

Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation

BANK OF ASSESSMENT TOOLS FOR DISCIPLINE
INFORMATION TECHNOLOGY IN PHARMACY

Training program (specialty): 33.05.01 **PHARMACY**

Department: **DEPARTMENT OF MANAGEMENT AND ECONOMICS OF
PHARMACY AND PHARMACEUTICAL**

Technology Mode of study **FULL-TIME**

Nizhniy Novgorod
2021

1. Bank of assessment tools for the current monitoring of academic performance, mid-term assessment of students in the discipline

This Bank of Assessment Tools (BAT) for the discipline "**Information technology in pharmacy**" is an integral appendix to the working program of the discipline "**Information technology in pharmacy**". All the details of the approval submitted in the WPD for this discipline apply to this BAT.

(Banks of assessment tools allow us to evaluate the achievement of the planned results stated in the educational program.

Assessment tools are a bank of control tasks, as well as a description of forms and procedures designed to determine the quality of mastering study material by students.)

1. PASSPORT OF THE FUND OF ASSESSMENT MEANS IN THE DISCIPLINE "INFORMATION TECHNOLOGIES IN PHARMACY"

№ п/п	Контролируемые разделы (темы), модули дисциплины	Код контролируемой компетенции	Результаты обучения по дисциплине	Наименование оценочного средства	
				вид	количество
1	Information technologies in pharmacy	UK-1.2 UK – 1.3 GPK- 6.1 GPK - 6.2 GPK - 6.3 GPK - 6.4	<p>Know:</p> <ul style="list-style-type: none"> • basic theoretical provisions of pharmacy information technology; • structure of pharmacy information technology; • main characteristics of information technology; • sources of pharmacy information technology; • possibilities of using the Internet for pharmaceutical business; • problems of pharmaceutical information retrieval; • types of information technology used in pharmacy; • commercial status, versions of software products and ways of their distribution; • use of specialized databases in the work of a pharmacist; • peculiarities of using information and reference systems for medicines; • automation of accounting in pharmacy enterprises; • peculiarities of using the complex of programs "1C:Enterprise-8" for pharmacy enterprises; • peculiarities of using local networks in pharmaceutical enterprise; • information needs of pharmaceutical information user; • modern communication technologies in pharmacy activity; • peculiarities of computer security of pharmacy enterprise; • problems of pharmaceutical information storage; 	Тестовые задания	36
				Контрольные вопросы	24

		<ul style="list-style-type: none"> • modern technical means and digital technologies used in professional activity by pharmaceutical specialists at all stages of drug circulation • modern medical and pharmaceutical information systems and databases used in professional activity by pharmaceutical specialists at all stages of drug circulation; □ modern medical and pharmaceutical information systems and databases used in professional activity by pharmaceutical specialists at all stages of drug circulation <p>Be able to</p> <ul style="list-style-type: none"> • select computer hardware for an automated workstation in the pharmacy setting; • select an operating system for a specific pharmacy technician workstation; • install and uninstall software products (applications); • configure application programs at the pharmacy technician's workstation; • use the Microsoft Office Word text editor at the pharmacy technician's workplace to enter and proofread documents, customize the program, work with the clipboard; • prepare tables and graphic materials in the program "Microsoft Office Word"; • create working templates and styles in the program "Microsoft Office Word"; • work with file managers; • use electronic drug information and reference systems; • use the "ConsultantPlus" system to search for reference and legal pharmaceutical information; • use the "1C: Enterprise-8" software package to automate office management and accounting of pharmacy activities; • search for necessary information on a local personal computer (PC); • search for and evaluate pharmaceutical information on the Internet; • order goods from wholesalers using the Internet; • use professional Internet forums to exchange pharmaceutical information; • use instant messaging (Internet pagers) for constant communication with contractors; • use e-mail in practice; • solve applied problems of pharmacy practice with the help of Microsoft Office Excel spreadsheets; 		
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		<ul style="list-style-type: none"> • prepare presentations of pharmacy activities in the program "Microsoft Office Power Point"; • make an optimal choice of modern data carriers; • use antivirus programs and firewalls for complex protection of pharmaceutical information; • use archiving programs for regular backup of official pharmaceutical information; • identify information needs of drug consumers, provide information and consulting services. • apply modern technical means and digital technologies used in professional activities by pharmaceutical specialists at all stages of drug circulation • apply modern medical and pharmaceutical information systems and databases used in professional activities by pharmaceutical specialists at all stages of drug circulation <p>Possess:</p> <ul style="list-style-type: none"> • skills of using normative, reference and scientific sources of pharmaceutical information to solve professional tasks; • skills of using modern resources of information support of pharmaceutical business; • skills in identifying information needs of different consumers of pharmaceutical products; • skills of information-consulting activity when dispensing medicines and other pharmaceutical products to institutional and individual consumers; • skills of making managerial decisions based on the results of local and global search and processing of pharmaceutical information; • skills of organizing an automated workplace in the pharmacy; • skills of effective work with modern office programs; • skills of complex assessment of price competition on the example of Internet pharmacies; • skills of using reference and legal pharmaceutical information to fulfill their professional duties; • skills of automation of office management and accounting of pharmacy activities; • skills to implement effective measures to protect pharmaceutical information from 		
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		<p>various threats;</p> <ul style="list-style-type: none"> • skills of using modern technical means and digital technologies used in professional activity by pharmaceutical specialists at all stages of drug circulation • skills of using modern medical and pharmaceutical information systems and databases used in professional activities by pharmaceutical specialists at all stages of drug circulation; □ skills of using modern medical and pharmaceutical information systems and databases used in professional activities by pharmaceutical specialists at all stages of drug circulation 		
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2. ASSESSMENT TOOLS

