Министерство науки и высшего образования Российской Федерации

Муромский институт (филиал)

федерального государственного бюджетного образовательного учреждения высшего образования

«Владимирский государственный университет имени Александра Григорьевича и Николая Григорьевича Столетовых»

(МИ ВлГУ)

Кафедра *ИЯ*

«УТВЕРЖДАЮ»
Заместитель директора по УР
_____Д.Е. Андрианов
16.06.2020

РАБОЧАЯ ПРОГРАММА ДИСЦИПЛИНЫ

Иностранный язык в профессиональной сфере общения

Направление подготовки *18.03.01 Химическая технология*

Профиль подготовки *Химическая технология неорганических веществ*

Семестр	Трудоемкость, час./зач. ед.	Лекции, час.	Практические занятия, час.	Лабораторные работы, час.	Консультация, час.	Контроль, час.	Всего (контактная работа), час.	СРС, час.	Форма промежуточного контроля (экз., зач., зач. с оц.)
3	**72 / 2**		**16**			**0,25**	**16,25**	**55,75**	**Зач.**
4	**72 / 2**		**16**		**2**	**0,35**	**18,35**	**27**	**Экз.(26,65)**
Итого	**144 / 4**		**32**		**2**	**0,6**	**34,6**	**82,75**	**26,65**

Муром, 2020 г.

1. Цель освоения дисциплины

Цель дисциплины: овладение необходимым и достаточным уровнем коммуникативной компетенции для решения социально-коммуникативных задач в различных областях профессиональной деятельности.

Задачи дисциплины: развитие коммуникативных умений в области чтения, аудирования, говорения и письма в разнообразных ситуациях профессионального межкультурного общения.

2. Место дисциплины в структуре ОПОП ВО

Изучение дисциплины "Иностранный язык в профессиональной сфере общения" базируется на изучении вузовского курса "Иностранный язык" для бакалавров. Углубление и расширение вопросов данного курса будет осуществляться в дальнейшей академической и профессиональной деятельности.

3. Планируемые результаты обучения по дисциплине

Планируемые результаты обучения по дисциплине, соотнесенные с планируемыми результатами освоения ОПОП (компетенциями и индикаторами достижения компетенций)

Формируемые компетенции (код, содержание компетенции)	Планируемые результаты обучения по дисциплине, в соответствии с индикатором достижения компетенции		Наименование оценочного средства
	Индикатор достижения компетенции	Результаты обучения по дисциплине	
УК-4 Способен осуществлять деловую коммуникацию в устной и письменной формах на государственном языке Российской Федерации и иностранном(ых) языке(ах)	УК-4.2 Использует иностранный язык как средство делового общения и обмена информацией в устной и письменной форме	Знать средства осуществления профессионально-ориентированной коммуникации на иностранном языке (УК-4.2) Уметь понимать и передавать информацию профессионально-ориентированного характера на иностранном языке (УК-4.2)	Тест. Вопросы к устному опросу.

4. Структура и содержание дисциплины

Общая трудоемкость дисциплины составляет 4 зачетные единицы, 144 часа.

4.1. Форма обучения: очная

Уровень базового образования: среднее общее.
Срок обучения 4г.

4.1.1. Структура дисциплины

№ п\п	Раздел (тема) дисциплины	Семестр	Контактная работа обучающихся с педагогическим работником							Самостоятельная работа	Форма текущего контроля успеваемости (по неделям семестра), форма промежуточной аттестации(по семестрам)
			Лекции	Практические занятия	Лабораторные работы	Контрольные работы	КП / КР	Консультация	Контроль		
1	Химические элементы.	3		4						10	Тестирование, устный опрос
2	Вода - сложное вещество.	3		4						15	Тестирование, устный опрос
3	Кислоты.	3		4						15	Тестирование, устный опрос
4	Щелочи.	3		4						15,75	Тестирование, устный опрос
Всего за семестр		72		16				0	0,25	55,75	Зач.
5	Органическая химия.	4		4						6	Тестирование, устный опрос
6	Полимеры.	4		4						7	Тестирование, устный опрос
7	Знаменитые ученые.	4		4						10	Тестирование, устный опрос
8	Человек и окружающая среда.	4		4						4	Тестирование, устный опрос
Всего за семестр		72		16				2	0,35	27	Экз.(26,65)
Итого		144		32				2	0,6	82,75	26,65

4.1.2. Содержание дисциплины

4.1.2.1. Перечень лекций

Не планируется.

4.1.2.2. Перечень практических занятий

Семестр 3

Раздел 1. Химические элементы.

Практическое занятие 1

Химические элементы. Кислород, водород и углерод. Лексика. Чтение (2 часа).

Практическое занятие 2

Химические элементы. Кислород, водород и углерод. Письменное реферирование (2 часа).

Раздел 2. Вода - сложное вещество.

Практическое занятие 3

Вода - сложное вещество. Лексика. Чтение (2 часа).

Практическое занятие 4

Вода - сложное вещество. Устная речь (2 часа).

Раздел 3. Кислоты.

Практическое занятие 5

Кислоты. Лексика (2 часа).

Практическое занятие 6

Кислоты. Чтение (2 часа).

Раздел 4. Щелочи.

Практическое занятие 7

Щелочи. Лексика (2 часа).

Практическое занятие 8

Щелочи. Чтение. Устная речь (2 часа).

Семестр 4

Раздел 5. Органическая химия.

Практическое занятие 9

Органическая химия. Лексика. Чтение (2 часа).

Практическое занятие 10

Органическая химия. Письменное реферирование (2 часа).

Раздел 6. Полимеры.

Практическое занятие 11

Полимеры. Лексика. Чтение (2 часа).

Практическое занятие 12

Полимеры. Письменное реферирование (2 часа).

Раздел 7. Знаменитые ученые.

Практическое занятие 13

Знаменитые ученые. Чтение (2 часа).

Практическое занятие 14

Знаменитые ученые. Устная речь (2 часа).

Раздел 8. Человек и окружающая среда.

Практическое занятие 15

Человек и окружающая среда. Чтение (2 часа).

Практическое занятие 16

Человек и окружающая среда. Письменное реферирование (2 часа).

4.1.2.3. Перечень лабораторных работ

Не планируется.

