МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

УЧРЕЖДЕНИЕ ОБРАЗОВАНИЯ
«ВИТЕБСКИЙ ГОСУДАРСТВЕННЫЙ ОРДЕНА ДРУЖБЫ НАРОДОВ
МЕДИЦИНСКИЙ УНИВЕРСИТЕТ»

КАФЕДРА ИНОСТРАННЫХ ЯЗЫКОВ

И.С. Андреева

АНГЛИЙСКИЙ ЯЗЫК

PROFESSIONAL ENGLISH

Методические рекомендации для студентов фармацевтического факультета и магистрантов

(часть I)

Витебск
ВГМУ
2020

УДК 811.111 (075.8)
ББК 81.432.1я73
А 65

Рецензенты: кафедра иностранных языков УО «Витебская государственная академия ветеринарной медицины»;
заместитель директора Витебского филиала Учреждения образования Федерации профсоюзов Беларуси «Международный университет «МИТСО»», кандидат филологических наук, доцент Костырева С.С.

Андреева И.С.

А 65 Английский язык. Professional English: метод. рекомендации по англ. языку для студентов фармацевтического факультета и магистрантов: в 3 ч./ метод. реком. И.С. Андреева. – Витебск: ВГМУ, 2020. – Ч. 1. – 60 с.

Методические рекомендации по английскому языку предназначены для студентов фармацевтического факультета (факультативный курс) и магистрантов, освоивших обязательный курс по учебной дисциплине «Иностранный язык» (английский) для специальности «Фармация». Представленная в рекомендациях тематика подготовит студентов и магистрантов к чтению, переводу и интерпретации аутентичных профессиональных текстов и аннотаций к лекарствам.

Методические рекомендации соответствуют учебному плану и Типовой учебной программе и могут быть использованы как для аудиторной, так и для управляемой самостоятельной работы студентов и магистрантов.

УДК 811.111 (075.8)
ББК 81.432.1я73

PREFACE

Методические рекомендации по английскому языку “Professional English” предназначены для студентов фармацевтического факультета, продолжающих изучение профессионального английского языка на факультативном курсе, и магистрантов.

Целью данных рекомендаций является развитие навыков чтения и перевода аутентичных текстов, обработки полученной информации, а также формирование умения обобщать и презентовать информацию в тезисном виде в устной и письменной форме.

Рекомендации состоят из 3 разделов: “Pharmaceutical education abroad”, “Pharmacy services abroad”, “Pharmaceutical industry”, что отражает профессиональную и познавательную направленность языкового материала.

Каждый раздел рекомендаций состоит из следующих частей: 1. Vocabulary and grammar learning. 2. Reading comprehension. 3. Rendering. 4. Follow-up activity.

Лексический материал отобран исходя из частотности употребления общей и научно-профессиональной лексики с последующим закреплением её при выполнении серии упражнений.

Выбор грамматического материала основывался на необходимости изучения тех грамматические явлений, которые широко используются в научно-популярных текстах и представляют трудность в переводе их на родной язык, а именно: “Infinitive as a subject and an attribute”, “Complex Subject”, “Complex Object”, “Modals with Perfect Infinitive”, “Participial Constructions”, “Gerund and Gerundial constructions”.

Текстовой материал подобран из аутентичных источников путём компиляции. Интерпретация текстов с русского языка на английский по тематике устных тем, представленных в рекомендациях, способствует как совершенствованию языковых навыков, так и углублению профессиональных знаний студентов и расширению их кругозора.

В разделе “Follow-up activity” представлены упражнения на развитие навыков монологической, диалогической речи и проектной деятельности студентов.

TOPIC “PHARMACEUTICAL EDUCATION ABROAD”

I. *VOCABULARY LEARNING.*

Exercise 1. *Read and memorize the words and word combination and translate the sentences with them.*

1.	admission [əd'mɪʃ(ə)n] *n*. – прием, зачисление;
2.	annual ['ænjuəl] *a*. – ежегодный;
3.	applicant ['æplɪk(ə)nt] *n*. – абитуриент;
4.	apprenticeship [ə'prentɪsʃɪp] *n*. – учение, ученичество;
5.	board [bɔ:d] *n*. – питание;
6.	curriculum [kə'rɪkjələm] *n*. – учебная программа;
7.	degree [dɪ'gri:] *n*. – степень;
8.	enrollment [ɪn'rəulmənt] *n*. – регистрация;
9.	fee [fi:] *n*. – взнос;
10.	freshman ['freʃmən] *n*. – студент первого курса;
11.	internship ['ɪntɜ:nʃɪp] *n*. – интернатура;
12.	interview ['ɪntəvju:] *n*. – собеседование;
13.	lender ['lendə] *n*. – кредитор;
14.	loan [ləun] *n*. – заем, ссуда;
15.	on-campus activity – университетская деятельность;
16.	optional ['ɔpʃ(ə)n(ə)l] *a*. – необязательный;
17.	register ['redʒɪstə] *n*., *v*. – список, вносить в список;
18.	residency ['rezɪd(ə)nsɪ] *n*. – резидентура;
19.	scholarship ['skɔləʃɪp] *n*. – стипендия;
20.	to be admitted to – быть зачисленным;
21.	to conduct an exam – проводить экзамен;
22.	to confer a degree – присуждать степень;
23.	to graduate from – оканчивать ВУЗ;
24.	to rely on – полагаться на кого-либо, что-либо;
25.	to satisfy (meet) the requirements – удовлетворять требованиям;
26.	tuition-fee [tju:'ɪʃn] – плата за обучение;
27.	under the supervision of – под руководством.

Main abbreviations

1. Pharmacy College Admission Test (PCAT) – вступительный тест в фармацевтический колледж.
2. Doctor of Pharmacy (PharmD) – доктор фармации.
3. American Association of Colleges of Pharmacy (AACP) – Американская ассоциация колледжей фармации.

4. Bachelor of Sciences in Pharmacy (B.S. Pharm.) – бакалавр фармации.
5. Master of Pharmacy (MPharm) – магистр фармации.
6. Overseas Pharmacists Assessment Programme (OSPAP) – программа аттестации зарубежных фармацевтов.
7. Post- Graduate Taught (PGT) – постдипломное обучение.
8. State Board of Pharmacy – Государственная комиссия по фармации.
9. E-examination – экзамен на получение лицензии, проводимый государственной комиссией.

Exercise 2. *Match the words with their definitions.*

1. admission; 2. enroll; 3. intern; 4. tuition; 5. scholarship; 6. campus; 7. register; 8. optional; 9. insurance; 10. curriculum; 11. major; 12. residency; 13. schedule.

a) a field of concentration; b) grounds of a school, college or university; c) programme or timetable for work; d) an accredited programme of specialization of a young doctor; e) course of study in a school, college, etc.; f) which may be chosen or not as one wishes; not compulsory; g) make a written and formal record of, in a list; h) admitting, being admitted to a club, a school, a university, etc.; i) fee for teaching; j) young doctor who is completing his training by living in a hospital and acting as an assistant physician to surgeon; k) payment of money, e.g. a yearly grant to a scholar so that he may continue his studies; l) become a member of a society or institute; m) undertaking, by a company, society, or the state, to provide, safeguard against, provision against sickness, death, etc. in return for regular payment.

Exercise 3. *Translate the following word-combinations:*

post-secondary education, undergraduate study, a freshman, a sophomore, senior years of studies, to apply to receive admission into a college, undergraduate study, post-graduate study, to satisfy university and class requirements of post-graduation, to pay tuition fees, annual undergraduate tuition, student loans.

Exercise 4. *Read the sentences and find the words of the active vocabulary.*

1. Admission to a medical school is by examination only.
2. We will graduate from the university in 3 years.
3. After the graduation from the university graduates have one year of training called internship, where they work under the supervision of the experienced specialists.
4. To get a specialization graduates must apply to the residency, which lasts for about 3-4 years in the USA and for about 1-2 years in England.
5. A freshman is a junior student of a university.

6. An admission committee may have an interview with the applicants to assess not only their ability to study at a higher school but their general qualities as well.
7. To be admitted to the medical university, one must take entrance tests in biology, chemistry and Russian or Belarusian language.
8. Tuition is charged in both public and private universities in the USA, it varying from $ 15,000 to as high as $ 40,000.
9. Scholarship is usually paid annually to a scholar so that he may continue his studies.

II. *READING COMPREHENSION.*

Read the text and do the tasks that follow it:

PHARMACEUTICAL EDUCATION IN THE USA

What does it take to enter and succeed in pharmacy school?

- motivation and intelligence
- well-rounded high school and college education
- completion of college prerequisites[1] for pharmacy school entrance
- good academic performance[2]
- preparation for Pharmacy College Admission Test (PCAT)
- timely and successful performance on the PCAT
- evidence[3] of motivation for pharmacy
- evidence of interest in service
- evidence of leadership
- good recommendations
- timely applications to pharmacy schools
- good communication skills

[1] необходимый как условие;
[2] достижение в учёбе;
[3] наличие (очевидность).

Admissions

Today, individuals seeking to become pharmacists must complete a pre-pharmacy undergraduate program. This program consists of a minimum of 60-70 semester credit hours of undergraduate coursework in basic and advanced sciences, including courses in mathematics and natural sciences, such as chemistry, biology, and physics, as well as courses in the humanities and social sciences. Approximately two-thirds of all colleges require applicants to take the Pharmacy College Admissions Test (PCAT). Additional requirements for entry

may include essays, references[4], an interview or participation in other on-campus activities.

[4] рекомендации.

Professional Coursework

After admission, a student will typically complete a four-year pharmacy program, although some schools offer accelerated three-year programs. The curriculum typically begins with courses in physiology and pathophysiology, medicinal chemistry, pharmacognosy, pharmacology and toxicology. Courses offered at colleges of pharmacy are designed to teach students about all aspects of drug therapy. In addition, schools teach students how to communicate with patients and other health care providers[1] about drug information and patient care. Students also learn professional ethics, how to develop and manage medication distribution systems, and concepts of public health.

Upon completion of all professional curriculum and practice experiences, the student will graduate and be awarded the Doctor of Pharmacy (PharmD) degree. Students in PharmD. Programs spend about one-forth of their time learning in a variety of pharmacy practice settings[2] under the supervision of licensed pharmacists after the passing of State board of pharmacy's licensure examination.

A license to practice pharmacy is required in all States, the District of Columbia, and all U.S. territories. In 2004, 89 colleges of pharmacy were accredited to confer degrees by the Accreditation Council for Pharmacy Education.

Traditionally in the United States, the **Bachelor of Pharmacy** was the first-professional degree for pharmacy practice. However, in 1990, the American Association of Colleges of Pharmacy (AACP) mandated that a **Doctor of Pharmacy** would be the new first-professional degree beginning with the year of 1998. As of the year 2000, all pharmacy schools in the U.S. have discontinued the B.S. Pharm. (Bachelor of Sciences in Pharmacy) degree program, and have made the Pharm.D. (Doctor of Pharmacy) degree the only available option. In addition to a new title[3], the new degree intensified and lengthened classroom instruction in pharmacological management of disease, added requirements for coursework that would shape a more rounded pharmacist and additional advanced[4] practice experience.

Post-Graduated Work

A new pharmacy graduate may choose to complete an optional post-graduate residency (one to three years) rather than entering directly into pharmacy practice. A pharmacy residency consists of one to two years of general residency and one to two years of specialized residency.

In order to practice as a pharmacist, the person must be registered with the relevant statutory body[5], which governs the registration and practice of

pharmacy within the territory of its jurisdiction. There is often a requirement for the pharmacy graduate to have completed a certain number of hours of experience in a pharmacy, under the supervision of a registered pharmacist. The statutory body will usually administer a written and oral examination to the prospective pharmacist prior to registration.

[1] работники здравоохранения
[2] места проведения практики студентов-фармацевтов
[3] титул, звание
[4] передовой, повышенного типа
[5] орган, установленный законом

PHARMACEUTICAL EDUCATION IN GREAT BRITAIN

Pharmacy in United Kingdom

In the United Kingdom, integration with the European Union has resulted in the BPharm course being superseded[1] by a four-year course for the qualification **Master of Pharmacy** (MPharm). In Great Britain the Royal Pharmaceutical Society of Great Britain is responsible for regulation of pharmacy affairs and in Northern Ireland it is the Pharmaceutical Society of Northern Ireland. Graduates must complete one year of practical training and pass a registration examination before they can be entered on the register of pharmacists, known as the Register of Pharmaceutical Chemists. Pharmacists registered in other countries can also register in the UK. Overseas pharmacists are required to undertake[2] the Overseas Pharmacists Assessment Programme (OSPAP), a one year intensive course focused on pharmacy practice in Great Britain. OSPAP authorization[3] can be given by Royal Pharmaceutical Society of Great Britain and the course is undertaken either at the University of Sunderland, Aston University or the University of Brighton. However, pharmacists that have obtained their qualifications and are registered in other countries of the European Economic Area can register with the Royal Pharmaceutical Society of Great Britain without undergoing additional or pre-registration training. The term pharmacist is protected in the United Kingdom. It can only be used by individuals that are registered with the Royal Pharmaceutical Society of Great Britain.

Some schools offer a wide range of Post-Graduate Taught (PGT) Schemes. These include both conventional and, increasingly, “distance learning” teaching. Many courses are aimed specifically at qualified pharmacists and health care professionals.

[1] заменять
[2] участвовать в программе
[3] разрешение

Innovation and Engagement

Innovation and Engagement[4] is a rapidly growing part of the Pharmacy Schools' activities and covers a wide range of areas from "contract research"[5] with pharmaceutical companies through provision of policy advice to local and UK Government on health-related issues[6], to initiatives in public understanding of science.