(full list of assessment tools)

2.1 Test tasks on the discipline

Choose one correct answer:

№	Test tasks with variants of answers	Code of competence the test task is aimed at forming
1.	Any object that is simultaneously considered both as a whole and as a set of heterogeneous elements united in the interests of achieving the set goals is: A) system B) aggregate C) model D) form	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
2.	Identify the stage in the development of information systems when the purpose of using information systems was to speed up the reporting process: A) 1950-1960. B) 1970-1990. C) 1960-1970. D) 2000--- years.	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
3.	Indicate the stage in the development of information systems when the purpose of using information systems was to develop the most rational solution: A) 1950-1960. B) 1970-1990. C) 1960-1970. D) 2000--- years.	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
4.	<i>Indicate the stage of information systems development when the purpose of using information systems was to: increase the speed of document processing, simplify the procedure of invoice processing and payroll calculation:</i> A) 1950-1960 гг. B) 1970-1990 гг. B) 1960-1970 гг. Г) 2000--- гг.	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
5.	<i>Identify the stage in the development of information systems when the goal of using information systems was for a firm to survive and thrive:</i> A) 1950-1960 гг. B) 1970-1990 гг. B) 1960-1970 гг. Г) 2000--- гг.	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
6.	Organizations use (multiple choice answers) to increase productivity: A) transaction processing systems B) desktop publishing systems	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2

	C) tracking systems D) presentation graphics systems	GPC-6.3 GPC-6.4
7.	Which of the following suggested characteristics of organizations are affected by automated information systems (multiple choice answers): A) quality of customer service B) generating greater profits C) functional efficiency D) changing the basis of competition	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
8.	A person who assesses users' needs for computer use and designs information systems that meet those needs: A) programmer B) user C) system analyst D) database administrator	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
9.	Someone who uses an information system or the information it produces: A) an end user B) a data processing specialist C) administrator D) programmer	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
10.	According to the type of computing machines used, ACs are classified into (several answer choices): A) COMPUTER CENTERS B) personal C) mega-computers D) Mobile	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
11.	At the heart of an information system is a) data storage and access environment b) computer processing power c) computer network for data transmission d) methods of information processing	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
12.	Information systems are aimed at a) the end user who is not highly qualified b) programmer c) DBMS specialist d) enterprise manager	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
13.	An integral part of any information system is the following a) database b) a program created in the Delphi development environment c) the ability to transmit information via the Internet d) a program created with the help of a high-level programming language	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
14.	Currently, the most widely used database management systems are a) object-oriented b) relational c) hierarchical d) network	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
15.	The more modern database management systems are a) hierarchical b) networked c) relational	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2