4.1.2.4. Перечень тем и учебно-методическое обеспечение самостоятельной работы

Перечень тем, вынесенных на самостоятельное изучение:

1. Химические элементы. Азот.
2. Химические реакции.
3. Цветные металлы.
4. Щелочные металлы.
5. Углеводороды.
6. Синтетические полимеры.
7. Знаменитые ученые из России.
8. Охрана окружающей среды.

Для самостоятельной работы используются методические указания по освоению дисциплины и издания из списка приведенной ниже основной и дополнительной литературы.

4.1.2.5. Перечень тем контрольных работ, рефератов, ТР, РГР, РПР

Не планируется.

4.1.2.6. Примерный перечень тем курсовых работ (проектов)

Не планируется.

5. Образовательные технологии

В процессе изучения дисциплины "Иностранный язык в профессиональной сфере общения" применяются технологии: обучение в сотрудничестве, игровые технологии и интерактивные технологии.

6. Оценочные средства для текущего контроля успеваемости, промежуточной аттестации по итогам освоения дисциплины.

Фонды оценочных материалов (средств) приведены в приложении.

7. Учебно-методическое и информационное обеспечение дисциплины.

7.1. Основная учебно-методическая литература по дисциплине

1. Английский язык для профессиональных целей. Химия: Практикум для студентов образовательной программы 18.03.01 Химическая технология / сост. Егорова О.М. [Электронный ресурс]. – Электрон. текстовые дан. (1 Мб). - Муром: МИ ВлГУ, 2016.– 26 с. (1,62 п.л) № госрегистрации 0321700133 - https://evrika.mivlgu.ru/index.php?mod=view_book&com=read_book&book_id=2992

2. Валеева, Э. Э. English for Chemical Engineers (Английский язык для инженеров-химиков) : учебное пособие / Э. Э. Валеева, Ю. Н. Зиятдинова, А. Н. Безруков. — Казань : Казанский национальный исследовательский технологический университет, 2015. — 104 с. — ISBN 978-5-7882-1801-4. — Текст : электронный // Электронно-библиотечная система IPR BOOKS : [сайт]. — URL: http://www.iprbookshop.ru/63671.html - http://www.iprbookshop.ru/63671.html

7.2. Дополнительная учебно-методическая литература по дисциплине

1. Деловой английский: учеб. пособие для тестирования / Н. К. Яшина; Владим. гос. ун-т имени А. Г. и Н. Г. Столетовых. – Владимир: Изд-во ВлГУ, 2013. – 53 с. - https://dspace.www1.vlsu.ru/handle/123456789/2626

2. Яшина, Н. К. Хрестоматия по переводу научно-технической литературы с английского языка на русский Н. К. Яшина; Владим. гос. ун-т. – Владимир: Изд-во Владим.гос.ун-та, 2011. – 108 с.ISBN 978-5-9984-0170-1. - http://dspace.www1.vlsu.ru/bitstream/123456789/3009/1/00600.pdf

7.3. Перечень информационных технологий, используемых при осуществлении образовательного процесса по дисциплине, включая перечень программного обеспечения и информационных справочных систем

В образовательном процессе используются информационные технологии, реализованные на основе информационно-образовательного портала института (www.mivlgu.ru/iop), и инфокоммуникационной сети института:

- предоставление учебно-методических материалов в электронном виде;
- взаимодействие участников образовательного процесса через локальную сеть института и Интернет;

- предоставление сведений о результатах учебной деятельности в электронном личном кабинете обучающегося.

Информационные справочные системы:

1. Онлайн справочник по английской грамматике, упражнения «English Grammar», режим доступа:

http://www.englishgrammar.org/

2. Онлайн справочник по английской грамматике, упражнения «English Leap», режим доступа:

http://www.englishleap.com/grammar

3. Онлайн справочник по английской грамматике, обучение письму «Grammarly Handbook», режим доступа: https://www.grammarly.com/handbook/

4. Онлайн справочник по английской грамматике «English Club», режим доступа:

https://www.englishclub.com/

5. Онлайн справочник по английской грамматике «English Grammar Secrets», режим доступа:

http://englishgrammarsecrets.com/

6. Онлайн справочник по английской грамматике «Grammar Monster», режим доступа:

http://www.grammar-monster.com/

7. Онлайн справочник по английской грамматике, упражнения, тесты, обучение письму, страноведческий материал «English Grammar Online»,

режим доступа:

https://www.ego4u.com/en/cram-up/grammar

8. Онлайн справочник по английской грамматике, упражнения, тесты, обучение письму, аудированию, говорению, страноведческий материал, англоязычная литература «My English Pages», режим доступа: http://www.myenglishpages.com/site_php_files/grammar.php

9. Онлайн словарь Мультитран, режим доступа: http://www.multitran.ru/c/m.exe?a=1&SHL=2

10. Онлайн словари и энциклопедии на «Академике», режим доступа: http://translate.academic.ru/

11. Онлайн словарь Эбби Лингво, режим доступа: https://www.lingvolive.com/ru-ru

12. Онлайн словари английского языка Оксфордского университета, режим доступа:

https://en.oxforddictionaries.com/

13. Онлайн словарь английского языка Кембриджского университета, режим доступа:

http://dictionary.cambridge.org/ru/

Программное обеспечение:

7-Zip (GNU LGPL)

Microsoft Office Standard 2010 Open License Pack No Level Academic Edition (Государственный контракт №1 от 10.01.2012 года)

Zoom (Свободно распространяемое ПО Freemium)

Adobe Reader XI (Общие условия использования продуктов Adobe)

Kaspersky Endpoint Security для бизнеса - Стандартный Russian Edition. 500-999 Node 2 year Educational Renewal (продление) (Гражданско-правовой договор бюджетного учреждения №2020.526633 от 23.11.2020 года)

Microsoft Windows 7 Professional (Программа Microsoft Azure Dev Tools for Teaching (Order Number: IM126433))

7.4. Перечень ресурсов информационно-телекоммуникационной сети «Интернет», необходимых для освоения дисциплины

evrika.mivlgu.ru
iprbookshop.ru
dspace.www1.vlsu.ru
englishgrammar.org
englishleap.com
grammarly.com

englishclub.com
englishgrammarsecrets.com
grammar-monster.com
ego4u.com
myenglishpages.com
multitran.ru
translate.academic.ru
lingvolive.com
dictionary.cambridge.org
mivlgu.ru/iop

8. Материально-техническое обеспечение дисциплины

Компьютерный класс

11 комплектов аудиогарнитуры; комплект учебно-методических пособий; комплект проекционного оборудования (проектор NEC V302XG + проекционный экран); плазменный телевизор Panasonic 42VS80; DVD плеер V315S; 11 компьютеров: монитор LCD 19″ Samsung; сист. блок Intel E2160/1.8/2048Mb/DVD-RW; клавиатура, мышь. Доступ к сети Интернет.

