

UDC as it could be made*

B K Sen

80 Shivalik Apartments, Alaknanda, New Delhi – 110019, E mail: bksen@airtelbroadband.in

It has been observed that during the last half a century, UDC has become more comprehensive on the one hand and more complex on the other; more class numbers have been vacated than filled up; verbal expressions (verbexes) of class numbers in large number of cases are riddled with superfluous words, sentence-like expressions, out-of-date headings, unnecessary clusters, inappropriate, confusing and misplaced headings. As a result many of them are not index-friendly, not even index-worthy. Suggestions have been put forth to ensure more simple class numbers, relocate some classes to more logical positions, reduction in the length of many class numbers, and index-friendly subject headings.

Definitions

Context-deficient verbex – It is a verbal expression that requires addition of a word or more for providing the context to make it index-worthy.

Simple class – The class that represents a single concept, e.g. physics, physical sciences, physical chemistry

Simple class number – The number that represents a simple class, e.g. 53 – Physics; 621.3 – Electrical engineering

Top class – A class which has numbered subdivisions. Example – The class 53 has numbered subdivisions 531/539. Here, 53 is the top class.

Verbal expression – A word or words, term or terms, or one or more phrases that express the subject content of a class number. The word verbex is being proposed as a short form of verbal expression.

Verbex – Short form of verbal expression

Introduction

I have been using Universal Decimal Classification (UDC) for almost half a century now. During this long period I have seen UDC developing to become more and more comprehensive on the one hand, and more and more complex on the other. Overall, the development

has not been a very healthy one because of several factors which may be summarized as below.

The number of symbols being used has been increasing though not at an alarming rate. Still, the addition of more symbols and their widespread use are making the system more complex than simple. Simple class numbers are being gradually replaced by complex numbers.

Vacating classes has been another disturbing phenomenon. If class numbers up to three digits are considered, then we find relocating class 4, more than one hundred class numbers has been vacated. In class 8, 70-odd class numbers are vacant. The class numbers 15/159.8, 583/589, 83/899, 931/939, 941/999 and many others are vacant. When the one-, two-, and three-digit class numbers from 0 to 999 are surveyed, it is found that more than 500 class numbers are vacant! It is amazing. Still the trend is to make more and more class numbers vacant. The question arises where is the end? Is this process of vacation in any way becoming beneficial to the users? There is no gainsaying the fact that the squeezing of more and more classes in less and less class numbers is continuously lengthening the numbers causing difficulty for the users, data entry operators, and so on.

The other side of the scenario is that the class numbers like 65/659 comprising management of organization and industry, trade and communication, office management, accountancy, etc., which are a total misfit in class 6 that harbours applied sciences, medicine and technology has not yet been fully relocated.

* The first letter of each verbex has been capitalized

As far as filling up is concerned, it is found 001/009 has been filled to the brim leaving no scope for future insertions. Some vacant classes have also been filled in 60/609 and other areas. However, filling of vacant class numbers throughout the scheme right from 01 to 999 has been rather scant, thus making the process of vacating and filling up highly lop-sided.

One thing is sure that the generation of more and more complex and lengthy class numbers and their relocations, to say the least, is not making the users happier than before.

The verbal expression representing a class number in UDC has never been very index-friendly. On checking some of the verbal expressions of the class numbers it was found that the classes 66/69 represent various types of technologies. But in many of the headings we encounter the term industry or industries such as chemical and related industries, stimulant industry, colour industries and so on. On the other hand in the same area we do not find the term industry and industries in DDC at all! The concept 'industry' or 'industries' pertains to economics and they should rightly figure there, and by no means under technology. This type of misleading headings can easily tempt the classifiers to assign wrong class numbers to documents.

I strongly feel, it is time to think over the future of UDC holistically. Moreover, care should be taken not only to add numerous new classes and delete a few old ones, but also to rationalize verbal expressions reducing shortcomings of diverse nature.

The use of symbols to the extent possible should be reduced rather than increased.

For the healthy development of UDC in future there should be some sound principles on which it should be based. Some of the principles may be as follows:

Basic principles

- i) Switching over from complexity to simplicity.
- ii) Placement of subjects in more logical order.
- iii) Maintenance of consistency as far as possible.
- iv) Use of more such verbal expressions as can act as index-friendly subject headings.

- v) Simple numbers for simple classes.
- vi) Relocation of subjects to ensure short class numbers, logical order and wide distribution.

Complexity to simplicity

According to the 2005 edition¹ modern history appears at 94 instead of 94/99 with the indication that the class number for modern history of any place should be built using common auxiliaries of place, e.g. Modern history of USA – 94(73). Previously, the number used to be 973. Now, if the two numbers 94(73) and 973 are compared, then it is found that the number 94(73) is complex because (i) it contains two species of symbols, i.e. pure numerals and round brackets, and (ii) lengthy compared to 973. For typing 973, three strokes are needed, and for 94(73) six strokes. Similar is the case with Geography. Till the 1993 edition, 913/919 used to represent the Geography of specific places. Now, the number is built using common auxiliaries of place with 913. For example, the number for US geography which was 917.3 earlier is 913(73) now. The present number of US geography is not simple. Moreover, it is lengthier than the earlier number. It is generally seen that while keyboarding, data entry operators commit less number of mistakes with short and simple numbers compared to lengthy and complex numbers. For simplicity, consistency is being sacrificed in UDC. In many places like history and geography, it is found that simple numbers have been removed sacrificing consistency. Moreover, simple numbers like 954 or 973 allows intercalation which complex numbers do not. It is possibly better to retain the earlier numbers instead of switching over to new numbers.

Subjects in logical order

In major schemes of the world like DDC and CC Agriculture precedes Forestry which is more logical. Here reverse is the case. To bring about logical order in 63/635 it will only be proper to shuffle the classes a bit and place Forestry at 635 as shown in Table 1. With this, Forestry occupies a more logical position among the class numbers. Moreover, subdivisions of 635 does not demand widespread use of * as in 630. In the proposed schedule [See Appendix], attempts have been made to place a number of subjects in more logical order.

Maintenance of consistency

Maintenance of consistency is a major factor in the devising and revision of classification schemes. It is not

Table 1 – Agriculture and forestry

63	Agriculture and related disciplines
631	Agriculture
632	Plant damage. Plant diseases. Pests. Plant protection, etc.
633/634	Crops
633	Field crops
634	Horticulture
634.9	Garden plants. Gardening
635	Forestry

possible, however, to maintain it in all cases. Still, attempts should be made to maintain consistency to the extent possible without sacrificing simplicity.

The subdivisions of a three-digit class number normally starts with a dot, e.g., 621.3. Till sometime back, it was observed throughout UDC. This is not the case now. In Forestry, subdivisions start with an asterisk, e.g. 630*1 – Environmental factors in forests, Forest biology; 630*2 – Silviculture, etc. This clearly violates consistency. In Table 1, the proposed number for Forestry is 635, and the subdivisions for 635 can start simply with a dot, e.g. 635.2- Silviculture, without violating consistency. We find, 592/599 is Systematic zoology. However, for Systematic botany, the number is 582, and not 582/589. Why this disparity is difficult to explain. Numerous such inconsistencies exist in UDC.

Index-friendly subject headings

Every class number has verbal expressions. For example, the class number 53 has the verbal expression Physics which is also an index-friendly subject heading. However, in UDC in a large number of cases, the verbal expressions are loose, incomplete, complex, and so on and do not serve as index-friendly subject headings.

On examining, we find different types of verbal expressions or verbexes. Some of them are being discussed here.

Single-word Verbexes

In this category, we have three examples. The verbexes are: Management, Librarianship and Latin.

Management

It is an index-friendly verbex and used widely as a subject heading.

Librarianship

It is also an index-friendly verbex and has been serving as a good subject heading for a long time. However, this particular subject heading has become more or less outdated and needs to be replaced with a new one like Library and information science.

