L2/18-181

# **Bureau of Indian Standards**

# Proposal for inclusion of Assamese Script in ISO 10646

#### ISO/IEC JTC 1/SC 2/WG 2

#### PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646.1.

Please fill all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from .http://std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html . for guidelines and details before filling this form.

Please ensure you are using the latest Form from .http://std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html..

See also ...http://std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html ... for latest Roadmaps.

A. Administrative	
1. <b>Title:</b> Proposal to Encode Assamese Script in ISO/IEC 1 2. Requester's name: Government of Assam through BIS, Government 3. Requester type (Member body/Liaison/Individual contribution): Member 4. Submission date: 26/02 5. Requester's reference (if applicable):	of India er body 22018
6. Choose one of the following:	
This is a complete proposal:	Yes
(or) More information will be provided later:  B. Technical – General	
Choose one of the following:	<del></del>
a. This proposal is for a new script (set of characters):  Proposed name of script:  Assamese Script  b. The proposal is for addition of character(s) to an existing block:  Name of the existing block:	Yes No
Number of characters in proposal:	104
3. Proposed category (select one from below - see section 2.2 of P&P document):  A-Contemporary A B.1-Specialized (small collection) B.2-Specialized (lar C-Major extinct D-Attested extinct E-Minor extinct G-Obscure or questionable	ge collection)
<ul> <li>4. Is a repertoire including character names provided?</li> <li>a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&amp;P document?</li> <li>b. Are the character shapes attached in a legible form suitable for review?</li> </ul>	Yes Yes Yes
Fonts related:     a. Who will provide the appropriate computerized font to the Project Editor of 10646 fo standard?  The Description of the Account of the Project Editor of 10646 for standard?	r publishing the
The Proposer (contact: sks001@gmail.com) b. Identify the party granting a license for use of the font by the editors (include addres Freely Available, Developed by Government initiative (contact: sks001@gmail.com)	s, e-mail, ftp-site, etc.): gmail.com)
6. References:	
<ul> <li>a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided</li> <li>b. Are published examples of use (such as samples from newspapers, magazines, or</li> </ul>	other sources)
of proposed characters attached? Yes	
7. Special encoding issues:  Does the proposal address other aspects of character data processing (if applicable) s presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information of the proposal.	such as input, ormation)? Yes
8. Additional Information:	
Submitters are invited to provide any additional information about Properties of the proposed that will assist in correct understanding of and correct linguistic processing of the proposed of Examples of such properties are: Casing information, Numeric information, Currency information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Direct Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Un related information. See the Unicode standard at <a href="http://www.unicode.org/reports/tr44/">http://www.unicode.org/reports/tr44/</a> ) and associated Un for information needed for consideration by the Unicode Technical Committee for inclusion in	character(s) or script. ation, Display behaviour ctional behaviour, Default icode normalization ion on other scripts. Also iicode Technical Reports

 $<sup>\</sup>overset{1}{.} \text{ Form number: N4502-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01) }$ 

#### C. Technical - Justification

Has this proposal for addition of character(s) been submitted before?	No
If YES explain	
2. Has contact been made to members of the user community (for example: National Body,	
user groups of the script or characters, other experts, etc.)?	Yes
If YES, with whom?  Bureau of Indian Standards, University Experts, Government Sahitya Sabha (Apex Literary Body of Assan	
If YES, available relevant documents: Please refer the content of the detail	
<ol><li>Information on the user community for the proposed characters (for example:</li></ol>	
size, demographics, information technology use, or publishing use) is included?	Yes
Reference: Approximately 17 Million people use the Language. The Script is used to	
Digital Publication of all types, including text books, reference books, lit papers etc. References are attached in the detail proposa	terature, news
4. The context of use for the proposed characters (type of use; common or rare)	
Reference: Various types of references are attached in the detail proposed characters (type of dise, common of rale)	sal
5. Are the proposed characters in current use by the user community?	Yas
If YES, where? Reference: Mostly in Assam, Arunachal Pradesh, states of India	a: Assamese
community in different parts of India, and Non Reside	
community staying abroad.	
<ol><li>After giving due considerations to the principles in the P&amp;P document must the proposed charac</li></ol>	
in the BMP?	Yes
If YES, is a rationale provided?	Yes
If YES, reference: A total of 104 Characters as code points for Assam	
necessary to be included in Basic Multilingual Plane (F characters (vowels+consonants+digits+symbols)	
contemporary script, and widely used in all printed	
representation of text, words, numbers, land measuring	
Assamese.	
7. Should the proposed characters be kept together in a contiguous range (rather than being scatter)	ered)? Yes
Can any of the proposed characters be considered a presentation form of an existing	,
character or character sequence?	No
character or character sequence?  If YES, is a rationale for its inclusion provided?	No
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# A detailed note on the Preparation of the Proposal:

Based on the concerned BIS (Bureau of Indian Standards) Committee Meeting decision, Government of Assam acted on the preparation of the formal proposal for inclusion of Assamese script in various national and international standards. As a measure to consider views and expertise of the concerned people, organizations etc., responsibility of preparation of the proposal in consultation with the stakeholders has been entrusted to Dr. Shikhar Kr. Sarma, Professor and Head of the Department of Information Technology, Gauhati University (on lien) who is currently serving as the Registrar of Cotton University, a state Government University of Assam, India. The meeting headed by the Chief Secretary of Government of Assam, held on 15th December, 2015, where both the Commissioners of Department of Information Technology, and Cultural Affairs of Government of Assam were present alongwith other officials and experts, decided that the proposal will be framed following a wider consultation with the people who have been actively advocating for the issue, experts, activists, academicians, researchers who could comment and give their views, and the Asam Sahitya Sabha, the apex body on Assamese literature and language. This meeting also decided that the draft proposal prepared will be made available in the public domain websites with an open news paper appeal to the public for comments, views etc. And then, by considering all such feedbacks, the proposal will be finalized to be sent from Government of Assam to BIS, and ISO.

As part of the activities, the following methodologies have been adopted for preparation of this proposal:

#### 1. Discussions among the core team:

A group discussion was organized on 19<sup>th</sup> December, 2015 in the Department of Information Technology, Gauhati University, with few people associated with the issue of Assamese Script and its digital codes. This group through discussions, compiled an appeal to be circulated among experts, activists, academicians, researchers, organizations, who could comment and give their views. Those who participated in this initial discussion are:

- i. Dr. Dipti Phukan Patgiri, Professor and Ex Head, Dept. of Assamese, Gauhati University
- ii. Dr. Dilip Kr. Kalita, Director, Anundoram Borooah Institute of Language, Art and Culture, Assam
- Dr. Shikhar Kr. Sarma, Professor and Head, Dept. of Information Technology, Gauhati University
- iv. Dr. Paramananda Rajbongshi, General Secretary, Axom Sahitya Sabha
- v. Dr. Bhaskarjyoti Sarma, Associate Professor, Anundoram Borooah Institute of Language, Art and Culture, Assam
- vi. Dr. Ambeswar Gogoi, Assistant Professor, Dept. of Assamese, Cotton College State University
- vii. Dr. Satyakam Phukan, Active individual on the issue
- viii. Mr. Ratul Deka, Research Student
- ix. Ms. Jumi Sarmah, Research Student

The appeal contained a brief note on the issue of Assamese Script and its requirement of representation in the international standards, alongwith a draft list of Characters and Symbols of the script. The appeal was distributed/sent to almost 300 people/organizations which include activists, veteran linguists, faculty members of different related departments of the Universities/Institutions of the state of Assam, writers, newspaper and TV channel editors, researchers, and government officials etc.

- 2. **Inviting comments, suggestions on Draft Character, Symbol Set:** Teams of Ph.D. and Masters students personally visited them and distributed the appeal, and in few cases they also discussed the issue personally and noted comments and views.
- 3. **Draft Proposal Preparation:** Comments received have been considered and incorporated for preparing an extended and elaborated draft proposal and made ready for brainstorming in a formal gathering in terms of a day long workshop.
- 4. Collection, Research and Analysis of relevant sources, resources and documents:
  A team of Masters and Research Students collected the relevant documents like
  Assamese Grammar, Linguistic resource and history books, documents available in
  internet etc. With extensive research, required information have been extracted to make
  the proposal resourceful.
- 5. **A brainstorming workshop:** A brainstorming workshop for discussing the issues of Assamese Script and its Digital Codes organized on 4<sup>th</sup> January, 2016, Monday. The workshop is intended to brainstorm on the set of characters and symbols required for proper representation of the Assamese Script in digital/computer world. The workshop is also intended to finalize a Draft Proposal in this regard to be sent by Government of Assam to the Bureau of Indian Standards.
- 6. **Personal Meetings, Written/Email/Telephonic Comments:** Few personals who were personally met for discussions, and who have conveyed their concerns and comments are:
  - i. Dr. Golok Ch. Goswami, Retired Professor and Head of Department of Assamese, Gauhati University, one of the leading & pioneer Indian Linguists
  - ii. Dr. Nagen Saikia, Ex President, Axom Sahitya Sabha, and Retd. Professor and Head, Assamese Department, Dibrugarh University, Noted writer
  - iii. Deven Dutta, Ex Professor and Vice Principal of Cotton College, Noted Social Activist
  - iv. Dr. Umesh Deka, Rabindranath Tagore Professor of Modern Indian Language Dept., Gauhati University
  - v. Dr. Dipti Phukan Patgiri, Professor and Ex Head, Dept. of Assamese, Gauhati University
  - vi. Basanta Deka, Writer, and Publisher
  - vii. Dr. Jayanta Sarma, Professor of Physics, Tezpur University
  - viii. Dr. Utpal Sarma, Professor and Ex Head, Dept of Computer Science, Tezpur University
    - ix. Dr. Narayan Das, Academician
    - x. Gunadeep Chetia. Programmer, Dibrugarh University
  - xi. Dr. Upen Rabha Hakasam, Professor, Dept. of Assamese, Gauhati University

The draft proposal compiled, have been placed in the Workshop for debate and discussions. The following persons participated the workshop:

- 1. Dr. Lilabati Saikia Bora, Rtd. Professor, Dept. of Assamese, Gauhati University
- 2. Prof. Shikhar kumar Sarma, Professor and Head, Department of Information Technology, Gauhati University
- 3. Dr. Dilip Kumar Kalita, Director, Anundaram Borooah Institute of Language Art & Culture, Assam
- 4. Prof. Taranee Deka, Professor and Head, Dept. of Assamese, Gauhati University
- 5. Prof. Jyotiprakash Tamuli, Professor and Head, Dept. of Linguistics, Gauhati University
- 6. Prof. Karabi Deka Hazarika, Dean, Humanities and Social Sciences, and Professor, Dept of Assamese, Dibrugarh University.
- 7. Dr. Paramananda Rajbonshi, General Secretary, Asom Sahitya Sabha, Assam
- 8. Prof. Malinee Goswami, Professor & Ex. Head; Dept. of Assamese, Gauhati University
- 9. Bisweswar Hazarika, Retd. Lecturer and Expert on the field, Nizarapar path, Ghy-3
- 10. Prof. Bibha Bharali, Professor, Department of Assamese, Gauhati University, ghy-14
- 11. Prof. Kanak Ch. Saharia, Professor, Dept. Of Assamese, Gauhati University
- 12. Dr. Swarna Prabha Chainary, Ex Head & Associate Professor, Dept. Of Bodo, Gauhati University
- 13. Dr. Satyakam Phukan, Active Researcher and Worker on the Issue, Guwahati
- 14. Dr. Banajit Pathak, Active Worker on the issue
- 15. Aziz-Ul Haque, Pastor, Guwahati Baptist Church, Panbazar, Ghy-1, Active Researcher and Worker on the issue
- 16. Dr. P.K. Dutta, Sr. Technical Officer, IIT Guwahati
- 17. Dr. Manju Devi, Head. Dept. of Assamese, Cotton College, Guwahati
- 18. Dr. Ismail Hussain, Assistant Professor, Dept. of Bodo, Bodoland University, Kokrajhar
- 19. Dr. Bhaskarjyoti Sarma, Associate Professor, Anundaram Borooah Institute of Language Art & Culture
- 20. Dr. Satish Ch. Bhattacharyya, Rtd. S.S.G. Lecturer, Darrang College, Gharpara Chuburi, Tezpur
- 21. Dr. Ambeswar Gogoi, Assistant Professor, Dept. of Assamese, Cotton College State University
- 22. Dr. Madwurjya Modhur Borgohain, Assistant Professor, Dept. of Applied Sciences, GUIST
- 23. Dr. Utpal Saikia, Asst. Professor Dept. Of Assamese. Kalaibari College, Sonitpur
- 24. Dr. Manoj Kumar Deka, Asst. Professor, Dept of Computer Science and Technology, Bodoland University, Kokrajhar
- 25. Nabamita Deb, Asst. Professor, Dept of IT, Gauhati University
- 26. Kishore Kashayap, Asst. Professor, Dept. Of IT, Gauhati University
- 27. Satyajit Sarmah , Asst. Professor, Dept. Of IT, Gauhati University
- 28. Vaskar Deka, Asst. Professor, Dept. Of IT, Gauhati University
- 29. Buljit Buragohain, Asst. Professor, GIMT, Guwahati
- 30. Forjul Haque Bhuyan, Advocate, District Court Nagaon
- 31. Parasmita Sarma, Asst. Professor, Dept. Of IT, Gauhati University
- 32. Mirzanur Rahman, Asst. Professor, Dept. Of IT, Gauhati University
- 33. Bhusita Medhi, Asst. Professor, Dimoria College, Khetri
- 34. Dr. M.G. Idris, Asst. Professor Bio-Engg & Tech. GUIST
- 35. Dr. Pranjal Saikia, Asst. Professor Dept. Of Applied Sciences, Gauhati University
- 36. Dr. Suparna Bhattacharjee, Asst. Professor Dept. Of Applied Sciences, Gauhati University
- 37. Chandan Kalita, Asst. Professor Dept. Of IT, Gauhati University
- 38. Dr. Apurba Kr. Deka, Asst. Professor GU-IDOL
- 39. Dr. Archana Bora, Asst. Professor Physical Science, GUIST
- 40. Anup Kumar Barman, Asst. Professor, CIT Kokrajhar
- 41. Dr. Eeshankur Saikia, Head and Associate Professor, Department of Applied Sciences, Gauhati University, Guwahati 14, Assam
- 42. Dr. Subhas Medhi, Asst. Professor, Dept of Biotechnology
- 43. Ratul Ch. Deka, CLIA Project fellow
- 44. Abdul Hannan, Research Scholar, Dept. Of IT, Gauhati University
- 45. Nandita Talukdar, Research Scholar, Assamese Department, Gauhati University

- 46. Rehna Sultana, Research Scholar, Assamese Department, Gauhati University
- 47. Biswajit Brahma, Research Scholar, Department of MIL & LS, Gauhati University
- 48. Mayashree Mahanta, Research Scholar, Dept. Of Assamese, Gauhati University
- 49. Jumi Sarmah, Research Scholar, Dept. Of IT, Gauhati University
- 50. Dr. Arijit Bora, Scientific Officer, Dept. of Bioengineering & Technology, GUIST
- 51. Ahidur Zaman, Scientific Officer, GUIST, Dept of IT
- 52. Snigdha Kataky, Senior Research Fellow, Dept. of Assamese, Gauhati University
- 53. Rita Chakraborty, Academic Consultant, GUIDOL
- 54. Sankar Sarma, Lab Asst. Dept. Of Applied Sciences, Gauhati University
- 55. Dr. Ranjan Kr. Bharali, Lab Asst., Dept of Applied Sciences, GUIST
- 56. Pramod Rajbongshi, Lab Asst., Dept of IT, GUIST
- 57. Treesha Bora, Lab Asst., Dept of IT, GUIST
- 58. Amitava Dey, S.O., Dept of ECE, GUIST
- 59. Rajendra Nath Deka, SLA, Applied Science, Gauhati University
- 60. Biraj Deka, Scientific Officer, GUIST
- 61. Ricky Gogoi, Scientific Officer, GUIST
- 62. Prasanta Saikia , Sr. Lab Asst. Dept of IT, GUIST
- 63. Binita Goswami , Student, M.Tech(IT) GUIST
- 64. Jayanta kalita, Student, M.Tech(IT) GUIST
- 65. Neelam Dey, Student, M.Tech(IT) GUIST
- 66. Ranjan Choudhury, Student, M.Tech(IT) GUIST
- 67. Abdul Kuddus, Student, M-Tech, Dept. Of IT, Gauhati University
- 68. Juri Das, Student, M-Tech, Dept. Of IT, Gauhati University
- 69. Kandarpa Das, Student, M-Tech, Dept. Of IT, Gauhati University
- 70. Nisha Sharma, Student, M-Tech, Dept. Of IT, Gauhati University
- 71. Parikhit Borthakur, Guest Faculty, Dept. Of Applied Science, GU
- 72. Rituraj Bharadwaj, Guest Faculty, Dept. Of Applied Science, GU
- 73. Hirakiyoti Sarma, Guest Faculty, Dept. Of IT, Gauhati University
- 74. Sanjeev Kumar Kalita, Guest Faculty, Dept. Of IT, Gauhati University
- 75. Sonali Newar, Guest Faculty, Dept. Of IT, Gauhati University
- 76. Elima Hussain, Guest Faculty, GUIST
- 77. Chandan Sharma, Technical Staff, GUIST
- 78. Ratan Bhatta, Technical Staff, GUIST
- 79. Rikul Bhatta, B.Tech IT, GUIST
- 80. Dr. Bhargab Medhi, Applied Science, GUIST
- 81. Pranab Das, Applied Science, GUIST
- 82. Sisir Kr. Rajbongshi, Applied Science, GUIST
- 83. Dhruba Jyoti Choudhury, Student, Dept. Of IT, GUIST
- 84. Dr. Manab Deka, Professor & Head, Dept. Of Bioengineering & Technology, Gauhati University
- 85. Dr. Bipul Bezbaruah, Assistant Professor, Dept of Applied Science, Gauhati University
- 86. Dr. Sofia Banu, Assistant Professor, Dept. Of Bioengineering & Technology, Gauhati University
- 87. Sri. Nayanmani Devi, , Assistant Professor, Paschim Guwahati Mahavidyalaya, Guwahati

#### The Government of Assam was represented by following Officials:

- 88. Madhurima Barua Sen, ACS, Secretary, Cultural Affairs Department, Govt. of Assam
- 89. Gitimoni Phukan, ACS, Deputy Secretary. Cultural Affairs Department, Govt. of Assam
- 90. Monoj Kr. Baruah, Deputy Manager, AMTRON, Department of IT, Govt. of Assam

# <u>Few Snapshots of the Workshop on the Preparation of Draft Proposal, organized at Dept. of Information Technology, Gauhati University on 4<sup>th</sup> January, 2016:</u>









The formal Session of the Workshop was attended by the Vice Chancellor of Gauhati University Dr. Mridul Hazarika, Ms. Madhurima Baruah Sen, ACS, Secretary of Cultural Affairs of Government of Assam, Ms. Gitimoni Phukan, ACS, Deputy Secretary, Dept of Cultural Affairs, Govt of Assam, and Monoj Kr. Baruah, representative of Department of Information Technology, Govt. of Assam.

The finalized Proposal was presented before the members by Prof. Shikhar Kr. Sarma, and then the Proposal adopted by the house was formally handed over by the Vice Chancellor, Gauhati University to the Secretary, Cultural Affairs, Govt. of Assam.



Formal handing over of the Draft Proposal compiled in the Workshop by the Vice Chancellor, Gauhati University Dr. Mridul Hazarika to the Secretary, Cultural Affairs, Govt. of Assam Ms Madhurima Barua Sen.

The Draft Proposal thus finalized with the comments of experts and stakeholders have been placed on public domains, www.assam.gov.in, and www.gauhati.ac.in for public views, inviting comments and suggestions. A newspaper advertisement from the Govt of Assam has been published in few local dailies informing the public about the draft proposal. The government appealed to the public for viewing the draft proposal placed in the websites and to submit comments, suggestions and views to make the proposal enriched and acceptable.



All such comments, suggestions, views have been considered and incorporated wherever necessary, and the finalized proposal was submitted in the concerned Government of Assam Committee meeting held on 25<sup>th</sup> January, 2015, Chaired by the Chief Secretary.

The meeting adopted the proposal, and decided to send to BIS for necessary official procedures, so that the Assamese Script is included in all related National and International standards.

## **Discussion & Decision at Bureau of Indian Standards (BIS) LITD-20 Committee Meeting:**

Based on the decision of the meeting, Government of Assam has submitted the final proposal to Bureau of Indian Standards in February, 2016.

Bureau of Indian Standards placed the matter for discussion in its 8th Meeting of Indian Language Technologies and Products Sectional Committee, LITD 20, held on 23rd Aug 2017, and decided vide resolution no. 6.1.1, that the proposal of Assam Government to include Assamese script in ISO/IEC 10646 would be referred to ISO.

Also, the Chief Minister of Assam in a letter to the Minister for Consumer Affairs, Food and Public Distribution, Govt. of India reiterated Assam Government's demand that "As the ISO 10646 provides a unified character-coding standard for the coding of all characters in all major languages in the world, for the communication and exchange of electronic information, and as the Assamese language with its own Script Assamese is a major Indian language recognized in the Eighth Schedule of the Constitution, we need that the Script be included with its own range of codes in the ISO standards and also in the Unicode standards, at the earliest."

Government of Assam prepared the proposal using the concerned format of ISO, and now submitting the same to ISO through BIS, which includes the details of the background of the proposal, the history and evolution of the script, and the characters and symbol sets.

# **History and Evolution of Assamese script:**

Assamese script (*lipi*) is one of the important scripts of Eastern India. Assamese script is originated from the Gupta stage of *Brahmi* script.

Studies of the Rock Inscriptions and Copper Plate Inscriptions of 4<sup>th</sup>, 5<sup>th</sup> and later Centuries, discovered in different parts of Assam, clearly indicates that the Assamese Script is the evolutionary resultant of the scripts used in rock and copper plate inscriptions and other objects, like coins, clay seals of Nalanda etc. The evolution of this Assamese Script can be divided into 3 different stages: Old Assamese Script or the *Kamrupi* Script (4<sup>th</sup>/5<sup>th</sup> to 13<sup>th</sup> Century); Medieval Assamese Script (13<sup>th</sup> to early part of 19<sup>th</sup> Century); and Modern Assamese Script from early part of nineteenth century.

There are evidences of birth of script in Assam in the 4<sup>th</sup>/5<sup>th</sup> century itself. According to Dr. Upendranath Goswami, Assamese Script is a direct descendent of the Brahmi script in its original evolutionary stage, and Umachal script and the alphabets found in village script of Nagajari-Khanikar bear a close resemblance with Gupta script.

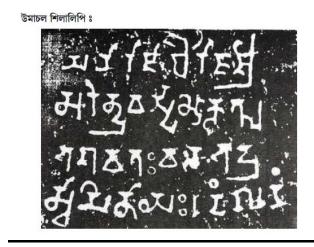
T P Verma, noted Indian Linguist and Palaeographist also clearly stated in his book that Assamese developed over a period of time from 5<sup>th</sup> Century onwards.

The 4<sup>th</sup>/5<sup>th</sup> century inscription of Nagajari-Khanikar is considered as the oldest known proof of Assamese script. Scholars state that there is similarity between the alphabets of this inscription of Nagajari-Khanikar with scripts of the pre-Gupta period.

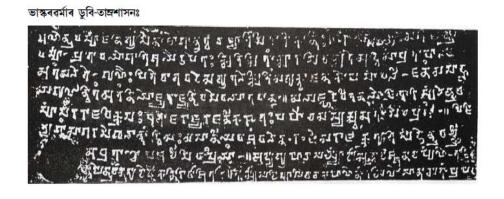


Nagajari-Khanikar Village Rock Inscription, Golaghat-4<sup>th</sup> – 5<sup>th</sup> Century

This script seems to have exact similarity in case of many alphabets like *cha*, *ma*, *maa*, *raa*, *haa* (চ,ম,মা,বা,হা) with the Allahabad rock pillar inscriptions of *Samudragupta*. Samudragupta was crowned in 320 AD, and died in 380 AD. From this angle, experts derived that the Nagajari-Khanikar rock inscription is of the later part of 4<sup>th</sup> Century.