[4] вовлечение в практическую деятельность
[5] исследования на контрактной основе
[6] насущные вопросы

Exercise 5. *Find the Russian equivalents of the next expressions.*

1. Good academic performance	1. Идеи общественного здоровья
2. Undergraduate coursework	2. Распределение лекарственных средств
3. Concepts of public health	3. Вести экзамен
4. Medication distribution	4. Хорошая академическая успеваемость
5. To lengthen instruction	5. Проходить дополнительное обучение
6. To undergo additional training	6. Продлить срок обучения
7. To administer an exam	7. Курс обучения в школе фармации

Exercise 6. *Define the statements as True or False. Correct the false statements.*

1. Every applicant must complete a pre-pharmacy program.
2. Additional requirements for entry may include English test.
3. The pharmacy program lasts for 2 years.
4. The curriculum begins with physiology, pathophysiology and other courses.
5. The courses teach students about all aspects of treating people.
6. A license to practice pharmacy is required in all States of the USA.
7. The main Degree in the US is the Bachelor of Pharmacy.
8. The qualification Master of Pharmacy takes 4 years of training in Great Britain.
9. Graduates in Great Britain must complete 2 years of practical training.
10. The term pharmacist is protected in the United Kingdom.

Exercise 7. *Answer the following questions.*

The USA

1. What requirements must an applicant meet to enter a pharmacy school in the USA?
2. What does pre-pharmacy undergraduate program include?

3. What are the main rules for admission to a school of pharmacy?
4. How many years does the study course last?
5. With what courses does the curriculum begin?
6. When can the student receive the Doctor of Pharmacy Degree?
7. Is it obligatory to study in post-graduate residency in the USA?

Great Britain

8. What first pharmaceutical degree exists in Great Britain?
9. What are the functions of the Royal Pharmaceutical Society?
10. What are the requirements for overseas pharmacists in Great Britain?

Exercise 8. *Read the text "Program of Study" and be ready to present the information in short about*:

1. Graduation requirements which the students must satisfy;
2. Three components of qualifying examination;
3. The final examination as a public event at the University;
4. Knowledge and skills acquired by the graduates finishing the Pharm.D. program;
5. Application for a pharmacy intern license.

PROGRAM OF STUDY

The College of Pharmacy in Chicago offers the Doctor of Pharmacy degree to students who successfully complete the six-year study of prescribed courses. The first two years (pre-pharmacy) may be completed at any accredited institution of higher education. The last four years (nine semesters) are in the professional program and must be in residence at the College of Pharmacy. At least four years of study in the professional program are required by the American Council on Pharmaceutical Education.

In order to receive the Doctor of Pharmacy degree from the College of Pharmacy, a student must have earned academic credit for not less than 60 semester hours (exclusive of physical education) in pre-pharmacy coursework and 146 semester hours of required professional course work.

Graduation Requirements for the Entry-Level Pharm.D. Program.

To qualify for graduation, a student must have satisfied the following requirements:

1. Successfully completed a minimum 87 quarter hour credit of prerequisite core basic science and general education coursework, as stipulated, for full admission to the program.

2. Successfully completed the program of professional and experiential coursework approved by the faculty and Dean, Chicago College of Pharmacy (CCP).
3. Attained a cumulative grade point average of 2.00 ("C") for all requisite professional and experiential coursework at the Chicago College of Pharmacy.
4. Achieved a cumulative rotation grade point average for rotations and Pharm.D. Seminar of 2.00 or greater.
5. Repeated, upon approval, and earned a passing grade for any required in the professional program for which a grade of "F" has been issued.
6. Successfully completed, at a minimum, the last five didactic quarters and all experiential rotations at CCP.
7. Been recommended for the degree by a majority vote of the Chicago College of Pharmacy Student Promotion and Graduation Committee.
8. Settled all financial accounts with the institution.
9. Attended the commencement exercises for conferral of the degree, unless excused by the Dean, Chicago College of Pharmacy.

Candidates for graduation must exhibit good moral behavior consistent with the requirements of the pharmacy profession and CCP faculty. It is the position of the faculty that anyone who uses, possesses, distributes, sells, or is under the influence of narcotics, dangerous drugs, or controlled substances, or who abuses alcohol or is involved in any conduct involving moral turpitude, fails to meet the ethical and moral requirements of the profession, and may be dismissed from any program or denied the awarding of any degree from CCP.

Graduation Honors for the Entry-Level Program.
Graduation honors are awarded to candidates for the doctor of pharmacy degree who have distinguished themselves by virtue of high academic achievement while enrolled in the professional program at Midwestern University. Only grades from academic course taken at the University will be included in determining graduation honors. The University of Kentucky College of Pharmacy offers a four-year professional program leading to a Doctor of Pharmacy (Pharm.D.) degree. Students spend three years on the University of Kentucky campus and their fourth year gaining supervised, on-the-job experience.

The graduate student seminars will consist of the following:
1. First-years students' presentations will be 25-minute seminars on topics to be determined by the seminar coordinator. The seminar coordinator will meet with students and assist them in seminar preparation and presentation techniques.
2. Second-and fourth-year student presentations will be 45-minute seminars on topics that may or may not be related to the student's research project.

3. Third-year student presentations will be 45-minute formal seminars on their own research projects.
4. A 45-minute dissertation seminar that immediately precedes the formal dissertation.

Qualifying Exam.
The qualifying examination will be administered in the fall and spring semesters of each academic year; these exams will be completed in time for students to earn residency credit for that semester. The student will be permitted to take the qualifying examination after he/she has completed his/her required courses. Students must schedule their oral examination with the Graduate School at least two weeks in advance. Students are encouraged to schedule these exams well in advance to work around scheduling conflicts with Advisory Committee members. Qualifying exams can be taken no earlier than one academic year after the initial Advisory Committee meeting. Exceptions can be made for students transferring into the program. Permission to schedule a qualifying exam should be requested by the student at their second or third Advisory Committee meeting.

The examination will consist of three components:
1. a written examination created by the Student's Advisory Committee
2. submission of a mini-NIH/NSF formal research proposal
3. an oral examination.

The Final Examination.
The Final Examination includes a defense of the dissertation and may be as comprehensive as the Advisory Committee desires. An expanded Advisory Committee chaired by the chairman of the Student Advisory Committee conduct this exam. The graduate dean and president of the University are ex-officio members of all final examination committees. The examination is a public event and its scheduling is published and announced in advance. Any member of the University community may attend. The student will then have 60 days to make any corrections in the dissertation and to turn in the final copy.
The Pharm.D. is a professional degree requiring four years of study in the College after completion of at least two years of pre-pharmacy study in a community college or liberal arts college. *The focus of the program is to educate students about the practice of pharmacy, but the program broad enough to allow students to gain employment in fields outside of pharmacy practice. The program includes extensive clinical training and may be adapted to prepare students for graduate study. Graduates are qualified to practice pharmacy and are eligible for examination for licensure as a pharmacist.*

The Pharm. D. program enables graduates to:

– understand and appreciate the delivery of comprehensive health care and the contribution of each health profession to patient care;

– understand the diagnosis and treatment of diseases and the rational selection of drugs;

– understand and appreciate the social, emotional, and psychological aspects of disease;

– communicate effectively with other health professionals and patients;

– know what factors affect initiating, maintaining, modifying, or discontinuing drug therapy;

– understand pharmacokinetic principles well enough to improve dosage regimens for individual patients;

– retrieve, interpret, and report drug information from pharmaceutical and biomedical sciences and apply the information to specific patient care situations;

– develop a patient data base from a patient interview and patient chart, and from communications with other health professionals;

– design, implement, conduct, and evaluate research studies on drugs and/or patients in a specific area of interest;

– be an effective health care educator;

– demonstrate administrative and organizational skills and understand group dynamics; and,

– demonstrate professional maturity and personal responsibility to patients and other health professionals.

Internship.

In order to become licensed to practice pharmacy in the state of Georgia, 1500 hours of internship must be earned as a pharmacy intern under the immediate supervision of a pharmacist. Credit for internship may be received only after a student has been licensed by the Georgia State Board of Pharmacy as a pharmacy intern. Application for a pharmacy intern license can only be made once a student has enrolled in a college of pharmacy. Students are encouraged to satisfy internship requirements during the summers. A total of 1000 hours of internship credit will be awarded for work performed while registered for academic credit in the Doctor of Pharmacy clerkships. An intern license is required for participation in all patient care experiences.

Exercise 9. *Translate into English.*

1. Обязательным для поступления на приобретение степени Доктор Фармации является предварительное 2-х летнее обучение абитуриентов по программе “pre-pharmacy”.

2. Дополнительным требованием для поступления в школу фармации является написание эссе.
3. Программа Doctor of Pharmacy должна состоять как минимум из 8 семестров, включая 2 семестра практической работы.
4. Учебная программа в школе фармации начинается с изучения следующих дисциплин: физиология, патофизиология, медицинская химия, фармакогнозия, фармакология и токсикология.
5. На 2-ом году обучения студенты проходят практику (от 26 до 45 недель), которая тесно связана с темой их исследовательской работы.
6. Для получения степени Магистра наук необходимо иметь степень Доктора фармации, пройти годичный курс усовершенствования (up-grading course), иметь как минимум 6-месячный стаж научно-исследовательской работы, сдать экзамены и подготовить диссертацию.
7. Большинство фармацевтов в США работают в аптеках (60%), больницах и медицинских центрах (30%), а также в аптечных отделах различных магазинов. Некоторые фармацевты могут работать на фармацевтических производствах, в университетах и в других организациях.

III. *RENDERING.*

Read the texts and render them into English.

ФАРМАЦЕВТИЧЕСКОЕ ОБРАЗОВАНИЕ В СОЕДИНЕННЫХ ШТАТАХ

Все высшие фармацевтические учебные заведения США входят в Американскую ассоциацию фармацевтических колледжей. В 2000 году степень Pharm.D стала эксклюзивной степенью, присуждаемой дипломированным фармацевтам. Pharm.D – это четырехлетняя профессиональная программа, которую можно пройти после двухлетнего обучения на курсах бакалавриата. Pharm.D учебный план состоит из дидактического и практического обучения. Дидактическая программа образования включает фундаментальные курсы по фармакокинетике, фармакологии, медицинской химии, фармакотерапии и фармакогнозии. Дополнительная учебная программа включает изучение таких дисциплин, как безопасность лекарственных средств (medication safety), фармакологическое право и этика, биостатистика, эпидемиология, практические лабораторные занятия, основанные на навыках, научно-обоснованная практика, инновации и управление бизнесом, токсикология, клиническая фармация.

Практическая учебная программа включает требования по межпрофессиональному образованию (Interprofessional education), а также традиционный опыт аптечной практики (Pharmacy Practice Experiences – PPE) и опыт расширенной аптечной практики (Advanced Pharmacy Practice Experiences – APPE). Опыт аптечной практики включает взаимодействие студентов-фармацевтов с поставщиками медицинских услуг (health-care providers) в симуляциях или сценариях в реальном времени, таких как обход (rounds) пациентов с медицинской командой. Ротации PPE длятся от двух до четырех недель в общественных (community) и больничных аптеках (hospital pharmacy settings). Ротации APPE длятся от четырех до шести недель и запланированы по завершению дидактического обучения. Цели ротации APPE включают: 1) оказание непосредственной помощи пациентам; 2) получение опыта лечения различных групп пациентов; 3) участие в совместном принятии решений по уходу за пациентом членами межпрофессиональной команды здравоохранения; 4) демонстрация компетенции в сообществе, амбулаторной (out-patient) помощи аптеке и общей медицине.

Успешное завершение программы Pharm. D дает возможность выпускнику школы фармации подать заявление (apply for) на получение лицензии (licensure) фармацевта. Прежде, чем получить лицензию на практическую деятельность, студент должен сдать экзамены при Фармацевтическом управлении штатов и пройти производственную практику. Национальная ассоциация фармацевтических управлений штатов предусматривает 9 месяцев производственной практики. Во многих высших фармацевтических учебных заведениях производственная практика рассчитана на 4 месяца в розничной (retail) и больничной аптеках. В США фармацевт является консультантом врачей и медицинского персонала (staff) по лекарственным средствам (medications).

По мере того, как профессия фармацевта становиться все более сложной текущее образование смещается к модели непрерывного профессионального развития (Continuous Professional Development - CPD).

ФАРМАЦЕВТИЧЕСКОЕ ОБРАЗОВАНИЕ В ВЕЛИКОБРИТАНИИ

Основным органом, который влияет на программу, организацию и план обучения фармацевтов в Великобритании является Британское фармацевтическое общество, образованное в 1841 году.

Получить образование фармацевта можно в одной из школ фармации при некоторых университетах Британии. Школы фармации предлагают различные программы на получение степени Магистра фармации (M.Pharm.). Обучение в школах длится 4 года и является практико-ориентированным, что позволяет студентам получить не только

теоретические знания, но и клинические навыки, наряду с навыками профессионального поведения. Высшей научной степенью является доктор философии (Doctor of Philosophy) и доктор наук (Doctor of Science), что дает право заниматься преподавательской или научной деятельностью.

Некоторые университеты предлагают 5-летнюю интегрированную программу, которая состоит из 4-летней программы Магистра фармации и 2^x шестимесячных блоков пререгистрационного обучения.

Ряд школ фармации Великобритании предлагают программу M.Pharm 2+2. Первые два года студенты учатся в одном их партнерских университетов за рубежем, а следующие два года обучение проходит в университетах Британии. По окончании программы обучения выпускники имеют право проходить курс пререгистрационного обучения в Британских университетах с последующей регистрацией, позволяющей им работать практикующим фармацевтам в этой стране.

Существует также программа последипломного обучения (Overseas Pharmacists' Assessment Programme - OSPAP) для выпусников зарубеженых фармацевтических школ. Одногодичная программа позволяет молодым специалистам из других стран получить соответствующие практические навыки, подготавливающие их к пререгистрационому обучению. Период обучения длится 52 недели, за которым следует экзамен (Registration Assessment). После успешной сдачи экзамена фармацевты вносятся в регистрационный реестр Главного фармацевтического совета (General Pharmaceutical Council – GPhC) и получают лицензию на практическую деятельность.