Latin

It has been lifted from the class Literature. It figures in the same way in Language as well. In many classes there are verbexes which on their own cannot serve as subject headings. This type of verbex being termed here as context-deficient verbex needs addition of a word or more for providing the context to make them index-worthy. For example, Latin is a context-deficient verbal expression, on the other hand Latin language and Latin literature are index-worthy subject headings. Just the addition of a word like 'language' or 'literature' has made the verbex index-worthy.

Single-term Verbexes

Six examples of this category figure in Table 2. Each example is being discussed.

Catalogues in general

In this case, the word 'in general' is redundant. By eliminating redundancy we get Catalogues, which is being used as a very good subject heading all over the world.

Executive functions

This is a context-deficient verbex and can be used as a subject heading with the addition of the context, e.g. Executive functions (Psychology). It may be noted that in LC Subject Headings² and Sears List³, the context-indicator is usually placed within parenthesis.

International law

This particular verbex possesses the desired qualities of a subject heading and is being used as such.

Military affairs generally

In this case, the word 'generally' is redundant. Simply, Military affairs can serve as a good verbex as well as subject heading.

Safeguarding the mental and material necessities of life

This verbex is almost a sentence, to the extent possible such a verbex should be avoided. The aforesaid verbex represents the content of class number 36 comprising social work, social aid, housing and insurance. Webster

Table 2 – Types of verbal expressions with corresponding class numbers

Types	Class No.	Verbal expression (Verbex)
Single-word	005	Management
Do	02	Librarianship
Do	811.124	Latin
Single-term	017	Catalogues in general
Do	159.94	Executive functions
Do	341	International law
Do	355	Military affairs generally
Do	36	Safeguarding the mental and material necessities of life
Do	523	The solar system
Cluster	00	Prolegomena. Fundamentals of knowledge and culture. Propaedeutics
Do	01	Bibliography and bibliographies. Catalogues
Do	050	Serial publications. Periodicals. Their function, business and editorial management
Do	070	Newspaper. The press. Journalism
Do	159.91	Psychophysiology (Physiological psychology). Mental physiology
Do	324	Elections. Plebiscites. Referendums. Election campaigns. Electoral corruption, malpractices. Election results.
Do	549	Mineralogy. Special study of minerals
Do	632	Plant damage, injuries. Plant diseases. Pests, organisms injurious to plants. Plant protection
Do	66	Chemical technology. Chemical and related industries.
Do	696	Equipment, services, installations in buildings (sanitary, gas, steam, electrical). Pipe fitter, Plumber. Metal worker. Drainlayer. Electrician. Other trades

defines the term social work as 'any service or activity designed to promote the welfare of the community and the individual, as through counseling services, health clinics, recreation halls and playgrounds, aid for the needy, the aged, the physically handicapped, etc'⁴. From the definition it is clear that social aid is a part of social work. Hence, the verbex for 36 can simply be Social work etc. The term Social work serves as a good subject heading.

The solar system

This verbex starts with the article 'The'. There are many such verbexes in UDC that starts with the definite article. Normally, a subject heading does not start with a definite and indefinite article. Hence, Solar system can be the

verbex for class number 523 that will also serve as an index-friendly subject heading.

Verbex cluster

UDC abounds in verbex cluster. A few examples to show some of its varieties have been considered:

Bibliography and bibliographies. Catalogues

Bibliography and bibliographies are two different concepts, as the term 'bibliographies' here mean systematic bibliographies. Hence, the verbexes against 01 actually mean Bibliography. Systematic bibliographies. Catalogues. The term bibliography harbours different concepts as revealed by its definition⁵: '1 the study of the editions, dates, authorship, etc. of books and other writings. 2 a book containing such

information. 3 a list of sources of information on a given subject, period, etc., or of the literary works of a given author, publisher, etc. 4 a list of the books, articles, etc. used or referred to by an author'. The first two definitions relate to theoretical bibliography, and the next two to systematic bibliography. Catalogues are also bibliographies of documents available in a library, group of libraries and so on. Hence, for 01, the verbex Bibliography is more than enough. It is also a well-recognized subject heading.

Serial publications. Periodicals. Their function, business and editorial management

Here, the third verbex appears an explanatory note. If the principle to provide explanatory note to a verbex is strictly followed then there is no end. It needs to be provided at numerous other places. If at all it is to be given, then it should be with the first verbex Serial publications as the note is applicable to all serial publications including periodicals. In reality, periodicals are a subset of serial publications. Hence, the verbex for 05 can simply be Serials, which can also serve as an acceptable subject heading.

Psychophysiology (Physiological psychology). Mental physiology

In verbexes, parentheses have been used in different places for different purposes in UDC. Why the verbex Physiological psychology has been placed within parentheses is not understandable. As will be clear from the definitions given below, The terms psychophysiology, physiological psychology, and mental physiology represent different concepts as per the following definitions:

Psychophysiology – The branch of physiology dealing with the relationship between physiological processes and thoughts, emotions and behaviour⁶.

Physiological psychology – The branch of psychology that studies the biological and physiological basis of behaviour⁷.

Mental physiology – The science of the functions and phenomenon of the mind as distinguished from the philosophical explanation of the same⁸.

From the definition it is clear that psychophysiology is a branch of physiology. Charles G Wagner, the reviewer of the book Mental physiology stated that 'Mental physiology is but a division of the great department of

science called Physiology'⁹. From the definitions and statement it may be concluded that of the three terms figuring against 159.91, only physiological psychology belongs to Psychology and the other two to Physiology. Thus, logically, the verbex of 159.91 should be Physiological psychology. The other two terms can find their place under Physiology

Theory, methodology and methods in social sciences in general. Sociography

This cluster appears against 30. The class number for Methods of the Social sciences is 303, and for Sociography 308. Hence, Methodology and methods in social sciences as well as Sociography should vanish from here leaving 30 only with the context-deficient verbex Theory.

Elections. Plebiscites. Referendums. Election campaigns. Electoral corruption, malpractices. Election results

The verbexes Plebiscites etc appearing against 324 are in fact branches of the subject called Election. Hence, there is no need to include other verbexes. The class 324 can be developed and each of the verbexes can be assigned a specific number. Till that is done, the verbexes can be rendered as Elections. Plebiscites. Referendums. Election campaigns. Electoral corruption, malpractices. Election results.

Mineralogy. Special study of minerals

Mineralogy is the scientific study of minerals. The second verbex of 549 is more or less a definition of mineralogy. As such, it is redundant. For 549 the verbex Mineralogy, an index-friendly subject heading, serves the purpose excellently.

Plant damage, injuries. Plant diseases. Pests, organisms injurious to plants. Plant protection

All the verbexes appearing against 632 are the constituents of the subject Plant pathology, which is also a highly used subject heading. This may be used as the verbex of 632.

Chemical technology. Chemical and related industries

In this case the second verbex Chemical and related industries is a branch of Economics and it should find a

place there. The verbex for 66 may be simply Chemical technology.

Equipment, services, installations in buildings (sanitary, gas, steam, electrical). Pipe fitter, Plumber. Metal worker. Drainlayer. Electrician. Other trades

This particular verbex looks rather clumsy. Its first part comprises several verbexes like Equipment, services, and installations in buildings along with a scope note. The second part comprises various types of technical persons like pipe fitter and plumber. Throughout UDC persons are generally classified with -05 notations. Why an electrician should find a place here instead of 621.3 is not known. The second part in reality is for plumbing, pipefitting, and so on and should have been worded like that. The verbex for 696 can simply be worded as Building installations and services.

The analysis of the verbexes done here with a small sample indicates that in many cases verbexes are backdated; context-deficient; clumsy; and sentence-like. It is not possible to eliminate context-deficient verbexes completely. However, their number can be minimized. Other deficiencies pinpointed can be reduced and in many cases eliminated. From the preceding discussion it is clear that in most cases verbex clusters can be avoided, and verbexes can be transformed into more index-friendly subject headings. Basing on these examples, it is not difficult to conclude that to make the verbexes index-worthy, a thorough revision is but essential.

