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*The elaboration of a technical lexicon of  
Pilipino 248 pp.*

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Summary, conclusions, recommendations 119



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## CHAPTER 6

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### 6.0 Summary

The different lexical elaboration possibilities assumed in this study, aside from getting the exact or near equivalent of the English term from CT, are: (1) borrowing via Spanish, direct from English, and from Philippine vernaculars, (2) coining, and (3) retrieval or revival of old, archaic indigenous words, especially Tagalog.

This study sought to find out how the intended users of Pilipino would react to these different possibilities in the development of a scientific lexicon for the language.

In order to achieve this aim, a survey of preferences for the different lexical elaboration possibilities was conducted in the fields of medicine, biology, chemistry, physics, and mathematics, involving 100 college students, 100 college professors, and 100 practitioners, or a total of 300 respondents. These respondents were classified into two linguistic groups -- Tagalogs and non-Tagalogs.

Two sets of questionnaires (one in English and the other in Pilipino) were used for each of the five disciplines or fields surveyed. Each set of questionnaires contained 20 technical terms in each discipline, thus making a total of 100 terms.

#### 6.1 Findings and Conclusions

Analysis of the questionnaire data brought forth certain findings from which conclusions can be drawn as given below.

6.1.1 The use of Current Tagalog words was the principal means favored by the respondents. This suggests that in the elaboration of a Pilipino scientific lexicon, the terms needed may be drawn primarily from Current Tagalog indigenous terms. The other sources are to be resorted to only if there are no available Current Tagalog terms. This conclusion may appear to be platitudinous and redundant because Pilipino, being Tagalog-based, should naturally draw words from its base, and therefore, Current Tagalog should not be included as one of the possible sources for the elaboration procedure. In the Philippine context, however, a statement of this kind holds significance, especially if one considers that a limit to, say, borrowing English words and phrases cannot be definitely fixed, and that borrowing can grow to such proportions as may threaten to overwhelm and eventually de-stabilize Pilipino as a distinct language.

At this point, one realizes the wisdom behind the 'authentication' efforts of the Filipinos' forebears as manifested in their early grammar books and edicts.

6.1.2 Respelled Spanish terms (S-2) came out to be the most preferred forms in borrowing. This means that terms being borrowed direct from English may be assimilated into Pilipino via corresponding Spanish (or Spanish-sounding) words perhaps because it is relatively easier to borrow words from a language that uses an equally consistent orthography than from one that has an inconsistent spelling system.

6.1.3 Borrowing of English terms with no change in spelling (E-1) showed a sudden rise in the ranks (being a close second to S-2) as compared to its very unpopular status in the PNC, Rivero-Labigan, and Sumayo studies. It is to be pointed out, however, that the terms used in this study were comparatively more technical than those used in the other surveys. This seems to lead to the conclusion that one's preference for E-1 terms may tend to be stronger as one goes into more sophisticated or highly intellectualized fields of knowledge.

It has to be made clear, however, that the data in the present study show a rise in percentage of popularity of E-1 terms ONLY in the sphere of the technical lexicon of Pilipino. They do not show whether E-1 terms will rank as high in the elaboration of its nontechnical lexicon since that is not within the scope of this study. At any rate, the conclusion that can be made at this point is that there is a greater preference for borrowing English terms without respelling than for borrowing them in their respelled forms; this would make the entry of 'foreign' letters into the Abakada inevitable, such that consistency in the spelling system of Pilipino would no longer be strictly observed. This confirms what Gleason (1961:422) says, that 'conformity to some other writing system, even at the expense of one-to-one relationship (between the phoneme and the symbol), may sometimes be desirable, especially in areas where bilingualism is common'.

Furthermore, the apparent rise in popularity of E-1 terms may also be attributed to the fact that English continues to occupy a premier status in Philippine life while Spanish is slowly on its way out. Continued visual exposure to English terms conditions the schooled Filipino to favor the orthographic representation of words in that language. And because the English spelling system is inconsistent, words from that language, especially those highly inconsistent ones, are usually borrowed into Pilipino with no change in spelling. By virtue of that visual conditioning to English terms, respelling of borrowed English words to conform to the Abakada usually results in unusual if not grotesque forms that are not favored because the original words are no longer transparent from the respelled words; apparently aesthetic considerations exert an influence in the matter of choice. This explains why the respelled forms (S-2) are preferred when the borrowing is from Spanish while the forms with no change in spelling (E-1) are preferred when the borrowing is from English.

6.1.4 The lexical elaboration possibilities that can be categorized among the 'least preferred' are: (a) borrowing from Spanish with no spelling alteration, (b) borrowing from English with spelling alteration, (c) coining, (d) retrieval of archaic indigenous words, and (e) borrowing from the Philippine vernaculars.

Borrowing from Spanish with no spelling alteration (S-1) and borrowing from English with spelling alteration (E-2) as among the 'least preferred' possibilities are predictable since their counterparts, Spanish with spelling alteration (S-2) and English with no spelling alteration (E-1), rank among the 'most preferred' possibilities.

It should be made clear at this point, however, that so far as pronunciation is concerned, S-1 and E-2 were not rejected by the respondents. In fact, had the survey been oral instead of written, there would have been no way of distinguishing S-1 from S-2 and E-1 from E-2. What was rejected in S-1 and E-2, therefore, was the spelling and not the pronunciation.

The terms used to represent lexical elaboration possibilities (c), (d), and (e) are mainly M terms because, except for a very few, they were taken from the Magnayin book.

In general, it may be said that the Lupon's coined and retrieved archaic terms, as well as other terms taken from the Philippine vernaculars, show very little promise of ever attaining currency in Pilipino. Coining, revival of 'dead' words, and the arbitrary manner of getting words from the vernaculars, with disregard of already assimilated loan words, partake of the nature of language purism, itself an attitude which is not unnatural to any society that has long been dominated by a foreign power. For, essentially, a puristic attitude in language is merely one manifestation of freedom-hungry minds trying to 'authenticate' a language which they can call their own. To be sure, coining and the other 'puristic' techniques are legitimate modes of growth of any living language; nonetheless they should be applied with utmost restraint in Philippine context. Massive or indiscriminate adoption of coined, archaic, and vernacular terms may yet result in a waste of precious time and effort which otherwise could be channeled to more enhancing phases of language development.

The Philippines can possibly benefit from the experience of Malaysia in its efforts to intellectualize Bahasa Malaysia. During the fifties and sixties, when awareness for indigenous terms as against terms with signs of foreign markedness or 'unMalayness' was most prominently projected by the language planners and scholars, the Dewan Bahasa dan Pustaka, Malaysia's highest authority on language, adopted and published coined technical neologisms in massive quantities. Despite all these labors, only a small percentage of the terms ever entered the technical language currency, notwithstanding the government's official sanction (Asmah 1974:225-8).

6.1.5 Euphemism is still an important mode of language behavior in Filipino culture, especially on matters pertaining to sex. It will perhaps take some time before the taboo terms get into the medical lexicon as this would mean abrupt, radical changes in the present kind of culture that prevails among the Filipinos. But it is very likely that the time will come, as Pilipino gets intellectualized, when euphemisms will be reduced to a bare minimum, considering that 'precision' or explicitness of statement is one characteristic of an intellectualized language.

6.1.6 On the whole, the Maugnayin terms that gained acceptability were those that are current and recognizably indigenous to Tagalog, such as palamulaan (rootword mula; preferred over E-1 genealogy or S-2 henealohiya), binutil (rootword butil; preferred over E-1 granule or S-2 granilyo), pampamuo (rootword buo; preferred over E-1 coagulant or S-2 koagulante), among others.

Unusual or unfamiliar Maugnayin terms can also gain popularity under certain conditions; e.g., if terms fill a need in the language because of aversion to taboo words in sex, and also, if terms taken from other sources prove to be less 'attractive' or not aesthetically pleasing for adoption. In fact, the data strongly show that coining, if creatively and discreetly handled, can be very useful in this particular segment of language development. Perhaps coining can come in where euphemism fails. This is proven in respect to the term punlay coined by the Lupon.

Some M terms that show promise of eventually being accepted, to mention a few, are kaluban 'vagina', sihay 'cell', binhay 'germ', and kasanyuan 'isomorphism'. Most of the Lupon's coinages, however, will most likely be ultimately associated with the unpopular, not to say ridiculed, terms salipawpaw and salumpuwit.

6.1.7 Finally, the preference of the different types of respondents in each of the following groupings showed identical patterns: Group 1 - students, professors, and practitioners; Group 2 - medicine, biology, chemistry, physics, and mathematics; Group 3 - Tagalog and non-Tagalog. The only seeming deviation observed was the students' and the non-Tagalogs' tendency to favor the E-1 terms slightly more than the professors and the practitioners and the Tagalogs did; but such tendency is statistically nonsignificant.

The following chart which summarizes the rankings of the respondents according to the three types of grouping clearly shows this pattern (where the 'most preferred' option-types were assigned a weight of 1 and the 'least preferred' ones a weight of 5):

Groups	Option-Types				
	E-1	E-2	S-1	S-2	M
1. Stud, Prof, Prac	2	4	5	1	3
2. Bio, Che, Phy, Mat	2	4	5	1	3
3. Tag, NTg	2	4	5	1	3
Weight Total	6	12	15	3	9
Rank	2	4	5	1	3

The conclusion that may be derived from the above data is that a Pilipino scientific lexicon may be developed and expanded by generally observing the following possibilities, arranged in their order of acceptability: S-2 (respelled Spanish equivalent of the English term being borrowed), E-1 (English term without spelling alteration), M (Maugnayin way characterized by borrowing from the vernaculars, coining or deriving, and retrieval of archaic Tagalog words), E-2 (English term respelled to conform to the Abakada), and S-1 (Spanish term without spelling alteration).