В настоящее время в Великобритании фармацевт привлекается в качестве консультанта врача и медицинского персонала по вопросам применения лекарственных средств.

ФАРМАЦЕВТИЧЕСКИЙ ФАКУЛЬТЕТ МЕДИЦИНСКОЙ АКАДЕМИИ ИМЕНИ К. МАРЦИНКОВСКОГО В ПОЛЬШЕ

При поступлении на фармацевтический факультет абитуриенты сдают три вступительных теста. Зачисление производится на основании количества набранных баллов. Абитуриенты, сдавшие экзамены, зачисляются на бесплатное обучение, а не прошедшие по конкурсу могут обучаться платно. Кроме того, на факультете обучаются и иностранные (overseas) граждане, как на польском, так и на английском языке.

На фармацевтическом факультете существует несколько направлений (специализаций), таких, как: клинический провизор, аналитик лекарственных форм, работник аптеки, специалист по лекарственным растениям.

Система обучения такова, что основная часть информации изучается студентами самостоятельно.

Нет обязательного (compulsory) посещения (attendance) лекций. На занятиях контроль знаний (knowledge assessment) осуществляется с помощью тестирования. Существует бальная система оценки тестов, т.е. каждой оценке соответствует определенное количество баллов (points). Если это количество баллов набрано, то студенты допускаются к итоговому зачету. Неудовлетворительно выполненные тесты можно пересдавать два раза.

Учебный год начинается 1 октября, студенты учатся 5 дней в неделю. За пять лет обучения часовая нагрузка составляет около 3800 обязательных часов, включая около 900 часов элективных курсов. На 1-2 курсах изучаются общеобразовательные дисциплины. На 3-5 курсах нет фиксированных сроков сессий: студент обязан получить зачет по предмету, а экзамен сдать в удобное для него время; но к концу 9 семестра все экзамены должны быть сданы.

С 3-го курса студенты начинают работу над дипломным проектом. По окончании 9-го семестра студенты сдают один выпускной комплексный экзамен. 10-й семестр отводится на выполнение дипломной работы, которая является комплексной. Она включает в себя рассмотрение темы с точки зрения разных наук: технологии лекарственных форм, фармакогнозии и ботаники, аналитической, органической, физической и фармацевтической химии, фармакологии, клинической фармакологии и др. Поэтому защита (defence) дипломной работы требует очень серьезной подготовки и глубоких (profound) знаний.

Химические лаборатории оборудованы специальной мебелью. На кафедрах имеются спектрофотометры, газовые хроматографы, pH - метры, аналитические электронные весы, сушильные и ламинарные шкафы. На кафедре технологии имеются машинки для производства суппозиториев, электронные весы на каждом рабочем месте, т.к. приготовление всех лекарственных форм идет по массе. Все кафедры компьютеризированы, поэтому основная часть приборов подключена к компьютеру.

Проблемы производства лекарственных средств и лекарственных форм студенты Познаньской медицинской академии изучают на 2-х кафедрах – технологии химических средств и технологии приготовления лекарств.

Студенты фармацевтического факультета Познаньской медицинской академии занимаются на кафедре технологии на III, IV и V курсах. На 3-м курсе студенты изучают рецептурную технологию, т.е. приготовление лекарственных форм по рецептам врачей. На 4-м курсе – технология больничная и таблетки, на 5-м – новые лекарственные формы (макромолекулярные системы, осмотические насосы) и гомеопатические

формы. Кафедра оснащена комплектом оборудования для производства и оценки качества таблеток.

IV. *FOLLOW-UP ACTIVITY.*

I. *Agree or disagree with the statements. Use the following phrases:*

- I agree / disagree with
- I think … because…
- I also believe that…
- But sometimes …
- That's why…
- Besides, I would like to add…

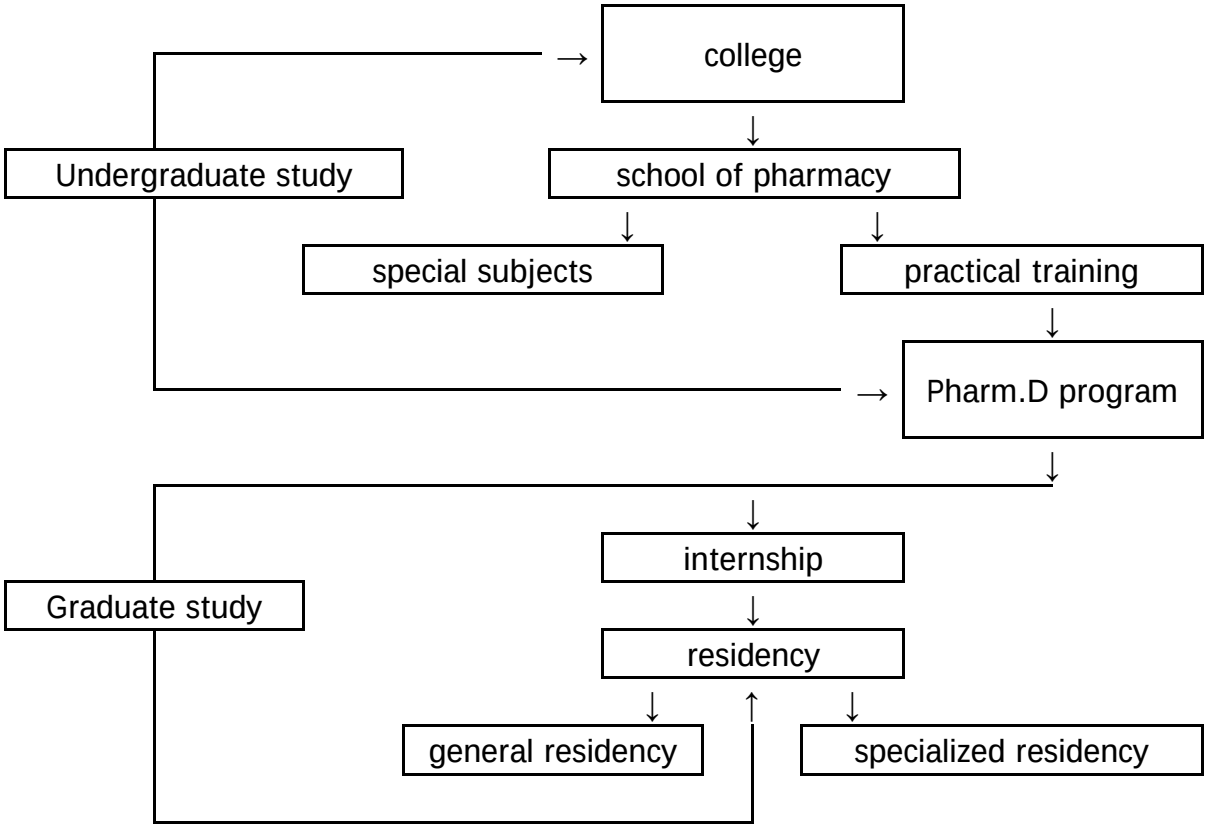
1. To become a pharmacist in Great Britain, it is necessary to graduate from the school (college) of pharmacy.
2. In order to practice as a pharmacist, the person must be registered by the National Pharmaceutical Association.
3. The course of pharmaceutical training in the USA universities lasts for 6 years.
4. Traditionally in the USA, the Bachelor of Pharmacy is the first-professional degree for pharmacy practice.
5. The Bachelor of Pharmacy degree enables the graduates in the UK to work as university teachers or conduct research work.
6. Students are accepted into the pharmacy programme after completing the equivalent of two years of college course work, including pharmacy prerequisite course.

II. *Prove that:*

1. Students taking a pharmaceutical education in the USA study many different subjects.
2. Pharmacists are trained to have professional competence.
3. The Doctor of Pharmacy programme doesn't correspond to the Bachelor of Pharmacy programme in the USA.
4. The role of the pharmacist has been defined as a member of the "health team" or a consultant to the physician.
5. To meet the changes demanded by the expending pharmacy profession some colleges in the USA and Great Britain offer programmes of further education.
6. Graduates of pharmacy schools in the US are highly recruited by drugs stores, national laboratories, academia, industry and government.
7. Intensified classroom instructions in pharmacological management of disease, out-of-classroom learning experience in hospitals and pharmacies result in a multi-skilled, better-prepared pharmacist.

III. *Speak about pharmaceutical training in the USA using the scheme. Add information about the duration of each period of pharmacy training.*

Pharmaceutical education in the USA



IV. *Discuss the following.*

1. "Pros" and "cons" of each system of pharmaceutical education studied.
2. The elements of some systems of pharmaceutical education abroad which can be adopted in Belarusian system of pharmaceutical training.
3. The most attractive system of pharmaceutical education from your point of view.

TOPIC “PHARMACY SERVICES ABROAD”

I. *VOCABULARY LEARNING.*

Exercise 1. *Read and memorize the following words.*

1.	assess [ə’ses] *v*. – оценивать;
2.	beware [bɪ’wɛə] *v*. – беречься, остерегаться (обыкн. в imp. с of);
3.	consumer [kən’sju:mə] *n*. – потребитель;
4.	gaper [’geɪpə] *n*. – зевака;
5.	issue [’ɪʃu:] *n*. – спорный вопрос, предмет спора, разногласие, проблема; management ~ результат, исход лечения; patient compliance ~ вопрос (проблема) соблюдение больным режима и схемы лечения;
6.	legislation [ˌledʒɪs’leɪʃən] *n*. – закон, законопроект;
7.	mortar [mɔ:tə] *n*. – ступка, ступа; цементный (строительный) раствор;
8.	premises [’premɪsɪz] *n*., *pl*. – помещение, владение;
9.	requirement [rɪ’kwaɪəmənt] *n*. – 1) требование, необходимое условие; 2) нужда, потребность;
10.	revoke [rɪ’vəuk] *n*. – отменять, аннулировать (закон, приказ и т.п.);
11.	rod [’rɔd] *n*. – жезл, скипетр;
12.	setting [’setiŋ] *n*. – окружающая обстановка, окружение; учреждение;
13.	stock [stɔk] *v*. – 1) снабжать; 2) иметь в наличии, в продаже;
14.	substandard [‘sʌb’stændəd] *a*. – нестандартный, ниже качества, установленного стандартом;
15.	valid [’vælɪd] *a*. – действительный, имеющий силу;
16.	primary health care – первичная медицинская помощь;
17.	emergency [ɪ’mə:dʒənsɪ] *n*. – неотложная помощь;
18.	first-aid [’fə:steɪd] *n*. – первая помощь, скорая помощь;
19.	disabled [dɪs’eɪbld] *a*. – искалеченный, поврежденный;
20.	supplement [’sʌplɪmənt] *n*. – вспомогательное средство;
21.	disorder [dɪs’ɔ: də] *n*. – расстройство, болезнь;
22.	insurance [ɪn’ʃuər(ə)ns] *n*. – страхование, страховка;
23.	setting [’setɪŋ] *n*. – окружающая обстановка, окружение;
24.	fill prescription – изготавливать лекарство по рецепту врача.

Abbreviations:

Rx – [recipe] *лат*., *фарм*. возьми!

AMA – American Medical Association – Американская медицинская ассоциация;

HIV [human immunodeficiency virus] – вирус иммунодефицита человека;
AIDS [acquired immune deficiency syndrome] – синдром приобретенного иммунодефицита, СПИД;
TPN – total parenteral nutrition – общее парентеральное питание;
NHS – National Health Service – Национальная Служба здравоохранения Великобритании;
GP – [general practitioner] – врач общей практики;
RPSGB – [the Royal Pharmaceutical Society of Great Britain] – Королевское фармацевтическое общество Великобритании;
PSNI – [Pharmaceutical Society of Northern Ireland] – Фармацевтическое общество Северной Ирландии;
EU – [European Union] – Европейский Союз;
FDA – [Food and drug Administration] – Комиссия по контролю за качеством пищи и лекарств;
NF – [National Formulary] – Национальная рецептурная книга;
BP – [British Pharmacopeia] – Британская Фармакопея;
U.S.P. – [United States Pharmacopeia] – Фармакопея США;
BPC – [British Pharmaceutical Codex] – Британская фармацевтический сборник;
DHEW – [Department of Health Education and Welfare] – Департамент здравоохранения, образования и социального обеспечения;
PD – [Pharmaceutical Directory] – фармацевтический справочник;
PDR – [Physician Desk Reference] – настольный справочник врача;
HF – [Hospital Formulary] – терапевтический справочник;
A.S. of H.P. – [American Society of Hospital Pharmacists] – Американское общество клинических фармацевтов.

Exercise 2. *Practise the pronounciation of the following words:*
China [ˈʧaɪnə], Chinese [ˈʧaɪˈniːz], Malaysia [məˈleɪʒə], Singapore [ˌsɪŋgəˈpɔː], Korea [kɔ(u)ˈrɪːə], Hygeia [haɪˈdʒɪ(ə)], haematology [ˌhɪːməˈtɔlədʒɪ], emergency [ɪˈməːdʒənsɪ], psychiatry [saɪˈkaɪətrɪ], neurology [njuəˈrɔlədʒɪ], epilepsy [ˈepɪlepsɪ], paediatrics [ˌpiːdɪˈætrɪks], neonatal [ˌnɪːɔˈneɪtəl], intravenously [ˌɪntrəˈviːnəslɪ], homoeopathic [ˌhəumjəuˈpæθɪk].

Exercise 3. *Match the words with their definition:*
1. legislate; 2. premises; 3. revoke; 4. insurance; 5. valid; 6. stock; 7. supplement; 8. disorder; 9. first aid.

---

a) treatment given at once to a sick or injured person before a doctor comes; b) store of goods available for sale; c) provision against sickness death, etc. in return for regular payment; d) having force in law; e) house or building with its sheds; f) something added later to improve or complete; g) make laws, cancel

(a decree, consent); h) disturbance of the normal working of the body or mind; i) safeguard against loss.