Some of the guidelines we may follow in this regard are:

1. The verbex of a class number should reflect the subject, and, if need be, its synonyms and near synonyms. In no case, it should include the subdivisions of a subject that are already existing along with their corresponding class numbers. For example the verbex of 53 is Physics. Along with Physics we do not use Mechanics, Acoustics, etc.
2. If the subdivision of a class number harbours subjects other than the one at the top as in 54 then the verbex should be modified for the top class. For 54 the verbexes may be Chemical sciences. Pure and Applied chemistry. Chemistry and chemical technology instead of just Chemistry. The verbexes Crystallography and Mineralogy should not be shown against Chemical sciences. The number 540 may represent Chemistry only.
3. When a top class has two major subdivisions of equal status as in 537 then the verbex of the top class may be combined with the conjunction 'and'. Example 537 – Electricity and magnetism. A book dealing with both electricity and magnetism will have class number 537. In case, the major subdivisions of a top class total more than two, then the abbreviation 'etc' may be used with the first verbex. Example: 663 – Industrial microbiology. Industrial mycology. Zymurgy, fermentation industry. Beverage industry. Stimulant industry. In this case, the verbex for 663 may be simply worded as Industrial microbiology etc. This system is already in vogue in UDC, e.g. 017/019 – Catalogues in general. Inventories of actual collections. Library catalogues. Publishers', booksellers' lists etc. The use of 'etc' in verbexes may be rationalized and made widespread.
4. In case the schedule for a subject is yet to be developed then all its major subdivisions may be shown against the class number.

Simple number for simple class

Simple class should be represented by simple numbers. In UDC there are confusing class numbers like 621.039 and 66.0 representing simple subjects like nuclear technology and chemical engineering. In both the cases .039 and .0 give the impression of point nought auxiliaries. In reality they are not. The new numbers suggested for 621.039 and 66.0 are 621.1 and 660.

Maintenance of parallelism

In common auxiliaries, (03), (031) and (038) respectively stand for reference works, encyclopaedias, and dictionaries. All these have been huddled together in class number 030. There are numerous cases where the parallelism has been violated. Easily the incumbents of 030 could have been placed at 03, 031, and 038 respectively.

Relocation

0 and 00

At present 0 stands for Generalia. Science and knowledge. Organization. Information. Documentation. Librarianship. Institution. Publication. This particular

verbex cluster makes it clear that on the one side 0 stands for both 001/999 and on the other side for 001/099. Generalia takes care of 001/999 and the rest of the cluster 001/099. In fact, 001/099 is a subset of 001/999, hence the two should not be clubbed together. It is proposed that 0 should stand for 001/999 with the verbex Generalia; and 00 for 001/099 with the verbex General disciplines and topics, i.e. Information, Documentation, Librarianship, Journalism, etc. The contents of present 00 may be shifted to 001.

002 – Documentation. Books. Writing. Authorship

The verbex Books is proposed to be relocated to 052 in between 051 – Newspapers and 055 – Publishing. Printing. Book trade. Writing and Authorship may go with Rhetoric at 408 [Vide Appendix].

003 – Writing systems and scripts

Writing systems and scripts over the ages have evolved to record human ideas and to transform unwritten languages into written languages. Scripts are the base on which a written language stands. Hence, the appropriate place for Writing systems and scripts is under Language not elsewhere. The number proposed is 40 [Vide Appendix].

005 – Management

Previously, 65 was the class number for Management and a host of other subjects. Now, Management has been shifted to 005 in between 004 – Computer science and 006 – Standardization. Obviously, the location seems to be inappropriate. Nobody will expect books on management just beside computer science. The new location for the subject has been proposed at 065. The new location brings Management beside Organizations [Vide Appendix].

008 – Civilization. Culture. Progress

Civilization is defined as an advanced stage or system of human social development¹⁰. Culture embraces the civilization, customs and achievements of the human society of a particular time or people. Here, the word Progress means the progress of human society. Thus, we see that all the three concepts are related to human society, and the proper place for these should be under 3 – Social sciences. The number proposed is 300 [Vide Appendix].

070 – Newspapers. The Press. Journalism

The verbex cluster of Class 070 harbours very closely related three subjects, i.e. Newspapers, Press and Journalism. Here, Journalism has been subsumed to Newspapers and the Press. It is to be noted that Journalism is a well-recognized discipline like Documentation and Librarianship. Hence, Journalism should also figure prominently as the principal verbex of 070. Newspapers may be shifted to 051 as a subdivision of 05 and the Press can be placed under Journalism as Libraries figure under Librarianship.

159.9 – Psychology

The class Psychology has been shifted to 15 and the branches to 151/158 in consonance with 159.91/.98. This fills in the vacant class numbers 151/158 on the one hand and cuts down the length of existing class numbers considerably [Vide Appendix].

316 – Sociology

The class number 31 harbours Statistics (311), Demography (314), and Sociology (316). As per definition, demography is 'the statistical science dealing with the distribution, density, vital statistics, etc. of human populations'. Very rightly, demography forms a part of statistical science. Sociology has been defined as 'the science of human society and of social relations, organization, and change; specif., the study of the beliefs, values, etc. of societal groups and of the processes governing social phenomena'¹¹. From the definition, it is absolutely clear that sociology is not a constituent of statistical science. Hence, its location at 316 is untenable. The number suggested for the subject is 301.

5 – Mathematics and natural sciences

There are umpteen number of documents that deal with science and technology together. To classify these documents, the number 5+6 or 5/6 or 5+62 are generally used. To simplify and shorten the number 5 is being suggested for Science and technology, 50 for Mathematics and natural sciences and 500 for Pure science.

51 Mathematics

Statistics, Physico-mathematics, Applied mathematics, Pure mathematics, etc comprise the concept

Mathematical sciences for which there is no number in UDC. Books, courses, colleges, institutes on mathematical sciences are aplenty in the world. Hence, 51 is being suggested for Mathematical sciences and 500 for Mathematics, and 51.0 for Fundamentals, general considerations, etc.

52 Astronomy. Astrophysics. Space research. Geodesy

Against 52 there are four verbexes. Hence, the verbex proposed for 52 is Astronomy etc. There is no number for Astronomy as such. Hence the 520 is being proposed for Astronomy, and 520.1/.8 for Astronomical instruments and techniques whereby the existing numbers for instruments and techniques remain unaffected.

53 Physics

Physical sciences comprise astronomy, physics, chemistry and geology^{12,13} and there are numerous books, periodicals, etc on this subject. As there is no number for Physical sciences in UDC, 53 is being suggested for that and 530 for Physics.

54 Chemistry. Crystallography. Mineralogy

Chemical sciences comprise among others chemistry, astrochemistry, biochemistry, pharmaceutical chemistry, agricultural chemistry, crystallography, spectroscopy, etc. Moreover, encyclopaedias, dictionaries, many books and periodicals deal with both chemistry and chemical technology. Hence the number 54 is being suggested for Chemical sciences, Pure and applied chemistry, as well as for Chemistry and chemical technology, and 540 for Chemistry alone.

57 Biological sciences

Biological sciences, Biosciences and Life sciences are more or less equivalent concepts. Hence 57 is being suggested for all these concepts, and 570 for Biology to take care of the subdivisions of 57.

58 Botany

Botany is also known as plant science. Subjects like agriculture, horticulture, forestry, etc are also closely related to botany. All these concepts can be brought under the umbrella of the single verbex Plant sciences. Encyclopaedias, dictionaries, etc on plant sciences would obviously cover terms from all these areas. Keeping all these in view, the number 58 is being suggested for Plant

sciences as well as Pure and applied botany; and 580 for Botany.

582 – Systematic botany

To fill in vacant class numbers from 583 to 589, and to shorten the length of class numbers, the subdivisions of Systematic botany have been spread over from 582 to 589 [Vide Appendix].

59- Zoology

Animal sciences is gradually becoming a recognized discipline and departments devoted to animal sciences are gradually sprouting up. Moreover, applied zoology is also a recognized discipline. Pure zoology, applied zoology, animal husbandry, applied ichthyology, economic insect husbandry, etc are coming within the domain of the discipline animal sciences. Keeping all these in view, the number 59 has been suggested for Animal sciences, Pure and applied zoology, etc and 590 fro Zoology.