Over and above all these possibilities, of course, is the most logical, appropriate, and accepted practice of using the Tagalog equivalent, if there is any, for the term being borrowed.

Based on the data, one general enrichment procedure can possibly be formulated such that the technical terms that will be adopted as a result of its application will most probably be acceptable to all the different sectors of intended users.

## 6.2 Recommendations

Two kinds of recommendations are presented in this section. The first is a proposed procedure in the development of a Pilipino scientific lexicon. The second is a set of suggestions for further study.

6.2.1 The following are the recommended lexical elaboration guidelines for Pilipino, especially as regards scientific terminologies, arranged in their order of priority:

6.2.1.1 Faced with an English technical term, use the equivalent term, if available, from Current Tagalog. Examples: recrudescence = binat; apoplexy = himatay; osteopathy = sakit (sa) butó.

6.2.1.2 If no Tagalog term is available, determine the Spanish equivalent of the English term and respell it to conform to the Abakada. Examples: microbe --> microbio = mikrobyo; carbide --> carburo = karburo; voltage --> voltaje = boltahe.

6.2.1.3 If neither of subsections 6.2.1.1 and 6.2.1.2 is feasible, adopt the English term. Here the borrower has two alternatives. First, borrow the English term as is, without spelling alteration. Examples: finite --> finite; radioisotope --> radioisotope. Second, borrow the English term and respell it to conform to the Abakada. Examples: axiom = aksyom; mathematician = matematisyan.

The first alternative is resorted to if the borrower believes that easy communication will be achieved, thus promoting dynamism in the language. The borrower, however, should be cautioned that this may lead to the loss of consistency in the spelling system of Pilipino, thus giving way to a 'creolized Pilipino'. Still, the possibility is not discounted that later generations will consider 'creolized Pilipino' as their own indigenous language, hence, to them it will be 'authentic'.

The second alternative is resorted to if the borrower wishes to preserve the consistency of the spelling system of Pilipino, although strict adherence to this alternative may lead to the loss of dynamism in the language, especially if the original form of the English term is no longer transparent from the resulting form.

6.2.1.4 If none of the preceding procedures is workable, any of the following, whichever is adaptable, may be resorted to:

6.2.1.4.1 Borrow from any of the vernaculars, preferably from the major ones;

6.2.1.4.2 Coin; or

6.2.1.4.3 Retrieve archaic Tagalog words.

Where coining is resorted to, acceptability of the coined term may be improved by observing the following: (1) at least one of the constituents must be a full Pilipino word base whose meaning matches that of the English term; the other constituent(s) must give an immediate clue to the meaning that is sought to be conveyed. Examples: gynecology = dalubsakit-babae; triangle = tatsulok; (2) euphony; i.e., if number (1) is not observed, the coined term should carry a combination of pleasing sounds or be visually aesthetic, suggestive of the intended meaning. Example: sperm = punlay; metamorphosis = banyuhay.

Subjectivity is admittedly very evident in the above guidelines. For example, who is to judge whether pagpaplano ng pamilya is more popular than pagbabalak-angan; whether a respelled borrowed term, reydyoaysotop, for instance, is unusual or not; whether a coined term, punlay, for instance, is euphonic or not? Only a survey can more or less accurately tell which is which. But subjectivity notwithstanding, this researcher honestly believes that a set of lexical elaboration guidelines of this sort

has to be formulated or derived out of the questionnaire data for the following reasons:

(1) The survey technique is a tedious process, too impractical and uneconomical to be always resorted to merely to ascertain which are the most preferred terms, which are not unusual, or which are considered euphonious;

(2) A person who engages in the task of lexical elaboration is expected to have had enough exposure to the language to be able to make a reasonable approximation as to which terms are current or popular and which are not, whether a certain form is visually aesthetic or unusual, or whether a coined term is euphonious or not.

Regarding 'euphony' which is admittedly an elusive term, it is likely that a certain coinage may sound euphonious to a person who has the 'feel' of the nuances of Pilipino and its base, Tagalog, but the same term may not be euphonious to another person who is a non-native speaker of Tagalog and knows very little of the language because euphony to him is conditioned by his own vernacular;

(3) A person who uses the above guidelines may err in his judgment as to which of the available terms is more popular, but he will not take or adopt the current unpopular step of deliberately coining or reviving 'dead' words and disregarding the more acceptable Tagalog or borrowed Spanish or English terms. This is so because he is made ever aware of the order of priority of the sources of lexical elaboration possibilities which can further be simplified into a kind of formula as follows:

	<u>Source 1</u>	>	<u>Source 2</u>	>	<u>Source 3</u>
Eng --> Tech Term	Current Tag		Spa (+respelled)  Eng (±respelled)		<div style="display: inline-block; vertical-align: middle;"> <span style="font-size: 2em;">{</span> <div style="display: inline-block; vertical-align: middle; text-align: center;">                     Ver  Coined  Arch                 </div> <span style="font-size: 2em;">}</span> </div>

As mentioned in Chapter 1, the term 'Current Tagalog' in the present study carries a rather restricted meaning as it refers only to words which are inherently indigenous. Spanish and English words, whether or not they are already part of the Tagalog language currency, have been given separate labels for the purposes of this study. The term medisina, for example, is actually part of the Current Tagalog lexicon but it nevertheless had to be classified as Spanish respelled (S-2) to distinguish it from the indigenous Tagalog term panggagamot.

Current Tagalog is assigned as the first source for lexical elaboration not simply because it is first in the overall preference ranking, but also because Tagalog, as the basis of Pilipino, should logically and legitimately be the principal source of needed technical vocabulary.

In 'Source 2', Spanish is written above English to indicate that where it is equally feasible to borrow from Spanish and from English, the Spanish term may be given priority. If a choice presents itself, for example, between chemist and kimiko, the latter word may be given preference.

The '+respelled' enclosed in parentheses immediately after 'Spa' means that all borrowed Spanish terms shall be respelled to conform to the Abakada. On the other hand, the '+respelled' written after 'Eng' means that English terms may be borrowed with or without spelling alterations. The borrower may respell the borrowed technical term to conform to the Abakada, especially if the original form will still be transparent in the resulting form.

The brackets in 'Source 3' indicate that any of the three enclosed sources may be chosen, depending on which is comparatively more adaptable.

The arrowhead sign ( > ) may be read 'If not feasible, go to next Source'.

Finally, the Philippine vernaculars as possible sources of terms have had to be shunted to 'Source 3' in spite of the provision in C. A. 184 to 'use as a source principally the Philippine tongues' and the provision in the 1973 Constitution regarding the 'development and formal adoption of a common national language to be known as Filipino' because that position is what the questionnaire data indicate, notwithstanding the fact that half of the respondents were non-Tagalogs. Perhaps the above-mentioned statutory and Constitutional provisions may be applicable in a situation where a foreign language, especially that of a former colonial master, does not occupy a premier status in the country. Furthermore, it is perhaps in the enrichment of the nontechnical vocabulary of Pilipino that words from the Philippine vernaculars can naturally come in. For a look at the language of advanced countries shows that the lexicon for ordinary discourse of communication, whether oral or written, is vastly different from the lexicon for technical or scientific information - denigratingly called jargon - which is dictated by new discoveries, new processes, new creations.

6.2.2 The following are some suggestions for further studies to be made:

Fishman (1974:23) points out that the area of concentration in the present popular awareness on language planning is now in conjunction with lexical elaboration as evidenced by studies conducted or being conducted by language academies or other official and semi-official agencies. Language planning bodies have already gone past the stages of creation, selection, and/or revision of writing systems and the 'codification of langue models'.

However, as is true in other aspects of language planning research, Fishman observes that process oriented and theoretically guided research, particularly as related to the differential success of planned neologisms among various target populations, is almost entirely lacking. The present study is admittedly a very modest beginning of the kind that Fishman

suggests. However, it may serve as a springboard for future studies, such as the following:

6.2.2.1 A study that will probe into the reasons why the various target populations accept or reject certain neologisms. Note that the present study merely ascertained which lexical forms are preferred and which are not. The reasons for 'liking' or 'not liking' were merely inferred from the questionnaire data.

One possible reaction that may perhaps be anticipated is 'foreign markedness' of the 'rejected' terms and 'indigenouslyness' of the 'accepted' ones, or the reverse.

The result of such a study would undoubtedly be of immense value to language planners and scholars who are engaged particularly in lexical elaboration.

6.2.2.2 A study that will accept or reject the hypothesis that some English terms accepted orally are rejected in written form; that there is presently evolving a brand of Oral Pilipino which is lexically different from its written form. It has always been generally accepted that the written form of a language is but a representation of its oral form. However, in the case of Pilipino, it seems that there will be some 'lexical replacements' by the speaker himself the moment his oral speech is shown to him in written form.

Such a study would make some language scholars realize that what they have been describing all along and claiming to be THE Pilipino language is only the oral aspect of it.

6.2.2.3 A study that will focus on the formatives (affixes and combining forms) of English technical terms to find out if there is a trend, or possibly a pattern, in the process of assimilating them into Pilipino. This aspect of borrowing has already been informally initiated in this study, focusing only on some terminal formatives. There appears to be a need to formally conduct a study on this aspect of language development to facilitate the intellectualization of Pilipino.