Exercise 4. *Read the sentences, find the words of the active vocabulary and translate the sentences into Russian.*

1. Damages at the university hostel were assessed at 200 $.
2. She has tried for a place at Leed University as an insurance against failure to obtain a place at York.
3. Beware of pickpockets in public places.
4. Students are required to take two papers in English language course.
5. The medical students in the USA may have their practical training at ambulatory care settings.
6. Emergency ambulance service in Belarus is rendered free of charge.
7. Patients suffering from mental disorders are placed in psychiatric hospitals or clinics.
8. There is a social medical program in the USA called Medicaid which provides free medical care for the poor, the blind and the disabled.

II. *READING COMPREHENSION.*

Read the text "Pharmacy services in the USA" and do the tasks that follow it.

PHARMACY SERVICES IN THE USA

1. **Introduction.**
   Pharmacy (from the Greek *φάρμακον* = drug) is a transitional field between health sciences and chemical sciences and a profession charged with ensuring the safe use of medication. Traditionally, pharmacists have compounded and dispensed medications on the orders of physicians. More recently, pharmacy has come to include other services related to patient care including clinical practice, medication review, and drug information. Some of these new pharmaceutical roles are now mandated by law in various legislatures. Pharmacists, therefore, are drug therapy experts, and the primary health professionals who optimize medication management to produce positive health-outcomes. The symbols most commonly associated with pharmacy are ***the mortar and pestle*** and the $\mathbf{R_x}$ (*recipe*) character. Pharmacy organizations often employ other elements, such as the ***Bowl of Hygeia***, ***conical measures***, and ***caduceuses***[1] in their logos. Other symbols are common in different countries such as the ***green Greek cross*** in France and the United Kingdom, the increasingly-rare ***Gaper*** in the Netherlands, and ***a red stylized letter* A** in Germany and Austria, *Apotheke* being the German word for pharmacy.

[1] Caduceuses [kə'dju:sıəs] – кадуцей (символ врачевания и знак различия медицинской службы армии США).

2. **Separation of prescribing from dispensing**

In most jurisdictions (such as the United States), pharmacists are regulated separately from physicians. Specifically, the legislation stipulates that the practice of prescribing must be separated from the practice of dispensing. These jurisdictions also usually specify that *only* pharmacists may supply scheduled pharmaceuticals to the public, and that pharmacists cannot form business partnerships with physicians or give them "kickback"[2] payments. However, the American Medical Association (AMA) Code of Ethics provides that physicians may dispense drugs within their office practices as long as there is no patient exploitation and patients have the right to a written prescription that can be filled elsewhere. 7 to 10 percent of American physician practices reportedly dispense drugs on their own.

In other jurisdictions (particularly in Asian countries such as China, Hong Kong, Malaysia, and Singapore), doctors are allowed to dispense drugs themselves and the practice of pharmacy is sometimes integrated with that of the physician, particularly in traditional Chinese medicine.

In Canada it is common for a medical clinic and a pharmacy to be located together and for the ownership in both enterprises to be common, but licensed separately. The reason for the majority rule is the high risk of a conflict of interest. Otherwise, the physician has a financial self-interest in "diagnosing" as many conditions as possible, and in exaggerating their seriousness, because he or she can then sell more medications to the patient. Such self-interest directly conflicts with the patient's interest in obtaining cost-effective medication and avoiding the unnecessary use of medication that may have side-effects.

A campaign for separation has begun in many countries and has already been successful (like in Korea). As many of the remaining nations move towards separation, resistance and lobbying from dispensing, doctors who have pecuniary[3] interests may prove a major stumbling block[4] (e.g. in Malaysia).

[2] "kickback"– *амер. жарг.* выплата соучастнику части незаконно полученных денег;
[3] pecuniary [pi'kju:njəri] – денежный;
[4] stumbling block – камень преткновения.

3. **Community**[1] **pharmacy**

A **pharmacy** (commonly the **chemist's** in Australia, New Zealand and the UK; or **drugstore** in the USA and North America; or **apothecary**, historically) is the place where most pharmacists practice the profession of pharmacy. It is the community pharmacy where the dichotomy[2] of the profession exists – health professionals who are also retailers[3]. Community pharmacies usually consist of a retail storefront with a dispensary where medications are stored and dispensed. The dispensary is subject to pharmacy

legislation; with requirements for storage conditions, compulsory texts[4], equipment, *etc*., specified in legislation. Where it was once the case that pharmacists stayed within the dispensary compounding/dispensing medications, there has been an increasing trend towards the use of trained pharmacy technicians while the pharmacist spends more time communicating with patients. All pharmacies are required to have a pharmacist on-duty at all times when open. In many jurisdictions, it is also a requirement that the owner of a pharmacy must be a registered pharmacist (R.Ph.). This latter[5] requirement has been revoked in many jurisdictions, such that many retailers (including supermarkets and mass merchandisers) now include a pharmacy as a department of their store. Likewise, many pharmacies are now rather grocery store-like in their design. In addition to medicines and prescriptions, many now sell a diverse arrangement of additional household items[6] such as shampoo, bandages, office supplies, candy, and snack foods.

[1] community – общественный;
[2] dichotomy – последовательное деление на две части;
[3] retailers – розничные торговцы;
[4] text – оригинал, подлинник
[5] latter – последний (из двух названных); второй;
[6] household items – товары немедицинского назначения (хозяйственные товары).

4. **Hospital pharmacy**

Pharmacies within hospitals differ considerably from community pharmacies. Some pharmacists in hospital pharmacies may have more complex clinical medication management issues whereas pharmacists in community pharmacies often have more complex business and customer relations issues. Because of the complexity of medications including specific indications, effectiveness of treatment regimens, safety of medications (i.e., drug interactions) and patient compliance issues (in the hospital and at home) many pharmacists practicing in hospitals gain more education and training after pharmacy school through a **pharmacy practice residency** and sometimes followed by another residency in a specific area. Those pharmacists are often referred to as **clinical pharmacists** and they often specialize in various disciplines of pharmacy. For example, there are pharmacists who specialize in hematology/oncology, HIV/AIDS, infectious disease, critical care[1], emergency[2] medicine, toxicology, nuclear pharmacy, pain management, psychiatry, anticoagulation clinics, herbal medicine, neurology/epilepsy management, pediatrics, neonatal pharmacists and more.

Hospital pharmacies can usually be found within the premises of the hospital. Hospital pharmacies usually stock a large number of medications, including more specialized medications, than would be feasible[3] in the community setting. Most hospital medications are unit-dose, or a single dose of medicine. Hospital pharmacists and trained pharmacy technicians compound sterile products for patients including total parenteral[4] nutrition

(TRN), and other medications given intravenously. This is a complex process that requires training of personnel, quality assurance[5] of products, and adequate facilities. Some hospital pharmacies have decided to outsource high risk preparations and some other compounding functions to companies who specialize in compounding.

[1] critical care – обслуживание пациентов в критическом состоянии;
[2] emergency – неотложная помощь;
[3] feasible – выполнимый, возможный;
[4] parenteral – вне пищеварительного тракта;
[5] quality assurance – гарантия качества.

5. **Consultant pharmacy**

Consultant pharmacy practice focuses more on medication regimen review (i.e. "cognitive[1] services") than on actual dispensing of drugs. Consultant pharmacists most typically work in nursing homes[2], but are increasingly branching into other institutions and non-institutional settings. Traditionally consultant pharmacists were usually independent business owners, though in the United States many now work for several large pharmacy management companies (primarily *Omnicare, Kindred Healthcare and PharMedica*). This trend may be gradually reversing as consultant pharmacists begin to work directly with patients, primarily because many elderly people are now taking numerous medications but continue to live outside of institutional settings. Some community pharmacies employ[3] consultant pharmacies and/or provide consulting services.

[1] cognitive – познавательный;
[2] nursing homes – частные лечебницы;
[3] employ – предоставлять работу, нанимать.

6. **Internet pharmacy**

Since about the year 2000, a growing number of Internet pharmacies have been established worldwide. Many of these pharmacies are similar to community pharmacies, and in fact, many of them are actually operated by brick-and-mortar[1] community pharmacies that serve consumers online and those that walk in their door. The primary difference is the method by which the medications are requested and received. Some customers consider this to be more convenient and private method rather than traveling to a community drugstore where another customer might overhear about the drugs that they take. Internet pharmacies (also known as *Online Pharmacies*) are also recommended to some patients by their physicians if they are homebound.

While most Internet pharmacies sell prescription drugs and require a valid[2] prescription, some Internet pharmacies sell prescription drugs without requiring a prescription. Many customers order drugs from such pharmacies to avoid the "inconvenience"[3] of visiting a doctor or to obtain medications which their doctors were unwilling to prescribe. However, this practice has

been criticized as potentially dangerous, especially by those who feel that only doctors can reliably assess contraindications, risk/benefit ratios, and an individual's overall suitability for use of a medication. There also have been reports of such pharmacies dispensing substandard products. Of course as history has shown, substandard products can be dispensed by both Internet and Community pharmacies.

[1] brick-and-mortar – из кирпича и бетона;
[2] valid – действительный;
[3] inconvenience – неудобство.

7. **The future of pharmacy**

In the coming decades, pharmacists are expected to become more integral within the health care system. Rather than simply dispensing medication, pharmacists expect to be paid for their cognitive skills.

This paradigm shift has already commenced in some countries; for instance, pharmacists in Australia receive remuneration[4] from the Australian Government for conducting comprehensive[5] *Home Medicines Reviews*. In the United Kingdom, Pharmacists (and nurses) who undertake additional training are obtaining prescribing rights. In the United States, consultant pharmacists, who traditionally operated primarily in nursing homes, are now expanding into direct consultation with patients, under the banner of "senior care pharmacy".

[4] remuneration – оплата;
[5] comprehensive – всесторонний.

Exercise 4. *Give Russian equivalents:*

pharmacy legislation; requirements for storage conditions; a registered pharmacist; household items; community pharmacy; complex clinical medication management issues; patient compliance issues; a retail storefront with dispensary; to gain more education and training; to stock a larger range of medications; nursing homes; brick-and-mortar community pharmacies; to require a valid prescription; to undertake additional training; to obtain prescribing rights.

Exercise 5. *Give English equivalents:*

ступка и пестик; стилизованная буква *А* красного цвета; греческий крест зеленого цвета; отпуск лекарств; техник-фармацевт; владелец аптеки; предметы быта; эффективность режимов лечения; безопасность лекарственных средств; помещения больницы; гарантия качества продукции, соответствующие условия для работы, медицинские препараты высокого риска, медицинские учреждения; заказывать лекарства в

интернет-аптеке; аптеки, отпускающие лекарственные препараты, соответствующие стандарту качества; лекарственные препараты ниже качества, установленного стандартом.

Exercise 6. *Translate from English into Russian.*

1. Where it was once the care that pharmacists stayed within the dispensary compounding/dispensing medications, there has been an increasing trend towards the use of trained pharmacy technicians while the pharmacist spends more time communicating with patients.
2. Some pharmacists in hospital pharmacies may have complex clinical medication management issues whereas pharmacists in community pharmacies often have more complex business and customer relations issues.
3. Hospital pharmacies usually stock a larger range of medications, including more specialized medications, than would be feasible in the community setting.
4. Some hospital pharmacies have decided to outsource high risk preparations and some other compounding functions to companies who specialize in compounding.
5. This trend may be gradually reversing as consultant pharmacists begin to work directly with patients, primarily because many elderly people are now taking numerous medications but continue to live outside of institutional settings.
6. Some customers consider this to be more convenient and private method rather than traveling to a community drugstore where another customer might overhear about the drugs that they take.
7. However, this practice has been criticized as potentially dangerous, especially by those who feel that only doctors can reliably assess contraindications, risk/benefit ratios, and an individual’s overall suitability for use of a medication.

Exercise 7. *Compile as many sentences as possible.*

1. A pharmacist on duty	to deal with	a) various disciplines of pharmacy such as emergency medicine, toxicology, nuclear pharmacy, herbal medicine, etc.;
2. A community pharmacist	to be responsible for	b) medication regimen review;
3. A hospital pharmacist	to be in charge of	c) dispensing drugs at all times when the community pharmacy is open;
4. A clinical pharmacist	to specialize in	d) compounding sterile products for hospital patients;
5. A consultant pharmacist	to focus on	
	to operate in	
	to be engaged in	
	to practise in	

6. A trained pharmacy technician		e) a complex process of compounding specialized medications; f) communicating with patients rather than compounding / dispensing medications.

Exercise 8. *Define the following notions:*

1. a retail storefront with a trained pharmacy technician;
2. a registered pharmacist;
3. household items;
4. a dispensary;
5. a clinical pharmacist;
6. a consultant pharmacist;
7. an Online pharmacy;
8. a senior care pharmacist.

Exercise 9. *Answer the following questions.*

Introduction

1. What symbols are most commonly associated with pharmacy?
2. What other elements are employed by pharmacy organizations?

Separation of prescribing from dispensing

3. What does the legislation in many countries stipulate regarding the practice of prescribing?
4. What is the percentage of American physicians who may dispense drugs on their own?
5. In what countries is the practice of pharmacy integrated with that of the physician?
6. What conflict of interest may occur in case a medical clinic and pharmacy are located together with a common ownership of both enterprises?

Community pharmacy

7. What is the name of the place where most pharmacists practise the profession of pharmacy in Great Britain, Australia, New Zealand, the USA, and Germany?
8. What issues concerning retailing of drugs in community pharmacy are specified in pharmacy legislation?
9. What is the main requirement to the owner of the pharmacy?
10. Why are many pharmacies rather grocery store-like in their design?

Hospital pharmacy

11. What is the main difference between hospital pharmacies and community ones?
12. Do many pharmacists practising in hospitals gain more education after graduation from pharmacy school?
13. What disciplines of pharmacy do clinical pharmacists specialize in?

14. What medications do hospital pharmacies usually stock?
15. What are hospital pharmacists and trained pharmacy technicians responsible for?