620 – Materials testing. Commercial materials. Power stations. Economics of Energy

There are four verbexes against the class number 620. Let us examine them one by one.

Materials testing – The class number for Materials testing is already 620.1, a subdivision of 620. Hence, the verbex Materials testing should not figure against 620.

Commercial materials – There is no need to restrict the verbex only to Commercial materials as materials testing covers all sorts of materials. The better verbex would be Materials that will include Commercial materials, Engineering materials, and so on.

Power stations – This verbex is a misfit here. It forms a subdivision of electrical engineering and should go there.

Economics of energy – This is purely a subdivision of economics. Hence, it will be best placed there.

Considering the above facts into account, we may use 620 only for Materials with '620.1 – Materials testing' as one of its subdivisions. The class 620 can be developed in parallel with –03. Examples: 620.2 – Naturally occurring mineral materials, 620.4 – Metals etc.

621.039 Nuclear engineering

To represent a pure and well-recognized discipline, why .0 (a special auxiliary) was used is not clear. I came across UDC for the first time in early 1960s. At that time it took quite sometime for me to understand that .039 of 621.039 is not a special auxiliary. To make this understand to my colleagues and students it took years. How much confusion this type of class numbers create can only be imagined by those who experience it.

My suggestion is for disciplines like nuclear technology, nuclear engineering, and applied nuclear science is that we can have a simple number like 621.1 for all these by making very little changes in 621. At present, 621.1 and 621.4 represent heat engines. These two numbers are separated by hydraulic energy etc and electrical engineering, which is highly illogical. It will only be appropriate to shift the incumbents of 621.1 to 621.4 vacating 621.1 to accommodate nuclear technology. If this is done, then the subdivisions of 621/621.5 will take the following shape and eliminate the confusion persisting for decades.

621 – Mechanical engineering etc

621.1 – Nuclear engineering. Applied nuclear science. Nuclear technology

621.2 – Hydraulic engineering

621.3 – Electrical engineering

621.4 – Heat engines

621.5 – Pneumatic engineering

63 - Agriculture and related sciences and techniques. Forestry. Farming. Wild life exploitation

The relocation of Forestry from 630 to 635, and the incumbents of 635 to 634.9 has already been discussed

and the relocated subjects have been shown in Table 1. 65

This class harbouring management and a host of other non-technological subjects was a total misfit among all the subdivisions of 6. Of late majority of the subdivisions of this class has been relocated. The rest may be relocated as shown in Table 3.

66.0 Chemical engineering

The number suggested for this is 660, which is devoid of .0 special auxiliary.

8 Language. Linguistics. Literature

Several decades ago class number 4 harbouring Language and all its subdivisions were shifted to 8. Since then 8 has been representing Language, Linguistics and Literature. Now, 80, 801, and 808 respectively represent subjects like Philology, Prosody and Rhetoric. Specific languages of the world has now been squeezed into a single number 811, and literature into 821 thus leaving all class numbers 4/499, 812/819, and 822/899 absolutely vacant. Now, for the entire subdivisions of language and literature, out of more than 200 available numbers, only seven numbers are being used! It is not known what great purpose, squeezing of hundreds of subjects into a very few numbers is serving. In fact, the class numbers 811 and 821 have turned into 'black holes'. For several decades now, no use has been made of 100-odd vacant numbers under class 4. Similarly, which subjects are going to fill in the numbers 812/819, and 822/899 in future is not known. Hence, for shortening the length of the class numbers, and filling up the vacant spaces at 4 and 8 the languages have been placed back to 4/499 and literature of various languages to 8/899 (Vide Appendix). The suggested relocation will ensure greater logical

Table 3 – Relocation of the classes of 65

Existing no.	Suggested No.	Existing Verbex	Suggested verbex
654	005	Telecommunication and telecontrol	Telecommunication and telecontrol
655	055	Graphic industries. Publishing. Printing. Book trade	Graphic industries. Publishing. Printing. Book trade
656	333	Transport and postal service. Traffic organization and control	Transport
657	337	Accountancy	Accountancy
658	068	Business management, administration, commercial organization	Commercial organisation and management
659	069	Publicity. Information and public relation.	Public relation. Publicity

order, halting of black hole phenomenon, and reduction in the length of class numbers up to 50% or more. Still in many cases numbers are lengthy. Another exercise is needed to shorten them further.

9 – Geography. Biography. History

The relocation of existing UDC numbers for Geography and History of specific places to previous numbers has already been discussed under the heading Complexity to Simplicity.

Conclusion

Many a suggestion has been put forth in the article. If the suggestions are found useful by the UDC authorities, it is hoped that it will add a new dimension to the UDC revision.

References

1. *UDC – Universal Decimal Classification*, Vol.1 - Systematic tables and Vol 2 – Alphabetical index. Standard edn (British Standards Institution, London), 2005. Also Outline of UDC. www.udcc.org [seen on 14 December 2006].
2. *Library of Congress Subject Headings*, 29th edn, (Library of Congress, Washington), 2006, 5v
3. *Sears List of Subject Headings*, 18th edn, (Wilson, New York), 2004, p. 804
4. *Webster's New World Dictionary*, [forming part of *Compton's Reference Collection*. 1996. (in CD)].
5. Ibid
6. www.thefreedictionary.com (8 January 2007)
7. Ibid
8. Ibid
9. Ibid
10. Pearsall J, *The Concise Oxford Dictionary*. 10th edn, (Oxford University Press, Oxford), 1999, p. 682.
11. Op. cit. 4
12. Op. cit. 10
13. [www.answers.com/topic/topic/physical science](http://www.answers.com/topic/topic/physical%20science)(11 February 2007)

APPENDIX
[Changes shown in italics]

Existing No.	Proposed No.	Existing verbex	Proposed verbex (in italics)
0		Generalia. Science and knowledge. Organization. Information. Documentation. Librarianship. Institution. Publication.	
	<i>0 = 001/999</i>		<i>Generalia</i>
00		Prolegomena. Fundamentals of knowledge and culture. Propaedeutics	Shifted to 001
	<i>00 = 001/099</i>		<i>General disciplines and topics</i>
001		Science and knowledge in general. Organization of intellectual work.	<i>Prolegomena. Propaedeutics. Knowledge</i>
002		Documentation. Books. Writings. Authorship	<i>Documentation. Rest shifted to 052, 408</i>
003		Writing systems and scripts.	Shifted to 40
	<i>003</i>		<i>Signs and symbols</i>
004	004	Computer science and technology. Computing. Data processing	<i>Computer science and technology.</i>
005		Management	Shifted to 065
	<i>005</i>		<i>Information and communication. Telecommunication and telecontrol. Cybernetics. Human engineering</i>
006	006	Standardization of products, operations, weights, measures and time.	<i>Standardization</i>
007		Activity and organizing. Information, communication and control theory generally (Cybernetics). Human engineering	Shifted to 005
008		Civilization. Culture. Progress	Shifted to 300
01	01	Bibliography and bibliographies. Catalogues	<i>Bibliography</i>
011 /016	011/016	Bibliographies	<i>Bibliographies</i>
011	011	Universal and general bibliographies	<i>General bibliographies</i>
012	012	Author bibliographies. Individual bibliographies	<i>Author bibliographies</i>
013/014			No change suggested
015	015	Bibliographies of place.	<i>Area bibliographies</i>
016	016	Special subject bibliographies	<i>Subject bibliographies</i>
017 /019	017/019	Catalogues in general. Inventories of actual collections. Library catalogues. Publishers', booksellers' lists etc.	<i>Catalogues etc</i>
017	017	Catalogues in general. Subject catalogues.	<i>Catalogues</i>
018/019			No change suggested
02	02	Librarianship	<i>Library and information science.</i>
021/022			No change suggested
023	023	Library administration. Staff. Personnel	<i>Library administration</i>
024	024	Relations with the public. Regulations for library use	<i>Public relation etc</i>
	<i>026/027</i>		<i>Libraries</i>
026/028			No change suggested
03	03	General reference books. Encyclopaedias. Dictionaries	<i>General reference books</i>
	<i>031</i>		<i>Encyclopaedias</i>
	<i>038</i>		<i>Dictionaries</i>
	<i>05</i>		<i>Publications etc</i>
050	050	Serial publications. Periodicals. Their function, business and editorial management.	<i>Serials</i>