It is common knowledge that the English scientific lexicon is heavily interlarded with borrowings from Greek and Latin. Reyes (1977:6), in fact, posits that about 'three-fourths' of its scientific terminology is of Greek and Latin derivation. This phenomenon is understandable because of the genetic relationship of American English with Indo-European languages, the influence of the more progressive countries of Europe upon America during the early times, and the emphasis, until lately, on classical studies in Greek and Latin in American schools.

And since science and technology in the Philippines have their moorings on science and technology from the United States, it seems likewise natural for the Filipinos to resort to massive borrowings from English in the development of a Pilipino scientific lexicon. In this process of borrowing, the terminologies that were borrowed by English from

Greek and Latin for use as scientific terms are in turn being loaned to Pilipino.

If the Greek and Latin formatives underwent phonological changes, as any English dictionary will show, to conform to the English phonological system, it is also reasonable to assume that this phenomenon will occur when the same formatives are in turn loaned to Pilipino.

Identification of the trend or pattern that occurs in the borrowing of English formatives may yet lead to their standardization — a result which may prove to be a prolific source in the hands of the linguistically creative Filipinos.

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# STUDIES IN PHILIPPINE LINGUISTICS

Volume 5 Number 2 1984

*The elaboration of a technical lexicon of  
Pilipino 248 pp.*

by Alfonso O. Santiago; Fe T. Otones, series ed.

Appendix A Questionnaires 136



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APPENDIX A - QUESTIONNAIRES

Name \_\_\_\_\_ Date \_\_\_\_\_  
(Optional)

Permanent Address \_\_\_\_\_

Degree(s) Obtained \_\_\_\_\_

Present Position \_\_\_\_\_

Place of Work \_\_\_\_\_

Predominant Language Used In the Home \_\_\_\_\_

First Language Learned \_\_\_\_\_

Other Languages Spoken Other than Your First Language and  
English (Local & Foreign) \_\_\_\_\_

Language(s) Understood (Reading Ability Only) \_\_\_\_\_

Age (Check Appropriate Blank):

Below 30 \_\_\_; 30-39 \_\_\_; 40-49 \_\_\_; 50-59 \_\_\_; 60 or  
above \_\_\_

Dear Sir/Madam:

We know you are a very busy person, you being a profes-  
sional. Our very urgent need, however, has forced us to seek  
your help.

We are conducting a study on how we can enrich the  
technical lexicon of Pilipino for purposes of its intellectual-  
ization. Below are some representative terms which we picked  
out from the many terminology in your area of specialization.

Kindly encircle the letter of the term which you think  
should be the most appropriate form to be used. Please choose  
only one. In case you prefer another form which is not included  
in the options, kindly write it down on the appropriate blank.

We assure you that your reaction to this questionnaire  
will help us a great deal in our research.

THANK YOU,

- MEDICINE
- BIOLOGY
- CHEMISTRY
- PHYSICS
- MATHEMATICS

Alfonso O. Santiago  
Graduate School  
Philippine Normal College

Name (Optional) \_\_\_\_\_ Date \_\_\_\_\_

Permanent Address \_\_\_\_\_

Course or Degree Being Pursued \_\_\_\_\_

Year (First, Second, Third, Fourth, etc.) \_\_\_\_\_

School \_\_\_\_\_

Predominant Language Used In the Home \_\_\_\_\_

Other Languages Spoken Other Than Your First Language and  
English (Local & Foreign) \_\_\_\_\_

Language(s) Understood (Reading Ability Only) \_\_\_\_\_

First Language Learned \_\_\_\_\_

Age (Check Appropriate Blank):

Below 20 \_\_\_\_\_; 20 - 29 \_\_\_\_\_; 30 - 39 \_\_\_\_\_; 40 - above \_\_\_\_\_  
-----

Dear Student:

We know you are a very busy person, you being a student. Our very urgent need, however, has forced us to seek your help.

We are conducting a study on how we can enrich the technical lexicon of Pilipino for purposes of its intellectualization. Below are some representative terms which we picked out from the many terminology in your area of specialization.

Kindly choose the term which you think should be the most appropriate form to be used. Please choose only one for each number. In case you prefer another form which is not included in the options, kindly write it down on the appropriate blank.

We assure you that your reaction to this questionnaire will help us a great deal in our research.

THANK YOU,

MEDICINE  
 BIOLOGY  
 CHEMISTRY  
 PHYSICS  
 MATHEMATICS

Alfonso O. Santiago  
 Graduate School  
 Philippine Normal College

QUESTIONNAIRE # 1-A (MEDICINE)

Directions: Please encircle the letter of the word you prefer. In case you prefer another form which is not included among the options, kindly write it down on the appropriate blank.

1. medicine - the science and art of diagnosing, treating, curing, and preventing diseases.

- |             |                |
|-------------|----------------|
| a. medicine | d. medisina    |
| b. medisín  | e. panggagamot |
| c. medicina | f. _____       |

2. gynecologist - a specialist in female diseases.

- |                   |                     |
|-------------------|---------------------|
| a. gaynekolodyist | d. dalubsakit-babae |
| b. ginecologo     | e. gynecologist     |
| c. hinekologo     | f. _____            |

3. surgeon - a medical specialist performing surgery.

- |             |               |
|-------------|---------------|
| a. cirujano | d. maninistis |
| b. siruhano | e. sardyon    |
| c. surgeon  | f. _____      |

4. hysterectomy - surgical removal of whole or part of the womb.

- |                    |                  |
|--------------------|------------------|
| a. isterektomya    | d. histerektomi  |
| b. hysterectomy    | e. histerectomia |
| c. alis-bahay-bata | f. _____         |

5. appendicitis - inflammation of the vermiform appendix.

- |                  |                 |
|------------------|-----------------|
| a. maga-apendiks | d. apendisaytis |
| b. apendisitis   | e. appendicitis |
| c. appendicitis  | f. _____        |

6. etiology - study of the causes of diseases.

- |              |               |
|--------------|---------------|
| a. etiology  | d. mula-sakit |
| b. etyolodyi | e. etyolohiya |
| c. etiologia | f. _____      |

7. recrudescence - reappearance of symptoms of a disease.

- |                   |                  |
|-------------------|------------------|
| a. rekrudesens    | d. rekrudesensya |
| b. recrudescencia | e. recrudescence |
| c. binatang       | f. _____         |

8. apoplexy - sudden loss of consciousness due to hemorrhage into brain or spinal cord.
- |              |               |
|--------------|---------------|
| a. apoplexy  | d. apoplehiya |
| b. apopleksi | e. himatay    |
| c. apoplejia | f. _____      |
9. cerebral hemorrhage - heavy bleeding in the brain due to a vein rupture.
- |                        |                        |
|------------------------|------------------------|
| a. emorahiya serebral  | d. hemorragia cerebral |
| b. cerebral hemorrhage | e. pagdugo-utak        |
| c. serebral hemoreds   | f. _____               |
10. cardiograph - apparatus for making a graph of heart cycle.
- |                   |                |
|-------------------|----------------|
| a. larawan-pintig | d. kardyograpo |
| b. kardyograp     | e. cardiograph |
| c. cardiografo    | f. _____       |
11. antipyretic - anything that reduces fever.
- |                 |                 |
|-----------------|-----------------|
| a. antipyretic  | d. antipiretico |
| b. antipayretik | e. antipiretiko |
| c. laban-lagnat | f. _____        |
12. paratyphoid - similar to typhoid.
- |                 |                  |
|-----------------|------------------|
| a. parataypoyd  | d. paratipoydiya |
| b. mala-tipus   | e. paratyphoid   |
| c. paratifoidea | f. _____         |
13. cephalalgia - headache.
- |                |                   |
|----------------|-------------------|
| a. cefalalgia  | d. sepalaldya     |
| b. sepalalhiya | e. sakit (ng) ulo |
| c. cephalalgia | f. _____          |
14. osteopathy - any bone disease.
- |                 |               |
|-----------------|---------------|
| a. osteyopatiya | d. osteyopati |
| b. osteopathy   | e. osteopatia |
| c. sakit-butô   | f. _____      |
15. family planning - the regulation, by birth control methods, of the number of children that a woman will have.
- |                      |                             |
|----------------------|-----------------------------|
| a. pagbabalak-angkan | d. planificacion de familia |
| b. family planning   | e. planipikasyon de pamilya |
| c. pamily planing    | f. _____                    |

16. contraceptive - a devise used to prevent fertilization of the human ovum.

- |                  |                             |
|------------------|-----------------------------|
| a. contraceptive | d. kontraseptibo            |
| b. kontraseptib  | e. pangontra sa pagbubuntis |
| c. contraceptivo | f. _____                    |

17. penis - the male organ of sexual intercourse.

- |          |             |
|----------|-------------|
| a. penis | d. titi     |
| b. pene  | e. kabahagi |
| c. tunod | f. _____    |

18. sperm - the male generative fluid; semen.

- |            |           |
|------------|-----------|
| a. esperma | d. sperm  |
| b. punlay  | e. isperm |
| c. tamod   | f. _____  |

19. vagina - the canal leading from the vulva to the uterus.

- |             |           |
|-------------|-----------|
| a. vagina   | d. bahina |
| b. kaluban  | e. butas  |
| c. badyayna | f. _____  |
|             | g. kiki   |

20. vasectomy - the surgical removal of all or part of the vas deferens.

- |                |               |
|----------------|---------------|
| a. pagpapatali | d. vasectomia |
| b. vasectomy   | e. basektomya |
| c. basektomi   | f. _____      |

\* \* \* \*

## QUESTIONNAIRE # 1-B (MEDICINE)

Directions: Please underline your preference. In case you prefer another form which is not included among the options, kindly write it down on the appropriate blank.