Consultant pharmacy

16. What does pharmacy practice focus on?
17. Where do consultant pharmacists most typically work?
18. Why do some community pharmacies employ consultant pharmacists to provide consulting services?

Internet pharmacy

19. What is the primary difference between community pharmacy and internet one?
20. Why do some customers consider internet pharmacy to be more convenient than community pharmacy?
21. Which practice in internet pharmacy has been criticized as potentially dangerous?

Exercise 10. *Read the text "Pharmacy services in Great Britain" and specify the following.*

1. The working place for the majority of pharmacy graduates;
2. The changing role of pharmacists in the community;
3. The main responsibilities of clinical pharmacist in hospitals;
4. Spectrum of activities of pharmacists in the pharmaceutical industry.

PHARMACY SERVICES IN GREAT BRITAIN

1. The practice of pharmacy continues to develop and evolve. For increasing numbers of pharmacists, practice comprises or includes managing medicines at a strategic as well as an individual patient level, the management of repeat dispensing systems, supplementary prescribing, monitoring the effects of medicines, and specializations such as independent prescribing, diagnostic testing and running anti-coagulant clinics. Currently, the majority of pharmacy graduates practice their profession in community pharmacies or National Health Service (NHS) hospitals, although, reflecting the evolution of practice, a growing number are employed in general medical practitioner practices (*служба врача общей практики*) or by NHS primary care organizations and strategic health authorities. Pharmacists also work in the pharmaceutical industry and universities. Small numbers work in other sectors, applying their knowledge of medicines to a wide range of issues.
2. In the **community**, pharmacists are responsible for dispensing prescriptions, counseling patients and responding to their symptoms, health promotion, and medication review. They provide pharmaceutical services to nursing and

residential homes and they are widely involved in reducing the harm that drug misusers inflict on themselves and on society, by participating in needle exchange and supervised medicine administration schemes. The widespread use of computer systems in dispensing ensures that medicine interactions, overdoses and incompatibilities (*несовместимость*) are readily detected; allowing pharmacists more time to give advice to patients and other health care professionals. Many pharmacists are directly involved in making sure that the patient has been prescribed the most appropriate medicine, and that she is motivated, and knows how, to take it.

3. In **hospitals**, pharmacists have a clinical appraisal (*оценка*) function, whilst also ensuring that prescriptions are legal and appropriate for the patient. Additionally, they are a major source of information on medicines, for doctors and nurses. Most hospital pharmacists, acting as clinical pharmacists, are directly involved with patients; they are expected to provide prompt advice to other professionals and to develop treatment protocols. They also counsel (*давать совет, рекомендовать*) and educate patients on the best use of their medicines as well as monitoring the effects of their therapy. Some hospital pharmacies have facilities (*возможности*) for the preparation of special medicines, such as complex cancer treatments, and others have special licences for the small-scale manufacture of medicines which are not commercially available. Some pharmacists are involved in clinical trials of new medicines, others with the education of nurses, doctors and other health care professionals.
4. In the **pharmaceutical industry**, though their numbers are modest, pharmacists have key roles in a broad spectrum of activities, including the formulation of new products, planning and optimization of drug development strategies, advising on regulatory issues, marketing, and the management of scale-up and large scale production of medicines. Pharmacy is one of the three graduate professions eligible (*имеющий право*) to obtain the status of a *Qualified Person* for the oversight (*надзор*) of the manufacture of pharmaceutical products within the European Union.
5. A small proportion of the profession work in **veterinary pharmacy**, which has a specialist knowledge and skills base.
6. The breadth and multi-disciplinary character of the pharmacy degree, along with the ever-changing nature of pharmaceutical services, places pharmacists in a pivotal (*основной, решающий*) role for research into the discovery, characterization, formulation, administration and therapeutic activity of medicines. In conjunction with this, pharmacists play a leading role in research into the safe and economically responsible use of medicines in practice. Most of this research is undertaken in universities, the pharmaceutical industry and increasingly within the NHS and professional body, the Royal Pharmaceutical Society of Great Britain (RPSGB).

Exercise 11. *Read the italicized subtitles of each paragraph and say what information they may contain. Read and translate "Your guide to our pharmacy". Speak about one of the pharmacies of "Super drug pharmacy chain". Which of the services described are not available at the chemist's in Belarus? Which of the lacking services could be introduced?*

SUPERDRUG
↓
PHARMACY
↓
Your guide to our pharmacy

Opening hours

Monday - Friday	8.00am - 7.00pm
Saturday	8.30am - 6.30pm
Sunday	11.00am - 5.00pm

Unit 11 Piccadilly Gardens,
Manchester, M1 1LY
0161 819 1427

Full pharmacy service
You may have noticed that your local Superdrug now offers a full pharmacy service. Your friendly Superdrug staff has now been joined by a pharmacist to service your prescription needs and offer advice about medicines and health matters.

Prescriptions
If you have a prescription (NHS or private) simply visit the new pharmacy counter. If you need your prescribed medicine in a hurry, please tell the pharmacist as soon as you arrive so that you may be served straight away. If you have any questions about your treatment, please do not hesitate to ask.

Computerized medication records
To take full advantage of this new service, you are invited to join our computerized medication records scheme. This will enable us to provide a fast and efficient service that is particularly useful if you require repeat prescriptions. The pharmacist can also use your records to give advice when purchasing over-the-counter remedies.

Help and advice
Our new service includes more than just dispensing medicines. You can expect sympathetic and confidential advice about your prescription and any medical related problems you may be experiencing. Some common complaints can often

be treated with medicines which we stock behind the counter. Our pharmacist will recommend a suitable choice or you may be advised to see your doctor. We are able to supply a variety of medical supplies such as stomach and incontinence (недержание мочи) products – please ask our staff for details.

Pregnancy
We offer a fast and confidential pregnancy testing service. We shall be pleased to provide advice at any stage of pregnancy and continue to help mothers and young babies with all matters concerning health, hygiene and nutrition.

Clear your medicine cabinet (аптечка)
Old or unwanted medicines should be disposed of safely. Simply bring them to us and we destroy them for you free of charge. At all times, remember to keep medicines out of the reach of children, preferably in a locked medicine cabinet.

Emergencies
If you urgently require a prescription medicine which has been previously prescribed by your doctor, and you cannot see your doctor, then we may be able to help. However we can only do this in cases of genuine emergency and we shall have to charge the full price of medicines dispensed. This service is not available on the NHS. If you need medicines in an emergency when Superdrug is closed you should contact your local police who can arrange for a pharmacist to be called out.

Customer service
We offer an informal in-house procedure to deal with any problems or concerns you may have about the services we provide. This is completely confidential. Our aim is to give you the highest possible standard of service and we try to deal swiftly with any problems that may occur. If you are dissatisfied with any aspect of our service please speak to our store manager or pharmacist who will be happy to help or alternatively please call our customer service department on 0181 684 7000 extension (дополнительный номер) 5498.

Exercise 12. *Read the text and translate it without a dictionary.*

TYPES OF HOSPITALS

- **General or Specialized Hospitals.** There are over 6,500 hospitals in the United States. The majority of them are “general” hospitals set up to deal with the full range of medical conditions most people require treatment for. But more than 1,000 hospitals specialize in a particular disease or condition (cancer,

rehabilitation, psychiatric illness, etc.) or in one type of patient (children, the elderly, etc.).

A general hospital may not be able to offer the very latest specialized treatments for every disorder. So if you have a serious or highly unusual medical problem, you may need a hospital devoted to the care of people with similar conditions. But it is also important to consider that such a hospital may be far from your home and may lack the facilities (нехватка оборудования) and staff necessary to treat an unrelated medical complication (осложнение). When weighing the possibilities with your doctor, discuss what would be best for your condition and if any general hospitals in the area may be able to accommodate you.

- **Teaching or Community Hospitals.** Large teaching/research hospitals have a variety of goals. In addition to treating patients, they are training sites for physicians and other health professionals. Teaching institutions are almost always affiliated with a medical school, which means patients have access to highly skilled specialists who teach at the school and are familiar with up-to-the-minute technology.

You shouldn't, however, automatically select a prestigious teaching hospital as the primary source of hospital care for you and your family. The quality of smaller community hospitals often compares to that found at large teaching facilities, particularly for routine illnesses and surgeries. The sophisticated (сложный) equipment and specialized treatment at teaching hospitals can be very expensive, and it is not cost-effective to pay for such services unless you can benefit from them. Check with your physician about the appropriateness of a teaching hospital.

- **Nonprofit or For-Profit Hospitals.** The important question here is, who owns the hospital? Is it a voluntary, proprietary or government-supported facility? Even though the quality of care varies widely within each of these categories, knowing who owns the hospital may give you some insight into other questions to ask.

A *voluntary hospital* is a nonprofit community facility operating under religious or other voluntary auspices. Ultimate responsibility for all that takes place at the hospital rests with its board of trustees (Совет попечителей), generally selected from the community's business and professional people, who serve without pay. To manage the hospital the trustees appoint a paid administrator.

Proprietary (частный) *hospitals* are commercial establishments. They are profit-making institutions. Of course, working for profit does not necessarily make a hospital bad, any more than being nonprofit ensures quality care.

Proprietary hospitals are owned by corporation or, less often, by individuals such as doctors who practice at the hospital. Hospital corporations usually own a chain of institutions located in several states, and they often own nursing homes or other types of health care facilities as well.

Government-supported hospitals, like all tax-supported institution, sometimes have to curtail service when budget are cut. Also, they may not measure up to other hospitals in terms of comfortable accommodations and the availability of private rooms.

Consumer advocates claim for-profit hospitals are more likely to discharge (выписывать из больницы) patients before they are ready or fail to perform necessary test or procedures if a patient is not insured or if their insurance won't cover more time in the hospital. In a study (исследование) published in the Journal of the American Medical Association, researchers looked at over half a million discharge records of patients hospitalized in the United States in 1987. They found that while uninsured patients were in worse condition than privately insured patients when they entered the hospital, they were discharged sooner. Although the study did not distinguish between for-profit and nonprofit hospitals, it does indicate that the problem does exist. Additionally, in the spring of 2000, a study in the Journal of General Internal Medicine found that patients at for-profit hospitals are two to four times more likely than patients at not-for-profit hospital to complications from surgery or delays in diagnosing and treating an illness. Previous research found death rates 25 percent higher at for-profit hospitals than at teaching hospitals and six to seven percent higher than at non-profit, non-teaching hospitals.

III. *RENDERING.*

Read the following information and render it into English:

АПТЕКИ В АНГЛИИ

В Англии различают пять основных типов аптек: частновладельческие индивидуальные аптеки, аптеки небольших частных (proprietary) компаний фармацевтов, фирменные аптеки крупных компаний, аптеки кооперативных (cooperative) обществ, больничные аптеки.

В Англии с 1948 г. существует Государственная служба здравоохранения. В апреле 2008 г. плата за лекарства составила 7 фунтов 10 пенсов.

Государственной службой здравоохранения руководит Министерство здравоохранения (Department of Health) Англии. В состав

Министерства входит постоянный фармацевтический консультативный комитет по техническим вопросам. При местных исполнительных советах Государственной службы здравоохранения для руководства аптечной службой имеются фармацевтические комитеты, которые избираются владельцами аптек. Помимо этого, большую роль в деле фармацевтической практики играет фармацевтическое общество Англии, в котором обязательно должны быть зарегистрированы все аптеки и фармацевты. Инспектора этого общества контролируют качество лекарств, перевязочных материалов (dressings) и предметов ухода за больными (health care item), отпускаемых по рецептам Государственной службы здравоохранения, а также следят за выполнением владельцами аптек фармацевтических инструкций и положений.

Контроль над внедрением (introduction) новых лекарственных препаратов в лечебную практику осуществляет комиссия по вопросам безопасности лекарственных средств (FDA). Изготавливать и отпускать лекарства по рецептам должны только фармацевты, которые обязаны иметь высшее фармацевтическое образование и звание Магистр фармации. Лица, не имеющие фармацевтического образования, допускаются в аптеке только к продаже немедицинских товаров.

Больничные аптеки открываются, как правило, только при крупных больницах и обязаны обслуживать, помимо своей больницы, другие прикрепленные к ней больницы. В таких аптеках, обслуживающих группу больниц, помимо основного аптечного персонала (staff), имеется должность так называемого группового фармацевта, в обязанности которого входит организация работы по лекарственному снабжению всех прикрепленных больниц, а также консультирование по вопросам хранения и использования отпущенных лекарств.

АПТЕКИ В ПОЛЬШЕ

Все аптеки в Польше частные, кроме тех, которые находятся в ведении учебных заведений (teaching pharmacies). Различают аптеки двух категорий. Аптеки I категории занимаются производственной деятельностью (be engaged in filling prescriptions), ко II категории относятся аптеки готовых форм (ready-made drugs). Готовится закон, в соответствии с которым все аптеки Польши должны будут заниматься производством лекарственных средств. Владельцем аптеки может быть только лицо, имеющее высшее фармацевтическое образование и стаж работы (length of service) по специальности не менее 5 лет.

Кроме того, различают аптеки открытые (retail (community pharmacies)), которые осуществляют отпуск медикаментов по рецептам и

безрецептурный отпуск санитарно-гигиенических средств, а также больничные аптеки, обслуживающие стационары (in-patient departments).

Для выписывания лекарственных средств в Польше существует 3 типа рецептурных бланков:

1) белого цвета – для отпуска лекарственных средств за полную стоимость (fully charged), на льготных условиях (at reduced price) и бесплатно (free of charge);
2) белого цвета с голубой полоской – для отпуска лекарственных средств хроническим больным (сахарный диабет, бронхиальная астма, онкологические заболевания);
3) розового цвета – для отпуска наркотических средств.

На рабочем месте магистра (по нашему провизора-технолога) есть компьютер, в который заложены все данные (data-base) по каждому наименованию средств, в том числе страна-производитель и стоимость. Таксировка (assessment of statuary prices) осуществляется либо вручную, либо с помощью компьютера. Большинство рецептов льготные, поэтому они остаются в аптеке.