Лекционная аудитория

11 комплектов аудиогарнитуры; комплект учебно-методических пособий; комплект проекционного оборудования (проектор NEC V302XG + проекционный экран); плазменный телевизор Panasonic 42VS80; DVD плеер V315S; 11 компьютеров: монитор LCD 19″ Samsung; сист. блок Intel E2160/1.8/2048Mb/DVD-RW; клавиатура, мышь. Доступ к сети Интернет.

Кабинет иностранного языка

11 комплектов аудиогарнитуры; комплект учебно-методических пособий; комплект проекционного оборудования (проектор NEC V302XG + проекционный экран); плазменный телевизор Panasonic 42VS80; DVD плеер V315S; 11 компьютеров: монитор LCD 19″ Samsung; сист. блок Intel E2160/1.8/2048Mb/DVD-RW; клавиатура, мышь. Доступ к сети Интернет.

Кабинет английского языка

Комплект учебно-методических пособий; компьютер: монитор LCD 19″ Samsung, сист. блок Intel E2160/1.8/2048Mb/DVD-RW, клавиатура, мышь. Доступ к сети Интернет.

9. Методические указания по освоению дисциплины

Практические занятия предполагают индивидуальную работу, которая предполагает чтение и перевод профессионально-ориентированной литературы, устное и письменное реферирование полученной иноязычной информации. При выполнении заданий необходимо точно определить, что конкретно требуется: выполнить устно или письменно; провести работу с отдельными словами, словосочетаниями, предложениями или текстом, какие образцы рекомендуется использовать. Если возникают вопросы, преподаватель дает дополнительные комментарии по конкретному языковому явлению.

Внеаудиторная учебная деятельность осуществляется в рамках тем, отводимых на самостоятельное изучение. Самостоятельно выбираются методы, формы и режим выполнения самостоятельной работы в соответствии с личностными особенностями, уровнем подготовки, условиями выполнения. Студент самостоятельно отслеживает процесс и успешность своего продвижения в овладении учебным материалом. Студент должен регулярно выполнять задания и отчитываться перед преподавателем на занятии. Для успешного выполнения заданий, студент имеет возможность неограниченного количества попыток и индивидуальной временной протяженности в процессе выполнения заданий. Результаты изучения тем, отводимых на самостоятельное освоение, учитываются при проведении промежуточной аттестации.

Форма заключительного контроля при промежуточной аттестации – экзамен. Для проведения промежуточной аттестации по дисциплине разработаны фонд оценочных средств

и балльно-рейтинговая система оценки учебной деятельности студентов. Оценка по дисциплине выставляется в информационной системе и носит интегрированный характер, учитывающий результаты оценивания участия студентов в аудиторных занятиях, качества и своевременности выполнения заданий в ходе изучения дисциплины и промежуточной аттестации.

Программа составлена в соответствии с требованиями ФГОС ВО по направлению *18.03.01 Химическая технология* и профилю подготовки *Химическая технология неорганических веществ*
Рабочую программу составил *к.ф.н., доцент Егорова О.М.*_____

Программа рассмотрена и одобрена на заседании кафедры *ИЯ*

протокол № 5 от 26.05.2020 года.
Заведующий кафедрой *ИЯ* _____*Панкратова Е.А.*
(Подпись)

Рабочая программа рассмотрена и одобрена на заседании учебно-методической комиссии факультета

протокол № 6 от 16.06.2020 года.
Председатель комиссии МСФ _____ *Соловьев Л.П.*
(Подпись) (Ф.И.О.)

Приложение

Фонд оценочных материалов (средств) по дисциплине
Иностранный язык в профессиональной сфере общения

1. Оценочные материалы для проведения текущего контроля успеваемости по дисциплине

- Тестирование

Выберите правильный ответ.

1. People... chemistry since ancient times.
a) have practiced c) had practiced
b) are practicing d) practiced

2. Chemistry... the studies of the whole universe and everything in it.
a) is included c) include
b) includes d) included

3. D. Mendeleyev... in Tobolsk in 1834.
a) was born c) born
b) is born d) borns

4. You ... very extensive lab practice during the next years of your studies.
a) had c) will be having
b) were having d) have had

5. In ancient times gold ... the most perfect metal.
a) considered c) has considered
b) was considered d) has been considered

6. What don't physical changes include?
a) colour c) density
b) smell d) changes in composition

7. Outstanding achievements... in the structure of atom.
a) make c) have been made
b) made d) is made

8. You've got a bachelor's degree in chemistry,... ?
a) didn't you? c) don't you?
b) haven't you? d) aren't you?

9. Thousands of years ago people valued gold as a rare substance.
a) thought of c) considered
b) appreciated d) respected

10. The universal desire for gold made alchemy a formal discipline.
a) lust c) ambition
b) admiration d) dream

11. These phenomena have long been of interest to research workers.
a) scientists c) scholars
b) examiners d) investigators

12. These reactions are of fundamental significance.
a) interest c) attention
b) importance d) concern

13. This makes water the commonest material on the Earth.
a) fibre c) substance
b) flesh d) fabric

14. Carbon ... to occur in two crystalline forms.
a) know c) knows
b) is known d) it is known

15. In the early days of chemistry the compounds obtained from living things were not even thought of... in the laboratory.
a) to be obtained c) being obtained
b) obtaining d) obtain