# **Umachal Rock Inscription:**



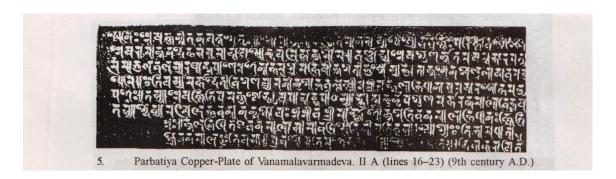
# **Dubi Copper Plate Inscriptions:**

Changes were found in the pattern of the alphabets of Copper plate scripts starting from 9<sup>th</sup> century. Since mid 9<sup>th</sup>-10<sup>th</sup> century onwards, alphabets of copper plates started to take almost modern forms. During this time, *matras* like of, started to take their full forms.

Alphabets found in Banamalavarman's (King of *Kamrupa*) *Parbatiya* Copper plate distinctly shows formation of consonant and conjuncts. Few such inscriptions where consonant and conjuncts are clearly seen, are Copper plates of *Uttar-Barbil*, *Ulubari*, and *Nagaon*. The vowels, consonants and conjuncts found in these inscriptions are of the almost modern Assamese pattern. From such examples it could be inferred that the almost modern Assamese patterns started from the  $9^{th}/10^{th}$  Century.



**Uttarbarbil Copper Plate Inscription** 



Assamese Script started to take its modern formation in early part of 13<sup>th</sup> Century. *Kanai-Barashibowa Turaska Khyay* rock inscription is the latest example of Modern Assamese inscription. Modern Assamese script has almost exact similarity to the alphabets of this plate.

कार्नाइ-वबनी मिलालिशि :

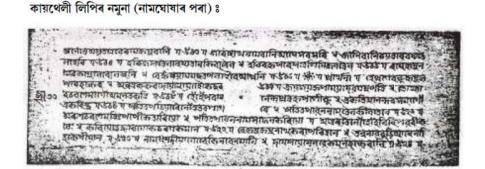


# Kanai-Barashi Bowa Rock Inscription: Early part of 13th Century

Assamese script was found to be fully developed in rich Assamese literature from the later part of 12<sup>th</sup> century. During 13<sup>th</sup> century to 17<sup>th</sup> -18<sup>th</sup> century, the vast Assamese literature was written mostly in manuscripts. Besides, *Sanchi-Pat*, *Tula-Pat*, handmade paper were also used in writing these literature. Many proof of Assamese script is also available in the *Gachtal* pillar script, *Sadia Chepakhoowa* script, Rock plates of *Kamakhy*a Temple, Ugratara Temple and many others. An important example of weaving letters in textiles is the *Brindavani Bastra*, a decorative piece of cloth illustrating the Krishna Lila, woven under the directions of Srimanta Sankardeva and Sr Sri Madhavdeva.

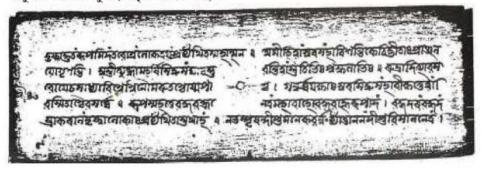
During 14<sup>th</sup> to 18<sup>th</sup> century, rock inscriptions, alphabets written on copper plates show the proof of the growth of modern Assamese alphabets. Then onwards evidences of the presence of Assamese script have been found in different manuscripts, including *Sanchipat*, and even in ancient Artilleries, Coins, Bricks etc.

Hastividyarnava, Ghoranidan are two other examples of written literature using modern patterns of Assamese Script, during 18<sup>th</sup> Century.



Kaitheli Lipi: Example (From *Namghosa*)

বামুণীয়া লিপিৰ নমুনা (সংস্কৃত গীতাৰ পৰা) ঃ



## Bamuniya Lipi: Example (From Geeta)

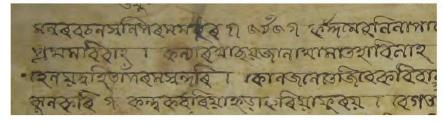
গড়গঞা লিপিৰ নমুনা (বুৰঞ্জীৰ পৰা) ঃ



#### **Gorgayan Lipi: Example (From History)**

A page of Assamese Manuscript written on Sasi (Xasi) bark,





#### Assamese Manuscript Written in Sanchi Pat

And thus through these inscriptions and manuscripts, Assamese Script evolved through changes and development towards formation of the script of present days. Assamese Script gets its Modern form when the Missionaries started publishing printed books and magazines etc. in the early 19<sup>th</sup> century. The first Assamese printed Book was the *Dharmapustak*, the translation of the Bible by Atmaram Sarma from Koliabar, Assam, published in 1813.

#### **Concerns:**

- (A) In the digital world to use a language as the media of information, we must have all the characters and symbols with proper codes. Assumese script has got its own set of Characters and Symbols, and these are required to have assigned codes for proper usage in terms of computational tasks, application development etc.
- (B) Assamese Language, a major Indian language recognized in the eighth schedule of the Constitution of India has got its own Script, the Assamese Script, having its own historical evolution. During the initial days of digital standards for the Indian Languages, in the first Indian Script Code for Information Interchange (ISCII) released by BIS in December, 1991, it is clearly mentioned about the Assamese Script. The page (iii) of the ISCII document released by BIS mentioned "The Northern scripts are Devanagari, Punjabi, Gujarati, Oriya, Bengali and Assamese. while the Southern scripts are Telugu, Kannada, Malayalam and Tamil."
- (C) With the inevitable triumphs of Science, we can easily visualise that the Information Technology(IT) has brought about innovative radical changes in the life style of our modern world. It (IT) has made our lives faster, easier in search of wealth of knowledge, wisdom and information. Herein lies the importance in the utility of a language/script as the media of information, knowledge and wisdom in the digital world.
- (D) Respect for the splendid emotions and spectacular sentiments of the larger Assamese Community in its entirety that is visibly epitomized in the years long concerns on the issue both from cultural, social, historical as well as technical perspectives, and for that matter the Assamese Script befittingly deserves to find proper and pride place in the national and international standards.

#### Snapshots of the ISCII Document of BIS, 1991, which includes the Assamese Script:



#### FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards after the draft finalized by the Computer Media Sectional Committee has been approved by the Electronics and Telecommunication Division Council.

This standard conforms to IS 10401:1982, '8-bit coded character set for information interchange' (equivalent to ISO 4873). It is intended for use in all computer and communication media which allow usage of 7 or 8-bit characters, as per IS 12326:1987 (ISO 2022:1982) "1-bit and 8-bit coded character set -code extension techniques".

In an 8-bit environment, the lower 128 characters are the same as defined in IS 10315:1982 (ISO 646 IRV) "7-bit coded character set for information interchange" also known as ASCII character set. The top 128 characters cater to all the 10 Indian scripts based on the ancient Brahmi script.

In a 7-bit environment the control code SI can be used for invocation of the ISCII code set, and control code SO can be used for reselection of the ASCII code set.

There are 15 officially recognized languages in India: Hindi, Marathi, Sanskrit, Punjabi, Gujarati, Oriya, Bengali, Assamese, Telugu, Kannada, Malayalam, Tamil, Urdu, Sindhi and Kashmiri.

Out of these, Urdu, Sindhi and Kashmiri are primarily written in Perso-Arabic scripts, but get written in Devanagari too (Sindhi is also written in the Gujarati script). Apart from Perso-Arabic scripts, all the other 10 scripts used for Indian languages have evolved from the ancient Brahmi script and have a common phonetic structure, making a common character set possible. The Northern scripts are Devanagari, Punjabi, Gujarati, Oriya, Bengali and Assamese, while the Southern scripts are Telugu, Kannada, Malayalam and Tamit.

The official language of India, Hindi, is written in the Devanagari script. Devanagari is also used for writing Marathi and Sanskrit. It is also the official script of Nepal.

As Perso-Arabic scripts have a different alphabet, a different standard is envisaged for them.

An Attribute mechanism has been provided for selection of different Indian script font and display attributes. An Extension mechanism allows use of more characters along with the ISCII code. These are only meant for the environment where no other alternative selection mechanism is available.

The ISCII code table is a super-set of all the characters required in the ten Brahmi-bused Indian scripts. For convenience, the alphabet of the official script Devanagari (with discritic marks for non-Devanagari alphabets) has been used in the standard. For notational simplicity, elsewhere, the term Indian scripts implies Brahmi-based Indian scripts.

Annex-A provides information on the shapes of the corresponding alphabet of the 10 Indian scripts. Annexes B and C provide information on the adaptation of the ISCII code for an IBM-PC and "English-Alphabet only" environment. Annex-D defines a suitable keyboard overlay which is common for all the Indian scripts. Annex-E defines the Attribute codes used for selection of different scripts and display attributes. Annex-F defines the Roman script transliteration scheme for all the Indian scripts. Annex-G defines the Vedic character set available through the Extension code. Annex-H defines the conversion mechanism between the ISCII code and the earlier ISSCII-83 code used in bilingual telex muchines.

(iii)

There are 15 officially recognized languages in India: Hindi, Marathi, Sanskrit, Punjabi, Gujarati, Oriya, Bengali, Assamese, Telugu, Kannada, Malayalam, Tamil, Urdu, Sindhi and Kashmiri.

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# ANNEX – A INDIAN SCRIPT ALPHABET CORRESPONDENCE

Following mnemonics are used for Indian scripts : DEV: Devanagari PNJ: Punjabi GJR: Gujarati ORI: Oriya BNG: Bengali ASM: Assamese

TLG: Telugu KND: Kannada MLM: Malayalam TML: Tamil RMN: Roman

Roman script transliteration scheme is explained in Annex F.

IS 13194:1991

# ANNEX – A INDIAN SCRIPT ALPHABET CORRESPONDENCE

Following mnemonics are used for Indian scripts : DEV: Devanagari PNJ: Punjabi GJR: Gujarati DRI: Oriya BNG: Bengali ASM: Assamese TLG: Telugu KND: Kannada MLM: Malayalam TML: Tamii RMN: Roman Roman script transliteration scheme is explained in Annex F.

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#### **INSCRIPT OVERLAY FOR ASSAMESE**

Notes:

- Nukta ় typed after ড and চ gives ড় and চ respectively.

- The macro-keys in the top-row generate:

(Rakar) 그= - (Reph) - = 4 - ( 명 = 명 - 의 집 = 3 - 4 등 = 3 - 4 ল= শ ্ৰ

# Non inclusion of Assamese Script in related Standards are of great concern in terms of various parameters:

Loss of identity of the Assamese script: In the present situation, if not rectified by the concerned government agencies, the identity of the Assamese Script in the national and the international standards will gradually completely disappear/vanish. As the future is going to be the complete digital world, the identity of the Assamese script will be at stake in near future.

**Loss of heritage:** Assamese script is one of the oldest of Indic Scripts. It is a matter of national importance to preserve this historical and cultural, linguistic heritage. It is to be mentioned that Assamese is an 8<sup>th</sup> schedule recognized language of India.

## **Computational intricacies:**

Except for the ability to type in computers most other functions that needs to be performed in digital operation using the Assamese script is distorted, disabled or handicapped. Using patching software or additional modules always for rectifying the problems results incomplete or semi-complete application development and usage. This has already created a patch-full, crippled and clumsy environment for Assamese computation.

For a particular language, the script characters should be in proper collation order followed by the script. Code set is required for the Characters in the proper order as defined by the script behaviour. Lexicographic sorting becomes erroneous in Assamese as for representing Assamese at present, codes of other script is forced to be used.

**Input Presentation:** Keyboard design is another major issue with non existence of International standardization of Assamese Script. If all the characters and symbols are assigned a specific code set then keyboard design for inputting as well as presentation tasks will become convenient with all the original Assamese characters and symbols integrated in language specific keyboard design.

Sorting-Indexing: For a particular language the script characters should be in proper collation order followed by the script. Code set is required for the characters in the proper order as defined by the script behaviour. Lexicographic sorting becomes erroneous in Assamese as for representing Assamese at present, codes for other script is forced to be used. A special sorting complexity arises with the form "\$\frac{1}{2}\$ "(ASSAMESE LETTER KHYA). This Assamese consonant is not there in the Bengali script encoded in ISO 10646 where it is considered as conjunct form of Bengali letters "\$\frac{1}{2}\$" "+ "\$\frac{1}{2}\$". Assamese orthography follows the grammar "Prayoga Ratnamaalaa Byaakaran" written by Purushottam Bhattacharya Bidyabagish whereas other Indian scripts including Bengali follows the grammar set by Panini. According to the grammar Ratnamaalaa the form "\$\frac{1}{2}\$" is a character of the Assamese alphabet not a conjunct form as considered by the grammar of Panini. The conjunct form "\$\frac{1}{2}\$" represent the conjunct character KHSYA in Bengali. Even though the consonants —Assamese letter Ra — '\$\frac{1}{2}\$" and Assamese letter Wa '\$\frac{1}{2}\$" appear in Bengali script but they are not in proper collation order for Assamese and thus it leads to wrong sorting.