В каждой аптеке есть гомеопатические (homoeopathic) средства ведущих гомеопатических фирм Европы. Производством гомеопатических форм занимается только одна аптека в Познани.

Контроль за деятельностью аптечных учреждений осуществляет независимая государственная инспекция (Independent State Inspection). 1-2 раза в год в каждой аптеке она производит внезапную проверку (sudden check-up) (изымает лек. формы на анализ). Так как аптеки частные, контроль финансовой деятельности осуществляет сам владелец.

IV. *FOLLOW-UP ACTIVITY.*

I. *Agree or disagree with the following statements.*

1. Pharmacists in many countries are sometimes small-business owners, owing pharmacy in which they practice.
2. Pharmacists are sometimes referred to as dispensing-chemists.
3. Many consultant pharmacists do not dispense drugs.
4. NHS is not free for all patients in the UK.
5. Some categories of patients are exempt (освобождаются) from paying prescription charge for medicines in England.
6. Teaching hospitals serve as training sites for physicians, pharmacists and other health professionals.

II. *Prove that:*

1. Pharmacists are the nation’s experts on medicines.

2. The pharmacy degree establishes a basis for learning, which continues throughout the pharmacist's career.
3. The practice of pharmacy continues to develop.
4. In the community pharmacists are responsible not only for dispensing prescriptions.
5. Hospital pharmacists must have special training and skills.
6. Internet pharmacy is considered by many of customers to be more convenient and private method of buying medicines.

III. *Discuss the following:*

1. How did you imagine the system of pharmaceutical services abroad before getting acquainted with it? Did your idea coincide with what you have learned?
2. What new information have you got?
3. What has surprised you or seemed curious, or given you new ideas?
4. What do you like most from what you've learned about pharmaceutical services in the USA and Great Britain?
5. What did you notice that contrasts with the system of pharmacy service existing in Belarus?
6. What elements of pharmacy service abroad could be adopted in our country?

IV. *Visit Vitebsk Medical University pharmacy and*

1. *make up the guide to it paying attention to the following:*

a. opening hours;
b. address;
c. sale of medicines and dispensing of prescriptions;
d. stock of medications and health care items;
e. emergency supplies;
f. first-aid supplies;
g. blood sugar monitoring and equipment;
h. disabled living products;
i. vitamins and supplements.

2. *talk with the pharmacists.*

Ask them to show the equipment they use to fill the doctor's prescriptions. If they use computer, perhaps they will show you what computer programs they use. While you are there, find out answers to these questions:

a. How do the pharmacists fill doctor's prescriptions?
b. What medicine safety rules do the pharmacists suggest for home?

TOPIC “PHARMACEUTICAL INDUSTRY”

PART I. “PHARMACEUTICAL INDUSTRY ABROAD”

I. *VOCABULARY AND GRAMMAR LEARNING.*

Exercise 1. *Read and memorize the words.*

1.	medieval [ˌmedɪ'iːv(ə)l] *a.* – средневековый;
2.	distinguish [dɪ'stɪŋgwɪʃ] *v.* – различить, разглядеть; отмечать; характеризовать, отличать;
3.	mature [mə'tʃuə] *a., v.* – зрелый, выдержанный; созревший, готовый; созреть, вполне развиться; to ~ schemes – подробно разработать планы;
4.	approach [ə'prəutʃ] *n., v.* – приближение, подход; приближаться, подходить; быть почти равным, похожим;
5.	habituation [hə,bɪtjueɪʃ(ə)n] *n.* – привычка, привыкание (к лекарству);
6.	informed consent [ɪn'fɔːmd kən'sent] – информированное согласие (ознакомление больного или испытуемого с условиями и риском диагностического, лечебного или экспериментального воздействия и получение его согласия на это);
7.	survival [sə'vatɪv(ə)l] *n.* – выживание; пережиток;
8.	challenge ['tʃælɪndʒ] *n., v.* – сложная задача, проблема; сомневаться, отрицать; оспаривать, подвергать сомнению; требовать (внимание, уважение и т.п.);
9.	monger ['mʌŋgə] *n.* – продавец, торговец;
10.	purchase ['pɜːtʃəs] *v.* – покупать; закупать, приобретать;
11.	proliferate [prə'lɪf(ə)reɪt] *v.* – распространяться (о знаниях и т.п.); быстро увеличиваться;
12.	demand [dɪ'mɑːnd] *n., v.* – требование; потребность; спрос; требовать, предъявлять требование; нуждаться; this problem demands attention – этот вопрос требует внимания;
13.	accuse of [ə'kjuːz] *v.* – предъявлять обвинение в чем-либо;
14.	enroll [ɪn'rəul] *v.* – вносить в список; заниматься, вступать в члены;
15.	sophisticated [sə'fɪstɪkeɪtɪd] *a.* – лишенный простоты; сложный, усложненный; ~ apparatus – сложная аппаратура; ~ medications – сложные (по составу) лекарства; ~ search techniques – тщательно разработанные методы поиска; ~ techniques – сложная техника; утонченная техника; ~ surgery – сложная современная хирургия; тонкая хирургическая операция.

16.	validation [ˌvælɪ'deɪʃ(ə)n] *n.* – проверка достоверности; подтверждение; валидация;
17.	contamination [kənˌtæmɪ'neɪʃ(ə)n] *n.* – 1) контаминация *(1. загрязнение 2. инфицирование, заражение.)*

Exercise 2. *Choose the synonymous words.*

1) to progress a) promote b) come on c) develop d) advance	2) to result in a) bring about b) end c) finish d) yield	3) to contribute a) add b) afford c) increase d) provide
4) to mature a) age b) develop c) grow up d) master	5) due a) proper b) appropriate c) justified d) expected	6) to purchase a) buy b) gain c) acquire d) provide
7) to consume a) take b) swallow c) spend d) eat	8) to manufacture a) create b) construct c) handle d) produce	9) survey a) review b) research c) development d) study
10) safety a) harmlessness b) security c) guarantee d) reliability	11) approach a) advance b) attitude c) manner d) meeting	12) regulation a) order b) law c) decree d) arrangement
13) sophisticated a) complicated b) complex c) mixed d) elaborated	14) to evaluate a) assess b) estimate c) judge d) establish	15) demand a) lack b) claim c) need d) necessity
16) to distinguish a) identity b) recognize c) characterize d) determine	17) proliferation a) increase b) multiplication c) variety d) expansion	18) to validate a) authorize b) confirm c) certify d) justify

Exercise 3. *Give Russian equivalents.*

Scientific approach, appropriate labeling, become mass-manufactured, severe birth defects; to increase regulation; to set standards for clinical research; safety and environmental regulations; direct-to-consumer advertising, hit-and-

miss approach of drug development, natural product surveys; disease mongering, liberalized requirements for the presentation of risks, sophisticated manufacturing techniques; mass-produced drugs; to set standards for clinical research; to hold a dominant position throughout the world; the direct purchase of medicines; to meet the requirements of quality and purity; validated methods of preparation and sterilization.

Exercise 4. *Translate the sentences from English into Russian. State the functions of "ing"– forms.*

1. Many drugstores soon began operating throughout the medieval Islamic world and eventually medieval Europe.
2. Switzerland, Germany and Italy had particularly strong industries, with the UK and US following suit.
3. Legislation was enacted to test and approve drugs and to require appropriate labeling.
4. Declaration of Helsinki, which set standards for clinical research demanded that subjects give their informed consent before enrolling in an experiment.
5. Pharmaceutical companies became required to prove efficacy in clinical trials before marketing drugs.
6. Legislation, allowing for strong patents, to cover both the process of manufacture and the specific products, came into force in most countries.
7. Pharmaceutical manufacturing became concentrated, with a few large companies holding a dominant position throughout the world and with a few companies producing medicines within each country.
8. Drugs for heart disease and for AIDS were a feature of the 1980s, involving challenges to regulatory bodies and a faster approval process.
9. The pharmaceutical industry confronted a new business climate and new regulations, born in part from dealing with world market forces and protests by activists in developing countries.
10. Controversies emerged around adverse effects, notably regarding Vioxx in the US, and marketing tactics.
11. Maintaining the efficient movement of more than 140 medicines is a challenge requiring hi-tech manufacturing and distribution system.
12. By focusing on immunobiology, "Apotex" has positioned itself to create valuable new drugs important in the treatment of many diseases and disorders.
13. The World Medical Association issued its Declaration of Helsinki, which set standards for clinical research and demanded that subjects give their informed consent before enrolling in an experiment.

Exercise 5. *Read the sentences and choose the correct words from those given in brackets.*

1. "Apotex" employs a new (complex, sophisticated, elaborated) manufacturing and packaging facility that enables the company to manufacture drugs in Canada for worldwide markets.
2. According to the receptor theory drugs (produce, create, manufacture) their effects by (approaching, attaching, meeting) to receptor molecules in body cells.
3. The tests involved more than 100.000 soil samples (yielded, resulted, provided) in the development of oxytetracycline.
4. In the process of creating a new drug, researchers perform tests with animals to see the (security, safety, reliability) and effectiveness of it.
5. Pharmaceutical companies are continually developing new drugs using scientific (manner, approach, attitude).
6. But even the most careful testing cannot always (reveal, review, study) the possibility that a drug might produce an unexpected harmful effect.
7. The drug company's clinical investigators and other scientists (judge, calculate, evaluate) the results of the clinical trials.
8. In the 1970's and 1980's researchers (contributed, afforded, provided) greatly in discovering better medicines for treating any crippling and deadly disorders.
9. Tobacco use (contributes, promotes, affords) the development of heart disease and other disorders.
10. (Research, survey, studies,) suggests that a designer drug called MDMA, commonly known as Ecstasy, can permanently damage brain cells.
11. Supporters of legalization of drugs believe (laws, regulations, punishment) against making and selling drugs should be overturned.

II. *READING COMPREHENSION.*

Read the text and do the tasks which follow it.

HISTORY

The earliest drugstores date back to the Middle Ages. The first known drugstore was opened by Arabian pharmacists in Baghdad in 754, and many more soon began operating throughout the medieval Islamic world and eventually medieval Europe. By the 19th century, many of the drug stores in Europe and North America had eventually developed into larger pharmaceutical companies.

Most of today's pharmaceutical companies were founded in the late 19th and early 20th centuries. Key discoveries of the 1920s and 1930s, such as insulin and

penicillin, became mass-manufactured and distributed. Switzerland, Germany and Italy had particularly strong industries, with the UK and US following suit.
Legislation was enacted to test and approve drugs and to require appropriate labeling. Prescription and nonprescription drugs became legally distinguished from one another as the pharmaceutical industry matured. The industry got underway in earnest from the 1950s, due to the development of systematic scientific approaches, understanding of human biology (including DNA) and sophisticated manufacturing techniques.
Numerous new drugs were developed during the 1950s and mass-produced and marketed through the 1960s. These included the first oral contraceptive, “The Pill”, Cortisone, blood-pressure drugs and other heart medications. MAO Inhibitors, chlorpromazine (Thorazine), Haldol (Haloperidol) and the tranquilizers ushered in the age of psychiatric medication. Valium (diazepam), discovered in 1960, was marketed from 1963 and rapidly became the most prescribed drug in history, prior to controversy over dependency and habituation.
Attempts were made to increase regulation and to limit financial links between companies and prescribing physicians, including by the relatively new US FDA. Such calls increased in the 1960s after the thalidomide tragedy came to light, in which the use of a new tranquilizer in pregnant women caused severe birth defects. In 1964, the World Medical Association issued its Declaration of Helsinki, which set standards for clinical research and demanded that subjects[1] give their informed consent before enrolling[2] in an experiment. Pharmaceutical companies became required to prove efficacy in clinical trials before marketing drugs.
Cancer drugs were a feature of the 1970s. From 1978, India took over as the primary center of pharmaceutical production without patent protection.
The industry remained relatively small scale until the 1970s when it began to expand at a greater rate. Legislation, allowing for strong patents, to cover both the process of manufacture and the specific products came into force in most countries. By the mid-1980s, small biotechnology firms were struggling for survival, which led to the formation of mutually beneficial partnerships with large pharmaceutical companies. Pharmaceutical manufacturing became concentrated, with a few large companies holding a dominant position throughout the world and with a few companies producing medicines within each country.
The pharmaceutical industry entered the 1980s pressured by economics and a host of new regulations, both safety and environmental, but also transformed by new DNA chemistries and new technologies for analysis and computation. Drugs for heart disease and for AIDS[2] were a feature of the 1980s, involving challenges to regulatory bodies and a faster approval process. The pharmaceutical industry confronted a new business climate and new regulations,

born in part from dealing with world market forces and protests by activists in developing countries. Animal Rights activism was also a problem.

Marketing changed dramatically in the 1990s, partly because of a new consumerism. The Internet made possible the direct purchase of medicines by drug consumers and of raw materials by drug producers, transforming the nature of business. In the US, Direct-to-consumer advertising proliferated on radio and TV because of new FDA regulations in 1997 that liberalized requirements for the presentation of risks. The new antidepressants, the SSRIs[3], notably Fluoxetine (Prozac), rapidly became bestsellers and were marketed for additional disorders.

Drug development progressed from a hit-and-miss approach to rational drug discovery in both laboratory design and natural-product surveys. Demand for nutritional supplements and so-called alternative medicines created new opportunities and increased competition in the industry. Controversies emerged around adverse effects, notably regarding Vioxx in the US, and marketing tactics. Pharmaceutical companies became increasingly accused of disease mongering or over-medicalizing personal or social problems.

[1] subject – субъект, человек;
[2] AIDS – *abbr.* Acquired Immune Deficiency Syndrome;
[3] SSRIs – *abbr.* selective serotonin reuptake inhibitor, the designation for a class of antidepressants that work by increasing levels of serotonin in the brain.

