for mutual understanding, as it involves cooperation among scientists and scholars and sharing knowledge.

Making a decision about a potential scientific career can be a daunting and time consuming endeavor. My future scientific career, as I can see it at present, should be connected with risk management. Therefore, ***my dissertation is devoted to*** the risk management in the spheres of innovation and investment. The problems of innovation process are reflected in numerous publications of both domestic and foreign researchers. Frank Knight was the founder of risk management and Harry Markowitz is a patron saint of modern portfolio theory that was introduced by him in 1952 in the Journal of Finance.

During my postgraduate course I would like to take part in different conferences and symposia, make presentations and write articles. Soon after ***defending my dissertation*** and getting my Ph.D., I am going to find an ***appropriate job*** in a Russian or maybe a foreign company. I intend to apply my scientific knowledge and to help people support their policies and programs. I would like to take part in some ***international projects*** in order to use the results of my PhD research to the fullest extent. I am also willing to work in collaboration with my foreign colleagues and partners from different countries. To my mind, conducting ***joint research*** is very beneficial for science and is a really good opportunity for my scientific career development.

I also think that teaching is quite a good way of scientific career development. Proceeding with my research into the sphere of economics, I'll do my best to obtain my ***doctoral degree*** in the same sphere and after defending my rehabilitation dissertation I could possibly become a full professor at my university.

Текст 9

Universities as the scientific centers. The leading scientific schools in my sphere of interests

In most countries universities have developed as educational and scientific centers. People enter universities in order to broaden their knowledge in a certain sphere of science of their choice. They are determined to have a career and to feel independent in their professional and social life. Besides, any university is also a scientific center as most professors are well-known scientists who keep in touch with production sector of economy to develop their sphere of science. The ***activities of a university as a scientific centre*** include scientific research; organization of conferences; publication of scientific studies; consulting; training; implementation of scientific projects. Given all the features mentioned, modern successful university can be regarded as a scientific center.

The St. Petersburg State ***Polytechnical University*** is a good example of a scientific center numbering 23 scientific directions. The university maintains close relations with Russia's Academy of science and over 100 foreign universities. Among the scientists who studied and worked in the Polytechnical University are the ***Nobel Prize winners:*** Nikolay Semionov for research into the mechanism of chemical reactions; Piotr Kapitsa for basic inventions and discoveries in the area of low-temperature physics; Zhores Alfiorov for basic work on information and communication technology; developing semiconductor heterostructures used in high-speed and optoelectronics.

The ***leading scientific school*** in my sphere of interests in Russia is the Great Active Laboratory. It is the unity of people who develop control management in economic and social systems. The leading scientists of this Lab, Dmitry Novikov and Vladimir Burkov, are well-known in our field. We are also trying to ***establish mutually beneficial contacts*** with analogous research Labs at Helsinki and Warsaw universities.

I am municipal manager by profession and specialize in the issues of state border management (SBM). My ***dissertation is devoted to*** customs staff management system. The ***choice of this subject is motivated by the fact that*** state border management has always been the subject of prime importance for state security and budget. ***Before technological growth*** in the 1990s, the Russian SBM was conducted

in an out-of-date way, which involved a great amount of red tape, a lot of staff and ***problems*** with statistical counts.

With the ***advancement of information technologies*** the situation has begun to change to the better. A lot of money was invested into database creation, and information exchange between the Federal services and the people concerned. Unfortunately, these innovations were not extremely successful and there ***still remain many problems*** in the need of a proper solution. One of the ***causes of these problems*** is permanent growth of tourist flows and inability of the staff to cope with them efficiently.

Текст 10

The international and national programs for support of young scientists

In my opinion, international collaboration is very important in solving scientific problems. Today there are ***a lot of programs supporting young scientists***. There are different kinds of such programs: Russian and foreign ones, business, government and international varieties.

International organizations, governments and private funds develop different programs to encourage scientific research of young scientists. There are a lot of ***examples of international programs supporting young scientists.*** For instance, the International Forum of young scientists, the World Academy of young scientists, the UNESCO programs. Most of the funds supporting young scientists specialize in a specific science field (e.g. Austrian Program – Lieben Prize – specializes in the sphere of technology and nanotechnology).

There are also many ***Russian programs*** supporting young scientists; President, Government, Subject of Government Grants, Funds (of the fundamental research, of the humanitarian research, venture, Bortik's, Potanin's awards), federal programs, etc. Grants are given to researchers in different fields of science on a competitive basis. There are similar programs on regional and non-governmental basis (e.g. Potanin's fund). Potanin's fund develops versatile programs to encourage scientific research of young scientists, postgraduate students among them. Usually information about a grant is available on different sites via the Internet. It can also be accessed at foreign embassies and consulates.

At our university, for example, it is possible to become «The Student of the Year» and «The Post-graduate of the Year» and get corresponding prizes. In conclusion, we can summarize that nowadays a young scientist has plenty of opportunities of receiving support while fulfilling his/her research.

Today scientific ***ethics is a number of moral rules or a set of moral principles*** and every scientist should follow these rules to be successfully engaged in scientific effort. The history knows many examples when discovery for the purpose of improvement of people's life and science development, led to fatal consequences. For example, possibility to use ***energy of nuclear reaction*** has opened a new energy source for people, but at the same time it turned out to be a very powerful and destructive nuclear weapon. Another example is physicians, who have taken the Hippocratic Oath to save life and alleviate suffering. Now they face a dilemma of whether to use medical devices that can prolong life at the cost of increasing suffering, or to follow patients' requests to be allowed to die without any extraordinary life saving precautions or even to be provided with medications or devices to end life.