1. Ang (MEDICINE, MEDISIN, MEDICINA, MEDISINA, PANGGAGAMOT, \_\_\_\_\_) ay isang sangay ng karunungan hinggil sa pagsusuri, pagbibigay-lunas, pagpapagaling o pagpigil sa maaaring dumating na sakit o karamdaman upang mapangalagaan ang kalusugan ng tao.
2. Ang panlahat na tawag sa isang taong lisensyado upang manggamot ay doktor o manggagamot. Ang isang doktor na nagpakadalubhasa sa sakit ng mga babae ay tinatawag na (GAYNEKOLOGYIST, GINECOLOGO, HINEKOLOGO, DALUBSAKIT-BABAE, GYNECOLOGIST, \_\_\_\_\_).
3. Ang mga doktor naman na nagpakadalubhasa sa pag-opera o pagtistis ay tinatawag na (CIRUJANO, SIRUHANÓ, SURGEON, MANINISTIS, SARDYON, \_\_\_\_\_).
4. Ang isang halimbawa ng operasyon o pagtistis ay ang pag-aalis ng bahay-bata ng isang babae. Ang operasyong ito ay tinatawag na (ISTEREKTOMYA, HYSTERECTOMY, ALIS-BAHAY-BATA, HISTEREKTOMI, HISTEREKTOMIA, \_\_\_\_\_).
5. Ang isa pang halimbawa ng operasyon ay ang pag-aalis ng namamagang 'appendix.' Ang pamamaga ng 'appendix' ay tinatawag na (MAGA-APENDIKS, APENDISITIS, APPENDICITIS, APENDISAYTIS, APENDICITIS, \_\_\_\_\_).
6. Maingat ang doktor sa pagsusuri sa maysakit. Inaalam niya, halimbawa, kung ano ang sanhi/pinagmulan o (ETIOLOGY, ETYOLOGYI, ETIOLOGIA, MULA-SAKIT, ETYOLOHIYA, \_\_\_\_\_) ng karamdaman ng maysakit bago niya ito simulang gamutin.
7. Ang muling paglitaw ng sintomas ng isang sakit na tinatawag na (REKRUDESENS, RECRUDESCENCIA, BINAT, REKRUDESENSYA, RECRUDESCENCE, \_\_\_\_\_) ay nakatutulong din sa pag-alam ng doktor sa sakit ng isang tao.
8. Sari-sari ang nagiging sakit ng tao. May taong bigla na lamang mawawalan ng malay at mangingisay. Marami ang dahilan ng pagkawala ng malay ng isang tao. Kung minsan, ito ay dahil sa may bara o nahaharangan ang isang ugat sa kanyang utak, kaya't hindi makadaloy nang maayos ang dugo. Ang ganitong pagkawala ng malay ay tinatawag na (APOPLEJIA, APOPLEHIYA, APOPLEXY, APOPLEKSI, HIMATAY, \_\_\_\_\_).
9. Kung minsan naman ay hindi lamang nahaharangan kundi nalalagot o sumasabog ang ugat na siyang nagiging sanhi ng pagkalat ng dugo sa utak. Ang pangyayaring ito'y tinatawag na (EMORAHIYA SEREBRAL, CEREBRAL

HEMORRHAGE, SEREBRAL HEMORRAGES, HEMORRAGIA CEREBRAL, PAGDUGO-UTAK, \_\_\_\_\_).

10. Kung minsan pa rin ay karamdaman naman sa puso ang nagiging dahilan ng pagkawala ng malay ng isang tao. Kapag ang puso ng isang tao ay may diprensya, ang pintig nito ay hindi nagiging maayos, kaya't hindi rin nagiging maayos ang pagdaloy ng dugo sa kanyang mga ugat. Ang isang aparato o instrumentong ginagamit ng mga doktor na dalubhasa sa puso ay ang tinatawag na (LARAWAN-PINTIG, KARDYOGRAP, CARDIOGRAFO, KARDYOGRAPO, CARDIOGRAPH, \_\_\_\_\_).
11. Ang isa pang sakit na karaniwang-karaniwan sa tao ay ang lagnat. May mga gamot na pampababa ng lagnat ng isang tao. Ang mga gamot na ito na maaaring tableta o likido ay tinatawag na (ANTIPYRETIC, ANTIPAYRETIK, LABAN-LAGNAT, ANTIPIRETICO, ANTIPIRETIKO, \_\_\_\_\_).
12. May mga sakit na ang mga sintomas ay maipagkakamali sa 'typhoid', 'tifoideo', o tipus. Ang ganitong sakit ay tinatawag na (PARATAYPOYD, MALA-TIPUS, PARATIFIOIDEA, PARATIPOYDIYA, PARATYPHOID, \_\_\_\_\_).
13. Ang isa pang karamdaman na itinuturing na karaniwang-karaniwan ay ang (CEFALALGIA, SEPALALHIYA, CEPHALALGIA, SEPALALDYA, SAKIT NG ULO, \_\_\_\_\_). Ngunit kapag nagiging malimit ang pagsakit ng ulo ng isang tao, kailangang kumonsulta na sa doktor sapagkat baka ito ay sintomas na ng ibang malubhang sakit.
14. Ang anumang sakit na nauukol sa butô ng tao ay tinatawag na (OSTEYOPATIYA, OSTEOPATHY, SAKIT-BUTŌ, OSTEYOPATI, OSTEOPATIA, \_\_\_\_\_). May mga doktor na sa ganitong uri ng sakit nagpakadalubhasa.
15. Parami nang parami ang tao sa Pilipinas, kaya't kailangan ang (PAGBABALAK-ANGKAN, FAMILY PLANNING, PAMILI PLANING, PLANIFICACION DE FAMILIA, PLANIPIKASYON DE PAMILYA, \_\_\_\_\_).
16. Maraming magagawang paraan ang mag-asawa upang hindi lubhang dumami ang kanilang mga anak. Halimbawa ay ang paggamit ng (CONTRACEPTIVE, KONTRASEPTIB, CONTRACEPTIVO, KONTRASEPTIBO, PANGONTRA SA PAGBUBUNTIS, \_\_\_\_\_).
17. Ang isang halimbawa nito ay ang 'condom'. Ito'y isang manipis na supot na yari sa goma. Isinusuot ito ng lalaki sa kanyang (PENIS, PENE, TUNOD, TITI, KABAHAZI, \_\_\_\_\_) bago makipagtalik.
18. Sa sandali ng pagtatalik, ang (ESPERMA, PUNLAY, TAMOD, SPERM, ISPERM, \_\_\_\_\_) na lumalabas sa lalaki ay naiipon sa 'condom'.

19. Kaya't hindi nakakatuloy sa (VAGINA, KALUBAN, BADIYAYNA, BAHINA, BUTAS, KIKI, \_\_\_\_\_) ng babae.
20. Ang lalaki ay maaari ring (MAGPATALI, MAGPAVASECTOMY, MAGPABASEKTOMI, MAGPAVASECTOMIA, MAGPABASEKTOMYA, \_\_\_\_\_). Maaari rin namang ang babae ang (MAGPALIGATE, MAGPALAYGETT, MAGPALIGAR, MAGPATALI, \_\_\_\_\_).

\* \* \* \*



8. chromosome - microscopic, rod-shaped body that contains the genes or hereditary determiners.
- |               |               |
|---------------|---------------|
| a. cromosoma  | d. chromosome |
| b. kromosoma  | e. kromosom   |
| c. kulaylawas | f. _____      |
9. tissue - group of similar cells that perform a particular function.
- |            |           |
|------------|-----------|
| a. tehido  | d. tissue |
| b. tejido  | e. tisyu  |
| c. sihayán | f. _____  |
10. microscopic - visible only by using the microscope.
- |                 |                 |
|-----------------|-----------------|
| a. miksipatin   | d. microscopico |
| b. microscopic  | e. mikroskopiko |
| c. maykroskopik | f. _____        |
11. microscope - an instrument for making very small objects look larger.
- |                |                |
|----------------|----------------|
| a. mikroskopyo | d. maykroskop  |
| b. miksipat    | e. microscopio |
| c. microscope  | f. _____       |
12. microorganism - microscopic organism.
- |                   |                   |
|-------------------|-------------------|
| a. miktataghay    | d. microorganismo |
| b. microorganism  | e. mikroorganismo |
| c. maykroorganism | f. _____          |
13. microbe - animate one-celled form of life.
- |             |             |
|-------------|-------------|
| a. microbe  | d. mikrobyo |
| b. maykrob  | e. mikhay   |
| c. microbio | f. _____    |
14. germ - microorganism that usually causes disease.
- |           |           |
|-----------|-----------|
| a. dyerm  | d. binhay |
| b. germen | e. germ   |
| c. hermen | f. _____  |
15. inorganic - not pertaining to living organisms.
- |               |              |
|---------------|--------------|
| a. inorganico | d. inorganic |
| b. inorganiko | e. inorganik |
| c. ditaghayin | f. _____     |

16. metamorphize - to change form or structure (ex.: insects)

- |                  |                  |
|------------------|------------------|
| a. metamorposyar | d. metamorpays   |
| b. magbanyuhay   | e. metamorfosear |
| c. metamorphize  | f. _____         |

17. granule - minute, grain-like mass in a cell.

- |             |             |
|-------------|-------------|
| a. granule  | d. granilyo |
| b. granyul  | e. binutil  |
| c. granillo | f. _____    |

18. embryo - the young of any organism in an early stage of development.