Sales leaders

There are now more than 200 major pharmaceutical companies, jointly said to be more profitable than almost any other industry. Advances in biotechnology and the human genome project promise ever more sophisticated, and possibly more individualized, medications.

The top ten pharmaceutical companies by 2006 sales are:

Rank	Company	Sales ($)	Growth (%)	Market Share (%)
1.	Pfizer	45,983	1.8	7.2
2.	GlaxoSmithKline	37,034	9.7	5.9
3.	Sanofi-Aventis	35,638	5.0	5.7
4.	Novartis	28,880	18.0	4.6
5.	Hoffmann–La Roche	26,596	21.8	4.2
6.	AstraZeneca	25,741	10.5	4.1
7.	Johnson & Johnson	23,267	4.2	3.7
8.	Merck & Co.	22,636	2.8	3.6
9.	Wyeth	15,683	2.4	2.5
10.	Eli Lilly and Company	14,814	7.5	2.4

Industry associations

- European Federation of Pharmaceutical Industries and Associations (EFPIA)
- European Pharmaceutical Market Research Association (EphMRA)
- International Federation of Pharmaceutical Manufacturers and Associations (IFPMA)
- Japan Pharmaceutical Manufacturers Association (JPMA)
- New York Health Products Council (NYHPC)
- Pharmaceutical Research and Manufacturers of America (PhRMA)
- Irish Pharmaceutical Healthcare Association (IPHA)

Regulatory authorities

- International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH)
- European Medicines Agency (EMEA)
- Food and Drug Administration (FDA)
- Ministry of Health, Labour and Welfare (Japan)
- Medicines and Healthcare products Regulatory Agency (MHRA)
- Central Drugs Standards Control Organization (India) CDSCO
- Ukrainian Drug Registration Agency

Exercise 6. *Give English equivalents.*

Средневековая Европа, системные научные подходы, сложные методы производства; массовое производство лекарств; медикаменты, применяющиеся в психиатрии, беременные женщины; взаимовыгодное сотрудничество, занимать лидирующее место; пищевые добавки; движение в защиту прав животных; изменения природы бизнеса; обвинять в чем-либо.

Exercise 7. *Explain the following:*

hit–and–miss approach;
disease mongering;
drug dependency;
Animal Rights activism;
consumerism;
direct–to–consumer advertizing;
human genome project;
alternative medicines;
adverse effects;
bestseller.

Exercise 8. *Trace the development of pharmaceutical manufacturing filling in the missing information in the table.*

THE DEVELOPMENT OF THE PHARMACEUTICAL INDUSTRY

Years	Medications manufactured	Progress in pharmaceutical manufacturing
1920s-1930s	hormone insulin, penicillin amphetamines, prontosil (first sulphonamide)	Pharmaceutical plants in Switzerland, Germany, Italy, UK, US.
		Maturing of the pharmaceutical industry due to systemic scientific approach and understanding of human biology.
	Valium – the most prescribed drug in history; cancer drugs	
1980s		Concentration of pharmaceutical manufacturing with a few large companies holding a dominant position in the world, new safety and environmental regulations, new technologies for analysis and computation.
	The new antidepressants (Prozac), nutritional supplements, alternative medicines	
2000s	More sophisticated, and individualized medications	More than 200 major pharmaceutical companies, Pfitzer, Glaxo Smith Kline, Sanofi-Aventis, Novartis being the leading ones. Industry associations, Regulatory authorities.

Exercise 9. *Translate the sentences from Russian into English.*

1. До 1800 существовало всего несколько компаний по производству лекарств, поэтому фармацевты сами изготавливали лекарства.
2. Так как производство лекарств потребовало специально обученных людей и оборудования, фармацевтам стало трудно самим изготавливать лекарственные препараты.
3. Поскольку разрабатывалось все большее количество лекарств, потребность в них быстро возрастала.
4. После того как фармакология стала быстро развиваться, производство лекарств переросло в фармацевтическую промышленность.

5. Сегодня лекарства приносят огромную пользу, хотя основной проблемой стало злоупотребление алкоголем, наркотическими и другими препаратами.
6. Исследователи сегодня пытаются найти лекарства для лечения смертельных заболеваний, и когда-либо они смогут даже разработать препараты, замедляющие процесс старения.

Exercise 10. *Read the article and translate it into English using a dictionary.*

ПЯТЬ ЛЕКАРСТВ - МОНОПОЛИСТОВ

Все попытки антимонопольных органов разных стран мира воспрепятствовать объединению крупных фармацевтических компаний оканчивались неудачей. Формально ни одна из существующих корпораций не может быть признана монополистом – слишком незначительна контролируемая или доля рынка. На самом деле монополия существует. Но не на фармацевтическом рынке в целом, а на рынке отдельных препаратов. Почти каждая из крупнейших компаний выпускает лекарство, которое можно считать монополистом в той или иной области медицины. Вот только несколько примеров:

Zantac (ранитидин гидрохлорид) – противоязвенный препарат компании Glaxo Wellcome до 1998 года был самым покупаемым препаратом в мире (из тех, что продаются по рецептам). Даже сейчас, когда срок патента на производство Zantac истек, Glaxo продолжает оставаться крупнейшим в мире производителем ранитидина гидрохлорида, а сам препарат – наиболее покупаемым противоязвенным лекарством мире.

Zovirax – лекарство против герпеса, выпускаемое фирмой Glaxo, остается «бестселлером» среди подобных лекарств.

Retrovir (AZT) – препарат, которому Glaxo обязана своим лидерством на мировом рынке средств против СПИДа. Он применяется при лечении почти 100% пациентов.

Viagra – таблетка от импотенции, запатентованная компанией Pfizer, является самым популярным лекарством в своей области.

Prozac – абсолютный мировой лидер среди антидепрессантов, позволяет выпускающей его компании Eli Lilly оставаться лидером на рынке.

PART II. "PHARMACEUTICAL INDUSTRY IN BELARUS"

Read the text "Pharmaceutical industry in Belarus" and name the main pharmaceutical enterprises in Belarus. Do the tasks which follow the text.

The Belarusian pharmaceutical sector is classified as an actively developing segment which attracts investors. By volume of per capita consumption[1] of pharmaceutical products the Republic of Belarus ranked third among the CIS[2] countries and Georgia. Over 30 companies are engaged in the production of medicinal products in the country. Herewith, about 90% of drugs made in the country are manufactured by enterprises which are part of the concern "Belbiopharm". The organization unites 18 institutions, the largest of which are RUE "Belmedpreparaty", OISC "Borisov plant of Medical preparations" and LLC "Pharmland". A number of other enterprises are involved in the production of drugs: Ekzon Enterprise, Minskintercaps Joint Venture, Pharmtekhnologia Nesvizh Drugs Factory, enterprise for medicinal and diagnostic preparations Dialek and Leckpharm Joint Venture. Special conditions for innovative pharmaceutical/ biotechnological manufacture are created within the science and technology park "Belbiograd".

Belarusian pharmaceutical enterprises try to establish close contacts with other leading pharmaceutical companies. Favorable factors for the development of cooperation in the pharmaceutical industry are:

- mutual recognition of market authorization for pharmaceuticals for manufacturers of member states of Custom Union manufactured in the condition of GMP since 2013;
- gradual harmonization of legal requirements in the sphere of medical products with EU requirements.
- scientific potential of the biotechnological spheres: the development of the institutes of the Academy of sciences and higher education institutions in the sphere of genomic biotechnologies, veterinary science, and agricultural biotechnologies

The state scientific and technical Medicinal Preparations Program has been adopted in order to create new up-to-date competitive drugs. It has developed by the leading specialists of the Republic in the field of fine chemical and microbiological synthesis.

The following organizations within the Ministry of Health are engaged in pre-clinical investigations of drugs pharmacological properties: Minsk, Vitebsk and Grodno Medical Universities, specialized scientific and research institutes. Drugs are clinically tested in the leading specialized clinics of Belarus.

As a result of the Medicinal Preparations Program, Borisov Drug Factory has started the production of oxidized cellulose, polycaprane, medicinal film with lincomycin. Belmedpreparaty Enterprise commenced industrial production of antileikosis drug *Cytarabin,* immunocorrective drug *Sodium Nucleinate* and antitumoral drug *6-Mercaptopurin,* development of blood substitute *Rondpherryn* and enzyme preparation *Ovomin*.

The pilot production of the following drugs is under arrangement at Borisov Drugs Factory: cardiotropic preparation *Nitramil*, preparation for the

treatment of purulent infections *Ferancel*, antibacterial and immuostimulative preparation *Oxycelanim.*

Dialek Enterprise has organized the production of antioxidant, antihypoxial preparation *Diavitol*, antitumoral chemotherapeutic preparation *Diazan*, immuostimulative preparation *Diasplen*, preparation *Diasynol* for the treatment of knee joint traumas.

Nesvizh Drugs Factory has expanded the assortment of the manufactured infusion solutions. Manufacture of phytochemical drugs (Mozyr Nutrient Yeast Plant), officinal glucose (Ekzon Enterprise), hydrogen peroxide (Izotron Plant), a number of modern ethanol-containing disinfectants and antiseptics (Bobruysk Hydrolysis Plant) have been launched.

[1] per capita consumption – потребление на душу населения;
[2] CIS – Commonwealth of Independent States (СНГ), Содружество Независимых Государств.

Exercise 11. *Make up questions to suit the following answers.*

1. _____
   ranked 3[d] among CIS countries and Georgia
2. _____
   30 companies
3. _____
   90% of drugs
4. _____
   18 institutions
5. _____
   Minsk, Vitebsk and Grodno Medical Universities
6. _____
   science and technology park “Belbiograd”
7. _____
   in order to create up-to-date competitive drugs

Exercise 12. *Follow the scheme filling in the missing parts (use additional material).*
Name the main pharmaceutical enterprises of Belarus and medical *preparations they manufacture.*

Belmedpreparaty Joint Stock Company	- antileikosis drug *Cytarabin* - immunocorrective drug *Sodium Nucleinate* - antitumoral drug *6 - Mercuptopuriu* - blood substitute *Rondpherryn* - ensyme preparation *Ovomin*

Exercise 13. *Read the following information and answer the question "What is GMP?" in short. Do the tasks which follow this information.*

WHAT IS GMP?

The GMP standard («Good Manufacturing Practice») - a system of measures and regulations to ensure quality production, consisting of several lines, which include a sufficiently broad range of standards, guidance for the pharmaceutical and microelectronic industries, high-tech industrial production (food production, optical and packaging industry, medical and sensor technology, as well as micromachining industry).

During the manufacturing process people working in pharmaceutical companies have to follow a very high standard. GMP covers how to design and construct buildings, the type of clothing to wear while working, and the training that employees get on a regular basis. It also defines the parameters of each production stage, the material from which made the floor in the shop, and the number of microorganisms in the air

By 2014 all the national pharmaceutical companies were obliged to go to the GMP standard. Regulation of production in accordance with GMP standards requires a comprehensive approach to organizing all of the processes. In order to receive valid and reliable results, all devices and methods have to undergo validation process.

GMP covers the following aspects:

→Using of high quality ingredients while manufacturing;

→Special manufacturing process providing high quality products;

→Appropriate measures for providing quality control of products.

Task 1. *Find Russian equivalents for the following English notions:*
Airlock, sterile, bulk drug, clean area, finished product, master production document, in-process testing, raw material, process validation, vendor, shelf life, Standard Operation Procedure (SOP)

стерильный, поставщик, исходный материал, процесс утверждения, итоговый продукт, жизненный цикл, чистое помещение, внутрипроизводственное тестирование, не расфасованная лекарственная форма, санпропускник (чистовой шлюз), производственные инструкции, основные производственные документы.

Task 2. *Here are some of definitions used in guidelines (предписания), but they are mixed. Match them!*

The GMP standard (Good Manufacturing Practice)

Glossary of Terms

Airlock	Establishing documented evidence with a high degree of assurance, that a specific process will consistently produce a product meeting its predetermined specification and quality characteristics. Process validation may take the form of Prospective, Concurrent or Retrospective Validation and Process Qualification or Re-validation.
Bulk Drug	The examination or testing of any material or mixture of materials during the manufacturing process.
Clean Area	A quantity of drug in dosage form, a raw material, or a packaging material, homogeneous within specified limits, produced according to a single production order and as attested by the signatories to the order.
Finished Product	Documents that include specification for raw material, for packaging material and for packaged dosage form.
In- process Testing	A drug in dosage form that is not in its final packaging, usually in quantities larger that the largest commercially available package size.
Master Production Documents	A product that has undergone all stages of production, including packaging in its final

	container and labeling.
Process Validation	An enclosed space with two or more doors, that is interposed between two or more rooms, usually of differing classes of cleanliness, for the purpose of controlling the airflow between those rooms when either people or goods need to enter or leave them.
Raw Material	Free from viable microorganisms.
Shelf Life	Person who is the fabricator of the item (raw material, packaging material, medicinal ingredients, reagents).
Sterile	A written procedure giving instructions for performing operations not necessarily specific to a given product or material but of a more general nature (e.g., equipment operation, maintenance and cleaning; validation: cleaning of premises and environmental control; sampling and inspection).
Vendor	The time interval during which a drug product is expected to remain within the approved specification provided that it is stored under the conditions defined on the label and in the proposed containers and closure.
Standard Operating P*rocedure (SOP)*	Any substance, other than in-process drug or packaging material, intended to be used in the manufacture of drugs, including those that appear in the master formula but that do not appear in the drug such as solvents and processing aids.

III. *RENDERING.*

I. *Read the newspaper article and render it into English paying attention to the following:*

1. Historical background of the pharmaceutical enterprise;
2. Present-day developments of the enterprise;
3. Export potential of “Belmedpreparaty”.

РУП «БЕЛМЕДПРЕПАРАТЫ»: ТЕХНОЛОГИИ НА СЛУЖБЕ ЗДОРОВЬЯ!