2.3 Оценочные материалы для проведения промежуточного контроля

Экзамен (кандидатский экзамен)

Экзамен (кандидатский экзамен) проводится в форме выполнения экзаменационного задания, которое включает:

1) устный перевод текста по научной специальности аспиранта;

2) краткий пересказ текста;

3) беседу на иностранном языке по вопросам, связанным со специальностью и научной работой аспиранта.

Знания и умения аспирантов (соискателей) в ходе экзамена проверяются путем оценки выполнения ими экзаменационных заданий, а также с помощью постановки дополнительных

вопросов. Результаты экзаменационного испытания определяются оценками «отлично» («5»), «хорошо» («4»), «удовлетворительно» («3»), «неудовлетворительно» («2»).

Шкала соответствия оценок:

«5» Отлично: 90-100%

«4» Хорошо: 82-89%

«3» Удовлетворительно: 67-74%

«2» Неудовлетворительно: менее 60%.

Критерии оценки перевода текста по научной специальности аспиранта

Оценка «Отлично» (90-100%) – перевод точный, стилистически правильный, отсутствуют искажения содержания оригинального текста.

Оценка «Хорошо» (75-89%) – перевод в целом достаточно точный, допустимы незначительные стилистические погрешности, возможны неточности в переводе некоторых сложных грамматических структур.

Оценка «Удовлетворительно» (60-74%) – перевод недостаточно точный, присутствуют стилистические и грамматические ошибки (не более 9), имеется 2-3 случая искажении смысла оригинального текста.

Оценка «Неудовлетворительно» (59% и ниже) – перевод неточный, имеется более 10 стилистических и грамматических ошибок, 5 и более случаев искажении смысла оригинального текста.

Критерии оценки краткого пересказа текста

Оценка «Отлично» (90-100%) – Точно и правильно передано содержание текста, экзаменуемый может формулировать идеи, изложенные в тексте в сжатой форме, используя компрессию и обобщение; хорошо владеет терминологическим аппаратом по специальности на английском языке.

Оценка «Хорошо» (75-89%) – Экзаменуемый правильно передал содержание текста, сформулировал идеи, изложенные в тексте в достаточно краткой и обобщенной форме, однако допустил некоторое количество лексико-грамматических ошибок (3-5), затрудняющих понимание высказывания; владеет терминологическим аппаратом по специальности на английском языке.

Оценка «Удовлетворительно» (60-74%) – Экзаменуемый передал основное содержание текста, однако не смог применить компрессию и обобщение при изложении содержания текста; допустил значительное число лексико-грамматических ошибок (6-8), затрудняющих понимание высказывания; аспирант слабо владеет грамматическими структурами английского языка и терминологическим аппаратом по специальности на английском языке.

Оценка «Неудовлетворительно» (59% и ниже) – Экзаменуемый не смог передать основное содержание текста (или сделал это, исказив содержание), допустил много лексико-грамматических ошибок (более 8), затрудняющих понимание высказывания; аспирант слабо владеет грамматическими структурами английского языка, не владеет терминологическим аппаратом по специальности на английском языке.

Критерии оценки беседы на иностранном языке по вопросам, связанным со специальностью и научной работой аспиранта (соискателя)

Оценка «Отлично» (90-100%) – Ответы на вопросы полные, материал изложен логично, испытуемый может рассказать о предстоящем диссертационном исследовании; знаком с терминологическим аппаратом по специальности на иностранном языке. Цели коммуникации достигнуты в полной мере; допущено не более одной полной коммуникативной ошибки (одной речевой ошибки, или лексической, или грамматической ошибки, приведшей к недопониманию или непониманию).

Оценка «Хорошо» (75-89%) – Ответы на вопросы достаточно полные, экзаменуемый может рассказать о предстоящем диссертационном исследовании, однако допускает некоторое

количество лексико-грамматических ошибок (не более 5); знаком с терминологическим аппаратом по специальности на иностранном языке. Цели коммуникации достигнуты в целом; допущено не более 2-5 полных коммуникативных ошибок, приведших к недопониманию или непониманию.

Оценка «Удовлетворительно» (60-74%) – Ответы на вопросы недостаточно полные, экзаменуемый с трудом описывает предстоящее диссертационное исследование; допускает значительное число лексико-грамматических ошибок (6-8), затрудняющих понимание высказывания; слабо владеет грамматическими структурами английского языка и терминологическим аппаратом по специальности на иностранном языке. Главные цели коммуникации достигнуты частично; допущено не более 6-8 полных коммуникативных ошибок, приведших к недопониманию или непониманию.

Оценка «Неудовлетворительно» (59% и ниже) – Экзаменуемый не может поддержать беседу, дает односложные ответы на вопросы, при этом допускает много лексико-грамматических ошибок (9 и более), затрудняющих понимание высказывания; слабо владеет грамматическими структурами иностранного языка, не владеет терминологическим аппаратом по специальности на иностранном языке. Главные цели коммуникации не достигнуты; допущено 9 и более полных коммуникативных ошибок, приведших к недопониманию или непониманию.