- |            |            |
|------------|------------|
| a. bilig   | d. embrion |
| b. embryo  | e. embryon |
| c. embreyo | f. _____   |

19. carnivorous - flesh eating.

- |                |                 |
|----------------|-----------------|
| a. carnivorous | d. karniboro    |
| b. karniborus  | e. laman-kainin |
| c. carnivoro   | f. _____        |

20. aquarium - a glass-sided tank for keeping live water animals and plants.

- |             |             |
|-------------|-------------|
| a. akwaryum | d. isdaan   |
| b. acuario  | e. aquarium |
| c. akwaryo  | f. _____    |

\* \* \* \*

QUESTIONNAIRE # 2-B (BIOLOGY)

Directions: Please underline your preference. In case you prefer another form which is not included among the options, kindly write it down on the appropriate blank.

1. Ang (BIOLOGY, BAYOLODYI, BIOLOGIA, BIYOLOHIYA, HAYNAYAN [buhay + hanayan], \_\_\_\_\_) ay isang sangay ng karunungan hinggil sa pinagmulan, kasaysayan, katangiang pisikal, proseso ng buhay, atb. ng tao, hayop, at halaman o anumang bagay na may buhay.
2. Ang isang taong nagpakadalubhasa sa larangang ito ay tinatawag na (BAYOLODYIST, BIOLOGO, BIYOLOGO, BIOLOGIST, HAYNAYANON [-non is a Visayan suffix denoting expert], \_\_\_\_\_).
3. Siya ay eksperto o dalubhasa sa pagsusuri ng (ANATOMIA, ANATOMYA, KATWANAN [katawan + -an], ANATOMY, ANATOMI, \_\_\_\_\_) o ng panloob at panlabas na kaanyuan at pagkakabuo ng mga bagay na may buhay.
4. Maingat din niyang pinag-aaralan ang lahat ng salik (factor) na (BIYOLOHIKO, HAYNAYIN, BIOLOGICAL, BAYOLODYIKAL, BIOLOGICO, \_\_\_\_\_) ng anumang bagay na may buhay.
5. Ang (PALAMULAAN, GENEALOGY, DYENEALODYI, GENEALOGIA, HENEALOHIIYA, \_\_\_\_\_) ay isang agham na nauukol sa pag-aaral sa pinagmulan ng mga mag-anak o mga angkan.
6. Lahat ng halaman at hayop ay binubuo ng mga (CELL, SEL, CELULA, SELULA, SIHAY [silid + maybuhay], \_\_\_\_\_) o ng napakaliliit na masa ng protoplasma.
7. Sa ubod ng bawat 'cell' ay naroon ang (NUKLEUS, NUCLEO, NUKLEO, BUTOD, NUCLEUS, \_\_\_\_\_) na kailangan sa reproduksyon at pagtubo o paglaki.
8. Sa 'nucleus' ay naroon naman ang tinatawag na (CROMOSOMA, KROMOSOMA, KULAYLAWAS [lawas is a Visayan term meaning body], CHROMOSOME, KROMOSOM, \_\_\_\_\_) na nagtataglay ng 'genes' na ang gampanin ay ilipat sa magiging supling ang mga katangian ng pinagmulang halaman o hayop.
9. Ang grupo o pangkat ng magkakatulad na 'cells' na may magkakatulad na gampanin ay tinatawag na (TEHIDO, TEJIDO, SIHAYAN [sihay + -an], TISSUE, TISYU, \_\_\_\_\_).
10. May mga bagay na dahil sa kaliitan ay nakikita lamang sa pamamagitan ng mikroskopyo. Dahil sa kaliitan, ang mga ito ay tinatawag na (MIKSIPATIN, MICROSCOPIC, MAYKROSKOPIK, MICROSCOPICO, MIKROSKOPIKO, \_\_\_\_\_).

11. Ang isang organismo na dahil sa kaliitan ay makikita lamang sa pamamagitan ng paggamit ng (MIKROSKOPYO, MIKSIPAT, MICROSCOPE, MAYKROSKOP, MICROSCOPIO, \_\_\_\_\_)
12. ay tinatawag na (MIKTATAGHAY, MICROORGANISM, MAYKROORGANISM, MICROORGANISMO, MIKROORGANISMO, \_\_\_\_\_).
13. Ang (MICROBE, MAYKROB, MICROBIO, MIKROBYO, MIKHAY, MICROBE, \_\_\_\_\_) ay halimbawa ng napakaliit na anyo ng buhay. Sa katunayan ay binubuo lamang ito ng iisang 'cell'.
14. Ang (DYERM, GERMEN, HERMEN, BINHAY, GERM, \_\_\_\_\_) ay isa pang halimbawa ng 'microorganism'. Ito'y karaniwan nang siyang pinagmumulan ng sakit.
15. Ang isang bagay ay (INORGANICO, INORGANIKO, DITAGHAYIN, INORGANIC, INORGANIK, \_\_\_\_\_) kapag ito'y walang buhay o di nagtataglay ng mga sangkap na matatagpuan lamang sa mga bagay na may buhay.
16. Ang isang hayop ay (NAGMEMETAMORPOSYAR, NAGBABANYUHAY, NAGMEMETAMORPHIZE, NAGMEMETAMORPAYS, NAGMEMETAMORFOSEAR, \_\_\_\_\_) kapag ito ay nag-iiba ng anyo. Halimbawa nito ay ang uod na nagiging isang paruparo.
17. Sa loob ng bawat 'cell' ay may matatagpuang malabutil na masa na tinatawag na (GRANULE, GRANYUL, GRANILLO, GRANILYO, BINUTIL, \_\_\_\_\_). Ito'y pagkaing kailangan ng 'cell' upang patuloy na mabuhay.
18. Ang panimulang pagtubo ng butô ng isang halaman o kaya'y ang panimulang pagkabuo ng isang buhay sa sinapupunan ng isang ina ay tinatawag na (BILIG, EMBRYO, EMBREYO, EMBRION, EMBRYON, \_\_\_\_\_).
19. Ang mga hayop na kumakain ng kanilang kapwa hayop ay tinatawag na (CARNIVOROUS, KARNIBORUS, CARNIVORO, KARNIBORO, LAMAN-KAININ, \_\_\_\_\_).
20. Ang (AKWARYUM, ACUARIO, AKWARYO, ISDAAN, AQUARIUM, \_\_\_\_\_) ay isang tangkeng may tubig na karaniwang ang mga gilid ay salamin. Ito ay pinaglalaman ng mga hayop at halamang nabubuhay sa tubig.

\* \* \* \*

## QUESTIONNAIRE # 3-A (CHEMISTRY)

Directions: Please encircle the letter of the word you prefer. In case you prefer another form which is not included among the options, kindly write it down on the appropriate blank.

1. chemistry - science that treats of the molecular and atomic composition, decomposition, and transformation of matter.

a. chemistry	d. kimika
b. kemistri	e. kapnayan
c. quimica	f. _____

2. substance - matter of a particular kind or chemical composition.

a. sabstans	d. bagay
b. substancia	e. substance
c. substansya	f. _____

3. chemist - a person who is expert in chemistry.

a. quimico	d. chemist
b. kimiko	e. kemist
c. kapnayanon	f. _____

4. amperage - the strength of an electric current, measured in amperes.

a. ampirahe	d. ampireyds
b. kaampiran	e. amperaje
c. amperage	f. _____

5. carbide - compound of an element, usually a metal, with carbon.

a. karbad	d. carburo
b. carbide	e. karburo
c. karbayd	f. _____

6. chemical compound

a. chemical compound	d. kompuwesto kimiko
b. kemikal kompawnd	e. sangkapang kemikal
c. compuesto quimico	f. _____

7. chlorate - a salt of chloric acid.

a. kloreyt	d. klorat
b. clorato	e. chlorate
c. klorato	f. _____

8. chloric acid - chlorine-containing compound that can react with a base to form a salt.

- |                  |                 |
|------------------|-----------------|
| a. acido clorico | d. chloric acid |
| b. asido kloriko | e. klorik asid  |
| c. asido klorat  | f. _____        |

9. coagulant - a substance that brings about coagulation.

- |               |               |
|---------------|---------------|
| a. koagulante | d. koagyulant |
| b. pampamuo   | e. coagulante |
| c. coagulant  | f. _____      |

10. colloid - a solid, liquid, or gaseous substance made up of very small, insoluble, nondiffusible particles.

- |               |            |
|---------------|------------|
| a. koloyde    | d. koloyd  |
| b. maladigkit | e. coloide |
| c. colloid    | f. _____   |

11. crystalline - having the character or structure of a crystal.

- |                |               |
|----------------|---------------|
| a. bubugin     | d. cristalino |
| b. crystalline | e. kristalino |
| c. kristalin   | f. _____      |

12. dioxide - compound having two oxygen atoms to one of another element.

- |              |             |
|--------------|-------------|
| a. dioxide   | d. bioksido |
| b. dayoksayd | e. daluksad |
| c. bioxido   | f. _____    |

13. monoxide - an oxide with one atom of oxygen in each molecule

- |              |              |
|--------------|--------------|
| a. monoxide  | d. sanuksad  |
| b. monoksayd | e. monoksido |
| c. monoxido  | f. _____     |

14. ebullition - a boiling or bubbling up.