050.8/9			No change suggested <i>Newspapers</i> <i>Books etc</i> <i>Graphic industries. Publishing. Printing.</i> <i>Book trade.</i>
	051		
	052		
	055		
06		Organizations of a general nature. □ Associations. Museums	<i>Organizations and management</i>
	060		<i>Organizations etc</i>
061	061	Organizations and other types of cooperation.	<i>Management</i>
	065		
	068		<i>Business organizations and management.</i>
069		Museums. Permanent exhibitions	No change suggested
070		Newspapers. The press. Journalism	<i>Journalism.</i> Newspapers shifted to 051
08/099			No change suggested
1	1	Philosophy. Psychology	<i>Philosophy and psychology</i>
101/140			No change suggested
159.9	15	Psychology	<i>Psychology</i>
159.91	151	Psychophysiology (Physiological psychology). Mental physiology	<i>Physiological psychology</i>
159.92	152	Mental development and capacity. Comparative psychology	<i>Mental development and capacity etc</i>
159.93	153	Sensation. Sensory perception	<i>Sensation</i>
159.94	154	Executive functions	<i>Executive functions</i>
159.95	155	Higher mental processes	<i>Higher mental processes</i>
159.96	156	Special mental states and processes	<i>Special mental states and processes</i>
159.97	157	Abnormal psychology. Insanity. Mental deficiency	<i>Abnormal psychology</i>
159.98	158	Applied psychology. Psychotechnology	<i>Applied psychology. Psychotechnology</i>
16	16	Logic. Epistemology. Theory of knowledge in general. Methodology of logic	<i>Logic and epistemology</i>
161/168			No change suggested
17	17	Moral philosophy. Ethics. Practical ethics	<i>Ethics. Moral philosophy. Practical ethics</i>
171/179			No change suggested
2		Religion. Theology	<i>Religion and theology</i>
21/29			No change suggested
3	3	Social sciences	<i>Social sciences</i>
30	30	Theories, methodology and methods in social sciences in general. Sociography	<i>Theories etc</i>
	300		<i>Civilization. Culture. Human progress</i>
	301		<i>Sociology. Society</i>
303	303	Methods of the social sciences	No change suggested
304/307			No change suggested
308	308	Sociography. Descriptive studies of society (both qualitative and quantitative)	
31	31	Demography. Sociology. Statistics	<i>Statistics</i>
311/315			No change suggested
316		Sociology	Shifted to 301
32/321			No change suggested
322	322	Relation between church and states. Policy towards religion. Church policy.	<i>State and religion</i>
323	323	Home affairs. Internal policy	No change suggested
324	324	Elections. Plebiscites. Referendums. Election campaigns. Electoral corruption, malpractices. Election results.	<i>Elections</i>
325/329			No change suggested
33	33	Economics. Economic science	No change suggested
331	331	Labour. Employment. Work. Labour economics.	<i>Labour economics</i>

332	332	Organization of labour Regional economics. Territorial economics. Land economics. Housing economics	<i>Area economics etc</i>
	333		<i>Transport and postal services. Traffic organization and control</i>
334	334	Form of organization and cooperation in economy.	<i>Economic cooperation</i>
336	336	Finance. □ Public finance. Bench marking	<i>Finance</i>
	337		<i>Accountancy</i>
338/339			No change suggested
34	34	Law. Jurisprudence	<i>Law and jurisprudence</i>
340	340	Law in general. Legal methods and auxiliary services	<i>Law</i>
341/343			No change suggested
344	344	Special criminal law. Military, naval and air force law.	<i>Special criminal law. Defence law</i>
346	346	Economic law. Law of government control of the economy	<i>Economic law</i>
347	347	Civil law	No change suggested
348	348	Ecclesiastical law. Canon law. Religious law	<i>Religious law</i>
349	349	Special branches of law. Miscellaneous legal matters	No change suggested
35	35	Public administration. Government. Military affairs	<i>Public administration etc.</i>
351/354			No change suggested
355/359	355/359	Military affairs. Art of war and military science. Defence. Armed forces	<i>Defence science</i>
355	355	Military affairs generally	<i>Military affairs</i>
356	356	Army service generally. Infantry. Foot soldiers	<i>Army</i>
357	357	Cavalry. Mounted troops. Motorized troops.	No change suggested
358	358	Artillery. Engineers. Aviation. Various technical and their function	<i>Air force etc</i>
359	359	Naval forces. Military fleet. Navy: personnel, organization	<i>Navy</i>
36	36	Safeguarding the mental and material necessities of life.	<i>Social work etc [including Housing. Insurance]</i>
364	364	Social welfare	No change suggested
365	365	Accommodation desires and their fulfillment. Safeguarding accommodation	<i>Housing</i>
366	366	Consumerism	No change suggested
368	368	Insurance. Communal provision through sharing of risk.	<i>Insurance</i>
37	37	Education	No change suggested
371/377			No change suggested
378	378	Higher education. Universities. Academic study	<i>Higher education etc</i>
39/399	39/399		No change suggested
	4	General questions relating to both linguistics and literature.	<i>Language and literature</i>
	40		<i>Writing systems and scripts</i>
	400		<i>Language and languages. Philology</i>
	401	Prosody. Auxiliary sciences and sources of phonology	<i>Prosody. Auxiliary sciences and sources of phonology</i>
	408	Rhetoric. The effective use of language	<i>Rhetoric. Writing. Authorship</i>
	41	Linguistics and languages	<i>Linguistics and languages</i>
	41/49	Languages	<i>Languages</i>
	41/42	Indo-European languages	<i>Indo-European languages</i>
	411	Germanic languages	<i>Germanic languages</i>
	411.1	English	<i>English</i>
	411.22	German	<i>German</i>

	411.5	Dutch	Dutch
	412	Italic languages	Italic languages
	412.4	Latin	Latin
	413	Romance languages	Romance languages
	413.11	Italian	Italian
	413.31	French	French
	413.42	Spanish	Spanish
	413.43	Portuguese	Portuguese
	414	Greek (Hellenic)	Greek (Hellenic)
	415	Celtic languages	Celtic languages
	416	Slavic languages	Slavic languages
	416.11	Russian	Russian
	417	Baltic languages	Baltic languages
	421	Indic languages	Indic languages
	421/422	Indo-Iranian languages	Indo-Iranian languages
	421.1	Sanskrit	Sanskrit
	421.421	Hindi	Hindi
	421.422	Urdu	Urdu
	421.425	Gujarati	Gujarati
	421.427	Punjabi	Punjabi
	421.431	Assamese	Assamese
	421.432	Bengali group	Bengali group
	421.435	Marathi	Marathi
	421.436	Oriya	Oriya
	421.443	Nepali	Nepali
	429	Dead Indo-European languages	Dead Indo-European languages
	434	Dead languages of unknown affiliation, spoken in the Mediterranean and Near East	Dead languages of unknown affiliation, spoken in the Mediterranean and Near East
	435	Caucasian languages	Caucasian languages
	441	Afro-Asiatic (Hamito-Semitic) languages	Afro-Asiatic (Hamito-Semitic) languages
	442	Nilo-Saharan languages	Nilo-Saharan languages
	443	Congo-Kordofanian languages (Niger-Kordofanian languages)	Congo-Kordofanian languages (Niger-Kordofanian languages)
	445	Khoisan languages	Khoisan languages
	451	Ural –Altaic languages	Ural –Altaic languages
	452.1	Japanese	Japanese
	453.1	Korean	Korean
	455	Palaeo-Siberian languages	Palaeo-Siberian languages
	456	Eskimo-Aleut languages	Eskimo-Aleut languages
	457	Dravidian languages	Dravidian languages
	457.224	Telugu	Telugu
	457.311	Kannada (Kanarese)	Kannada (Kanarese)
	457.314	Malayalam	Malayalam
	457.315	Tamil	Tamil
	458	Sino-Tibetan languages	Sino-Tibetan languages
	458.1	Chinese languages	Chinese languages
	461	Austro-Asiatic languages	Austro-Asiatic languages
	471	Indo-Pacific (non-Austronesian) languages	Indo-Pacific (non-Austronesian) languages
	472	Australian languages	Australian languages
	472	American Indian (Amerindian) languages	American Indian (Amerindian) languages
	481/482	North-American Indian languages	North-American Indian languages
	487	Central and South American Indian languages	Central and South American Indian languages
	49	Artificial languages	Artificial languages
5/6	5		<i>Science and technology</i>
5	50 = 501/599	Mathematics and natural sciences.	Mathematics and natural sciences
50	500	Generalities about the pure sciences	<i>Pure Sciences. Science</i>