	d) postrelational	GPC-6.3 GPC-6.4
16.	The traditional method of organizing information systems is a) client-client architecture b) client-server architecture c) server-server architecture d) placement of all information on one computer	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
17.	The first step in information systems design is (multiple choice) a) formal description of the subject area b) building complete and consistent models of information systems c) selection of programming language d) development of information systems interface	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
18.	To improve the efficiency of software development, the following are used a) CASE – tools b) Delphi c) C++ d) Pascal	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
19.	CASE tools are understood as (several answer options) a) software tools supporting the processes of software creation and maintenance b) high-level programming languages c) software development environments d) application programs	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
20.	An information process is. a) Storing information b) Information processing c) Transmission of information d) Actions performed on information e) Transmission of information by a source	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
24	Computer-aided design information systems are intended for what purpose? (a) To automate the functions of management personnel. (b) To automate any functions of the company and cover the entire cycle of work from design to product sales (c) To automate the functions of production personnel. (d) To automate work in the creation of new machinery or technology.	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
25	What do intelligent systems do? (a) Produce information on the basis of which a person makes a decision. (b) Input, organize, store, output information without data conversion. (c) Perform engineering calculations, create graphical documentation. d) produce information that is taken into account by a person and does not immediately turn into a series of specific actions.	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
26	What are process control information systems designed for? (a) To automate the functions of management personnel. (b) To automate the functions of production personnel. (c) To automate any functions of the company and cover the entire cycle of work from design to sales of products (d) To automate work in the creation of new equipment or technology.	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
27	<i>An airline ticketing information system is:</i>	YK-1.2

	<p>(a) <i>an open loop information system?</i></p> <p>(b) <i>A closed information system?</i></p>	<p>UC-1.2</p> <p>UC-1.3</p> <p>GPC-6.1</p> <p>GPC-6.2</p> <p>GPC-6.3</p> <p>GPC-6.4</p>
28	<p>What are corporate information systems designed for?</p> <p>(a) To automate the functions of management personnel.</p> <p>(b) To automate work in the creation of new machinery or technology.</p> <p>(c) To automate the functions of production personnel.</p> <p>(d) To automate any functions of the company and cover the entire cycle of work from design to product sales</p>	<p>UC-1.2</p> <p>UC-1.3</p> <p>GPC-6.1</p> <p>GPC-6.2</p> <p>GPC-6.3</p> <p>GPC-6.4</p>
29	<p>Select the main questions that need to be answered in advance to conduct an effective search:</p> <p>a. What is the subject of the search?</p> <p>б. How can it be found quickly?</p> <p>в. Why do the search?</p> <p>г. Which search engine to use?</p> <p>д. All of the above</p>	<p>UC-1.2</p> <p>UC-1.3</p> <p>GPC-6.1</p> <p>GPC-6.2</p> <p>GPC-6.3</p> <p>GPC-6.4</p>
30	<p>Select the quality criteria for medical resources posted on the Internet:</p> <p>a. General information about the site</p> <p>б. Quality of information</p> <p>в. Interactivity</p> <p>г. Ease of working with the site</p> <p>д. All of the above</p>	<p>UC-1.2</p> <p>UC-1.3</p> <p>GPC-6.1</p> <p>GPC-6.2</p> <p>GPC-6.3</p> <p>GPC-6.4</p>
31	<p>3. Select the information quality criteria for medical resources posted on the Internet:</p> <p>a. Careful selection of valid external hyperlinks to other resources on the Web</p> <p>Internet</p> <p>б. Predominance of information of non-advertising character</p> <p>в. Compliance of the presented information with the criteria of evidence-based medicine</p> <p>г. Absence of spelling and grammatical errors</p> <p>д. All of the above</p>	<p>UC-1.2</p> <p>UC-1.3</p> <p>GPC-6.1</p> <p>GPC-6.2</p> <p>GPC-6.3</p> <p>GPC-6.4</p>
32	<p>Select the quality criteria for the interactivity of online medical resources:</p> <p>a. Compliance with ethical standards</p> <p>б. Availability of means of commenting, suggesting, criticizing</p> <p>в. Indication of the date of the last update of the content of the site</p> <p>г. Availability of a search form</p> <p>д. All of the above</p>	<p>UC-1.2</p> <p>UC-1.3</p> <p>GPC-6.1</p> <p>GPC-6.2</p> <p>GPC-6.3</p> <p>GPC-6.4</p>
33	<p>The criterion of convenience of work with medical resources posted on the Internet is as follows</p> <p>a. Site news</p> <p>б. Regular checking of external and internal links</p> <p>в. Compliance of the information provided with evidence-based medicine criteria</p> <p>г. The purpose of the site and its characterization</p> <p>д. Absence of spelling and grammatical errors</p>	<p>UC-1.2</p> <p>UC-1.3</p> <p>GPC-6.1</p> <p>GPC-6.2</p> <p>GPC-6.3</p> <p>GPC-6.4</p>
34	<p>The operator of the algebra of logical information retrieval is</p> <p>a. AND (conjunction, complement)</p> <p>б. OR (disjunction, selection)</p> <p>в. NO (negation, exclusion)</p>	<p>UC-1.2</p> <p>UC-1.3</p> <p>GPC-6.1</p> <p>GPC-6.2</p>