- |               |                |
|---------------|----------------|
| a. ebyulisyon | d. pagkukumulo |
| b. ebullicion | e. ebullition  |
| c. ebulisyon  | f. _____       |

15. efflorescence - state of being powdery or dry due to loss of water of crystallization.
- |                   |                  |
|-------------------|------------------|
| a. efflorescencia | d. efflorescence |
| b. eploresensya   | e. eploresens    |
| c. halintubig     | f. _____         |
16. metallurgy - study and methods of using metals.
- |               |                |
|---------------|----------------|
| a. balahakan  | d. metalurgia  |
| b. metallurgy | e. metalurhiya |
| c. metalurdiy | f. _____       |
17. isomorphism - two or more chemical compounds having the same constituent elements in the same proportion by weight but differing in physical or chemical properties.
- |                |                |
|----------------|----------------|
| a. isomorpismo | d. aysomorpism |
| b. kasanyuan   | e. isomorfismo |
| c. isomorphism | f. _____       |
18. radioisotope - radioactive form of chemical such as radioactive cobalt.
- |                 |                   |
|-----------------|-------------------|
| a. radyoaysotop | d. dagilapkahasik |
| b. radioisotopo | e. radioisotope   |
| c. radyoisotopo | f. _____          |
19. viscosity - state of being sticky or gummy.
- |               |              |
|---------------|--------------|
| a. viscosidad | d. viscosity |
| b. biskosidad | e. biskositi |
| c. lapuyot    | f. _____     |
20. precipitate - a deposit separated from a suspension or solution by precipitation.
- |                |                |
|----------------|----------------|
| a. presipitado | d. presipiteyt |
| b. himuo       | e. precipitado |
| c. precipitate | f. _____       |

\* \* \* \*

QUESTIONNAIRE # 3-B (CHEMISTRY)

Directions: Please underline your preference. In case you prefer another form which is not included among the options, kindly write it down on the appropriate blank.

1. Ang (CHEMISTRY, KEMISTRI, QUIMICA, KIMIKA, KAPNAYAN [sangkap + hanayan], \_\_\_\_\_) ay ang sangay ng karunungan hinggil sa pag-aaral sa mga kakanyahan at kayariang kemikal, reaksiyon at gamit ng isang
2. (SABSTANS, SUBSTANCIA, SUBSTANSYA, BAGAY, SUBSTANCE, \_\_\_\_\_).
3. Ang isang taong nagpakadalubhasa sa 'chemistry' ay tinatawag na (QUIMICO, KIMIKO, KAPNAYANON [-non is a Visayan suffix denoting expert], CHEMIST, KEMIST, \_\_\_\_\_).
4. (AMPIRAHE, KAAMPIRAN, AMPERAGE, AMPIREYDS, AMPERAJE, \_\_\_\_\_) ang tawag sa lakas ng daloy ng koryente. Bagama't ang katawagang ito'y higit na karaniwan sa larangan ng elektrisidad, ito'y katawagang masasabing kailangan ding maunawaan ng sinumang nagpapakadalubhasa sa 'chemistry'.
5. (KARBAD, CARBIDE, KARBAYD, CARBURO, KARBURO, \_\_\_\_\_) ang tawag sa
6. (CHEMICAL COMPOUND, KEMIKAL KOMPAWND, COMPUESTO QUIMICO, KOMPUWESTO KIMIKO, SANGKAPANG KEMIKAL, \_\_\_\_\_) na karaniwa'y metal na may halong karbon.
7. (KLOREYT, CLORATO, Klorato, Klorat, CHLORATE, \_\_\_\_\_) ang katawagang ginagamit upang tumukoy sa solusyon na binubua ng
8. (ACIDO CLORICO, ASIDO Kloriko, ASIDO Klorat, CHLORIC ACID, Klorik ASID, \_\_\_\_\_).
9. Ang anumang panimpla na ginagamit upang lumapot o mamuo ang likido ay tinatawag na (KOAGULANTE, PAMPAMUO, COAGULANT, KOAGYULANT, COAGULANTE, \_\_\_\_\_).
10. Ang (KOLOYDE, MALADIGKIT, COLLOID, KOLOYD, COLOIDE, \_\_\_\_\_) ay maaaring solido, likido, o gas na binubuo ng napakaliliit, di-natutunaw, at di-kumakalat na bagay na nananatiling di-natitinag sa midyum na katatagpuan nito.
11. Ang (BUBUGIN, CRYSTALLINE, KRISTALIN, CRISTALINO, KRISTALINO, \_\_\_\_\_) ay may katangian o kabuuang tulad ng kristal o bubog -- malinaw at nasasalamin (transparent).

12. (DIOXIDE, DAYOKSAYD, BIOXIDO, BLOKSIDO, DALUKSAD [dalawa + uksad], \_\_\_\_\_) ang tawag sa isang 'compound' na nagtataglay ng dalawang atomo ng oksiheno sa bawat molekulo.
13. Sa kabilang dako, ang (MONOXIDE, MONOKSAYD, MONOXIDO, SANUKSAD [isang + oksad], MONOKSIDO, \_\_\_\_\_) ay nagtataglay lamang ng isang atomo ng oksiheno sa bawat molekulo.
14. Ang malakas na pagkulo o pagsubo ng likido dahil halimbawa sa init ay tinatawag na (EBYULISYON, EBULLICION, EBULISYON, PAGKUKUMULO, EBULLITION, \_\_\_\_\_).
15. May sandali sa proseso ng kristalisasyon na ang bagay ay natutuyo o nagiging malapulbos dahil sa pagkawala ng likido. Ito ay tinatawag na (EFFLORESCENCIA, EPLORESENSYA, HALINTUBIG [halin is a Visayan term synonymous to alis], EFFLORESCENCE, EPLORESENS, \_\_\_\_\_).
16. Ang agham o karunungan hinggil sa kung papaanong ang metal ay nagagawa at nagagamit ay tinatawag na (BALAHAKAN, METALLURGY, METALURDYI, METALURGIA, METALURHIYA, \_\_\_\_\_).
17. Ang (ISOMORPISMO, KASANYUAN [kaisa + anyo + -an], ISOMORPHISM, AYSOMORPISM, ISOMORFISMO, \_\_\_\_\_) ay tumutukoy sa dalawa o higit pang 'chemical compounds' na may magkatulad na proporsyon sa timbang ngunit nagkakaiba sa mga kakanyahan o katangiang pisikal at kemikal.
18. Ang (RADYOAYSOTOP, RADIOISOTOPO, RADYOISOTOPO, DAGILAPKAHASIK, RADIOISOTOPE, \_\_\_\_\_) ay isang anyong kemikal na 'radioactive'.
19. (VISCOSIDAD, BISKOSIDAD, LAPUYOT, VISCOSITY, BISKOSITI, \_\_\_\_\_) ang tawag sa sandaling ang isang likidong tinitimpla, halimbawa, ay nagiging malapot o malagkit.
20. Ang isang bagay na naihiwalay sa isang solusyon sa pamamagitan ng 'precipitation' ay tinatawag na (PRESIPITADO, HIMUO, PRECIPITATE, PRESIPITEYT, PRECIPITADO, \_\_\_\_\_).

\* \* \* \*

QUESTIONNAIRE # 4-A (PHYSICS)

Directions: Please encircle the letter of the word you prefer. In case you prefer another form which is not included among the options, kindly write it down on the appropriate blank.

1. physics - science dealing with properties, changes, interactions, etc. of matter and energy.

- |            |             |
|------------|-------------|
| a. physics | d. pisika   |
| b. pisiks  | e. liknayan |
| c. fisica  | f. _____    |

2. physicist - a person who is a specialist in physics.

- |             |               |
|-------------|---------------|
| a. pisisist | d. liknayanon |
| b. fisico   | e. physicist  |
| c. pisiko   | f. _____      |

3. acoustics - branch of physics dealing with sound.

- |             |              |
|-------------|--------------|
| a. acustica | d. acoustics |
| b. akustika | e. akustiks  |
| c. tunugan  | f. _____     |

4. dynamics - branch of physics that deals with the motion of material bodies and the phenomena of the action of forces on bodies.

- |             |              |
|-------------|--------------|
| a. dinamika | d. daynamiks |
| b. isigan   | e. dinamica  |
| c. dynamics | f. _____     |

5. optics - branch of physics dealing with the nature and properties of light and vision.

- |                |           |
|----------------|-----------|
| a. dalubsugaan | d. optica |
| b. optics      | e. optika |
| c. optiks      | f. _____  |

6. thermodynamics - branch of physics dealing with the reversible transformation of heat into other forms of energy.

- |                   |                  |
|-------------------|------------------|
| a. thermodynamics | d. termodinamika |
| b. termodaynamiks | e. initsigan     |
| c. termodinamica  | f. _____         |

7. atmosphere - a unit of pressure equal to 14.69 lbs. per sq. in.
- |              |               |
|--------------|---------------|
| a. atmspir   | d. kahanginan |
| b. atmosfera | e. atmosphere |
| c. atmospera | f. _____      |
8. atmospheric pressure - the pressure due to the weight of the earth's atmosphere.
- |                        |                         |
|------------------------|-------------------------|
| a. presion atmosferica | d. atmospheric pressure |
| b. presyon atmosperika | e. atmosperik presyur   |
| c. kahanginang diin    | f. _____                |
9. centrifugal force - the force tending to pull a thing outward when it is rotating rapidly around a center.
- |                       |                      |
|-----------------------|----------------------|
| a. puwersa sentripuga | d. sentripyugal pors |
| b. basisig            | e. fuerza centrifuga |
| c. centrifugal force  | f. _____             |
10. electrolyte - any substance which in solution or in a liquid form is capable of conducting an electric current.
- |                |                |
|----------------|----------------|
| a. dagilusaw   | d. electrolito |
| b. electrolyte | e. elektrolito |
| c. elektrolayt | f. _____       |
11. malleability - capability of being hammered, pounded, or pressed into various shapes without breaking (ex.: metals)
- |                 |                  |
|-----------------|------------------|
| a. malleability | d. malyabilidad  |
| b. malyabiliti  | e. pagkapukpukin |
| c. maleabilidad | f. _____         |
12. molecule - smallest particle of an element or compound that consists of two or more different atoms.
- |             |             |
|-------------|-------------|
| a. molecule | d. molekula |
| b. molekyul | e. mulatit  |
| c. molecula | f. _____    |
13. phosphorescence - property of a substance of giving off a lingering emission of light after exposure to radiant energy.
- |                    |                   |
|--------------------|-------------------|
| a. pospowanag      | d. fosforescencia |
| b. phosphorescence | e. posporesensya  |
| c. posporesens     | f. _____          |

14. refraction - the bending of a ray or wave of light, heat, or sound as it passes obliquely from one medium to another.