502/504	502/504	Environmental science. Conservation of natural resources. Threats to environment and protection against them	<i>Environmental science</i>
51	51	Mathematics	<i>Mathematical sciences. Pure and applied mathematics.</i>
	51.0		<i>Fundamentals</i>
	510		<i>Mathematics</i>
510		Fundamental and general considerations of mathematics	Shifted to 51.0
511/519			No change suggested
52	52	Astronomy. Astrophysics. Space research. Geodesy	<i>Astronomy etc</i>
520		Astronomical instruments and techniques	Shifted to 520.1/8
	520		<i>Astronomy</i>
	520.1/8		<i>Astronomical instruments and techniques</i>
521	521	Theoretical astronomy. Celestial mechanics	No change suggested
523	523	The solar system	<i>Solar system</i>
524	524	Stars. Stellar system. The universe.	<i>Universe</i>
528	528	Geodesy. Surveying. Photogrammetry. Remote sensing. Cartography.	<i>Geodesy etc</i>
	53= 52/55		<i>Physical sciences</i>
53		Physics	Shifted to 530
	530		<i>Physics</i>
531	531	General mechanics. Mechanics of solid and rigid bodies	No change suggested
532	532	Fluid mechanics in general. Mechanics of liquids (hydromechanics)	<i>Fluid mechanics. Hydromechanics</i>
533	533	Mechanics of gases. Aeromechanics. Plasma physics	<i>Aeromechanics and plasma physics</i>
534	534	Vibrations. Acoustics	<i>Vibrations and acoustics</i>
535	535	Optics	No change suggested
536	536	Heat. Thermodynamics	<i>Heat</i>
537	537	Electricity. Magnetism. Electromagnetism	<i>Electricity and magnetism</i>
539	539	Physical nature of matter	No change suggested
54	54	Chemistry. Crystallography. Mineralogy	<i>Chemical sciences. Pure and applied chemistry. Chemistry and chemical technology</i>
	540		<i>Chemistry</i>
542	542	Practical laboratory chemistry. Preparative and experimental chemistry	<i>Practical chemistry etc</i>
543/548			No change suggested
549	549	Mineralogy. Special study of minerals	<i>Mineralogy</i>
55	55	Earth sciences. Geological sciences	<i>Earth sciences. Geological sciences. Geosciences. Geology</i>
550	550	Ancillary sciences of geology etc.	No change suggested
551	551	General geology. Meteorology. Climatology. Historical geology. Stratigraphy. Palaeogeography	<i>General geology etc. Climatology shifted to 559</i>
552/553			No change suggested
556	556	Hydrosphere. Water in general. Hydrology	<i>Hydrology. Water. Hydrosphere</i>
	559		<i>Climatology</i>
56/569			No change suggested
57	57	Palaeontology Biological sciences in general.	<i>Biological sciences. Biosciences. Life sciences</i>
	570 = 571/579		<i>Biology</i>
572	572	Anthropology	<i>Anthropology</i>
573	573	General and theoretical biology	<i>General and theoretical biology</i>
574	574	General ecology and biodiversity	<i>Ecology and biodiversity</i>
575	575	General genetics. General cytogenetics	<i>Genetics</i>

576	576	Cellular and subcellular biology. Cytology	<i>Cytology</i>
577	577	Material bases of life. Biochemistry. Molecular biology. Biophysics	<i>Material bases of life</i>
578/579			No change suggested
58	58	Botany	<i>Plant sciences. Pure and applied botany</i>
	580		<i>Botany</i>
581	581	General botany	General botany
582	582/589	Systematic botany	Systematic botany
582.2/3	582/583	Cryptogams. Flowerless plants. Spore plants	Cryptogams. Flowerless plants. Spore plants
582.4	584	Seed plants in general. Spermatophyta. Phanerogams. Siphonogamous embryophyta	Seed plants in general. Spermatophyta. Phanerogams. Siphonogamous embryophyta
582.5/9	585/589	Angiospermae (Magnoliophyta). Angiosperms. Flowering plants, covered seed plants. Later seed plants	Angiospermae (Magnoliophyta). Angiosperms. Flowering plants, covered seed plants. Later seed plants
582.6/9	586/589	Dicotyledonae	Dicotyledonae
582.7	587	Rosidae	Rosidae
582.9	589	Asteridae	Asteridae
59	59	Zoology.	<i>Animal sciences. Pure and applied zoology</i>
	590		<i>Zoology</i>
591	591	General zoology	General zoology
592	592	Invertebrata	Invertebrata
592/599	592/599	Systematic zoology	Systematic zoology
593	593	Protozoa etc	Protozoa etc
594	594	Mollusca. Shellfish etc	Mollusca. Shellfish etc
595	595	Articulata. Worms etc	Articulata. Worms etc
596/599		Chordata	Chordata
597/599	597	Vertebrata	Vertebrata
598	598	Sauropsida	Sauropsida
599	599	Mammalia. Mammals	Mammalia. Mammals
6	6 =60/69	Applied sciences. Medicine. Technology	<i>Applied sciences etc</i>
60	60	Biotechnology	No change suggested
601	601	Fundamental concepts	<i>Biotechnological concepts</i>
602	602	Processes and techniques	<i>Biotechnological processes and techniques</i>
604	604	Products	<i>Biotechnological products</i>
606	606	Applications of biotechnology	<i>Applied biotechnology</i>
608	608	Issues: Including legal, economic and moral complications	<i>Biotechnological issues</i>
61	61	Medical sciences	Medical sciences
611/612	611/612	Human biology	Human biology
611	611	Anatomy. Human and comparative anatomy	<i>Anatomy. Human anatomy. Comparative anatomy</i>
612	612	Physiology. Human and comparative physiology	<i>Physiology. Human Physiology. Comparative physiology</i>
613/614		Health and hygiene	Health and hygiene
613	613	Hygiene generally. Personal health and hygiene	<i>Hygiene. Personal health and hygiene</i>
614	614	Public health and hygiene. Accident prevention	<i>Public health and hygiene etc</i>
615	615	Pharmacology. Therapeutics. Toxicology	<i>Pharmacology etc</i>
616	616	Pathology. Clinical medicine	<i>Pathology and clinical medicine</i>
617	617	Surgery. Orthopaedics. Ophthalmology	<i>Surgery etc</i>
618	618	Gynaecology. Obstetrics	<i>Gynaecology and Obstetrics</i>
62	62	Engineering. Technology in general	<i>Engineering and Technology</i>
620	620	Materials testing. Commercial materials. Power stations. Economics of energy	<i>Materials. Engineering materials. Commercial materials</i>
620.1		Materials testing	Materials testing
620.2			<i>Mineral materials (Naturally occurring)</i>

