ТHEME 3: INFORMATION FLOW AND COMMUNICATION PATTERNS IN SCIENCE

R E A D I N G

Text INFORMATION FLOW AND COMMUNICATION PATTERNS IN SCIENCE

**Знати:**

* Terminological minimum within the thematic framework: Exercises III, IV, VI, p. 3.
* English equivalents of specific words and phrases intrinsic to scientific language style: Ex. V, p. 3.
* Specific English synonyms and antonyms used in sci-tech texts: Ex. VII, p. 4.

**Вміти:**

* Read and translate the text “Information Flow and Communication Patterns in Science”.
* Answer the questions using key words and their definitions: Ex. I, p.3.
* Ask all possible questions related to the main issues of the text.

W R I T I N G (Ex. IX, p.4)

**Знати:**

* Content and vocabulary, primarily terminology of the Text.
* Have knowledge of the main steps useful for developing an abstract.
* Clichés commonly used in written abstracts.

**Вміти:**

* Analyze the content of the text.
* Be able to write an abstract of the text following the available algorithm.

I Pronounce the following words:

journal service computerize reference affiliation

review search patent framework summarize

summary aware huge monograph

II Pronounce the following word combinations:

essential characteristic indexing services information search

sources of information sources of information sufficient information

primary publication semi-systematic name

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INFORMATION FLOW AND COMMUNICATION PATTERNS IN SCIENCE

Albertus Magnus (1193-1280) in his tract “De Alhemia” placed at the head of the list the following essential characteristics for an alchemist: “he must be taciturn and circumspect, and should communicate to no one the results of his operations”. The situation has radically changed since that time. Nowadays, when new chemical reactions or theories are developed, new compounds are synthesized or discovered in nature, the information is immediately made public in scientific journals and patents. It is characteristic of other branches of science as well. A scientist works within the broad framework of information flow. He obtains much information during face-to-face conversations, by correspondence, at meetings, conferences, etc. Primary journals, patents, review journals books, abstracting and indexing services are significant sources of information. The well-informed scientist is also aware of new computerized services.

Presenting results at professional societies and meetings, writing articles for possible publications, abstracting and indexing published papers, summarizing and evaluating review articles and monographs, one enters the domain of information exchange.

The amount of literature available in primary journals is really huge, that is why secondary sources of information are very important and helpful in conducting effective information search.

*Scientific abstracts* is the most important key to finding original primary journal article. It gives a researcher sufficient information so that he could decide whether or not he wants to consult the original article. Abstracts give a very brief description of the original article, name of the journal, its volume, number and pages, author’s name and affiliation, the language of publication.

With the increasing advance of computer and information technologies, numerous research papers have been published online as well as offline, and as new research fields have been continuingly created, users have a lot of trouble in finding and categorizing their interesting research papers. In order to overcome the limitations, new research paper classification systems have been developed to cluster research papers into the meaningful class in which papers are very likely to have similar subjects.

I Answer the following questions to check your understanding of the text:

1. What characteristics did Albertus Magnus attribute to an alchemist? 2. What are the ways of obtaining information in science nowadays? 3. What kind of information do primary journals publish? 4. Why are secondary publications so important in conducting effective information search? 5. What journal is the most important key to primary literature in chemistry, geology, geography, ecology and other sciences? 6. What kind of information can be found in *Scientific Abstracts* (*Geological Abstracts, Social Science Abstracts, Humanities Abstracts, Hard Science Abstracts, Service Project Abstracts, etc.*)

IIWrite a list of keywords used in the text.

III Match the terms of Column A with the definitions of column B:

 **A B**

PrimaryMembership, place of work

Secondary First in time or order, original

Summary Looking through order to find something

Search Item or note entered in a list, journal, etc.

Affiliation Second in order, importance; derived

Index Brief statement covering the main points

Entry Alphabetical list of names, subjects, etc.

 IV Arrange the following words according to the area of their application:

Novel, article, sketch, essay, monograph, poster, interview, story, review, book, publication, communication, textbook, manual, reference-book, report, thesis, abstract, précis, dissertation.

V Find English equivalents of the following Ukrainian word combinations:

Інформаційний пошук, інформаційний обмін, короткий опис, система позначень, первинні публікації, реферативна література, оглядова стаття, коротке повідомлення.

VI Choose the word that best keeps the meaning of the original sentence.

1. The researcher should *be aware* of the broad framework of information flow within which

 he or she works.

 a) know

 b) understand

 c) assign

2. Primary journals, patents, review journals and books are *significant* sources of information.

 a) rich

 b) important

 c) sufficient

3. Scientists often informally exchange results with colleagues at *face-to-face* meetings, by

 phone calls, video calls or email correspondence.

 a) public

 b) personal

 c) official

4. Informal *networks* of this type are called “invisible colleges”.

 a) contacts

 b) communications

 c) systems

 VII Use your dictionary to find synonyms and antonyms to the words given in the table.

**Word Synonyms Antonyms**

Essential

Well-informed

Trivial

Huge

Alike

Original

Primary

Brief

VIII Translate the following sentences. Be sure that you know the meanings of the following

 words:

**like** – схожий, подібний

**alike** – схожий

**liken** – порівнювати, уподібнювати

**unlike** – на відміну

**likely** – можливо (is likely to …)

**unlikely** – малоймовірно (is unlikely to …)

1. *Like* charges repel and unlike charges attract each other. 2. Copper *like* all other metals is a good conductor of electricity. 3. Oxygen, *unlike* nitrogen, is highly reactive. 4. In structure these molecules are much *alike*. 5. The structure of these esters can be *likened* to the shape of a crown. 6. Bioactive compounds are *likely* to be used in drug manufacturing. 7. This new alloy is *unlikely* to be very expensive.

IX Fill in gaps with the words in the box:

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| --- |
| ▪research ▪consuming ▪classified ▪access ▪the Internet ▪grouped ▪subject ▪information ▪offline ▪users |

Numerous … papers have been published online as well as … with the increasing advance of computer and … technologies, which makes it difficult for … to search and categorize their interesting research papers for a specific … . Therefore, it is desired that these huge numbers of research papers are systematically … with similar subjects so that users can find their interesting research papers easily and conveniently. Typically, finding research papers on specific topics or subjects is time … activity. For example, researchers are usually spending a long time on … … to find their interesting papers and are bored because the information they are looking for is not retrieved efficiently due to the fact that the papers are not … in their topics or subjects for easy and fast … .