16. Organic chemistry... to be a very large branch of chemistry.
a) is sure c) is unlikely
b) is likely d) is certain
17. The carbon chain ... practically any length, the number of possible hydrocarbons is enormous.
a) is c) been
b) was d) being
18. The material for... organic chemicals used to be found in the sea.
a) producing c) produced
b) produce d) being produced
19. But for the complexity of the molecules of natural organic polymers they ... the attempts to analyse their molecular structure until very recently.
a) would have defied c) wouldn't have defied
b) would defy d) have defied
20. ... these salts decompose.
a) On being heated c) On heated
b) Having heated d) Heating
21. ... rare antibodies, tests at room temperature should be included.
a) After looking for c) In looking for
b) Before looking for d) Being looked for
22. A new technique ..., the yields rose.
a) was worked out c) to be worked out
b) was being worked out d) having been worked out
23. Gases mix together spontaneously.
a) unexpectedly c) essentially
b) impulsively d) basically
24. It may seem strange that man came rather late to the investigation organic polymers.
a) unique c) peculiar
b) odd d) singular
25. It may seem strange that man came rather late to the investigation organic polymers.
a) examination c) discovery
b) creation d) invention
26. The special processes were fundamental for the formation of compounds.
a) vital c) essential
b) cardinal d) critical
27. At present, however, we use the term "organic compounds" to mean "carbon compounds".
a) recently c) nowadays
b) lately d) originally
28. Most of the organic chemicals we have are matt-made.
a) artificial c) unreal
b) false d) assumed
29. There's a simple reason for keeping carbon compounds separate: there're just too many of them.
a) objective c) purpose
b) aim d) cause
30. Elements ..... by some properties distinguishing them from other substances.
a) are characterized c) is characterized
b) were characterized d) have characterized
- Перечень тем для устного опроса
1. Химия и ее отрасли
2. Химические элементы
3. Состояние вещества
4. Вода - сложное вещество
5. Химические реакции

6. Знаменитые ученые

Методические указания и учебно-методические материалы по дисциплине для выполнения заданий приведены на ИОП МИ ВлГУ в соответствующем электронном курсе по ссылке: https://www.mivlgu.ru/iop/course/view.php?id=2252

Общее распределение баллов текущего контроля по видам учебных работ для студентов

Рейтинг-контроль 1	тестирование и устный опрос	до 15/10
Рейтинг-контроль 2	тестирование и устный опрос	до 15/10
Рейтинг-контроль 3	тестирование и устный опрос	до 50/20
Посещение занятий студентом	отсутствие пропусков по неуважительным причинам	до 5
Дополнительные баллы (бонусы)	активность на занятиях	до 5
Выполнение семестрового плана самостоятельной работы	тестирование по изученным темам	до 10

2. Промежуточная аттестация по дисциплине

Перечень вопросов к экзамену / зачету / зачету с оценкой.
Перечень практических задач / заданий к экзамену / зачету / зачету с оценкой (при наличии)

- Тестирование – термины и определения.

Выберите правильный ответ.

1. People... chemistry since ancient times.
a) have practiced c) had practiced
b) are practicing d) practiced
2. Chemistry... the studies of the whole universe and everything in it.
a) is included c) include
b) includes d) included
3. D. Mendeleyev... in Tobolsk in 1834.
a) was born c) born
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4. You ... very extensive lab practice during the next years of your studies.
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b) false d) assumed
29. There's a simple reason for keeping carbon compounds separate: there're just too many of them.
a) objective c) purpose
b) aim d) cause
30. Elements ..... by some properties distinguishing them from other substances.
a) are characterized c) is characterized
b) were characterized d) have characterized
31. Where did Mendeleyev start ordering the elements?
a) at school
b) at St. Petersburg University
c) abroad
32. Why did Mendeleyev turn to ordering the elements? Because:
a) other scientists' attempts failed
b) he had talent
c) he didn't like disorder
33. What did the researchers try to do to find some order of the elements?
a) they compared different properties
b) they read scientific literature
c) they denied the earlier attempts of the scientists
34. How did Mendeleyev list the elements?
a) according to their names
b) according to their atomic weights
c) according to their chemical symbols
35. What did scientists of Mendeleyev's time think about atoms of different elements?
a) they were independent particles of nature
b) they were closely connected
c) they belonged to a well-ordered system
36. Who discovered oxygen?
a) Joseph Priestley
b) Joseph Black
c) John Dalton
37. Who discovered hydrogen?
a) John Dalton
b) Henry Cavendish
c) Humphry Davy
38. This scientist is known for his discoveries of several alkali and alkaline earth metals.
a) Humphry Davy
b) Henry Cavendish
c) Joseph Priestley
39. Joseph Priestley is known for the discovery of…
a) oxygen
b) hydrogen
c) carbon dioxide
40. His name is associated with electromagnetism and electrochemistry.
a) Henry Cavendish
b) Michael Faraday
c) Roger Bacon
41. All his life Roger Bacon had been searching for …

a) the secret of making gold
b) “philosopher’s stone”
c) phosphorus
42. As a mathematician, he invented vector analysis.
a) Michael Faraday
b) Josiah Willard Gibbs
c) John Dalton
43. This scientist is noted for his research into colour blindness.
a) John Dalton
b) Robert Boyle
c) Joseph Priestley
44. This man was one of the first discoverers of the law of physical chemistry.
a) Henry Cavendish
b) Josiah Willard Gibbs
c) Robert Boyle
45. Who made CO2 ?
a) Joseph Black
b) Roger Bacon
c) Robert Boyle

- Тестирование - профессиональная лексика.

Дополните предложения

Using some chemical terms (see below) complete the following sentences:

1.1. scientific method, law, composition, experiments, chemistry, changes, properties, branch, matter, science

(1) ... , which is the study of the (2) ... and (3) ... of (4) ... , and of the (5) ... that it undergoes, is a (6) ... of (7) ... , which itself provides us with the way of knowing and understanding the universe we live in. In the operation of the (8)... we ask questions of the universe through tests and (9) ... . By observing the results we can formulate additional questions, perform additional experiments, and finally develop a tentative explanation of what we have learned. If this tentative explanation is confirmed by others and becomes widely accepted, it becomes a (10)... and helps us understand better the world around us.