- |                             |                             |
|-----------------------------|-----------------------------|
| a. refraction               | d. repraksyón (Spa. accent) |
| b. repráksyon (Eng. accent) | e. saliko                   |
| c. refraccion               | f. _____                    |

15. sentient heat - heat that can be perceived by the senses.

- |                   |                  |
|-------------------|------------------|
| a. kalor latente  | d. sensyent hit  |
| b. init na lantad | e. calor latente |
| c. sentient heat  | f. _____         |

16. storage battery - a battery of electro-chemical cells for generating electric current.

- |                     |                      |
|---------------------|----------------------|
| a. tinggalitab      | d. bateria electrica |
| b. storage battery  | e. baterya elektrika |
| c. istoreyds bateri | f. _____             |

17. thermoelectricity - electricity produced by heating the junction between two dissimilar conductors.

- |                      |                      |
|----------------------|----------------------|
| a. thermoelectricity | d. termoelektrisidad |
| b. termoelektrisiti  | e. initdagitban      |
| c. termoelectricidad | f. _____             |

18. vaporization - the process of changing liquid into vapor.

- |                 |                  |
|-----------------|------------------|
| a. baporisasyon | d. beyporisesyon |
| b. sasingaw     | e. vaporizacion  |
| c. vaporization | f. _____         |

19. velocity - quickness or rapidity of motion or action; rate of motion in a particular direction in relation to time.

- |             |              |
|-------------|--------------|
| a. tulin    | d. velocidad |
| b. velocity | e. belosidad |
| c. belositi | f. _____     |

20. voltage - electromotive force, or difference in electrical potential, expressed in volts.

- |             |              |
|-------------|--------------|
| a. voltage  | d. boltahe   |
| b. bolteyds | e. kabolthan |
| c. voltaje  | f. _____     |

## QUESTIONNAIRE # 4-B (PHYSICS)

Directions: Please underline your preference. In case you prefer another form which is not included among the options, kindly write it down on the appropriate blank.

1. Ang (PHYSICS, PISIKS, FISICA, PISIKA, LIKNAYAN [likas + hanayan], \_\_\_\_\_) ay isang sangay ng karunungan hinggil sa mga kakanyahan, pagbabago, interaksyon, atb. ng bagay at ng lakas.
2. Ang isang taong nagpakadalusbhasa sa 'physics' ay tinatawag na (PISISIST, FISICO, PSIKO, LIKNAYANON [-non is a Visayan suffix denoting expert], PHYSICIST, \_\_\_\_\_).

Maraming sangay ang 'physics'. Ang ilan ay ang mga sumusunod:

3. (ACUSTICA, AKUSTIKA, TUNUGAN, ACOUSTICS, AKUSTIKS, \_\_\_\_\_) -- nauukol sa tunog.
4. (DINAMIKA, ISIGAN [isig is an old Tagalog term], DYNAMICS, DAYNAMIKS, DINAMIKA, \_\_\_\_\_) -- nauukol sa galaw ng mga bagay at ang nagiging epekto ng puwersa sa mga ito.
5. (DALUBSUGAAN [dalubhasa + suga (Visayan term for light) + -an], OPTICS, OPTIKS, OPTICA, OPTIKA, \_\_\_\_\_) -- nauukol sa mga katangian at kakanyahan ng liwanag at paningin.
6. (THERMODYNAMICS, TERMODAYNAMIKS, TERMODINAMIKA, TERMODINAMIKA, INITSIGAN, \_\_\_\_\_) -- nauukol sa transpormasyon ng init upang magawang ibang anyo ng enerhiya o lakas.
7. Ang presyon na likha ng bigat ng (ATMOSPIR, ATMOSFERA, ATMOSPERA, KAHANGINAN, ATMOSPHERE, \_\_\_\_\_) ay tinatawag na \_\_\_\_\_.
8. (PRESION ATMOSFERICA, PRESYON ATMOSPERIKA, KAHANGINANG DIIN, ATMOSPHERIC PRESSURE, ATMOSPERIK PRESYUR, \_\_\_\_\_).
9. Ang puwersang humihila nang palabas kapag ang isang bagay ay gumagalaw nang mabilis painog sa isang sentro ay tinatawag na (PUWERSA SENTRIPUGA, BASISIG [palabas + isig], CENTRIFUGAL FORCE, SENTRIPUGAL PORS, FUERZA CENTRIFUGA, \_\_\_\_\_).
10. Ang anumang solusyon o likido na maaaring daluyan o daanan ng koryente ay tinatawag na (DAGILUSAW [dagitab + lusaw], ELECTROLYTE, ELEKTROLAYT, ELECTROLITO, ELEKTROLITO, \_\_\_\_\_).
11. May mga bagay na maaaring hubugin sa iba't ibang anyo nang hindi nasisira. Ang kapabilidad na ito ng bagay ay tinatawag na (MALLEABILITY, Malyabiliti, MALEABILIDAD, Malyabilidad, PAGKAPUKPUKIN, \_\_\_\_\_).

12. Ang pinakamaliit na bahagi ng isang elemento o sangkapan na binubuo ng dalawa o higit pang magkakaibang atomo ay tinatawag na (MOLEKULA, MULATIL [mulaan + butil], MOLECULE, MOLEKYUL, MOLECULA, \_\_\_\_\_).
13. Kapag ang isang bakal ay ating pinagbaga at pagkatapos ay inialis natin sa apoy, ito'y nananatili pa ring nagbabaga ng mga ilang sandali at nagbibigay din ng liwanag. And kakanyahang ito ng bakal ay tinatawag na (POSPOWANAG [posporus + liwanag], PHOSPHORESCENCE, POSPORESENS, FOSFORESCENCIA, POSPORESENSYA, \_\_\_\_\_).
14. Likas na tuwid ang silahis ng liwanag. Ngunit ito'y lumiliko kapag tumatama sa tubig. Ang pangyayaring ito'y tinatawag na (REFRACTION, REPRÁKSYON, REFRACCION, REPRAKSYÓN, SALIKO, \_\_\_\_\_).
15. Ang init na ating nadarama kahit hindi tayo gumamit ng anumang instrumento ay tinatawag na (KALOR LATENTE, INIT NA LANTAD, SENTIENT HEAT, SENSYENT HIT, CALOR LATENTE, \_\_\_\_\_).
16. Ang (TINGGALITAB [tinggalan + dagitab], STORAGE BATTERY, ISTOREYDS BATERI, BATERIA ELECTRICA, BATERYA ELEKTRIKA, \_\_\_\_\_) ay may mga selulang elektro-kemikal upang makapagtinggal at makalikha ng koryente.
17. Ang koryenteng nalilikha sa pamamagitan ng pagpapainit sa sugpong ng dalawang magkaibang daluyan ay tinatawag na (THERMOELECTRICITY, TERMOILIKTRISITI, TERMOELECTRICIDAD, TERMOELEKTRISIDAD, INITDAGITBAN [dagitab + -an], \_\_\_\_\_).
18. Ang likido ay napagbabagong anyo at nagagawang singaw. Ang prosesong ito ay tinatawag na (BAPORISASYON, SASINGAW, VAPORIZATION, BEYPORISESYON, VAPORIZACION, \_\_\_\_\_).
19. Ang bilis ng galaw ng isang bagay patungo sa isang direksyon ay tinatawag na (TULIN, VELOCITY, BELOSITI, VELOCIDAD, BELOSIDAD, \_\_\_\_\_).
20. Ginagamit na katawagan sa pagsukat ng lakas ng koryente ang (VOLTAGE, BOLTEYDS, VOLTAJE, BOLTAHE, KABOLTHAN, \_\_\_\_\_).

\* \* \* \*

## QUESTIONNAIRE # 5-A (MATHEMATICS)

Directions: Please encircle the letter of the word you prefer. In case you prefer another form which is not included among the options, kindly write it down on the appropriate blank.

1. mathematics - science that deals with quantities, magnitudes, and forms, and their relationships.
 

a. mathematics	d. matematika
b. matematiks	e. sipnayan
c. matematica	f. _____
  
2. mathematician - an expert or specialist in mathematics.
 

a. matematisyan	d. mathematician
b. matematico	e. sipnayanon
c. matematiko	f. _____
  
3. algebra - mathematical system used to generalize certain arithmetical operations by permitting letters or other symbols to stand for numbers.
 

a. algebrá (Spa. accent	d. álgebra (Eng. accent &
b. alhebra & pronun.)	e. aldyebra pronun.)
c. panandaan	f. _____
  
4. geometry - branch of mathematics that deals with points, lines, surfaces, and solids.
 

a. heometriya	d. dyometri
b. sukgisan	e. geometria
c. geometry	f. _____
  
5. arithmetic - the science or art of computing by positive, real numbers.
 

a. bilnuran	d. aritmetica
b. arithmetic	e. aritmetika
c. aritmetik	f. _____
  
6. calculus - a method of calculation using a special system of notation in symbols.
 

a. calculus	d. kalkulo
b. kalkyulus	e. tayahan
c. calculo	f. _____

7. axiom - a statement that needs no proof because its truth is evident.

