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BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

मसौदा भारतीय मानक

सूचना प्रक्रम —
आंकडा विनिमय के लिए 3,81 मिमी चुंबकीय कैसेट पर 7-बिट कोडित अक्षर सेट और इसके 7-बिट प्रसार का कार्यान्वयन
(पहला पुनरीक्षण)

Draft Indian Standard

Information Processing — Implementation of the 7- Bit Coded Character Set and its 7- Bit and 8- Bit Extensions on 3,81 mm Magnetic Cassette for Data Interchange

(First Revision)

ICS 35.040.10; 35.220.23

LITD 20 Indian Language Technologies and Products Sectional Committee	**Last Date for Comments:** 20 Nov 2023.

NATIONAL FOREWORD

This Draft Indian Standard (First Revision) which is identical with ISO 3275:1974 'Information processing — Implementation of the 7- bit coded character set and its 7- bit and 8- bit extensions on 3,81 mm magnetic cassette for data interchange' issued by the International Organization for Standardization (ISO) *will be* adopted by the Bureau of Indian Standards on the recommendation of the Indian Language Technologies and Products Sectional Committee and approval of the Electronics and Information Technology Division Council.

This standard was originally published in 1990 and was identical with ISO 3275:1974. The first revision aligns this Indian Standard with ISO 3275:1974, there is a need to align the formatting and appearance of the standard as per the current practice. The following changes *will be* required in the standards under this revision: a) Adding Front cover page b) Addition of Hindi Title c) National foreword to be written a fresh d) UDC Number to be changed to ICS code.

The text of ISO Standard *may be* approved as suitable for publication as an Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appears referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

International standards	**Corresponding Indian standards**	**Degree of Equivalence**
ISO 646, 7-bit coded character set for information processing interchange.	IS 10315 : 1997 7 Bit coded character set for information interchange (First Revision)	Identical with ISO/IEC 646:1991
ISO 2022, Code extension techniques for use with the 7-bit coded character set	IS 12326 : 2005 Information technology - Character code structure and extension techniques (First Revision)	Identical with ISO/IEC 2022: 1994
ISO 3407, Information processing — 3,81 mm (0.150 in) magnetic tape cassette for information interchange, 32bpmm (800 bpi), phase encoded.	IS 12876 : 1989 Specification for information interchange on 3.81 mm magnetic tape cassette at 4 cpmm, phase encoded at 63 ftpmm	Identical with ISO 3407:1983

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:2022 'Rules for rounding off numerical values *(Second Revision)*'. The number of significant places retained in the rounded off value should be same as that of the specified value in this standard.

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the implementation of the 7-bit coded character set and of its 7-bit and 8-bit extensions for the interchange of data on 3, 81 mm magnetic tape cassette.

2 REFERENCES

ISO 646, 7-bit coded character set for information processing interchange.
ISO 2022, Code extension techniques for use with the 7-bit coded character set.
ISO 3407, Information processing – 3,81 mm (0.150 in) magnetic tape cassette for information interchange, 32bpmm (800bpi), phase enclosed.

3 DEFINATION

3.1 Magnetic Tape: Tape which will accept and retain magnetic signals intended for input, output and storage purposes on computers and associated equipment.

3.2 Track: A longitudinal area on the tape along which a series of magnetic signals may be recorded.

3.3 Byte: A bit string that is operated upon as a unit, and whose size is independent of redundancy or farming techniques.

3.4 Code; Coded Character Set: A set of unambiguous rules that establishes a character set and the one-to-one relationship between the characters of the set and their bit combinations.

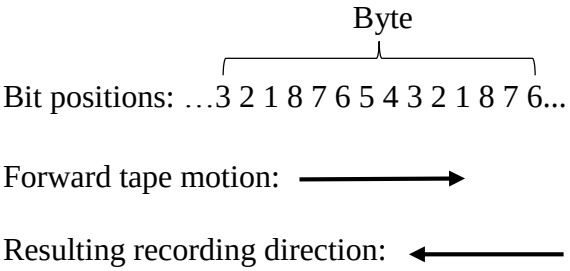
3.5 Code Extension: Techniques for the encoding of characters that are not included in the character set of a given code.

3.6 Environment: The characteristic that identifies the number of bits used to represent a character in a data processing or data communication system or in part of such a system.

4 RECORDING FORMAT

According to ISO 3407, the data to be interchanged are recorded serially by bit and by character. Each character is located in a byte of eight bit-positions along the track. The bit-positions in a byte are numbered from 1 to 8 in order of recording.

The following diagram summarizes these concept:



5 RECORDING OF 7-BIT CODED DATA

Each 7-bit coded character is recorded in bit-positions 1 to 7 of a byte: bit-position 8 is recorded with value ZERO.

The relationship is as follow:

Bits of the 7-bit combination: 0
b_7 b_6 b_5 b_4 b_3 b_2 b_1

Bit-position
in the byte: 8 7 6 5 4 3 2 1

6 RECORDING OF 8-BIT CODED DATA

Each 8-bit coded character is recorded in bit-positions 1 to 8 of a byte.

The relationship is as follow:

Bits of the 8-bit combination :	a_8	a_7	a_6	a_5	a_4	a_3	a_2	a_1
Bit Position in the byte:	8	7	6	5	4	3	2	1

Note: - The Technical content of this document has been enclosed as these are identical with the corresponding ISO Standard. For details please refer to ISO 3275:1974 or kindly contact.

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