	г. ~ or - (negation, exclusion) д. All of the following	GPC-6.3 GPC-6.4
35	A usability criterion for online medical resources is the availability of а. A site map б. Site news в. Search forms г. A reasonable amount of graphics д. All of the above	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
36	The usability criterion for medical resources on the Internet is а. The section "Help with working with the site" б. Funding sources в. Staffing г. Regular checking of external and internal references д. Absence of spelling and grammatical error	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4
37	An interrelated set of means, methods, and personnel used to store, process, and release information in order to accomplish an objective is: A) a search engine B) information system C) operating system D) human-machine system	UC-1.2 UC-1.3 GPC-6.1 GPC-6.2 GPC-6.3 GPC-6.4

2.2. Interview questions for the discipline "Information technologies in pharmacy" (33.05.01. Pharmacy)

1. Definition of automated information retrieval systems.
2. Functional capabilities of information retrieval systems.
3. Classification of information retrieval systems.
4. Documentary information retrieval systems.
5. Factographic information retrieval systems.
6. Creation of automated workplaces
7. Tasks of using modern information and computer technologies in research activities and practical pharmacy.
8. Functional capabilities of modern information-computer technologies in research activities.
9. Functional capabilities of modern information and computer technologies in practical pharmacy.
10. Functional possibilities of using information retrieval and reference systems in research work and practical pharmacy.
11. Types of information retrieval and reference systems in research work and practical pharmacy.
12. Algorithm of work with the software product "Support".
13. Algorithm of work with the program complex "Apteka-Ural".
14. Algorithm of work with the programs of the family "consolidated price-list".
15. Functional capabilities of programs to automate accounting operations in pharmacy organizations.
16. Algorithm of work with the program 1C: Accounting.
17. Algorithm of work with the program "Qwerty".
18. Algorithm of work with the program M-Apteka (Automation of wholesale warehouses).
19. Algorithm of work with the program Parus "Management of purchases, warehouse and realization".
20. Classification of tools for medicines care management.
21. Model of informatization of processes of medicinal care management.
22. Possibilities of forecasting the need for medicines with the help of computer modules.
23. Algorithm of work of computer modules for forecasting the need for medicines.
24. Expert systems for the management of drug assistance

4. Criteria for evaluating learning outcomes

For the credit (example)

Learning outcomes	Evaluation criteria	
	Not passed	Passed
Completeness of knowledge	The level of knowledge is below the minimum requirements. There were bad mistakes.	The level of knowledge in the volume corresponding to the training program. Minor mistakes may be made
Availability of skills	Basic skills are not demonstrated when solving standard tasks. There were bad mistakes.	Basic skills are demonstrated. Typical tasks have been solved, all tasks have been completed. Minor mistakes may be made.
Availability of skills (possession of experience)	Basic skills are not demonstrated when solving standard tasks. There were bad mistakes.	Basic skills in solving standard tasks are demonstrated. Minor mistakes may be made.
Motivation (personal attitude)	Educational activity and motivation are poorly expressed, there is no willingness to solve the tasks qualitatively	Educational activity and motivation are manifested, readiness to perform assigned tasks is demonstrated.
Characteristics of competence formation*	The competence is not fully formed. The available knowledge and skills are not enough to solve practical (professional) tasks. Repeated training is required	The competence developed meets the requirements. The available knowledge, skills and motivation are generally sufficient to solve practical (professional) tasks.
The level of competence formation*	Low	Medium/High

* - not provided for postgraduate programs

For testing:

Mark "5" (Excellent) - points (100-90%)

Mark "4" (Good) - points (89-80%)

Mark "3" (Satisfactory) - points (79-70%)

Less than 70% – Unsatisfactory – Mark "2"

Developer

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