

## Importance of ISBN (International Standard Book Number)

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### Introduction :

Today due to the tremendous increasing in the quality and quantity of various documents in information centre, libraries, and globe trade. It was felt and realized that every document should be assign a unique number, for the Bibliographical control of scientific literature at globe level. It such type of number, which identify to every document on national & International Level.

The ISBN(International Standard Book Number) is a unique number assigned to a Books and Books related product, and Book Title, its publisher, country for tracking and ordering purpose. An example is : ISBN 0385-49531-5. ISBN is known throughout the world as short and clear machine readable identification number, which marks any book unmistakably. ISBN is a machine readable in the form of 10 digit was given December 2006. And from Jan 2007 it became 13- digit. In India ISBN is assigned by RajaRam Mohan Roy National Agency from1985.This is fast system for the running of electronic point of sale system in book shop, ISBN mainly executes ordering and distributing of book, in the Book trade, libraries, information centre. which is the fast and efficient method. An ISBN is an important factor in book market.



The International Standard Book Number (ISBN) system was introduced in the world in 1972 and in India this system was put into operation in January 1985 by RajaRam Mohan Roy National Agency for ISBN and in the alphabetical order of member countries, our countries stand at Serial No. 55. The Indian ISBN Agency is putting tremendous efforts to popularize the system in India in achieving maximum registration of Publisher/Author and other Government/Semi government organizations/institutions through mass media , publisher, programmes, publicity through Newspapers, participation in various National Book fair, Book exhibition and through the help of various association of publisher of Book sellers etc.

Today Book industry are increasing very fast in India . The book industry in India is a large complex consisting of the wide range of professionals such as authors, editors, Book seller and distributor etc. India is Nation of poly language publication in the area of Book Industry. Today India is among the top multiannual publishing country in the world. India is the 6<sup>th</sup> largest book Producing country in the world, and India have3rd place in the production of Book in English after USA & U.K..

The International Standard Book Number (ISBN) evolved from the Standard Book Number (SBN) was previously used in some English speaking countries. An SBN is converted

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to an ISBN by prepending a digit '0'. It is a system of numerical identification for books, pamphlets, educational kits, microforms, CD-ROM and other digital and electronic publications. The numerical identification system of a book and book-related product is being used for global trade and finding. It is a unique identifier for books, specially intended to be used commercially. Since 1970 ISBN has been internationally recognized as the identification system for the publishing industry and book trade [1]. An ISBN accompanies a monographic publication from its production and onwards throughout the supply and distribution chain. Assigning a unique number to each published title, ISBN provides that title with its own, unduplicated, internationally recognized identifiers, Publishers, booksellers, libraries and others in the book industry use ISBN in order to expedite the handling and retrieval of publications with ease. and is in use today in almost 150 countries.

The National Agency for ISBN is responsible for registration of Indian Publishers, Authors, Universities, Institutions and Government Departments who are responsible for publishing of books. To obtain an ISBN, Publishers have to fill up an application form, which is available on net also or can be collected personally or by post by sending a request to the agency at its address, which can be had from the NBT website: <http://www.nbtindia.org.in>. Since its inception the National Agency has registered 19,000 publishers in different categories. The agency is also sending the progress report which is to be included in the Publishers International ISBN Directory.

**Advantages of using ISBN :**

The followings are the major advantages of ISBN. The ISBN is a unique international identifier for monographic publications; the ten-digit number, therefore, replaces the handling of long bibliographic descriptive records. Valuable time of staff are saved, copying mistakes are avoided.

1. The ISBN allows compilation and updating of book-trade directories, like Books in Print. Information on available books can be easily found.
2. Ordering and distribution of books are mainly executed by ISBN; quickly and efficiently which no other system can promise.
3. The ISBN is machine-readable in the form of a 13-digit Book land/ISBN EAN bar code. This is not only faster, but also error free;
4. The ISBN is needed for the running of electronic point-of-sale systems in bookshops;
5. Rights management is mainly done on the basis of ISBN.
6. Sales data monitoring is done by ISBN.
7. Libraries profit from copy cataloguing by ISBN.
8. The national lending right in some countries is based on ISBN.
9. We can find out any kind of description about book through ISBN by Internet at globe level.
10. It is machine readable no. of identification of documents.
11. It is decide the quality of Document at globe level
12. We can do bibliographical control in the Library and Information Centre, and Book trade through ISBN at globe level.