The sorting problem also lead to indexing issue by providing improper weightage to the characters those are in non collation order.

**Searching:** As Assamese script does not have a separate code set, in content searching the search engines—show results from another language. If the search word contents Assamese Ra or Wa then search results show Assamese contents. Otherwise the results show mostly Bengali contents. This forces to use additional Language Identifier module integrated with search engine system. A separate code assigned to Assamese script—will be sufficient to identify the content facilitating information retrieval easier for Assamese.

**Transliteration:** The non availability of Assamese transliteration standard in ISO 15919 results a crippling effect for Assamese script in computer use, because Assamese script transliterate in a different manner from other Indian scripts. Currently as Assamese script is not in ISO 15919, Assamese typed in computer with ISO 10646 /UNICODE encoding has to be transliterated as per the Bengali chart of ISO 15919. But Assamese differs with Bengali in transliteration, and this has created major computational intricacies. Reversed transliteration of Assamese script requires devising language specific mechanism with uniqueness of the Assamese script behaviour.

The International Alphabet of Sanskrit Transliteration (IAST) is a transliteration scheme that allows a lossless romanization of Indic scripts as employed by the Sanskrit language. IAST is based on a standard established by the International Congress of Orientalists at Geneva in 1894. It allows a lossless transliteration of Devanāgarī (and other Indic scripts). At present, all the Indian and International encodings follow the IAST for transliteration of all Indic scripts. However, Assamese Script behave separately, and is with different phonology, resulting non applicability of IAST for transliteration purpose in relation to Assamese Script. Thus for Transliteration Standards also, Assamese needs a separate standard, and this issue originated at the ISO and BIS levels, for possible unique encoding in ISO 15919. A separate encoding in ISO 10646 is thus of utmost necessity, for enabling correct Transliteration standards and schemes. Encoding in ISO 10646 will enable Assamese script to be included in ISO 15919.

Many of the proposed Assamese characters are similar to many characters in the Bengali script, but they are not canonically equivalent. The characters are said to be canonically equivalent if the characters share the same appearance (or glyph) and same meaning. But in the present case, although many characters share same glyphs, they are actually Homoglyphs, but as their definitions are different, they are not canonically equivalent. Hence the requirement for separate encoding. Homoglyph is one of two or more glyphs with shapes that appear identical but differs in meaning they represent. List of homoglyphs of both Assamese and Bengali characters are shown below:

Code of	Bengali Character Name	Assamese Character Name for similar glyph
Bengali		
Chart		
0987	BENGALI LETTER I	ASSAMESE LETTER HRASWA I
0988	BENGALI LETTER II	ASSAMESE LETTER DIRGHA I
0989	BENGALI LETTER U	ASSAMESE LETTER HRASWA U
098A	BENGALI LETTER UU	ASSAMESE LETTER DIRGHA U