Как все начиналось

История становления этого предприятия началась в ноябре 1929 года. Тогда в Минске открылся Химфармзавод имени Первой пятилетки, выпускавший валериановые и мятные капли, настойки йода, полыни (*wormwood*), ландыша, ромашки, нафталин (*naphthaline* [-li:n]), питьевую соду и английскую соль, бинты (*bandages*). Для такого провинциального губернского города как Минск, это было большое и значимое событие. К 1940 году численность рабочих и инженерно-технических работников достигла 300 человек. Фармпредприятие было оснащено таблеточными и разливочныеми машинами, полуавтоматами (*semi-automatic devices*) для резки и намотки (*winding*) бинтов, для измельчения и резки (*cutting very small*) растительного сырья.

Во время Великой Отечественной войны химико-фармацевтическая фабрика очень сильно пострадала и в послевоенные годы ее восстанавливали всем миром.

В 1947 году в Минске, впервые в СССР, было начато производство инсулина – препарата первой необходимости для людей, страдающих сахарным диабетом (*diabetes mellitus*). А через два года новый прорыв (*breakthrough*)! Впервые в СССР было освоено производство антибиотика пенициллина, благодаря которому было спасено большое количество человеческих жизней. Три года спустя начали выпускать еще несколько антибиотиков.

В 1959 году в Минске было освоено производство первого советского кровезаменителя (*blood substitute*), а в 1972 году было налажено производство лекарств, необходимых при проведении (*performing*) хирургических операций.

В июле 1977 года на базе завода медпрепаратов (головное предприятие) и завода эндокринных препаратов было создано Минское производственное объединение медицинских препаратов, позднее переименованное в «Белмедпрепараты».

Распад СССР в 1991 году, инфляционные процессы в экономике, отсутствие средств на закупку сырья, несвоевременная оплата за отгруженную продукцию – все эти негативные процессы значительно снизили объемы производства продукции. В 1994 году был создан Научно-фармацевтический центр (НФЦ), задачами которого являлось создание, разработка и освоение в производстве прогрессивных технологических процессов и новых лекарственных средств.

День сегодняшний

Сегодня номенклатура выпускаемой продукции включает около 350 наименований более 20 фармакотерапевтических групп. Здесь

осуществляется выпуск практически всех видов лекарственных форм: таблетки с различным покрытием (*coating*) и без него, твердые (*hard*) и мягкие желатиновые капсулы, растворы для инъекций и инфузий во флаконах и ампулах, лиофильно высушенные и стерильно расфасованные порошки для инъекций и инфузий, глазные капли, мази, кремы и гели.

Около 30 лекарственных средств производится по полному (*complete*) циклу. Внедрено в производство (*apply in industry*) более 80 препаратов, в первую очередь дженериков, которые разрабатываются по программе импортозамещения. В настоящее время в номенклатуре предприятия 10 оригинальных ЛС и 36 фармацевтических субстанций. До 33% выпускаемой продукции экспортируется в 26 стран дальнего и ближнего зарубежья. Более 90% продукции выпускается на сертифицированных в соответствии со стандартами GMP мощностях. Важное место в номенклатуре производимых препаратов занимают противоопухолевые (*anti-tumor*) средства. «Белмедпрепараты» – единственный в Беларуси производитель таких лекарств.

Продолжается работа по реконструкции, техническому перевооружению и модернизации производства. Планируется реконструировать производство противоопухолевых препаратов, чтобы привести его в соответствие с (*bring in correspondence with*) международными принципами и стандартами Надлежащей производственной практики (GMP).

Европа проявила интерес к белорусским лекарствам

РУП «Белмедпрепараты» – единственный в Беларуси производитель кровезаменителей, инсулинов, стрептокиназы, препаратов для лечения онкологических заболеваний и наркотических лекарственных средств. По этой номенклатуре предприятие занимает лидирующие позиции и в СНГ. Сегодня РУП «Белмедпрепараты» зарегистрировано в Сирии, Вьетнаме, Южной Корее и других странах как производитель готовых лекарственных форм.

Подготовлены документы для регистрации нескольких препаратов для экспорта в страны ЕС. Например, швейцарскую компанию заинтересовало лекарство, предназначенное для оказания помощи при инфарктах (*infarctions*) и инсультах (*strokes*), оно способствует разжижению (*thinning*) образовавшихся тромбов (*clots*). Сегодня в мире существует всего несколько предприятий, выпускающих подобные лекарства. Специалисты швейцарской компании провели анализ качества белорусского препарата и посчитали целесообразным продвигать данный продукт на европейский рынок.

II. *Read the newspaper article and role-play the interview.*

Белорусско-британо-российский фармацевтический завод «ЛЕКФАРМ» – современное высокотехнологическое предприятие под Логойском, где уровень производства соответствует международным требованиям, применяемым к изготовлению лекарств. ООО «Лекфарм» значительно расшил ассортимент импортозамещающих кардиологических препаратов. На предприятии также выпускаются препараты для общего обезболивания, противопростудные, и витаминно-минеральные комплексы. Предприятие интенсивно развивается путем расширения ассортимента. Запущены в производство первые белорусские метопролол («Метопролол»), лизиноприл («Лизитар-ЛФ»), бисопролол («Бикард-ЛФ»), аторвастатин («Липромак-ЛФ»). Освоен выпуск таблеток нимесулида из испанской субстанции («Нисит») и симвастатина («Симвалип-ЛФ»). Новые лекарственные средства значительно дешевле импортных аналогов. Продукция импортируется в 7 стран, наибольший объем поставляется в Россию, Молдову, Казахстан.

Интервью с директором завода "Лекфарм" Андреем Потаповичем.

Корр.: Андрей Валентинович, во времена Советского Союза все старались приобрести импортную продукцию, в том числе и лекарства – считалось, что зарубежное всегда лучше …

А.В.: А после распада СССР выяснилось, что оно еще и намного дороже!

Корр.: Так вот, изменилось ли, по-вашему, отношение к зарубежным и отечественным лекарствам у людей сейчас?

А.В.: Мне кажется, что многие стали больше обращать внимания на показатель (index) цена/качество. Ведь если раньше известные оригинальные (brand) лекарственные препараты производились в Европе и США, то сейчас для получения сверхприбыли (overprofit) многие крупные корпорации (не только фармацевтические) переносят производство своих товаров в страны Юго-Восточной Азии и Латинской Америки – уже только поэтому производство лекарств в Беларуси, поверьте, не хуже!

Корр.: Но ведь не секрет, что при СССР была в большинстве своем изношенная (out-dated) производственная база, отсутствие (lack of) нормального лекарственного сырья и культуры передового производства, что и в итоге и сложило у населения не самое лестное мнение об отечественной лекарственной продукции.

А.В.: Сейчас все изменилось. И наш «ЛЕКФАРМ», основанный в 2006 году, может быть примером удачного проведения рыночных реформ в Беларуси. Во-первых, месторасположение, экологические требования и строительные технологии, компоновка и структура завода – все это было заранее соблюдено, чтобы производить лекарства по евростандартам GMP (Good Manufacturing Practice – надлежащая производственная практика). Во-вторых, для изготовления лекарств мы закупали самое передовое

оборудование в таких странах, как США, Германия, Южная Корея, Тайвань. И, в-третьих, мы заключаем прямые контракты на поставку фармацевтических субстанций с их производителями из Германии, Швейцарии, Венгрии, а также Индии и Китая. Технологический цикл производства вбирает в себя все стадии переработки сырья, включая упаковку готовой продукции.

Корр.: Какие лекарства вы производите: дорогие или дешевые?

А.В.: Знаете, дорогие лекарства наши люди позволить себе еще не могут (can't afford), а дешевыми лечиться уже не хотят. Поэтому мы производим качественные лекарства не просто по доступной цене (affordable price), а с ценой ниже на 30-40%, чем любые, привезенные из-за рубежа аналогичные лекарственные препараты.

Корр.: Каким образом вы собираетесь поддерживать высокое качество лекарственной продукции при низкой цене – разве это рыночный подход?

А.В.: Вполне! И вот вам пример. Еще с советских времен популярно такое лекарство, как но-шпа (международное название – дротаверин). Мы же закупаем сырье для производства нашего дротаверина именно в Венгрии, где эта но-шпа и производится.

Корр.: Вы собираетесь производить только аналоги (generics) широко известных лекарств?

А.В.: Не только. В планах «ЛЕКФАРМа» – производство оригинальных лекарственных препаратов, которых еще нет у других производителей, чтобы выйти с ними на зарубежные фармацевтические рынки, но предварительно удовлетворив местный спрос (meet local demands), – это важно и происходит не всегда.

Корр.: Какие лекарственные формы производятся на «ЛЕКФАРМе»?

А.В.: Завод специализируется на нескольких основных направлениях: производство таблеток (600 млн. штук в год) и капсул (120 млн. штук в год) различных размеров и форм, а также пакеты саше (5 млн. штук в год). В настоящее время завод выпускает 71 наименование лекарственных средств: 52 твердых и 9 жидких лекарственных средств. Предприятие планирует освоить производство 40 новых препаратов для лечения заболеваний сердечно-сосудистой системы, желудочно-кишечного тракта и опорно-двигательного аппарата. А в целом «ЛЕКФАРМ» принимает участие в программе импортозамещения Беларуси по лекарствам.

Корр.: Многие медикаменты местного производства узнаваемы по очень блеклой и серенькой (non-attractive) упаковке, вы так же считаете, что она вторична (non-essential) в буквальном смысле?

А.В.: И дизайну оформления упаковок продукции мы уделяем особое внимание. В зависимости от назначения лекарства (заболевания) и сферы сбыта (рецептурное или нет) разрабатываются цветовая и структурная характеристика дизайна.

IV. *FOLLOW-UP ACTIVITY.*

I. *Agree or disagree with the following.*

1. In the UK, the British National Formulary is the core guide for pharmacists and clinicians.
2. There are now less than 200 pharmaceutical companies in the world.
3. Most of today's pharmaceutical companies were founded in the early 19th century.
4. Valium which was introduced into clinical practice in 1950s became the most prescribed drug in history.
5. The pharmaceutical industry began to expand at a greater rate in 1980s.
6. The Declaration of Helsinki was issued by the World Medical Association in 1954.
7. According to the Declaration pharmaceutical companies must prove efficacy of the tested drugs in clinical trials before marketing them.
8. The United States accounts for almost half of the global pharmaceutical market.
9. The development and approval of generics is less expensive, allowing them to be sold at a lower price.
10. Marketing of prescription drugs in the USA is regulated by the Federal Prescription Drug Marketing Act of 1987.

II. *Prove that.*

1. There are pharmaceutical institutions of different types of property.
2. Over the years, the worldwide demand for drugs has increased rapidly as more and more drugs have been developed.
3. Today, the United States heads all countries in drug production.
4. Drugs today not only benefit mankind tremendously but also present it with some of the worst problems and greatest challenges.
5. A small biotechnology company might have a new drug but no sales or marketing capabilities.
6. Pharmaceutical companies commonly spend a large amount on advertising, marketing and lobbying to influence politicians.
7. In some countries, notably in the US, pharmaceutical companies are allowed to advertise direct to the general public and physicians.

III. *Read the following questions and share your opinion with your group mates.*

1. Which medicines do you prefer to use, those manufactured in Belarus or abroad?

2. Which medicines do you prefer, those marketed long ago or newly designed with unknown long-term effects?

3. What do you know about the proportion of home-made and imported drugs?

4. What do you think about the quality of drugs manufactured in Belarus?

5. Can you name any relevant achievement(s) in pharmaceutical manufacture in Belarus?

REFERENCES

1. Английский язык. «Reader»: учеб. пособие/ Р.В. Кадушко, [и др.]; под общ. ред. Р.В. Кадушко. – Витебск: ВГМУ, 2016. – 231 с.

2. Chabner, D.E. The language of medicine/ D.E. Chabner. – 11th edition. – Saunders, 2017. – 430 p.

3. Орлова, Е.С. Английская грамматика по-новому. University Univelsal: Курс английского языка для университетов/ Е.С. Орлова. – М.: ЗАО Центрполиграф, 2003. – 479 с.

4. Англо-русский словарь синонимов. Тезаурус. – М.: Ин.язык, 2001. – 412 с.

5. Petrov, V.I. Russian-English Medical Dictionary Phrase book/ V.I. Petrov. – Медиа, 2000. – 595 с.

6. Health 96/97 / Rchard Yarian [at el]. – Dushkin Publishing Group/ Brown & Benchmark Publishers, Guilford, 1996. – 246 p.

7. Karen J. Carlson, M.D. Harvard Guide to Women's Health/ Karen J. Carlson, M.D., Stephanie A. Eisenstat, M.D., Terra Ziporyn, Ph.D. – Harvard University Press, Cambridge, Massachusetts, and London, England, 1996. – 718 p.

8. The World Book/ Rush-Presbyterian-St. Luke's Medical Center Medical Encyclopedia/ Rush Medical College, Rush-Presbyterian-St. Luke's Medical Center. – Chicago: World Book, Inc., 1995. – 1072 p.

9. George A. Wistreich. Medical Terminology in Action/ George A. Wistreich. – Wm. C. Brown Publishers, 1994. – 605 p.

CONTENTS

Учебное издание

Андреева Ирина Сергеевна.

АНГЛИЙСКИЙ ЯЗЫК

PROFESSIONAL ENGLISH

Методические рекомендации для студентов фармацевтического факультета и магистрантов

(часть I)

Методические рекомендации

Редактор Р.В. Кадушко
Технический редактор И.А. Борисов
Компьютерная верстка и дизайн М.М. Мироевская
Корректор И.С. Андреева

Подписано в печать _____. Формат бумаги 64х84 $^{1}/_{16}$.
Бумага типографская №2. Гарнитура Таймс. Усл.печ.листов _____.
Уч. -изд. л. _____. Тираж _____ экз. Заказ № _____.

Издатель и полиграфическое исполнение УО «Витебский государственный медицинский университет»
ЛП №02330/453 от 30.12.2013.
Пр-т Фрунзе, 27, 210023, Витебск