1.2. established, enables, holds, served, large-scale, development, recognition, close, overall, basis, progress

1. The chemical industry ... the second place in the world in ... volume of production. 2. The achievements of our scientists have won a world-wide ... .3. The classical works of Russian scientists ... as a theoretical ... for the ... of the chemical industry. 4. The ... links between science and industry ... the chemical industry to make great ... . 5. The ... production of synthetic rubber was ... in Russia.

1.3. thorough, various, neither... nor, as, among, relative, possess, a common knowledge, never, govern, both... and

1. That matter exists in three physical states is ... 2. A piece of ice may melt and form a liquid ... it evaporates. 3. Carbon has ... been liquefied. 4. Solids have ... al definite volume ... a definite shape. 5. Gases have ... al definite shape ... a definite volume. 6. A chemist must have ... knowledge of the physical laws which ... the behaviour of matter in ... states. 7. The essential difference ... the three states of matter is the ... quantities of energy molecules ... in different states.

1.4. to turn, takes place, whether, unless, in time, to subject, to take

1. Chemical changes are those matter changes in which a change of composition ... . 2. It is essential ... you finish the experiment ... . 3. This substance will not change its properties ... you ... it to a chemical change. 4. It ... a chemical change to convert iron into iron rust. 5. A chemical change is necessary ... the iron rust back into iron again.

1.5. as to, kindling temperature, mention should be made, the most widely distributed, affect.

1. Oxygen is ... element on the surface of the globe. 2. Among all the gases that make up air ... of oxygen and nitrogen. 3. The temperature at which a substance ignites is called its ... 4. Water doesn't ... gold. 5. ... its chemical behaviour oxygen is very reactive.

1.6. level, layer\ blanket, top, evidence, to mention, to lead, to contaminate, to isolate, nitrogen, oxygen, argon, spontaneously, gradually, to escape, atmosphere, density, bottom

1. ... for other gases in the ... came towards the end of the 19th century. 2. The work ... to the discovery was an investigation into the ... of.... 3. The ... lying all over the Earth like a ... is called the .... 4. So far we've …, ... , carbon dioxide and water vapour. 5. By the time you get to 50 miles above sea ... , there's practically no air left. 6. The main gas that... the atmospheric ... is ... . 7. Gases mix together ... . 8. So a gas that... from the Earth becomes a part of the .... 9. … more and more ... is added to the .... 10. ... and ... were ... long before the end of the 19th century. 11. We live at the ... of a very deep ocean of air. 12. There's enough air to breathe at the ... of Mt. Everest.

1.7. combustion, rusting, hydrogen, oxygen, nitrogen, argon, inert, reactive, atmosphere, carbon dioxide, cooling, heating, remove, mixture, substance, isolate

1. ... is a corrosion of iron or steel to form a hydrate iron (III) oxide. 2. ... occurs in the air (78%) and is an essential constituent of proteins and nucleic acids in living organisms. 3. ... is a chemical reaction in which a ... reacts rapidly with ... producing heat and light. 4. ... is a colourless, odourless gas, soluble in water, ethanol and acetone. 5. ... occurs only in the presence of both water and .... 6. Reactions of... are often free-radical chain reactions, which can usually be summarized as the oxidation of carbon to form its oxides and the oxidation of... to form water.

1.8. a matter, destiny, DNA code, heart transplants, survival, an average person, to accomplish a goal, is indissolubly bound up, were curious, head into the.

1. At the turn of the 19th century, ... were unthinkable, while by the turn of the 20th century many have survived because another person's heart sustains them. 2. We have come to understand the intricate workings of the cell, as we have learned to decipher.... 3. Understanding the universe and ourselves must continue to be the goal of science. In order... , institutions must exist that best facilitate a free and prosperous society. 4. Human advancement in all respects ... with freedom. 5. In 1987, at an abandoned radiology clinic in Goiania, Brasil, a group of youngsters, who ... , broke open a 300-pound lead capsule containing cesium 137, a radioactive substance used in cancer treatment.

1.9. a matter, destiny, DNA code, heart transplants, survival, an average person, to accomplish a goal, is indissolubly bound up, were curious, head into the.

1. You cannot fully understand the concept of gravity until you realize it is more ... of semantics to distinguish between an object falling and being pulled to the ground. 2. ... really can understand the great scientific discoveries. 3. After graduation many science students ... scientific world. 4. The very ... of humanity depends on man attitude towards nature. 5. Our... is in our own hands.

1.10. combustion, rusting, hydrogen, oxygen, nitrogen, argon, inert, reactive, atmosphere, carbon dioxide, cooling, heating, remove, mixture, substance, isolate

1. ... is really prepared in the laboratory by the action of dilute acids on metal carbonates. 2. Though ... is essential to all forms of life, the huge amount present in the ... is not directly available to most organisms. 3. ... is the lightest element and most abundant at the universe. 4. ... is an electrochemical process in which different parts of iron surface act as electrodes in a cell reaction. 5.

Flame is a luminous ... of gases undergoing .... 6. ... is a by-product (побочный продукт) from the manufacture of lime (известь) and from fermentation process.

- Тестирование - чтение.

Прочитайте текст и выполните задания к нему

TEXT1

Chemistry is an experimental and theoretical study of the composition of matter and the changes that take place in matter. A chemical change involves changes in composition and in properties. Chemical changes are usually accompanied by the liberation or absorption of energy in the form of light, heat or electricity.

All forms of matter consist of either pure substances or mixtures of two or more pure substances. Elements are the building blocks of matter. Compounds are combinations of elements. Most of the elements are metals and most of them will unite with other elements and form compounds. The formation of a compound from simpler substances is known as synthesis. Analysis is the process of breaking down a compound into simpler substances or its elements and thus determining its composition. The composition of a pure substance never changes.

Every substance has physical and chemical properties. Physical properties include colour, smell, solubility, density, hardness and boiling and melting points. Chemical properties include the behaviour with other materials.

Matter exists in three states: the solid, the liquid, and the gaseous state. A substance (usually) can be transformed from one state to another under the changes of its temperature.

Chemistry is so much a part of our lives that it is very easily taken for granted. Metals, glass, plastics, dyes, drugs, paints, paper, soap, detergents, explosives and perfumes are all made of chemicals.