0960 BENGALI LETTER VOCALIC RR 0990 BENGALI LETTER AI 0990 BENGALI LETTER AI 0994 BENGALI LETTER AU 0994 BENGALI LETTER AU 0995 BENGALI LETTER CA 0996 BENGALI LETTER CA 0997 BENGALI LETTER CA 0997 BENGALI LETTER CHA 0998 BENGALI LETTER CHA 0999 BENGALI LETTER JHA 0990 BENGALI LETTER JHA 0990 BENGALI LETTER JHA 0990 BENGALI LETTER NYA 0990 BENGALI LETTER NYA 0991 BENGALI LETTER THA 0992 BENGALI LETTER THA 0996 BENGALI LETTER THA 0997 BENGALI LETTER THA 0997 BENGALI LETTER THA 0998 BENGALI LETTER THA 0999 BENGALI LETTER THA 0990 BENGALI LETTER THA 0990 BENGALI LETTER THA 0990 BENGALI LETTER THA 0991 BENGALI LETTER THA 0991 BENGALI LETTER DDA 0992 BENGALI LETTER DDA 0994 BENGALI LETTER DDA 0994 BENGALI LETTER DHA 0994 BENGALI LETTER DHA 0995 BENGALI LETTER NNA 0994 BENGALI LETTER THA 0995 BENGALI LETTER THA 0995 BENGALI LETTER THA 0995 BENGALI LETTER THA 0996 BENGALI LETTER THA 0996 BENGALI LETTER THA 0996 BENGALI LETTER THA 0997 BENGALI LETTER THA 0998 BENGALI LETTER DA 0998 BENGALI LETTER DA 0998 BENGALI LETTER DHA 0998 BENGALI LETTER DHA 0998 BENGALI LETTER NA 0998 BENGALI LETTER NA 0998 BENGALI LETTER NA 0998 BENGALI LETTER NA 09998 BENGALI LETTER NA 09999 BENGALI LETTER NA 09995 BENGALI LETTER NA 09966 BENGALI LETTER NA 0996 BENGALI LETTER NA 0996 BENGALI LETTER RA WITH 0996 BENGALI LETTER RA WITH 0996 BENGALI LETTER SA 0996 BENGALI LETTER SA 0996 BENGALI LETTER SA 0996 BENGALI LETTER SA 0996 BENGALI LETTER NA 0996 BENGALI LETTER NA 0996 BENGALI LETTER NA 0996 BENGALI LETTER SA 0996 BENGALI SIGN NISARGA 0981 BENGALI SIGN NISARGA 0982 BENGALI SIGN NISARGA 0983 BENGALI SIGN NISARGA 0984 BENGALI SIGN NISARGA 0985 BENGALI SIGN NI	098B	BENGALI LETTER VOCALIC R	ASSAMESE LETTER RI
0990         BENGALI LETTER AI         ASSAMESE LETTER OI           0994         BENGALI LETTER AU         ASSAMESE LETTER PATHAM SA           0998         BENGALI LETTER CA         ASSAMESE LETTER PRATHAM SA           0999         BENGALI LETTER JA         ASSAMESE LETTER DWITIYA SA           0990         BENGALI LETTER JA         ASSAMESE LETTER BARGIYA ZA           0990         BENGALI LETTER THA         ASSAMESE LETTER RIA           0996         BENGALI LETTER TTA         ASSAMESE LETTER MURDHANYA TA           0997         BENGALI LETTER TTA         ASSAMESE LETTER MURDHANYA TA           0990         BENGALI LETTER DDA         ASSAMESE LETTER MURDHANYA TA           0991         BENGALI LETTER DDA         ASSAMESE LETTER MURDHANYA DA           0942         BENGALI LETTER DHA         ASSAMESE LETTER MURDHANYA DA           0943         BENGALI LETTER TA         ASSAMESE LETTER DANTYA TA           0944         BENGALI LETTER TA         ASSAMESE LETTER DANTYA TA           0945         BENGALI LETTER DA         ASSAMESE LETTER DANTYA TA           0946         BENGALI LETTER THA         ASSAMESE LETTER DANTYA TA           0947         BENGALI LETTER DA         ASSAMESE LETTER DANTYA DA           0948         BENGALI LETTER NA         ASSAMESE LETTER DANTYA NA			
0994         BENGALI LETTER AU         ASSAMESE LETTER OU           099A         BENGALI LETTER CA         ASSAMESE LETTER PRATHAM SA           099B         BENGALI LETTER CHA         ASSAMESE LETTER DWITTYA SA           099C         BENGALI LETTER JA         ASSAMESE LETTER BARGIYA ZA           099D         BENGALI LETTER JHA         ASSAMESE LETTER NA           099F         BENGALI LETTER TTA         ASSAMESE LETTER MURDHANYA TA           0940         BENGALI LETTER TTHA         ASSAMESE LETTER MURDHANYA TA           0940         BENGALI LETTER DDA         ASSAMESE LETTER MURDHANYA TA           0941         BENGALI LETTER DDA         ASSAMESE LETTER MURDHANYA DA           0942         BENGALI LETTER DDA         ASSAMESE LETTER MURDHANYA DA           0943         BENGALI LETTER TA         ASSAMESE LETTER MURDHANYA NA           0944         BENGALI LETTER THA         ASSAMESE LETTER DANTYA TA           0945         BENGALI LETTER THA         ASSAMESE LETTER DANTYA TA           0946         BENGALI LETTER DHA         ASSAMESE LETTER DANTYA DA           0947         BENGALI LETTER DHA         ASSAMESE LETTER DANTYA NA           0948         BENGALI LETTER NA         ASSAMESE LETTER NATHAISTHA ZA           0956         BENGALI LETTER RA         ASSAMESE LETTER NATHAISTHA ZA			
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09F0 BENGALI LETTER RA WITH MIDDLE DIAGONAL  09F1 BENGALI LETTER RA WITH LOWER DIAGONAL  09B6 BENGALI LETTER SHA  09B7 BENGALI LETTER SHA  09B8 BENGALI LETTER SA  09B8 BENGALI LETTER SA  09DC BENGALI LETTER RA  09DD BENGALI LETTER RHA  09DD BENGALI LETTER RHA  09DF BENGALI LETTER YYA  0982 BENGALI LETTER YYA  0983 BENGALI SIGN ANUSVARA  0984 BENGALI SIGN VISARGA  0981 BENGALI SIGN CANDRABINDU  09BF BENGALI VOWEL SIGN I  09C0 BENGALI VOWEL SIGN U  09C2 BENGALI VOWEL SIGN UU  09C3 BENGALI VOWEL SIGN UU  ASSAMESE VOWEL SIGN DIRGHA U  09C3 BENGALI VOWEL SIGN U  ASSAMESE VOWEL SIGN DIRGHA U	09A8	BENGALI LETTER NA	ASSAMESE LETTER DANTYA NA
MIDDLE DIAGONAL  09F1 BENGALI LETTER RA WITH LOWER DIAGONAL  09B6 BENGALI LETTER SHA ASSAMESE LETTER TAALABYA XA  09B7 BENGALI LETTER SSA ASSAMESE LETTER MURDHANYA XA  09B8 BENGALI LETTER SA ASSAMESE LETTER DANTYA XA  09DC BENGALI LETTER RRA ASSAMESE LETTER DANTYA XA  09DD BENGALI LETTER RHA ASSAMESE LETTER DHARE RA  09DD BENGALI LETTER RHA ASSAMESE LETTER DHARE RA  09DF BENGALI LETTER YYA ASSAMESE LETTER ANTAHSTHA YA  0982 BENGALI SIGN ANUSVARA ASSAMESE LETTER BIXARGA  0983 BENGALI SIGN VISARGA ASSAMESE LETTER BIXARGA  0981 BENGALI SIGN CANDRABINDU ASSAMESE LETTER SANDRABINDU  09BF BENGALI VOWEL SIGN I ASSAMESE VOWEL SIGN HRASWA I  09C0 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN HRASWA U  09C2 BENGALI VOWEL SIGN UU ASSAMESE VOWEL SIGN DIRGHA U  09C3 BENGALI VOWEL SIGN UU ASSAMESE VOWEL SIGN DIRGHA U  09C3 BENGALI VOWEL SIGN UU ASSAMESE VOWEL SIGN DIRGHA U  ASSAMESE VOWEL SIGN RI  VOCALIC R	09AF	BENGALI LETTER YA	ASSAMESE LETTER ANTAHSTHA ZA
09F1BENGALI LETTER RA WITH LOWER DIAGONALASSAMESE LETTER WA09B6BENGALI LETTER SHAASSAMESE LETTER TAALABYA XA09B7BENGALI LETTER SSAASSAMESE LETTER MURDHANYA XA09B8BENGALI LETTER SAASSAMESE LETTER DANTYA XA09DCBENGALI LETTER RRAASSAMESE LETTER DARE RA09DDBENGALI LETTER RHAASSAMESE LETTER DHARE RA09DFBENGALI SIGN ANUSVARAASSAMESE LETTER ANTAHSTHA YA0982BENGALI SIGN VISARGAASSAMESE LETTER BIXARGA0981BENGALI SIGN CANDRABINDUASSAMESE LETTER SANDRABINDU09BFBENGALI VOWEL SIGN IASSAMESE VOWEL SIGN HRASWA I09C0BENGALI VOWEL SIGN IIASSAMESE VOWEL SIGN DIRGHA I09C1BENGALI VOWEL SIGN UUASSAMESE VOWEL SIGN DIRGHA U09C2BENGALI VOWEL SIGN UUASSAMESE VOWEL SIGN DIRGHA U09C3BENGALI VOWEL SIGN BENGALI VOWEL SIGN UASSAMESE VOWEL SIGN RI	09F0		ASSAMESE LETTER RA
09B6BENGALI LETTER SHAASSAMESE LETTER TAALABYA XA09B7BENGALI LETTER SSAASSAMESE LETTER MURDHANYA XA09B8BENGALI LETTER SAASSAMESE LETTER DANTYA XA09DCBENGALI LETTER RRAASSAMESE LETTER DARE RA09DDBENGALI LETTER RHAASSAMESE LETTER DHARE RA09DFBENGALI LETTER YYAASSAMESE LETTER ANTAHSTHA YA0982BENGALI SIGN ANUSVARAASSAMESE LETTER BIXARGA0983BENGALI SIGN VISARGAASSAMESE LETTER BIXARGA0981BENGALI SIGN CANDRABINDUASSAMESE LETTER SANDRABINDU09BFBENGALI VOWEL SIGN IASSAMESE VOWEL SIGN HRASWA I09C0BENGALI VOWEL SIGN UASSAMESE VOWEL SIGN DIRGHA I09C1BENGALI VOWEL SIGN UASSAMESE VOWEL SIGN DIRGHA U09C2BENGALI VOWEL SIGN UUASSAMESE VOWEL SIGN DIRGHA U09C3BENGALI VOWEL SIGN VOCALIC RASSAMESE VOWEL SIGN RI	09F1		ASSAMESE LETTER WA
09B7 BENGALI LETTER SSA ASSAMESE LETTER MURDHANYA XA 09B8 BENGALI LETTER SA ASSAMESE LETTER DANTYA XA 09DC BENGALI LETTER RRA ASSAMESE LETTER DARE RA 09DD BENGALI LETTER RHA ASSAMESE LETTER DHARE RA 09DF BENGALI LETTER YYA ASSAMESE LETTER ANTAHSTHA YA 0982 BENGALI SIGN ANUSVARA ASSAMESE LETTER ANUSWAR 0983 BENGALI SIGN VISARGA ASSAMESE LETTER BIXARGA 0981 BENGALI SIGN CANDRABINDU ASSAMESE LETTER SANDRABINDU 09BF BENGALI VOWEL SIGN I ASSAMESE VOWEL SIGN HRASWA I 09C0 BENGALI VOWEL SIGN II ASSAMESE VOWEL SIGN DIRGHA I 09C1 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN HRASWA U 09C2 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN DIRGHA U 09C3 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN DIRGHA U 09C3 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN DIRGHA I		LOWER DIAGONAL	
09B8 BENGALI LETTER SA ASSAMESE LETTER DANTYA XA 09DC BENGALI LETTER RRA ASSAMESE LETTER DARE RA 09DD BENGALI LETTER RHA ASSAMESE LETTER DHARE RA 09DF BENGALI LETTER YYA ASSAMESE LETTER ANTAHSTHA YA 0982 BENGALI SIGN ANUSVARA ASSAMESE LETTER ANUSWAR 0983 BENGALI SIGN VISARGA ASSAMESE LETTER BIXARGA 0981 BENGALI SIGN CANDRABINDU ASSAMESE LETTER SANDRABINDU 09BF BENGALI VOWEL SIGN I ASSAMESE VOWEL SIGN HRASWA I 09C0 BENGALI VOWEL SIGN II ASSAMESE VOWEL SIGN DIRGHA I 09C1 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN HRASWA U 09C2 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN DIRGHA U 09C3 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN DIRGHA U 09C3 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN RI VOCALIC R	09B6	BENGALI LETTER SHA	ASSAMESE LETTER TAALABYA XA
09DC BENGALI LETTER RRA ASSAMESE LETTER DARE RA 09DD BENGALI LETTER RHA ASSAMESE LETTER DHARE RA 09DF BENGALI LETTER YYA ASSAMESE LETTER ANTAHSTHA YA 0982 BENGALI SIGN ANUSVARA ASSAMESE LETTER ANUSWAR 0983 BENGALI SIGN VISARGA ASSAMESE LETTER BIXARGA 0981 BENGALI SIGN CANDRABINDU ASSAMESE LETTER SANDRABINDU 09BF BENGALI VOWEL SIGN I ASSAMESE VOWEL SIGN HRASWA I 09C0 BENGALI VOWEL SIGN II ASSAMESE VOWEL SIGN DIRGHA I 09C1 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN HRASWA U 09C2 BENGALI VOWEL SIGN UU ASSAMESE VOWEL SIGN DIRGHA U 09C3 BENGALI VOWEL SIGN VOCALIC R	09B7	BENGALI LETTER SSA	ASSAMESE LETTER MURDHANYA XA
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09DFBENGALI LETTER YYAASSAMESE LETTER ANTAHSTHA YA0982BENGALI SIGN ANUSVARAASSAMESE LETTER ANUSWAR0983BENGALI SIGN VISARGAASSAMESE LETTER BIXARGA0981BENGALI SIGN CANDRABINDUASSAMESE LETTER SANDRABINDU09BFBENGALI VOWEL SIGN IASSAMESE VOWEL SIGN HRASWA I09C0BENGALI VOWEL SIGN IIASSAMESE VOWEL SIGN DIRGHA I09C1BENGALI VOWEL SIGN UASSAMESE VOWEL SIGN HRASWA U09C2BENGALI VOWEL SIGN UUASSAMESE VOWEL SIGN DIRGHA U09C3BENGALI VOWEL SIGN VOCALIC RASSAMESE VOWEL SIGN RI	09DC	BENGALI LETTER RRA	ASSAMESE LETTER DARE RA
0982BENGALI SIGN ANUSVARAASSAMESE LETTER ANUSWAR0983BENGALI SIGN VISARGAASSAMESE LETTER BIXARGA0981BENGALI SIGN CANDRABINDUASSAMESE LETTER SANDRABINDU09BFBENGALI VOWEL SIGN IASSAMESE VOWEL SIGN HRASWA I09C0BENGALI VOWEL SIGN IIASSAMESE VOWEL SIGN DIRGHA I09C1BENGALI VOWEL SIGN UASSAMESE VOWEL SIGN HRASWA U09C2BENGALI VOWEL SIGN UUASSAMESE VOWEL SIGN DIRGHA U09C3BENGALI VOWEL SIGNASSAMESE VOWEL SIGN RIVOCALIC RASSAMESE VOWEL SIGN RI	09DD	BENGALI LETTER RHA	ASSAMESE LETTER DHARE RA
0983BENGALI SIGN VISARGAASSAMESE LETTER BIXARGA0981BENGALI SIGN CANDRABINDUASSAMESE LETTER SANDRABINDU09BFBENGALI VOWEL SIGN IASSAMESE VOWEL SIGN HRASWA I09C0BENGALI VOWEL SIGN IIASSAMESE VOWEL SIGN DIRGHA I09C1BENGALI VOWEL SIGN UASSAMESE VOWEL SIGN HRASWA U09C2BENGALI VOWEL SIGN UUASSAMESE VOWEL SIGN DIRGHA U09C3BENGALI VOWEL SIGN VOCALIC RASSAMESE VOWEL SIGN RI	09DF	BENGALI LETTER YYA	ASSAMESE LETTER ANTAHSTHA YA
0981 BENGALI SIGN CANDRABINDU ASSAMESE LETTER SANDRABINDU 09BF BENGALI VOWEL SIGN I ASSAMESE VOWEL SIGN HRASWA I 09C0 BENGALI VOWEL SIGN II ASSAMESE VOWEL SIGN DIRGHA I 09C1 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN HRASWA U 09C2 BENGALI VOWEL SIGN UU ASSAMESE VOWEL SIGN DIRGHA U 09C3 BENGALI VOWEL SIGN ASSAMESE VOWEL SIGN RI VOCALIC R	0982	BENGALI SIGN ANUSVARA	ASSAMESE LETTER ANUSWAR
09BFBENGALI VOWEL SIGN IASSAMESE VOWEL SIGN HRASWA I09C0BENGALI VOWEL SIGN IIASSAMESE VOWEL SIGN DIRGHA I09C1BENGALI VOWEL SIGN UASSAMESE VOWEL SIGN HRASWA U09C2BENGALI VOWEL SIGN UUASSAMESE VOWEL SIGN DIRGHA U09C3BENGALI VOWEL SIGN VOCALIC RASSAMESE VOWEL SIGN RI	0983	BENGALI SIGN VISARGA	ASSAMESE LETTER BIXARGA
09C0 BENGALI VOWEL SIGN II ASSAMESE VOWEL SIGN DIRGHA I 09C1 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN HRASWA U 09C2 BENGALI VOWEL SIGN UU ASSAMESE VOWEL SIGN DIRGHA U 09C3 BENGALI VOWEL SIGN ASSAMESE VOWEL SIGN RI VOCALIC R	0981	BENGALI SIGN CANDRABINDU	ASSAMESE LETTER SANDRABINDU
09C1 BENGALI VOWEL SIGN U ASSAMESE VOWEL SIGN HRASWA U 09C2 BENGALI VOWEL SIGN UU ASSAMESE VOWEL SIGN DIRGHA U 09C3 BENGALI VOWEL SIGN ASSAMESE VOWEL SIGN RI VOCALIC R	09BF	BENGALI VOWEL SIGN I	ASSAMESE VOWEL SIGN HRASWA I
09C2 BENGALI VOWEL SIGN UU ASSAMESE VOWEL SIGN DIRGHA U 09C3 BENGALI VOWEL SIGN ASSAMESE VOWEL SIGN RI VOCALIC R	09C0	BENGALI VOWEL SIGN II	ASSAMESE VOWEL SIGN DIRGHA I
09C3 BENGALI VOWEL SIGN ASSAMESE VOWEL SIGN RI VOCALIC R	09C1	BENGALI VOWEL SIGN U	ASSAMESE VOWEL SIGN HRASWA U
VOCALIC R	09C2	BENGALI VOWEL SIGN UU	ASSAMESE VOWEL SIGN DIRGHA U
	09C3		ASSAMESE VOWEL SIGN RI
	09C4		ASSAMESE VOWEL SIGN DIRGA RI

	VOCALIC RR	
09C8	BENGALI VOWEL SIGN AI	ASSAMESE VOWEL SIGN OI
09CC	BENGALI VOWEL SIGN AU	ASSAMESE VOWEL SIGN OU
09D7	BENGALI AU LENGTH MARK	ASSAMESE ADDITIONAL VOWEL SYMBOL AU FOR USED IN OTHER LOCAL LANGUAGES
09CD	BENGALI SIGN VIRAMA	ASSAMESE SIGN HASANTA

Thus the issue of Assamese Script and its proper representation in related national and international standards, is not only a social, cultural, literary, heritage and academic issue, but also a technical issue related to proper representation in the digital world. Moreover, it is a requirement for making Assamese a viable media for digital platforms easing different computational intricacies currently faced in digital platform while using Assamese.

In view of the above discussions, resources, analysis, and compilations, now the Government of Assam would like to specifically point out its proposal to the International Organization for Standardization (ISO), as below:

- 1. Assamese Language, a major Indian language recognized in the eighth schedule of the Constitution of India has got its own Script, the Assamese Script, having its own historical evolution.
- 2. Assamese Script need to be included in all National and International Standards like ISO 10646, ISO 15924, ISO 15919, and UNICODE.
- 3. Government of Assam is hereby conveying its concerns and firm stand on the issue to BIS, Government of India, & ISO, and demands that the Assamese Script be included in all the related Standards, and separate code set with definitions of all the characters, symbols used in broad Assamese Script be allotted.
- 4. For Assamese Script, a separate Code Set be allotted for all the Characters and Symbols of the broad Assamese Script, arranging all the Characters in proper collation order. This is long standing demand from different corners of the Assamese Community, including the Academic and Research community, concerned citizens, Asam Sahitya Sabha, and the Government of Assam.
- 5. As the ISO 10646 provides a unified character-coding standard for the coding of characters in all major languages in the world, for the communication and exchange of electronic information, and as the Assamese language with its own Script Assamese is a major Indian language recognized in the Eighth Schedule of the Constitution, we need that this script be included in ISO 10646 with its own range of codes. Along with ISO 10646, the Assamese Script also needs to be included in all other ISO standards like ISO 15924, ISO 15919 and also in the Unicode standards, at the earliest.