**Structure of ISBN and Its Identifiers:**

It was earlier a 10-digit ISBN system (9 digits plus the check digit) with the capacity to assign 1 billion numbers. On the face of it, the number might seem like more than enough but in fact, the internal structure of the ISBN limits the available capacity of the system. Each edition and variation (except reprints) of a book receives its own ISBN. The number is either 10 or 13 (after 1 January 2007) digits long, and consists of four (10 digits) or five (13 digits) parts:

## Importance of ISBN (International Standard Book Number)

### ISBN's parts

10 digit Group Publisher Title Check digit 81 7515 766 0 13 digit EAN Group  
Publisher Title Check digit 978 81 7515 766 5 Fig.1.1 Representation of the ISBN parts  
GS1 Prefix:

It is global standard 1. It is new number. in old ISBN, which have 10 digit. Here 978 and 979 added new number as a prefix in old ISBN number. Global Standard 1 (GS1). It is also called a Japanese Article Number (JAN) in Japan. UPC, EAN (It is European Article Number, is a bar-coding standard), and JAN numbers are collectively called Global Trade Item Numbers (GTIN), though they can be expressed in different kinds of barcodes. The EAN-13 barcodes are used worldwide for marking retail goods. The symbol encodes 13 numerals divided into four parts: System Code 978, 979 for ISBN and 977 for ISSN.

Example: 978-ISBN Or 979-ISBN

### Group Identifier :

The first part of the ISBN identifies a country, area or language area participating in the ISBN system. Some members form language areas (e.g. group number 3 = German language group) or regional units (e.g. South Pacific = group number 982). A group identifier may consist of up to 5 digits. Example: ISBN 90- ... All group identifiers are allocated by the International ISBN Agency in Berlin. It has maximum about 5 digit. Example 978-81 here 81 is assigned for India.

### Publisher Identifier:

The second part of the ISBN identifies a particular publisher within a group. The publisher identifier usually indicates the exact identification of the publishing house and its address. If publishers exhaust their initial contingent of title numbers, they may be allocated an additional publisher identifier. The publisher identifier may comprise up to seven digits. Publisher identifiers are assigned by the ISBN group agency responsible for the management of the ISBN system within the country, area, or language area where the publisher is officially based. Example: ISBN 90-70002- Publisher Identifier has maximum about 7 digit. It shows the publisher & his correct address. This is assigned by ISBN agency, in which country this agency is situated, has all description of publisher. Example Indian publisher are assigned by Raja Ram Mohan Roy Agency in India. 978-81-7000, here 7000 (4 digit) is assigned for Ess- Ess Publisher, New Delhi.

### Title Identifier:

The third part of the ISBN identifies a specific edition of a publication of a specific publisher. A title identifier may consist of up to six digits. As an ISBN must always have ten digits, blank digits are represented by leading zeros. Example: ISBN 90-70002-04. Title identifier has maximum 6 digit. It shows the specific identity for edition of Title of publication of specific publisher. For Example 978-81-7000-530 here 530 shows the specific title.

### Check Digit :

The check digit is the last digit of an ISBN. It is calculated on a modulus 11 with weights 10-2, using X in lieu of 10 where ten would occur as a check digit. This means that, each of the first nine digits of the ISBN – excluding the check digit itself – is multiplied by a number ranging from 10 to 2 and that the resulting sum of the products, plus the check digit, must be divisible by 11 without a remainder.

### Calculation for Check Digits in ISBN :

#### For 10 digits ISBN :

The International ISBN Agency in its official manual categorically states that, the 10-digit ISBN check digit, which is the last digit of the 10 digit ISBN, is calculated on a modulus 11 with weights 10 to 2, using X instead of 10, where ten would occur as a check digit. This

means that, each of the first nine digits of the 10-digit ISBN — excluding the check digit itself — is multiplied by a constant weight number in a sequence from 10 to 2 ( descending order) and that the resulting sum of the products, plus the check digit, must be divisible by 11 without a remainder.