1. What does not chemistry study?
a) composition of substances
b) behaviour with other materials
c) states of matter
d) human races
2. According to the passage, what are elements?
a) building blocks of matter
b) the basis of any science
c) the heating parts of a piece of electrical apparatus
d) a part of a whole
3. According to the passage, what is a compound?
a) a group of buildings enclosed by a wall
b) mixture
c) a number involving more than one unit
d) metal
4. According to the passage, what physical changes do not include ... ?
a) colour
b) smell
c) density
d) changes in composition
5. What might be a suitable title to the passage?
a) Analysis in Chemistry
b) Synthesis in Chemistry
c) Introduction to Chemistry
d) Elements and Compounds

Прочитайте текст и выполните задания к нему

TEXT 2

The process of vaporization requires the addition of heat to the liquid. The quantity of heat required to vaporize a unit mass of a liquid at a constant temperature is called heat of vaporization.

Experiments show that the heat of vaporization of a liquid depends upon the temperature at which vaporization takes place; the higher the temperature, the smaller is the heat of vaporization. For example, in the case of water, the heat of vaporization at 100°C is 540 calories per gram.

At 20°C, however, the heat of vaporization of water is 590 calories per gram, while at 300°C it is 331 calories per gram. Of course, the heat of vaporization is also a quantity of heat liberated when a unit mass of the substance condenses at a constant temperature from the vapour to the liquid phase. Thus when steam at 1000°C is condensed to water at the same temperature, 540 calories of heat are liberated for each gram of steam which is condensed. One of the methods for measuring the heat of vaporization of water is to take steam from a boiler and add it to a known quantity of water.

In this process the steam is first condensed to water and then cooled from the boiling point down to the final temperature of the mixture.

1. According to the passage, what does it mainly describe?
a) theories to explain the nature of heat
b) expansion due to heat
c) heat of vaporization
d) temperatures and molecular energy
2. According to the passage, what substance is used in the examples?

a) water
b) acidic solution
c) ethanol
d) cobalt (II) cloride
3. According to the passage, what is the heat of water vaporization at 100°C?
a) 331 calories per gram
b) 590 calories per gram
c) 540 calories per gram
d) 20 calories per gram
4. When steam at 1000°C is condensed to water at the same temperature, how many calories of heat are liberated?
a) 300
b) 331
c) 540
d) 100
5. According to the passage, what does the process of vaporization require?
a) the addition of steam to the liquid
b) the increase of temperature
c) the addition of heat to the liquid
d) the decrease of temperature
Прочитайте текст и выполните задания к нему
TEXT 3
PLASTICS
Plastics are organic substances made synthetically by polymerization, and capable of being formed into an almost endless variety of products, e. g. threads, sheets, tubes, and moulded objects. The ancestor of modern synthetic plastics is celluloid. Celluloid has certain disadvantages — its flammability and the fact that it is not readily moulded. Thus it was not until the discovery of bakelite in 1907 that the real foundation of synthetic plastics industry was laid.
Plastics that consist of long-chain molecules can be softened by heat and moulded into a desired shape. These plastics are called thermoplastics. Plastics in which the polymer chains are cross-linked have much greater rigidity and cannot be softened readily. They are called thermosetting. The terms "thermoplastic" and "thermosetting" are also applied to the resins from which plastics are made.
The principal agent incorporated in a plastic is the resin; it may be natural, like cellulose, but it is most generally synthetic.
The resin is also known as the binder. Substances added to the plastic to enhance certain properties, e. g. hardness, resistance to shock, or resistance to abrasion, are called fillers; examples are asbestos, glass fibres, and wood flour.
Plasticizers are also included in the formation. Antioxidants may be added to promote chemical stability and thus prolong life. Catalysts are added to assist the final cure (final formation of the product), and stabilizers to protect against sunlight, heat, and other destructive factors.
The procedure used to shape a plastic into its final form depends on the properties of the plastic. Some plastics can be injection moulded. Other plastics must be compression moulded; after they are filled into the mould they are subjected to pressure. Certain plastics are simply cast into their final shape.
1. What does the passage mainly discuss?
a) the importance of plastics in the Second World War
b) plastics as substances
c) various uses of plastics
d) people's attitude toward new material
2. According to the passage, materials which can be softened by heat and moulded into a desired shape are called...
a) thermoplastics
b) ebonites

c) thermosets
d) resins
3. According to the passage, when was bakelite discovered?
a) in 1807
b) in 1927
c) in 1907
d) in 1901
4. According to the passage, what is the principal agent incorporated into plastics?
a) resins
b) antioxidants
c) catalysts
d) stabilizers
5. Which of the following will be least useful if it were made from thermoplastics?
a) a vase of flowers
b) a doorknob
c) a table
d) a coffee cup

Прочитайте текст и выполните задания к нему

TEXT 4

Students beginning a study of organic chemistry learn that there are officially approved ways of naming many individual compounds, and they may even learn that the author of their textbook misdirects them in connection with such names. They are less likely, however, to learn as much history of the official nomenclature as of the reactions and theories included in the course. Yet a look at the history of official nomenclature provides some interesting insights into how chemists go about their work, how emphases and influences shift during the development of a field. Perhaps surprisingly, the characteristic of chemists that seems to persist through the history of organic nomenclature is their resistance to change — this is a group whose excitement is often associated with logical trains of thought and new reactions schemes and theoretical concepts.

Names of compounds are now based on structure, but names were coined before structures were known or even acknowledged. In a landmark paper in 1832, Justus Liebig and Friedrich Wohler used benzoyl as the name for the molecular fragment that persisted in a series of reactions. The name was not associated with structure, but just with the C7H50 fragment; it continues in official use today for the same fragment and now also for a particular structure. The need for names always outturns the prescribing of rules for names. Some of the firstformed names like benzoyl found such wide acceptance and use that systematization, when it came, had to accommodate them. Frequently, these early, persistent names, such as formic acid (Latin formica, or "ant"), reflected a first or significant source of the compound. Similar practice continues today, especially with natural products of unknown structure.