620.4			<i>Metals</i>
621	621	Mechanical engineering in general. Nuclear technology. Electrical engineering. Machinery	<i>Mechanical engineering etc</i>
621.039		Applied nuclear science. Atomic energy and atomic industry. Nuclear engineering in general	
	621.1		<i>Applied nuclear science Nuclear engineering Nuclear technology</i>
	621.2		<i>Hydraulic engineering</i>
621.3	621.3	Electrical engineering	<i>Electrical engineering</i>
	621.4		<i>Heat engines</i>
	621.5		<i>Pneumatic engineering</i>
622	622	Mining	<i>Mining</i>
623	623	Military engineering	<i>Military engineering</i>
624	624	Civil and structural engineering in general.	<i>Civil and structural engineering</i>
625	625	Civil engineering of land transport. Railway engineering. Highway engineering	<i>Road and railway engineering</i>
626	626	Hydraulic engineering in general	<i>Hydraulic engineering</i>
627	627	Natural waterway, port, harbour and shore engineering. Navigational, dredging, salvage and rescue facilities. Dams and hydraulic power plant.	<i>Water-related engineering</i>
628	628	Public health engineering. Water. Sanitation. Illumination engineering.	<i>Public health engineering. Environmental engineering.</i>
629	629	Transport vehicle engineering	<i>Transport vehicle engineering</i>
63	63	Agriculture and related sciences and techniques. Forestry. Farming. Wildlife exploitation.	<i>Agriculture and related disciplines</i>
630		Forestry	<i>Shifted to 635</i>
631	631	Agriculture in general	<i>Agriculture</i>
632	632	Plant damage, injuries. Plant diseases. Pests, organisms injurious to plants. Plant protection	<i>Plant pathology</i>
633/635		Specific crops. Horticulture	
	633/634		<i>Crops</i>
633	633	Field crops and their production	<i>Field crops</i>
634	634	Horticulture generally	<i>Horticulture</i>
635	634.9	Garden plants. Gardening	<i>Vegetables etc</i>
	635		<i>Forestry</i>
636	636	Animal husbandry and breeding in general. Livestock rearing. Breeding of domestic animals	<i>Animal husbandry</i>
637	637	Produce of domestic(farmyard) animals and games	<i>Animal produce</i>
638	638	Keeping, breeding and management of insects and other arthropods	<i>Insect husbandry etc</i>
639	639	Hunting. Fishing. Fish breeding	<i>Hunting and fishery</i>
64	64	Home economics. Domestic science. Housekeeping.	<i>Domestic science</i>
640/642			<i>No change suggested</i>
643	643	The home. The dwelling	<i>Home and dwelling</i>
644/649			<i>No change suggested</i>
65/653			<i>No change suggested</i>
654		Telecommunication and telecontrol (organization, services)	<i>Shifted to 005</i>
655		Graphic industries. Printing. Publishing. Book trade	<i>Shifted to 005</i>
656		Transport and postal services. Traffic organization and control	<i>Shifted to 333</i>
657		Accountancy	<i>Shifted to 337</i>
658		Business management, administration. Commercial	<i>Shifted to 068</i>

		organization	
659		Publicity. Information work. Public relations	Shifted to 069
66	66	Chemical technology. Chemical and related industries.	<i>Chemical technology</i>
66.0		Chemical engineering in general	
	660		<i>Chemical engineering</i>
661	661	Chemicals	Chemicals
662	662	Explosives. Fuels	<i>Explosives and fuels</i>
663	663	Industrial microbiology. Industrial mycology. Zymurgy, fermentation industry. Beverage industry. Stimulant industry	<i>Industrial microbiology etc</i>
664	664	Production and preservation of solid foodstuffs	<i>Food technology</i>
665	665	Oils. Fats. Waxes. Adhesives. Gums. Resins	<i>Oils, fats, waxes, etc</i>
666	666	Glass industry. Ceramics. Cement and concrete	<i>Glass technology etc</i>
667	667	Colour industries. □ Manufacture and use of dyes, inks, paints, etc	<i>Colour technology</i>
669	669	Metallurgy	Metallurgy
67	67	Various industries, trades and crafts	<i>Other technologies</i>
671	671	Articles of precious metals, gems, precious stones	<i>Precious wares</i>
672	672	Articles of iron and steel in general	<i>Ferrous metalwares</i>
673	673	Articles of non-ferrous metals (except precious metals)	<i>Non-ferrous metalwares. Excluding: Precious wares</i>
674	674	Timber and woodworking industry	<i>Timber and woodworking technology</i>
675	675	Leather industry. (Including: Fur and imitation leather)	<i>Leather technology</i>
676	676	Pulp, paper and board industry	<i>Paper technology</i>
677	677	Textile industry	<i>Textile technology</i>
678	678	Industries based on macromolecular materials. Rubber industry. Plastics industry	<i>Rubber and plastics technology. Macromolecular technology</i>
679	679	Industries based on various processable materials	<i>Technology for various processable materials</i>
68	68	Industries, crafts and trades for finished or assembled articles	<i>Technology for finished or assembled articles</i>
681	681	Precision mechanisms and instruments	Precision mechanisms and instruments
682	682	Smithery. Blacksmithery. Farriery. Hand-forged ironwork	<i>Smithery etc</i>
683	683	Ironmongery. Hardware. Locksmithing. Bottling. Lamps. Heating appliances	<i>Ironmongery etc</i>
684	684	Furniture and allied industries. Furniture manufacture. Upholstery	<i>Furniture manufacture etc</i>
685	685	Saddlery. Footwear. Gloving. Travels, sports, games and other equipment	<i>Saddlery etc</i>
686	686	Bookbinding. Metallizing. Mirror-making. Stationery	<i>Bookbinding etc</i>
687	687	Clothing industry. Garment manufacture. Beauty culture	<i>Clothing and accessories</i>
688/689			No change suggested
69	69	Building (construction) trade. Building materials. Building practice and procedure.	<i>Buildings</i>
691/694			No change suggested
696	696	Equipment, services, installations in buildings (sanitary, gas, steam, electrical). Pipe fitter, Plumber. Metal worker. Drainlayer. Electrician. Other trades	<i>Building installations and services.</i>
697	697	Heating, ventilation and airconditioning of buildings	<i>Heating, ventilation and airconditioning</i>
698	698	Finishing and decorating trades	<i>Finishing and decoration</i>

7	7	The arts. Recreation. Entertainment. Sport.	<i>Arts and entertaining activities</i>
71/719			No change suggested
72	72	Architecture	Architecture
721	721	Buildings generally. Programming. Design. Parts of specific uses. Rooms	<i>Buildings</i>
725	725	Public, civil, commercial, industrial buildings. Secular architecture generally	<i>Secular architecture. Non-religious architecture</i>
726	726	Religious, ecclesiastical architecture. Sacred and funerary buildings	<i>Religious architecture</i>
727	727	Buildings for educational, scientific and cultural purposes.	<i>Academic and cultural buildings</i>
728	728	Domestic architecture. Housing. Residential buildings	<i>Domestic architecture</i>
73	73	Plastic arts	Plastic arts
730	730	Sculpture in general. Statuary. Statues. Effigies	<i>Sculpture</i>
736/739			No change suggested
74	74	Drawing. Design. Applied arts and crafts	<i>Drawing and applied arts & crafts</i>
741	741	Drawing in general	<i>Drawing</i>
742/782			No change suggested
783	783	Church music. Sacred music. Religious music	<i>Religious music</i>
784/786			No change suggested
79	79	Recreation. Entertainment. Games. Sport.	No change suggested
8		Language. Linguistics. Literature	
	8		<i>Literature</i>
80		General questions relating to both linguistics and literature. Philology	Shifted to 40
801		Prosody. Auxiliary sciences and sources of phonology	Shifted to 401
808		Rhetoric. The effective use of language	Shifted to 408
81		Linguistics and languages	Shifted to 41
811		Languages	Shifted to 41/49
811.1/2		Indo-European languages	Shifted to 41/42
811.11		Germanic languages	Shifted to 411
811.111		English	Shifted to 411.1
811.112.2		German	Shifted to 411.2
811.112.5		Dutch	Shifted to 411.5
811.12		Italic languages	Shifted to 412
811.124		Latin	Shifted to 412.4
811.13		Romance languages	Shifted to 413
811.131.1		Italian	Shifted to 413.11
811.133.1		French	Shifted to 413.31
811.134.2		Spanish	Shifted to 413.42
811.134.3		Portuguese	Shifted to 413.43
811.14.		Greek (Hellenic)	Shifted to 414
811.15		Celtic languages	Shifted to 415
811.16		Slavic languages	Shifted to 416
811.161.1		Russian	Shifted to 416.11
811.17		Baltic languages	Shifted to 417
811.21		Indic languages	Shifted to 421
811.21/22		Indo-Iranian languages	Shifted to 421/422
811.211		Sanskrit	Shifted to 421.1
811.214.21		Hindi	Shifted to 421.421
811.214.22		Urdu	Shifted to 421.422
811.214.25		Gujarati	Shifted to 421.425
811.214.27		Punjabi	Shifted to 421.427
811.214.31		Assamese	Shifted to 421.431
811.214.32		Bengali group	Shifted to 421.432