# <u>Proposed Chart of Assamese Script Characters and Symbols:</u> <u>To be submitted to ISO:</u>

# **CHART**

Reserved	ক	ফ	ः	Reserved	্য	ž	Reserved
Reserved	খ	ব	Ů	Reserved	্	/-	Reserved
Reserved	গ	ভ	Reserved	Reserved	9	√-	Reserved
Reserved	घ	ম	Reserved	Reserved	Ŭ^•	0.	Reserved
অ	હ	Reserved	ា	Ο	Reserved	2/.	Reserved
Reserved	চ	য	ি	7	· · ·	50	Reserved
আ	চ্য	ৰ	ী	``	Reserved	3	Reserved
र्घ	জ	ল	ू	৩	Reserved	5	Reserved
ঈ	ঝ	ৱ	္	8	C?	1.	Reserved
উ	Ţ	শ	ূ	Ů	<u>∵</u> 0	11.	Reserved
少	ট	ষ	O.	હ	()0	111.	Reserved
ঋ	र्ठ	স	्	٩	V	<i></i> ⊘	Reserved
¥	ড	হ	া	৮	<b>S</b>	Reserved	Reserved
<u>a</u>	ঢ	Reserved	Ş	<b>১</b>	3	Reserved	Reserved
J)	ণ	Reserved	্ে	Reserved	Reserved	И	Reserved
3	ত	ষ	े	Reserved	Reserved	Reserved	Reserved
3	খ	ড়	ো	Reserved	Reserved	Reserved	Reserved
Reserved	দ	ঢ়	ৌ	I	Reserved	Reserved	Reserved
Reserved	ধ	য়	Reserved		Reserved	Reserved	Reserved
Reserved	ন	ς	Reserved	Reserved	Reserved	Reserved	Reserved
Reserved	প	ং	ৗ	Reserved	Reserved	Reserved	Reserved

# **Character Names/Symbol Descriptions:**

# **VOWELS**

1	অ	ASSAMESE LETTER A
2	আ	ASSAMESE LETTER AA
3	Ter	ASSAMESE LETTER HRASWA I
4	ঈ	ASSAMESE LETTER DIRGHA I
5	৳	ASSAMESE LETTER HRASWA U
6	াড	ASSAMESE LETTER DIRGHA U
7	ষ	ASSAMESE LETTER RI
8	₹I	ASSAMESE LETTER DIRGHA RI
9	្ម	ASSAMESE LETTER E
10	ক্	ASSAMESE LETTER OI
11	ઉ	ASSAMESE LETTER O
12	3	ASSAMESE LETTER OU

# **CONSONANTS**

13	ক	ASSAMESE LETTER KA
14	 খ	ASSAMESE LETTER KHA
15	<u> </u>	ASSAMESE LETTER GA
16	<u> </u>	ASSAMESE LETTER GHA
17	<u> </u>	ASSAMESE LETTER NGA
18	<u>P</u>	ASSAMESE LETTER PRATHAM SA
19	চ্	ASSAMESE LETTER DWITIYA SA
20	জ	ASSAMESE LETTER BARGIYA ZA
21	ঝ	ASSAMESE LETTER ZHA
22	I	ASSAMESE LETTER NIA
23	ট	ASSAMESE LETTER MURDHANYA TA
24	र्ठ	ASSAMESE LETTER MURDHANYA THA
25	ড	ASSAMESE LETTER MURDHANYA DA
26	ঢ	ASSAMESE LETTER MURDHANYA DHA
27	ণ	ASSAMESE LETTER MURDHANYA NA
28	ত	ASSAMESE LETTER DANTYA TA
29	খ	ASSAMESE LETTER DANTYA THA
30	দ	ASSAMESE LETTER DANTYA DA
31	ধ	ASSAMESE LETTER DANTYA DHA
32	ন	ASSAMESE LETTER DANTYA NA
33	প	ASSAMESE LETTER PA
34	रू	ASSAMESE LETTER PHA
35	ব	ASSAMESE LETTER BA
36	৩	ASSAMESE LETTER BHA
37	ম	ASSAMESE LETTER MA
38	য	ASSAMESE LETTER ANTAHSTHA ZA
39	ৰ	ASSAMESE LETTER RA
40	ল	ASSAMESE LETTER LA
41	ৱ	ASSAMESE LETTER WA
42	শ	ASSAMESE LETTER TAALABYA XA

43	ষ	ASSAMESE LETTER MURDHANYA XA
44	·	ASSAMESE LETTER DANTYA XA
	স	
45	হ	ASSAMESE LETTER HA
46	\$	ASSAMESE LETTER KHYA
47	ড়	ASSAMESE LETTER DARE RA
48	ঢ়	ASSAMESE LETTER DHARE RA
49	য়	ASSAMESE LETTER ANTAHSTHA YA
50	ς	ASSAMESE LETTER KHANDA-TA
51	ং	ASSAMESE LETTER ANUSWAR
52	ः	ASSAMESE LETTER BIXARGA
53	ំ	ASSAMESE LETTER SANDRABINDU

# **VOWEL SIGNS**

54	া	ASSAMESE VOWEL SIGN AA
55	ি	ASSAMESE VOWEL SIGN HRASWA I
56	ী	ASSAMESE VOWEL SIGN DIRGHA I
57	ू	ASSAMESE VOWEL SIGN HRASWA U
58	্	ASSAMESE VOWEL SIGN HRASWA U (2 <sup>nd</sup> Form)
59	ृ	ASSAMESE VOWEL SIGN DIRGHA U
60	्र	ASSAMESE VOWEL SIGN DIRGHA U (2 <sup>nd</sup> Form)
61	ৃ	ASSAMESE VOWEL SIGN RI
62	ा	ASSAMESE VOWEL SIGN RI (2 <sup>nd</sup> Form)
63	<b>~</b>	ASSAMESE VOWEL SIGN DIRGHA RI
64	(	ASSAMESE VOWEL SIGN E
65	ं	ASSAMESE VOWEL SIGN OI
66	ো	ASSAMESE VOWEL SIGN O
67	ৌ	ASSAMESE VOWEL SIGN OU

# ADDITIONAL VOWEL SIGNS

68	····	ASSAMESE ADDITIONAL VOWEL FOR LOWER
	·	
		I MID O SOUND
69	OT.	ASSAMESE ADDITIONAL VOWEL SYMBOL FOR
	**1	ATTIGED BY OFFIED A GOLD A ANGUA GEG
		AU USED IN OTHER LOCAL LANGUAGES

# DIGITS

70	0	ASSAMESE DIGIT ZERO
71	2	ASSAMESE DIGIT ONE
72	<b>২</b>	ASSAMESE DIGIT TWO
73	৩	ASSAMESE DIGIT THREE
74	8	ASSAMESE DIGIT FOUR
75	Ů	ASSAMESE DIGIT FIVE
76	৬	ASSAMESE DIGIT SIX
77	9	ASSAMESE DIGIT SEVEN
78	¥	ASSAMESE DIGIT EIGHT
79	<b>৯</b>	ASSAMESE DIGIT NINE

## PUNCTUATION SYMBOLS

80	I	ASSAMESE SYMBOL DAARI/ZATI ASSAMESE SYMBOL XIKI
81	П	ASSAMESE SYMBOL PURNAZATI USED IN VERSE WRITINGS ASSAMESE SYMBOL AADHAA

# ALLOGRAPHS

82	ा	ASSAMESE SYMBOL YA KAAR
		Allograph of ₹
83	ਂ	ASSAMESE SYMBOL REF
		Allograph of
84	្ន	ASSAMESE SYMBOL RA KAAR
		Allograph of ৰ
85	<u></u>	ASSAMESE SYMBOL KA- KAAR / NA-KAAR

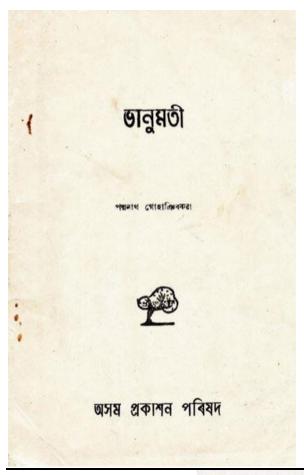
## HASANTA

86	Q	ASSAMESE SIGN HASANTA

# ASSAMESE SYMBOLS

87	<u></u> o ⁰	ASSAMESE SYMBOL URDHA BINDU
88	$\mathcal{O}_{\circ}$	ASSMESE SYMBOL NIMNA BINDU
89	<b>V</b>	ASSAMESE SYMBOL LATE/ANJI /SWARGADEO
90	(3)	ASSAMESE SYMBOL OM
91	2	ASSAMESE LUPTA A KAAR
92	5	ASSAMESE SYMBOL ONE BIGHA
	92	• 1 bigha=14440 sq.ft.
93	/	ASSAMESE SYMBOL ONE KATHA
	ASSAMESE SYMBOL OM ASSAMESE LUPTA A KAAR  ASSAMESE SYMBOL ONE BIGHA  1 bigha=14440 sq.ft.  ASSAMESE SYMBOL ONE KATHA 1 katha=1/5 <sup>th</sup> of 1 bigha  ASSAMESE SYMBOL TWO KATHA 1 katha=1/5 <sup>th</sup> of 1 bigha  ASSAMESE SYMBOL THREE KATHA 1 katha=1/5 <sup>th</sup> of 1 bigha  ASSAMESE SYMBOL FOUR KATHA 1 katha=1/5 <sup>th</sup> of 1 bigha  ASSAMESE SYMBOL FOUR KATHA 1 katha=1/5 <sup>th</sup> of 1 bigha  ASSAMESE SYMBOL ONE LESSA 1 lessa=1/2 <sup>th</sup> of 1 kotha  ASSAMESE SYMBOL TWO LESSA 1 lessa=1/2 <sup>th</sup> of 1 kotha  ASSAMESE SYMBOL THREE LESSA 1 lessa=1/2 <sup>th</sup> of 1 kotha  ASSAMESE SYMBOL ONE POWA 1 powa=1/4 <sup>th</sup> of 1 lessa  ASSAMESE SYMBOL TWO POWA	• 1 katha=1/5 <sup>th</sup> of 1 bigha
94		ASSAMESE SYMBOL TWO KATHA
	<b>√</b> •	• 1 katha=1/5 <sup>th</sup> of 1 bigha
95	• )	ASSAMESE SYMBOL THREE KATHA
	0.	• 1 katha=1/5 <sup>th</sup> of 1 bigha
96	2%.	ASSAMESE SYMBOL FOUR KATHA
97	50	
98	2	
	93 /· 94 ·· 95 ·· 96 ·· 97 ·· 98 ·· 2	
99	G	
100	1-	
		*
101	11-	
		• 1 powa=1/4 <sup>th</sup> of 1 lessa
102	111	ASSAMESE SYMBOL THREE POWA
	1110	• 1 powa=1/4 <sup>th</sup> of 1 lessa
103	<i></i>	ASSAMESE SYMBOL RATI
104	и	ASSAMESE SYMBOL POUNIA
		• 1 pounia=3/4 <sup>th</sup>