1. This passage indicates that students of organic chemistry learn....
a) most about the ways of naming compounds;
b) nothing about the ways of naming compounds;
c) little about the reactions and theories in the course;
d) more about theories than about methods of naming com¬pounds.
2. The passage suggests that chemists....
a) all follow officially approved ways of naming compounds;
b) do not want to change;
c) are often illogical;
d) get excited about naming compounds
3. The example of the naming of benzoyl was used to show....
a) that names were not always based on structure;
b) that naming of compounds began as early as 1832;
c) that benzoyl was named for a molecular structure;
d) that benzoyl was the name for a molecular fragment
4. The passage suggests that formic acid....

a) was originally obtained from ants;
b) has recently been renamed;
c) is not a natural compound;
d) has an unknown structure
5. Naming of compounds....
a) has always been associated with structure;
b) is a completely logical rule-based procedure;
c) began before the "rules" for naming were established;
d) was systematized by renaming all earlier names for compounds

Прочитайте текст и выполните задания к нему

TEXT 5

Water on the Earth is being recycled continuously in a process known as the hydrologic cycle. The first step of the cycle is the evaporation of water in the oceans. Evaporation is the process of water turning into vapour, which then forms clouds in the sky. The second step is the water returning to the Earth in the form of precipitation: either rain, snow, or ice. When the water reaches the Earth's surface, it runs off into the rivers, lakes, and the ocean, where the cycle begins again.

Not all water, however, stays on the surface of the Earth in the hydrologic cycle. Some of it seeps into the ground through infiltration and collects under the Earth's surface as ground water. This ground water is extremely important to life on the Earth, since 95 percent of the Earth's water is in the oceans and too salty for human beings or plants. Of the five percent on land, only 05 percent is above ground in rivers or lakes. The rest is underground water. This ground water is plentiful and dependable, because it doesn't depend on seasonal rain or snow. It is the major source of water for many cities. But as the population increases and the need for water also increases, the underground water in some areas is getting dangerously low. Added to this problem is an increasing amount of pollution that seeps into the ground water. In the future, with a growing population and more toxic wastes, the hydrologic cycle we depend on could become dangerously unbalanced.

1. Clouds are formed from....
a) water vapour
b) evaporation
c) the hydrologic cycle
d) ground water
2. Water returns to the Earth by
a) infiltration
b) pollution
c) precipitation
d) evaporation
3. Ground water....
a) depends on seasonal rain
b) comes from toxic waste
c) is .05 percent of all water
d) collects under the earth
4. The amount of ground water is....
a) about 95 percent of all water
b) less than five percent of all water
c) .05 percent of above-ground water
d) 95 percent of above-ground water
5. The supply of ground water is getting lower because of....
a) conservation
b) toxic waste
c) pollution
d) population increase

Прочитайте текст и выполните задания к нему

TEXT 6

Petroleum products, such as gasolene, kerosene, home heating oil, residual fuel oil, and lubricating oils, come from one source — crude oil found below the Earth's surface, as well as under large bodies of water, from a few hundred feet below the surface to as deep as 25,000 feet into the Earth's interior. Sometimes crude oil is secured by drilling a hole through the Earth, but more dry holes are drilled than those producing oil. Pressure at the source or pumping forces crude oil to the surface.

Crude oil wells flow at varying rates, from ten to thousands of barrels per hour. Petroleum products are always measured in 42-gallon barrels.

Petroleum products vary in physical appearance: thin, thick, transparent or opaque, but regardless, their chemical composition is made up of only two elements: carbon and hydrogen, which form compounds called hydrocarbons. Other chemical elements found in union with hydrocarbons are few and are classified as impurities. Trace elements are also found, but these are such minute quantities that they are disregarded. The combination of carbon and hydrogen forms many thousands of compounds which are possible because of the various positions and joinings of these two atoms in the hydrocarbon molecule.

The various petroleum products are refined from the crude oil by heating and condensing the vapors. These products are the so-called light oils, such as gasolene, kerosene, and distillate oil. The residue remaining after the light oils are distilled is known as heavy or residual fuel oil and is used mostly for burning under boilers. Additional complicated refining processes rearrange the chemical structure of the hydrocarbons to produce other products, some of which are used to up-grade and increase the octane rating of various types of gasolenes.

1. Which of the following is not true?
a) Crude oil is found below land and water.
b) Crude oil is always found a few hundred feet below the surface.
c) Pumping and pressure force crude oil to the surface.
d) A variety of petroleum products is obtained from crude oil.
2. Many thousands of hydrocarbons compounds are possible because....
a) the petroleum products vary greatly in physical appearance.
b) complicated refining processes rearrange the chemical structure.
c) the two atoms in the molecule assume many positions.
d) the pressure needed to force it to the surface causes molecular transformation.
3. Which of the following is true?
a) The various petroleum products are produced by filtration.
b) Heating and condensation produce the various products.
c) Chemical separation is used to produce the various products.
d) Mechanical means such as the centrifuge are used to produce the various products.
4. Crude oil is brought to the surface by....
a) expansion of hydrocarbons;
b) pressure and pumping;
c) vacuum created in the drilling pipe;
d) expansion and contraction of the Earth's surface.
5. Which of the following is not listed as a light oil?
a) distillate oil
b) gasolene
c) lubricating oil
d) kerosene

- Список вопросов для устного опроса обучающихся по изученным темам

1.1. Branches of chemistry

1. What does chemistry deal with?
2. What sciences is chemistry linked with?
3. What forms of matter is chemistry concerned with?
4. What are all changes of one kind of matter into another accompanied by?
5. How many branches of chemistry are there now? What are they?
6. What substances does inorganic (organic) chemistry deal with?