811.214.35		Marathi	Shifted to 421.435
811.214.36		Oriya	Shifted to 421.436
811.214.43		Nepali	Shifted to 421.443
811.29		Dead Indo-European languages	Shifted to 429
811.34		Dead languages of unknown affiliation, spoken in the Mediterranean and Near East	Shifted to 434
811.35		Caucasian languages	Shifted to 435
811.41		Afro-Asiatic (Hamito-Semitic) languages	Shifted to 441
811.42		Nilo-Saharan languages	Shifted to 442
811.43		Congo-Kordofanian languages (Niger-Kordofanian languages)	Shifted to 443
811.45		Khoisan languages	Shifted to 445
811.51		Ural –Altaic languages	Shifted to 451
811.521		Japanese	Shifted to 452.1
811.531		Korean	Shifted to 453.1
811.55		Palaeo-Siberian languages	Shifted to 455
811.56		Eskimo-Aleut languages	Shifted to 456
811.57		Dravidian languages	Shifted to 457
811.572.24		Telugu	Shifted to 457.224
811.573.11		Kannada (Kanarese)	Shifted to 457.311
811.573.14		Malayalam	Shifted to 457.314
811.573.15		Tamil	Shifted to 457.315
811.58		Sino-Tibetan languages	Shifted to 458
811.581		Chinese languages	Shifted to 458.1
811.61		Austro-Asiatic languages	Shifted to 461
811.71		Indo-Pacific (non-Austronesian) languages	Shifted to 471
811.72		Australian languages	Shifted to 472
811.8		American Indian (Amerindian) languages	Shifted to 478
811.81/82		North-American Indian languages	Shifted to 481/482
811.87		Central and South American Indian languages	Shifted to 487
811.9		Artificial languages	Shifted to 49
82	8	Literature	Literature
821	81/89	Literature of individual languages	Literature of individual languages
821.1/2	821/822	Indo-European literatures	Indo-European literatures
821.111	811.1	English literature	English literature
821.112.2	811.22	German literature	German literature
821.112.5	811.5	Dutch literature	Dutch literature
821.12	822	Italic literatures	Italic literatures
821.124	812.4	Latin literature	Latin literature
821.13	823	Romance literatures. Greek.	Romance literatures. Greek.
821.131.1	813.11	Italian literature	Italian literature
821.133.1	813.31	French literature	French literature
821.134.2	813.42	Spanish literature	Spanish literature
821.134.3	813.43	Portuguese literature	Portuguese literature
821.135.1	813.51	Rumanian literature	Rumanian literature
821.14.	824	Greek (Hellenic) literature	Greek (Hellenic) literature
821.15	825	Celtic literatures	Celtic literatures
821.16	826	Slavic literatures	Slavic literatures
821.161.1	826.11	Russian literature	Russian literature
821.21	821	Indic literatures	Indic literatures
821.21/22	821/422	Indo-Iranian literatures	Indo-Iranian literatures
821.211	821.1	Sanskrit literature	Sanskrit literature
821.212	821.2	Pali literature	Pali literature
821.213	821.3	Prakrit literature	Prakrit literature
821.214	821.4	Modern Indic literatures	Modern Indic literatures
821.214.21	821.421	Hindi literature	Hindi literature
821.214.22	821.422	Urdu literature	Urdu literature

821.214.25	821.425	Gujarati literature	Gujarati literature
821.214.27	821.427	Punjabi literature	Punjabi literature
821.214.31	821.431	Assamese literature	Assamese literature
821.214.32	821.432	Bengali group	Bengali group
821.214.35	821.435	Marathi literature	Marathi literature
821.214.36	821.436	Oriya literature	Oriya literature
821.214.43	821.443	Nepali literature	Nepali literature
821.29	829	Dead Indo-European literatures	Dead Indo-European literatures
821.34	834	Dead literatures of unknown affiliation, spoken in the Mediterranean and Near East	Dead literatures of unknown affiliation, spoken in the Mediterranean and Near East
821.35	835	Caucasian literatures	Caucasian literatures
821.41	841	Afro-Asiatic (Hamito-Semitic) literatures	Afro-Asiatic (Hamito-Semitic) literatures
821.42	842	Nilo-Saharan literatures	Nilo-Saharan literatures
821.43	843	Congo-Kordofanian literatures	Congo-Kordofanian literatures
821.45	845	Khoisan literatures	Khoisan literatures
821.51	851	Ural -Altaic literatures	Ural -Altaic literatures
821.521	852.1	Japanese literature	Japanese literature
821.531	853.1	Korean literature	Korean literature
821.55	855	Palaeo-Siberian literatures	Palaeo-Siberian literatures
821.56	856	Eskimo-Aleut literatures	Eskimo-Aleut literatures
821.57	857	Dravidian literatures	Dravidian literatures
821.572.24	857.224	Telugu literature	Telugu literature
821.573.11	857.311	Kannada (Kanarese) literature	Kannada (Kanarese) literature
821.573.14	857.314	Malayalam literature	Malayalam literature
821.573.15	857.315	Tamil literature	Tamil literature
821.58	858	Sino-Tibetan literatures	Sino-Tibetan literatures
821.581	858.1	Chinese literature	Chinese literature
821.61	861	Austro-Asiatic literatures	Austro-Asiatic literatures
821.62	862	Austronesian literatures	Austronesian literatures
821.71	871	Indo-Pacific (non-Austronesian) literatures	Indo-Pacific (non-Austronesian) literatures
821.72	872	Australian literatures	Australian literatures
821.81/82	881/882	North-American Indian literatures	North-American Indian literatures
821.87	887	Central and South American Indian literatures	Central and South American Indian literatures
821.9	89	Artificial language literatures	Artificial language literatures
821.922	892.2	Esperanto literature	Esperanto literature
9	9	Geography. Biography. History	<i>History etc</i>
902	902	Archaeology	<i>Archaeology</i>
903	903	Prehistory. Prehistoric remains, artefacts, antiquities	<i>Prehistory</i>
904	904	Cultural remains of historical times	Cultural remains of historical times
908	908	Area studies. Study of a locality	<i>Area studies</i>
91	91	Geography. Exploration of the earth and of individual countries. Travel. Regional geography	<i>Geography and related topics</i>
910/912	910/912		No change suggested
913	913/919	Regional geography in general. Geography of the ancient world	Regional geography. Geography of the ancient world
913(4)	914	Geography of Europe	Geography of Europe
913(5)	915	Geography of Asia	Geography of Asia
913(7)	917	Geography of North and Central America	Geography of North and Central America
913(9)	919	Geography of Oceania, the polar regions, Australasia, etc	Geography of Oceania, the polar regions, Australasia, etc
929	92	Biography and related studies	Biography and related studies
93/94	93/99	History	<i>Ancient and modern history</i>
930	930	Science of history. Historiography	Science of history. Historiography
	931/939		<i>Ancient history</i>
94	94	General history	General history

94(4)	940	History of Europe. History of the West	History of Europe. History of the West
94(41)	941	History of British Isles	History of British Isles
94(420)	942	History of England and Great Britain	History of England and Great Britain
94(430)	943.0	History of Germany	History of Germany
94(44)	944	History of France	History of France
94(5)	950	History of the Orient. History of Asia	History of the Orient. History of Asia
94(54)	954	History of the Indian subcontinent	History of the Indian subcontinent
94(6)	960	History of Africa	History of Africa
94(7)	970	History of North and Central America	History of North and Central America
94(71)	971	History of Canada	History of Canada
94(73)	973	History of the United States of America	History of the United States of America
94(8)	980	History of South America	History of South America
94(94)	994	History of Australia	History of Australia