By this method, the calculation for the 10-digit ISBN whose first nine digits are: 0-306-40615 would be done thus:

**First Method**

	Group/count	Publisher	Title	Check digit
ISBN	0	3 0 6	4 0 6 1 5	
Constant Weight (10-2)	10	9 8 7	6 5 4 3 2	
ISBN N0 X Constant weight	0 x 10	3x9, 0x8, 6x7	4x6, 0x5, 6x4, 1x3, 5x2	

ISBN N0.Multiply with Constant Weight and Sum  $0 \times 10 + 3 \times 9 + 0 \times 8 + 6 \times 7 + 4 \times 6 + 0 \times 5 + 6 \times 4 + 1 \times 3 + 5 \times 2$

Total Output =  $0 + 27 + 0 + 42 + 24 + 0 + 24 + 3 + 10 = 130$

$130 \div 11$  (Modulus) Then we find Remainder 9 , Bhajak 11 and Modules 11

Check digit = Moduls - Remainder ,  $11 - 9 = 2$  Now the check digit is 2 and complete ISBN is 0-306-40615-2

So the check digit is 2, and the complete sequence is ISBN 0-306-40615-2.

**Second Method**

A second method to find the check digit is by first multiplying each digit of the 10-digit ISBN by that digit's place in the number sequence from 1 to 9 (ascending order), with the leftmost digit being multiplied by 1, the next digit by 2, and so on. Next, take the sum of these multiplications and calculate the sum modulo 11, with "10" represented by the character "X". For example, to find the check digit for the 10-digit ISBN whose first nine digits are 0-306-40615 [2]

	Group/Country	Publisher	Title	Check digit
ISBN	0	3 0 6	4 0 6 1 5	
Constant Weight (1-9)	1	2 3 4	5 6 7 8 9	
ISBN N0 X Constant weight	0 x 1	3x2, 0x3, 6x4	4x5, 0x6, 6x7, 1x8, 5x9	

ISBN Sequence n. Multiply with Constant Weight

$0 \times 1 + 3 \times 2 + 0 \times 3 + 6 \times 4 + 4 \times 4 + 0 \times 6 + 6 \times 7 + 1 \times 8 + 5 \times 9$

Total Output Sum =  $0 + 6 + 0 + 24 + 20 + 0 + 42 + 8 + 45 = 145$

here  $145 \div 11$  after we find 13 Bhagphal , 2 Remainder

Here Check digit= Bhagphal x Moduls + Remainder

$13 \times 11 + 2$  So the check digit is 2

Now  $145 = 13 \times 11 + 2$  So the check digit is 2, and the complete sequence is ISBN 0-306-40615-2.

For those more mathematically inclined, it should be noticed that, a 10-digit ISBN's check digit is "actually" computed via dot products.  $(1,2,3,4,5,6,7,8,9)$  dot  $(x,x,x,x,x,x,x,x,x)$  mod 11 = check digit.

Check Digit in ISBN 13

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The International ISBN Agency's Official 2005 Manual covering some ISBNs issued 01 January 2007, describes how the 13-digit ISBN check digit is calculated. Calculating an ISBN 13 check digit requires that each of the first twelve digits of the 13-digit ISBN — excluding the check digit itself — be multiplied alternately by 1 or 3. Next, take the sum modulo 10 of these products. This result is subtracted from 10. The result is the check digit. If the check digit calculates to 10, 0 is used. 13 digit of ISBN have 5 parts.