# **Use of the Script: From Text book to Email:**



# ভানুমতী প্রথম আধ্যা আপোন-চিনাকি

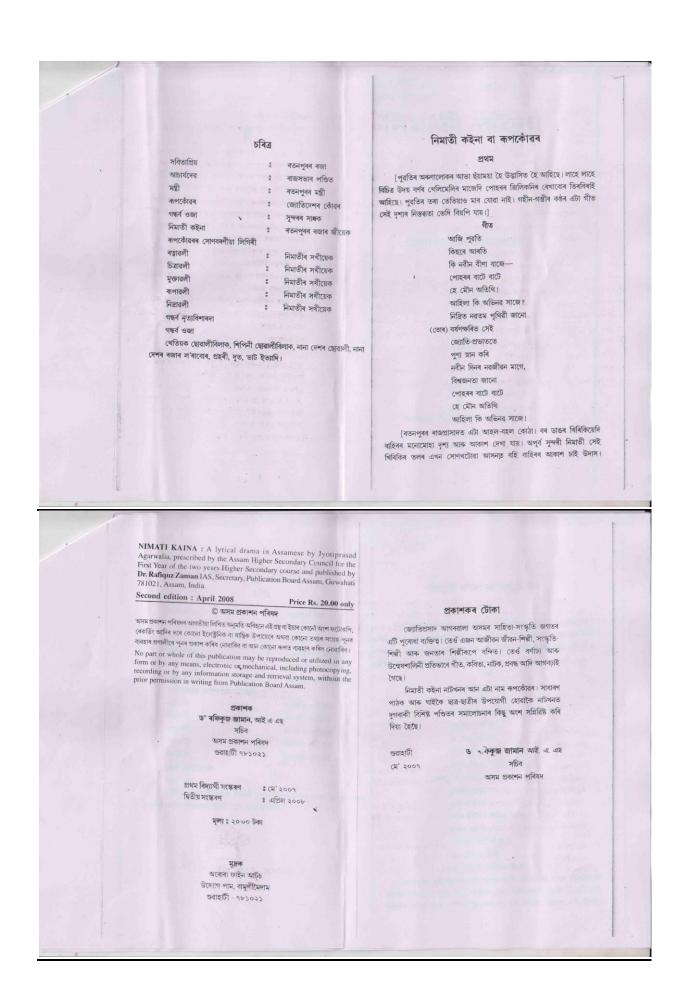
মোৰ নাম ভাতুমতী। মই দেউতাৰ বছ সাধনাৰ ফল,-একেটি বছ। মোৰ জীৱনৰ আদিছোৱাৰ কথা একোকে মনত নপৰে। যি অলপ-অচৰপ ক'ব পাৰে।, সি কেৱল এনাই দেউতাৰ মুখৰপৰা ওনা কথাতে। মোৰ দেউতাৰ চাৰিগৰাকী ভাই ককাই। দেউতা সবাতকৈ সৰু। পুথাওদেউতা ঢুকোৱাৰ পাচৰপৰা তেওঁ ককাইদেৱাকসকলৰ আদৰত উলহৰ মাদলি আছিল। পিচে, যেতিয়া সিবিলাক ভিনিগৰাকীয়ে এজন-এজনকৈ বিয়া কৰাই উঠি, আপাদেউ-সকলৰ হাতত ঘূৰা উঘাৰ নিচিনা হ'ল, তেতিয়াৰেপৰা সেই উলহৰ মাদলি লাহে লাহে বেজাৰৰ বোজা যেন হবলৈ ধৰিলে। ভাৰ পাচত, আকৌ আপাদেউসকলৰ লেখ জ্ঞাৎ তিনিগৰাকীৰপৰা ছগৰাকীলৈ বাটিল। আৰু, তেতিয়াৰপৰাহে ঘৰত দিনে-বাতিয়ে কছাৰী-ৰণ লাগিবলৈ ধৰিলে। ঘৰত কাৰো স্থুখ-শান্তি নোহোৱাত পৰিল। দেউতাৰ ছুৰ্গতিৰ সীমা নাথাকিল; আৰু লাহে লাহে এইবোৰ কথা ৰজাৰ কাণত পৰিলগৈ। স্বৰ্গদেৱ, মন্ত্ৰী আৰু বিষয়াসকলৰে সৈতে যুগুতি কৰি, দেউতাক মতাই নিয়ালে। আৰু, চ'ৰাৰ বিচাৰমতে বৰ নিচাওদেউক ভাঙি পুথাওদেউতাৰ মৰাণ-গোহাঞিবক্রা বিষয়-বাব দেউতাক দিলে। দেউতাৰ সভাৱ-চৰিত্ৰ আৰু কথা-বাৰ্ত্তাত স্বৰ্গদেৱ বৰ সম্ভুষ্ট হৈছিল। গতিকে, ৰাজ-অনুগ্ৰাহৰ বলত দেউতাৰ প্ৰতিপত্তি আৰু ক্ষমতা সোনকালে বাঢ়িবলৈ ধৰিলে। তাৰ লগে লগে তেওঁৰ ঘৰ-গৃহস্থী, সুধ-সম্পদ, মান-গৌৰর আদিও বাঢ়ি আহিল। কিন্তু, ইমানবোৰ বাহিৰৰ মুখ-সম্পদেও তেওঁৰ অস্তৰত মুখ-শান্তি দিব

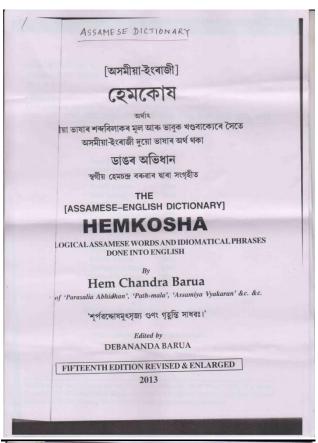
#### ভারুমতী

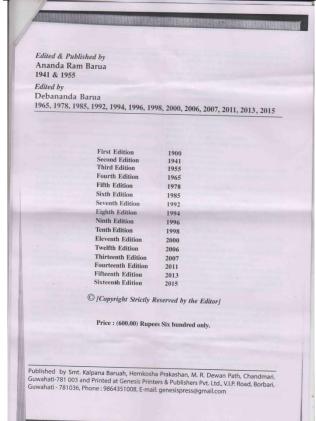
নোৱাৰিলে,—তেওঁৰ সদায় বিষাদ, সদায় মন-মৰা। তাৰ কাৰণ হৈছিল, বহুকাললৈকে তেওঁৰ সন্তি-সন্তান নাছিল। কিমান যাগ-হজ্ঞ. পূজা-সেৱা আদি কৰালে, সকলো মিছা হ'ল। বন্ধু-বাদ্ধৱে দেউতাক আৰু এগৰাকী ভাষ্যা বিষা কৰাবলৈ প্ৰমেশ দিছিল, কিন্তু ককাই-দেৱাকসকলৰ দশালৈ চাই তেওঁ তেনে হিত-উপদেশ নললে। অন্তত, তেওঁ সন্তানৰ আশা এবি দি নিশ্চিত হৈছিল। এনেতে, ইশ্বৰ ইচ্ছাত, এই অভাগিনীৰ জন্ম হয়। দেউতাৰ অন্তৰত আনক্ষৰ পাৰ নোহোৱা হ'ল। পণ্ডিতে পুৰি-প'াজি চাই মোৰ নাম ভানুমতী বাধিলো।

কথমপি মোৰ বয়স তিনি বছৰ চঙ্টতেই ঈধৰে মোক মাউৰী কৰিলে। মাতৃ-চেনেহৰ—যি পৰিত্ৰ প্ৰেহৰ তুপনা নাই—সোৱাদ মই ভালকৈ মূৰ্জিলোঁ। কিন্তু, কেভিয়াবা স্থাবি চালে মোৰ স্বগীয় আইভাৰ মূৰ্থনিলৈ মনত পৰে। আৰু সেই চালুকীয়া বয়সত আই-ভাৰ আঁচলত ধৰি ভেও দি কুৰা, কেভিয়াবা কোনোবাই ধৰ্ বৃতিলে পৰ মাৰি আইভাৰ পাত পৰা মাৰি ধৰা, আইভাই মোৰ মূৰ মেলাই দিয়া আৰু কেভিয়াবা ওকণি চাউতে আমনি পাই কান্দি বলিয়া হোৱা এইবোৰ কথা এভিয়া বিপিকি বিশিকি মনত পৰে। আইভা চুকাবৰেপৰা মই দেউভাৰ মানত আলাসৰ লাক যেন হলোঁ। তেওঁ সভতে মোক ওচৰৰ পৰা নেবা হ'ল। ময়ো দেউভাক এখন্তেক নেদেখিলে আকাৰ যেন দেখোঁ।

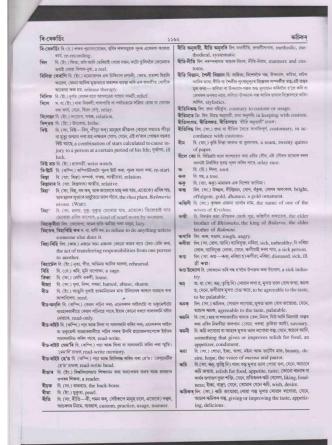
এই দৰেই মোৰ জীৱনৰ চালুকীয়া কাল পাৰ হ'ল। তাৰ পাচত,
মই যিমানেই বুজন হৈ আহিলো, সিমানেই দেউভাৰ লগ ধৰা
অভ্যাস পাতল হৈ আহিল। এই নিয়মে লাহে লাহে মোৰ বয়স হৈদ্য
বছৰত সোমালহি। তেতিয়াৰেপৰা আল-পৈচান ধৰাত বাজে দেউতাৰ ওচৰ চাপিবলৈ মোৰ অভ্যাস নোহোৱা হ'ল। আৰু, লাহে
লাহে পাচলৈ অকলে থাকি হে ভাল লগা হ'ল। কিন্তু, অকলৈ
থাকোঁ বুলি চিন্তাই মোৰ লগ নেৰে। ধৰিবলৈ গলে, পাচলৈ চিন্তা