- |            |            |
|------------|------------|
| a. aksioma | d. aksyom  |
| b. aksyoma | e. batlain |
| c. axiom   | f. _____   |

8. theorem - a proposition embodying something to be proven.

- |             |            |
|-------------|------------|
| a. tiyorema | d. tiyorem |
| b. hunain   | e. teorema |
| c. theorem  | f. _____   |

9. calculator - a machine for doing rapid computations.

- |                 |               |
|-----------------|---------------|
| a. pantaya      | d. calculador |
| b. calculator   | e. kalkulador |
| c. kalkyuleytor | f. _____      |

10. commutative - of or pertaining to an operation in which the order of the elements does not affect the result.

- |                |                |
|----------------|----------------|
| a. komyuteytib | d. palitin     |
| b. conmutativo | e. commutative |
| c. konmutatibo | f. _____       |

11. triangle - a geometrical figure having three angles and three sides.

- |                |               |
|----------------|---------------|
| a. triangulo   | d. tatsiha    |
| b. triyanggulo | e. triangle   |
| c. tatsulok    | f. trayanggal |
|                | g. _____      |

12. angle - the space made by two straight lines meeting in a point.

- |            |           |
|------------|-----------|
| a. anggulo | d. angle  |
| b. sulok   | e. enggel |
| c. siha    | f. _____  |

13. hypotenuse - the side of a right-angled triangle opposite the right angle.

- |               |               |
|---------------|---------------|
| a. tagway     | d. hipotenusa |
| b. hypotenuse | e. iputenusa  |
| c. haypotenus | f. _____      |

14. right angle - an angle of 90 degrees; angle made by the meeting of two straight lines perpendicular to each other.
- |                  |                   |
|------------------|-------------------|
| a. right angle   | d. anggulo rekto  |
| b. rayt enggel   | e. sihang tadlong |
| c. anggulo recto | f. _____          |
15. acute angle - an angle of less than 90 degrees.
- |                   |                 |
|-------------------|-----------------|
| a. akyut enggel   | d. sihang kipot |
| b. anggulo obliko | e. oblik enggel |
| c. sihang talibas | f. _____        |
16. oblique angle - any angle other than a right angle; acute or obtuse angle.
- |                    |                  |
|--------------------|------------------|
| a. anggulo oblicuo | d. oblique angle |
| b. anggulo obliko  | e. oblik enggel  |
| c. sihang talibas  | f. _____         |
17. cosecant - ratio between the hypotenuse and the side opposite a given acute angle in a right triangle.
- |              |             |
|--------------|-------------|
| a. kosekant  | d. cosecant |
| b. cosecante | e. kasekway |
| c. kosekante | f. _____    |
18. cosine - the ratio between the side adjacent to a given acute angle in a right triangle and the hypotenuse.
- |             |           |
|-------------|-----------|
| a. coseno   | d. cosine |
| b. koseno   | e. kosayn |
| c. kasinway | f. _____  |
19. infinite - lacking limits or bounds.
- |                 |             |
|-----------------|-------------|
| a. di-hangganin | d. infinito |
| b. infinite     | e. impinito |
| c. impinit      | f. _____    |
20. finite - capable of being reached, completed, or surpassed by counting; anything that has measurable limits.
- |            |              |
|------------|--------------|
| a. finite  | d. pinito    |
| b. paynayt | e. hangganin |
| c. finito  | f. _____     |

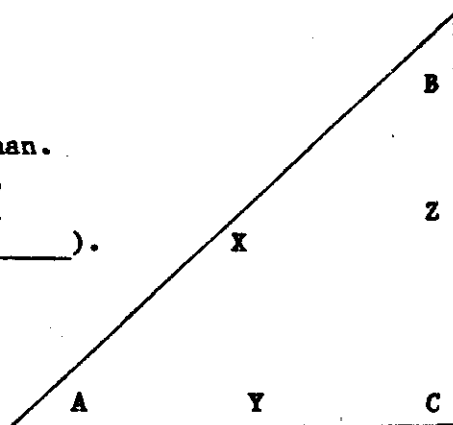
## QUESTIONNAIRE # 5-B (MATHEMATICS)

Directions: Please underline your preference. In case you prefer another form which is not included among the options, kindly write it down on the appropriate blank.

1. Ang (MATHEMATICS, MATEMATIKS, MATEMATICA, MATEMATIKA, SIPNAYAN [isip + hanayan], \_\_\_\_\_) ay isang sangay ng karunungan hinggil sa kantidad o dami, magnitud o laki, porma o anyo, at ang pag-alam sa mga katangian at pagkakaugnayan ng mga ito sa pamamagitan ng paggamit ng mga bilang at mga sagisag.
2. Ang isang taong nagpakadalubhasa sa 'mathematics' ay tinatawag na (MATEMATISYAN, MATEMATICO, MATEMATIKO, MATHEMATICIAN, SIPNAYANON [-non is a Visayan suffix denoting expert], \_\_\_\_\_).

Ang kilalang-kilalang mga sangay ng 'mathematics' ay ang mga sumusunod:

3. (ALGEBRA [Spa. accent & pronun.] ALHEBRA, PANANDAAN, ALGEBRA [Eng. accent & pronun.], ALDYEBRA, \_\_\_\_\_);
4. (HEOMETRIYA, SUKGISAN [sukat + hugis + -an], GEOMETRY, DYOMETRI, GEOMETRIA, \_\_\_\_\_);
5. (BILNURAN, ARITHMETIC, ARITMETIK, ARITHMETICA, ARITMETIKA, \_\_\_\_\_);
6. (CALCULUS, KALKYULUS, CALCULO, KALKULO, TAYAHAN, \_\_\_\_\_).
7. (AXIOMA, AKSYOMA, AXIOM, AKSYOM, BATLAIN [batayan + simulain], \_\_\_\_\_) ang tawag sa mga pahayag na hindi na kailangan pang patunayang totoo sapagkat lubhang kapani-paniwala. Halimbawa nito ay ang sinabi ni Euclid na "Ang dalawang bagay ay magkatulad kapag ang mga ito'y katulad ng isang bagay."
8. Sa kabilang dako naman, may mga pahayag na kailangang patunayang totoo sapagkat hindi paniniwalaan karaka-raka. Ang ganitong mga pahayag ay tinatawag namang (TIYOREMA, HUNAIN, THEOREM, TIYOREM, TEOREMA, \_\_\_\_\_).
9. Higit na nagiging mabilis ang ating pagsuma kapag tayo'y gumagamit ng (PANTAYA, CALCULATOR, KALKYULEYTOR, CALCULADOR, KALKULADOR, \_\_\_\_\_).
10. May mga sumahin na matatawag na (KOMYUTEYTIB, CONMUTATIVO, KONMUTATIBO, PALITIN, COMMUTATIVE, \_\_\_\_\_) sapagkat pagpalitin man ng pusisyon ang mga bilang ay hindi nakaaapekto sa resulta. Halimbawa:  $2 \times 3 = 6$ ;  $3 \times 2 = 6$ .



11. Tingnan ang larawan sa kanan. Ito ay tinatawag na (TRIANGULO, TRIYANGGULO, TATSULOK, TATSIHA, TRIANGLE, TRAYANGGEL, \_\_\_\_\_).
12. Ito ay may tatlong panig o gilid. May tatlo rin itong (ANGGULO, SULOK, SIHA, ANGLE, ENGGEL, ANGULO, \_\_\_\_\_).
13. Ang gilid na pinakamahaba (may tandang X) ay tinatawag na (TAGWAY [matandang Tagalog], HYPOTENUSE, HAYPOTENUS, HIPOTENUSA, IPUTENUSA, \_\_\_\_\_).
14. Ang may tandang C ay tinatawag na (RIGHT ANGLE, RAYT ENGGEL, ANGULO RECTO, ANGGULO REKTO, SIHANG TADLONG, \_\_\_\_\_).
15. Ang may tandang A ay tinatawag na (AKYUT ENGGEL, ANGULO AGUDO, ANGGULO AGUDO, SIHANG KIPOT, ACUTE ANGLE, \_\_\_\_\_).
16. Maaari ring matawag na (ANGULO OBLICUO, ANGGULO OBLIKO, SIHANG TALIBAS, OBLIQUE ANGLE, OBLIK ENGGEL, \_\_\_\_\_) ang mga may tandang A at B.
17. Kung alam na ang sukat ng A, ang proporsyon ng X at ng Z ay tinatawag na (KOSKANT, COSECANTE, KOSKANTE, COSECANT, KASEKWAY, \_\_\_\_\_).
18. Samantala, ang proporsyon naman ng Y at ng X ay tinatawag na (COSENO, KOSENO, KASINWAY, COSINE, KOSAYN, \_\_\_\_\_).
19. Ang anumang bagay na walang hanggan o katapusan ang magiging pagbilang o pagsukat ay inuuring (DI-HANGGANIN, INFINITE, IMPINIT, INFINITO, IMPINITO, \_\_\_\_\_).
20. Samantala, anumang maaaring mabilang o masukat ay tinatawag na (FINITE, PAYNAYT, FINITO, PINITO, HANGGANIN, \_\_\_\_\_).

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