7. What is physical chemistry concerned with?

8. Why is the knowledge of physical chemistry particularly important?

9. What branch of chemistry is concerned with the identification, separation, and composition of different substances?

10. What process is called electrolysis?

1.2. Chemical Elements

1. What are elements characterized by?

2. Which elements of the Periodic Table are essential for biosphere?

3. What are the physical properties of oxygen?

4. What are the main reactions of oxygen?

5. Why is oxygen vital to life?

6. Why is carbon important to man?

7. What are the main allotropic forms of carbon?

8. What element is a component of all proteins and nucleic acids?

9. What element is the lightest and the most abundant in the universe?

10. Who discovered the periodic law exploring the problems of classification of elements?

1.3. The States of Matter

1. How is it usually possible to change matter from one state to the other?

2. Can all kinds of matter be obtained in each of the three states?

3. What do solids have?

4. What characterizes gases?

5. Why should a chemist know the states of matter?

6. What other substances besides water can be obtained in the three states?

1.4. Water

1. What makes water similar to other substances?

2. How is water in the form of gas called?

3. Can we call solid water ice?

4. What should we do to change one form of water into another? Give examples.

5. Why is water interesting from the chemical point of view?

6. What important chemical reactions with water can you name?

7. How does water influence chemical reactions?

8. Why can't water be an element?

9. What is the chemical name for water?

10. How can you get "artificial water"? What are its properties?

1.5. Reactions

1. What are the main reactions of oxygen?

2. What is oxidation?

3. What is combustion?

4. Is the amount of heat liberated by oxidation and combustion different?

5. What is the difference between combustion and oxidation?

Методические материалы, характеризующие процедуры оценивания

3 семестр (зачёт)

1. Тестирование (Термины, определения, чтение (профессиональная лексика), ознакомительное чтение).

2. Устный опрос по темам: "Химические элементы. Кислород, водород и углерод", "Вода - сложное вещество", "Кислоты", "Щелочи".

Критерии оценки устного ответа по теме:

- Ответ полный. Фонетическое, лексико-грамматическое оформление речи правильное (1-2 незначительные ошибки) – отлично.

- Ответ не совсем полный. Фонетическое, лексико-грамматическое оформление речи с нарушениями норм (3-4 незначительные ошибки) – хорошо.

- Ответ не полный. Фонетическое, лексико-грамматическое оформление речи с множеством нарушений норм (5-6 ошибок)– удовлетворительно.

- Ответ не соответствует требованиям по объему и качеству – неудовлетворительно.

4 семестр (экзамен)

Экзамен проводится в письменной и устной формах в соответствии с контролируемыми результатами образования:

1) письменная форма - тестирование;

2) устная форма - устный опрос по изученным темам.

Экзаменационная работа включает три задания:

Задание 1. Термины. Определения. (10 (5+5) вопросов)

Задание 2. Чтение. Профессиональная лексика. (10 (5+5 вопросов).

Задание 3.1. Чтение (5 вопросов)

Задание 3.2. Устный опрос (5 вопросов)

Критерии оценки устного ответа по теме:

- Ответ полный. Фонетическое, лексико-грамматическое оформление речи правильное (1-2 незначительные ошибки) – отлично.

- Ответ не совсем полный. Фонетическое, лексико-грамматическое оформление речи с нарушениями норм (3-4 незначительные ошибки) – хорошо.

- Ответ не полный. Фонетическое, лексико-грамматическое оформление речи с множеством нарушений норм (5-6 ошибок)– удовлетворительно.

- Ответ не соответствует требованиям по объему и качеству – неудовлетворительно.

Максимальная сумма баллов, набираемая студентом по дисциплине равна 100.

Оценка в баллах	Оценка по шкале	Обоснование	***Уровень сформированности компетенций***
Более 80	«Отлично»	Содержание курса освоено полностью, без пробелов, необходимые практические навыки работы с освоенным материалом сформированы, все предусмотренные программой обучения учебные задания выполнены, качество их выполнения оценено числом баллов, близким к максимальному	***Высокий уровень***
66-80	«Хорошо»	Содержание курса освоено полностью, без пробелов, некоторые практические навыки работы с освоенным материалом сформированы недостаточно, все предусмотренные программой обучения учебные задания выполнены, качество выполнения ни одного из них не оценено минимальным числом баллов, некоторые виды заданий выполнены с ошибками	***Продвинутый уровень***

50-65	«Удовлетворительно»	Содержание курса освоено частично, но пробелы не носят существенного характера, необходимые практические навыки работы с освоенным материалом в основном сформированы, большинство предусмотренных программой обучения учебных заданий выполнено, некоторые из выполненных заданий, возможно, содержат ошибки	***Пороговый уровень***
Менее 50	«Неудовлетворительно»	Содержание курса не освоено, необходимые практические навыки работы не сформированы, выполненные учебные задания содержат грубые ошибки	***Компетенции не сформированы***

3. Задания в тестовой форме по дисциплине

Примеры заданий:

Пример заданий закрытого типа:

1. Выберите правильный ответ.

_____ is the scientific study of the way in which the plants, animals and natural features of a place effect and depend on each other.

Ecology
Ecosystem
Species
Environment
Survival

2. Joseph Priestley is known for the discovery of…
oxygen
hydrogen
carbon dioxide
nitrogen

Пример заданий открытого типа:

1. Read the text. How many environmental issues are mentioned?

Major current environmental issues may include climate change, pollution, environmental degradation, and resource depletion. The conservation movement lobbies for protection of endangered species and protection of any ecologically valuable natural areas, genetically modified foods and global warming. International frameworks for environmental issues focus on three key issues as the "triple planetary crises": climate change, pollution, and biodiversity loss.

(Ответ впишите цифрой.)

2. Read the text. How many statements are true according to the text?

a. To decrease their exposure to pollutants in the air people should exercise outdoors on hot, smoggy days.

b. It is estimated that millions of deaths each year are caused by air pollution.

c. Ozone depletion is one of the outcomes of air pollution.

d. Industrial development could impact certain specials by air pollution.

AIR POLLUTION

Air pollution is a chemical, physical, or biological agent that modifies the natural characteristics of the atmosphere. The atmosphere is a complex, dynamic natural gaseous system that

is essential to support life on planet Earth. Stratospheric ozone depletion due to air pollution has long been recognized as a threat human health as well as to the Earth's ecosystems. Worldwide air pollution is responsible for large numbers of deaths and cases of respiratory disease. While major stationary sources are often identified with air pollution, the greatest source of emissions is actually made up by mobile sources, mainly the automobiles.

(Ответ впишите цифрой.)

Полный перечень тестовых заданий с указанием правильных ответов, размещен в банке вопросов на информационно-образовательном портале института по ссылке https://www.mivlgu.ru/iop/question/edit.php?courseid=2252&cat=37922%2C67575&recurse=1&showhidden=0&qbshowtext=0

Оценка рассчитывается как процент правильно выполненных тестовых заданий из их общего числа.