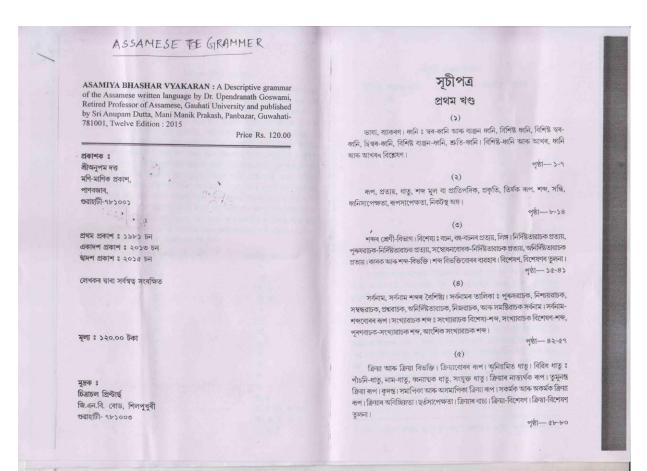












অসমীয়া ভাষাৰ ব্যাকৰণ অসমীয়া ভাষাৰ ব্যাকৰণ ৭ বিশিষ্ট-ধ্বনি আৰু আখৰ ঃ লেখোঁতে সংস্কৃতৰ বৰ্ণমালাৰ অনুকৰণত বিশিষ্ট ব্যঞ্জন-ধ্বনি অসমীয়াত বছতো আখৰ ব্যৱহাৰ কৰা হয় যদিও সেই আটাইবোৰৰ ধ্বনি-গুণ অসমীয়া আখৰ অসমীয়াত নাই। সংস্কৃতৰ ঋ অসমীয়াত ৰি ৰূপেহে উচ্চাৰিত হয়। অসমীয়াত थ, ठ ই আৰু ঈ, উ আৰু উৰ হ্ৰস্ব আৰু দীৰ্ঘ উচ্চাৰণো নাই। অসমীয়াত এ আৰু म, ড এ' এই বিশিষ্ট-ধ্বনিদুটা বুজাবলৈ বেলেগ বৰ্ণ বা আখৰ নাই। দুয়োটাকে এ ধ, ঢ আখৰেৰে লেখা হয়; যেনে, বেল (স্কুল বা কলেজৰ), বেল (গছৰ)। কিছুমান শব্দ অসমীয়াত ঢ় আখৰেৰে লেখা হয়। উচ্চাৰণত হ'লে সেইবোৰক ৰ নাইবা ৰ' আৰু 'হ'ক সংযুক্ত কৰি উচ্চাৰণ কৰা শুনা যায়; যেনে, বুঢ়া শব্দটো বুৰা বা বুর্হা হৈ উচ্চাৰিত হয়। ভূএল, কেএল আদি কেইটামান শব্দত ব্যবহাৰ হোৱা 'এঃ'ৰো উচ্চাৰণ ই'হৈ হয়। আন ব্যঞ্জন-ধ্যনিৰ লগত যুক্ত এগটোৱে ন'ৰ ৰূপ লয়; যেনে, যাচএল, বাঞ্ছা শব্দ জাচ্না, বান্চা হৈ উচ্চাৰিত হ'ব। সংস্কৃতৰ 'য়' ধ্বনিটো অসমীয়া শব্দৰ আৰম্ভণিত 'জ' ৰূপে আৰু আন ঠাইত ই'ৰপে উচ্চাৰিত হয়; যেনে, সং যোগ, জয় অসমীয়াত জোগ আৰু জই হৈছে। অসমীয়াৰ বিশিষ্ট স্বৰ আৰু ব্যঞ্জন ধ্বনিবোৰ বিভিন্ন আখৰেৰে কেনেদৰে বুজোৱা হয় তলৰ বিৱৰণে নিৰ্দেশ দিব। বিশিষ্ট শ্বৰ আৰু ব্যঞ্জন-ধ্বনি শ, য, স অসমীয়া আখৰ ₹, 0 ৮ ধ্বনি আৰু আখ্ৰৰ বিশ্লেষণ ঃ একোটা শব্দ কি কি ধ্বনিৰে গঠিত আ হৈছে আৰু সেই ধ্বনিবোৰক কি কি আখৰেৰে লেখা হৈছে সেইটোও छ. छ চাবলগীয়া। অসমীয়াত কিছুমান শব্দক শেষত স্বৰ-ধ্বনি থকাৰ নিচিনা লেখা 9 হয় যদিও সেই শব্দবোৰ ব্যঞ্জনান্তৰূপেহে উচ্চাৰিত হয়; যেনে, ঘৰ = ঘ্+অ+ৰ্, আম = আ+ম্, কঁঠাল = ক + অঁ+ঠ্+আ+ল্, নাৰায়ণ = ন্+আ+ৰ্+আ+য়+অ+ণ্। অসমীয়াত কিছুমান শব্দ আছে সেইবোৰৰ শেষত ব্যঞ্জন থাকিলেও সেই ব্যঞ্জনৰ পাছত 'অ' ধ্বনি এটা উচ্চাৰিত হয়; যেনে, পাৰ = প্+আ+ৰ্+অ; গাধ = গ্+ অ+ধ্+অ। সেইদৰে নাৰ, বাট, পাভ, কাছ, পল, ওখ, এঘাৰ, বাৰ, তেৰ, পোন্ধৰ, যোল, সোতৰ, ওঠৰ, ভাদ, হেৰ, শ, ন। \* শেষত একেলগে দুটা বা অধিক ব্যঞ্জন-ধ্বনি বুজোৱা আখৰ থকা শব্দ কিছুমান অকাৰান্তৰূপে উচ্চাৰিত হয়; যেনে, কৃষ্ণ, চন্দ্ৰ, ভদ্ৰ, সন্ত, মহন্ত, বংশ, E. ? কংস, শব্দ, যত্ন, ৰতু, ৰাষ্ট্ৰ, পুত্ৰ, ছাত্ৰ। চ, ছ (শ, য, স) জ, ঝ, য, হ্য ७, ९, हे \* দ্ৰষ্টবা ঃ লেখকৰ অসমীয়া ভাষাৰ ৰূপ-কথা ঃ পৰিশিষ্ট ঃ অসমীয়া ভাষাৰ উচ্চাৰণ সমস্যা

# A Study of PHONOLOGY & VOCABULARY OF THE ASSAMESE LANGUAGE

By Devananda Bharali, B.A.

JORHAT, ASSAM 1959

# Chapter II.

# ASSAMESE ALPHABETS AND THEIR VALUES.

32. The sound system of Assamese language consists of six simple vowel sounds and two dipthongs expressed by ten letters. There are twenty six consonantal sounds expressed by thirty six letters and two signs, as shown in the following table:

WIND ON JUST	Guttural				
Vowels	অ৪,আ	ā —	हे,केंi,এ€		উউ u ওo
Unvoiced explosiv	e —	<b></b> 本·k		ট,t,ত	p,9
Unvoiced aspirate	-	₹,kh		र्र,th,श	ph, 平
Voiced explosive		গ,g		म. ७d	b,ব
Voiced aspirate	-	ষ,gh		ঢ,dhধ rh,ঢ়	bh,ঊ
Nasal (voiced)	-	E, i	as,n	n, a, 9	m,A
Unvoiced spirant	≝, व, म <sub>अ</sub>		<del>,</del>	চ,ছs	
Voiced spirant	হ h	-	COMPANY	জ, যুz	_
Liquid				ঋri,ড়, rৰ,লl	
Semivowel			ब्र,y		w₹

'candravindu' 'w' which gives a nasal twang to sounds represented by other letters. It is placed above that letter.

The Sanskrit cerebrals and dentals have merged and are pronounced as alveolars, a sound midway between dental and cerebral.

The three Sanskrit spirants (palatal, cerebral and dental) have lost their values in Assamese. Here they are alike pronounced as a silent guttural spirant represented by the International Phonetic sign 'x'. This is a very distinctive sound in the language. It is not to be found in the neighbouring Indo-Aryan languages, such as, Bengali, Oriya, Bihari, Hindi, nor in the surrounding non-Aryan indigenous languages. But it is prevalent in some dialects of N.-West India, such as, Chamba, near Simla and Bhilli in Rajputana. It was prevalent in Avestic (Proto-Iranian). cf. Avestic 'xur' for Skt. Sura (surva). the sun; Avestic 'xar' for Skt. 'khar' (ass). According to philologists some people of the Iranian branch of the Aryan race crossed over to Kashmir and the surrounding country to mix with the local people.\* The 'x' sound, therefore, must have been brought by the first band of Indo-Aryan speakers who migrated to Assam from those parts as stated above.\*\* The Sanskrit letters \*, 3, 4 are retainded as there is no separate letter for the 'x' sound. This has led to

<sup>\*</sup> The dialects that have grown up in these places are classed under the common name 'Dardic' (Piśāci in Prakrt).

\*\* There are a few words in which the Sanskrit letters have retained their sibilant sound. Such words were imported lately eg, at a for atal, vessel.

# **Assamese Newspapers:**

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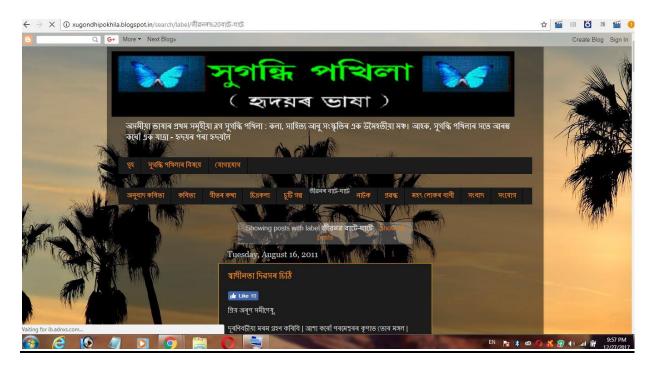


ৰাভা সাহিত্য সভাৰ টংলা অধিৱেশন আৰম্ভ



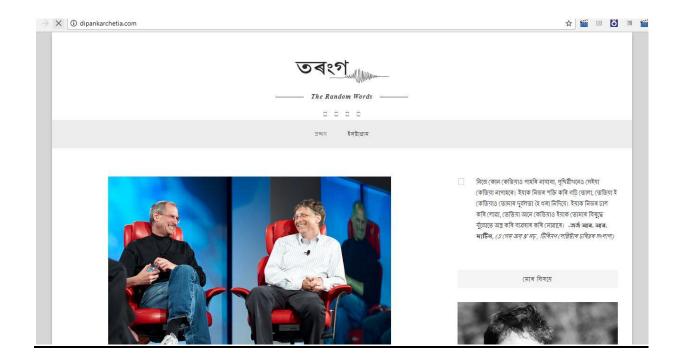


# **Assamese Blogs:**

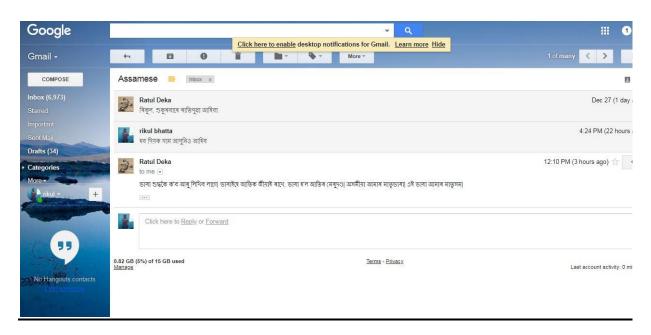


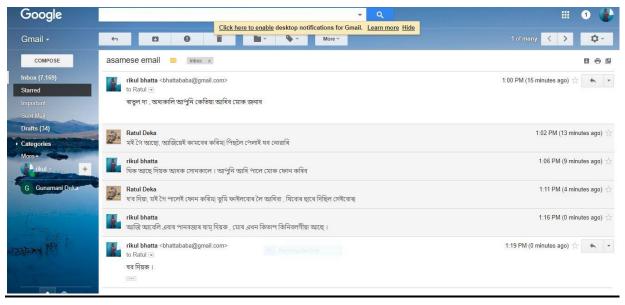




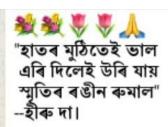


# **Assamese Emails:**





# **Assamese SMSes:**



# সুপ্ৰভাত সুধী সমাজ। দেওবাৰটো মধুময় হওক।

আজি হ'ল ওৰুকা কাইলৈ বিহুৰ ভুৰুকা ঐ.... অ আইতা গামোচা কাটিবৰ হ'ল... পূৱাতে উঠি গৈ গৰুহাল ধুৱামগৈ ঐ... অ আইতা তুমি দিয়া বিহুৱান লৈ...



সকলোলৈকে গৰুবিহুৰ ওলগ জনালো...

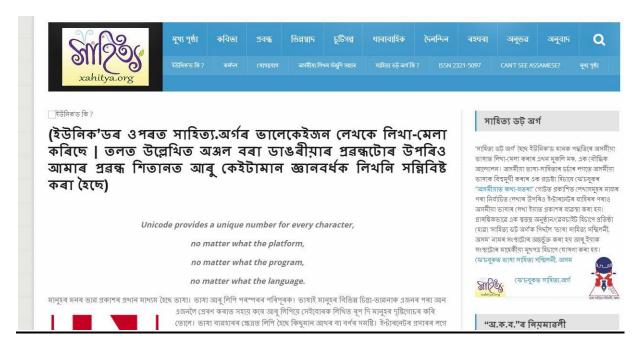
লগতে ৰঙালিক আদৰিবলে বসন্তৰ ৰঙেৰে ৰঙীয়াল হৈ বিহুৰ আনন্দত মতলীয়া হৈ উঠক...

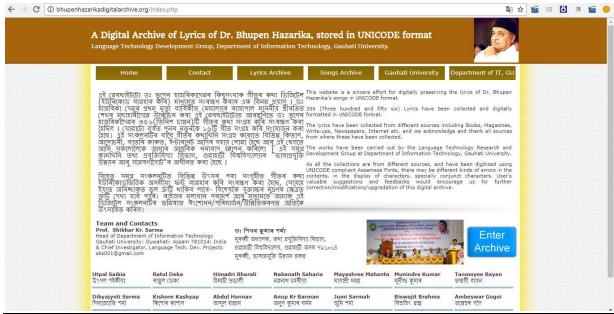
অসমীয়া নৱবৰ্ষৰ শুভকামনাৰে সৈতে আগন্তুক দিনবোৰ হৈ পৰক সুখ, শান্তি, সমৃদ্ধিৰে ভৰপুৰ তাৰেই কামনাৰে.... বহাগ বিহুৰ শুভেচ্ছা জনালোঁ।

মাঘৰ মেজিৰ পবিত্ৰ জুইকুৰাই পোহৰাই তোলক মনৰ আকাশ…মাঘ বিহুৰ হিয়াভৰা ওলগ জনালোঁ।

কাতি বিহু কঙালী ' মাঘ্ বিহু ভোগালি , বহাগ্ বিহু ৰঙালি সকলোকে আগন্তুক মাঘ্ বিহুৰ্ হিমা ভৰা শুভেচ্চা আৰু ওলগ্ জাছিলো ।।

## **Assamese Websites:**









# **The Working Team:**

The entire procedure of preparation was done as a team work, coordinated and conducted in the Department of Information Technology, Gauhati University. The composition of the Team is with Faculty members, Research Students, Experts, and other invited members. The team includes:

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