*For example, an ISBN-13 of 978-0-306-40615-\_\_ is calculated*

	GS1 Prefix	Group/ Country	Publisher	Title	Check digit
ISBN	9 7 8	0	3 0 6	4 0 6 1 5	
Constant weight (1 or 3 next alternately)	1 3 1	3	1 3 1	3 1 3 1 3	
ISBN NO. X Constant weight)	9x1,7x3,8x1	0x3	3x1,0x3,6x1	4x3,0x1,1x15x3	

ISBN Sequence n. multiply with constantweight  $9 \times 1 + 7 \times 3 + 8 \times 1 + 0 \times 3 + 3 \times 1 + 0 \times 3 + 6 \times 1 + 4 \times 3 + 0 \times 1 + 6 \times 3 + 1 \times 1 + 5 \times 3$

Total Sum =  $9 + 21 + 8 + 0 + 3 + 0 + 6 + 12 + 0 + 18 + 1 + 15 = 93$  Now 93 divided by 10 Modules,  $93 \div 10$  we got 9 Bhagphal and 3 remainder and Bhajak 10 moduls Check digit = Modules - Reminder, and  $10 - 3 = 7$ ; So the check digit is 7, and the complete sequence is ISBN 978-0-306-40615-7.

For example 2 .An ISBN-13 of 978-0-356-42615- is calculated:  $9 \times 1 + 7 \times 3 + 8 \times 1 + 0 \times 3 + 3 \times 1 + 5 \times 3 + 6 \times 1 + 4 \times 3 + 2 \times 1 + 6 \times 3 + 1 \times 1 + 5 \times 3 = 9 + 21 + 8 + 0 + 3 + 15 + 6 + 12 + 2 + 18 + 1 + 15 = 110$ , Now  $110 \div 10 = 10$  Bhagphal and remainder 10 then Check digit = Moduls-Reminder  $10 - 10 = 0$ ; Report "0" So the check digit is 0, and the complete sequence is ISBN 978-0-356-42615-0.

#### Function of ISBN:

##### ISBN for Electronic Publications

The uses of ISBN are not only limited to the textual publication but also it is applicable for the electronic publications. Some of the important uses of ISBN in electronic publications are:

- \*Offline items, like floppy disks and CD-ROMs, are treated like any other publication;
- \*Online items may be completed and finalized publications, like a textbook on the Internet. In this case an ISBN would suffice;
- \*An online publication may be a bibliographic or fact database that is subject to change any second. This would be comparable to an encyclopedia or dictionary which is also constantly updated in other media, without each little amendment leading to a new edition or new ISBN. Only significant and/or structural changes (including title changes) would require new ISBNs;
- \*Linked material (e.g. hypertext) would only be considered covered by the same ISBN if the related material is actually part of the publication;
- \*If an online publication is available under different operating systems and/or command languages, each «edition» would require a separate ISBN

##### Practical Uses of ISBN

ISBN in publishing houses is used for

- \*identifying firm publication projects from the manuscript to the printer;
- \* title identification in publishers' catalogues and advertisements;
- \*listing in printed directories, electronic directories and in Internet sites;
- \* stock control;
- \* copyright management;

- \* management of royalties;
- \* processing of orders;
- \* accounting and billing;
- \* monitoring sales data;
- \* producing statistics;
- \* handling of returns

Books in Print services, distribution centers, and wholesalers is used for

- \* building bibliographic databases for the book trade like Books in Print;
- \* building databases of titles in stock;
- \* ordering services based on electronic communication systems like EDI (electronic data interchange) or via the Internet;
- \* stock control ;
- \* monitoring internal logistic processes;
- \* accounting and billing;
- \* producing sales data
- \* returns administration;
- \* producing subject lists and catalogues [

Centralized service organizations for libraries (producing ready-to-borrow copies) is used for:

- \* ordering at the publishers or wholesalers;
- \* processing orders from libraries;
- \* stock control;
- \* monitoring internal logistic processes;
- \* accounting and billing;
- \* administration of rebinding processes.

ISBN in bookshops is used for:

- \* bibliographic searches;
- \* tracing addresses;
- \* ordering and re-ordering processes based on electronic communication systems like EDI (electronic data interchange) or via the Internet;
- \* stock administration;
- \* accounting and billing the end consumer;
- \* electronic point-of-sale system (EPOS)

ISBN in libraries is used for

- \* ordering;
- \* copy-cataloguing;
- \* lending statistics;
- \* national lending right;
- \* union catalogues

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