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ECLIPSES OF THE MOON IN INDIA



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CONTINUATION OF THE "INDIAN CALENDAR"

ECLIPSES OF THE MOON IN INDIA

BY

ROBERT SEWELL

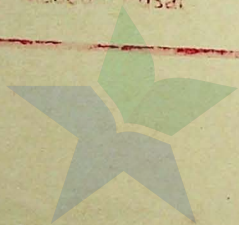
Late of Her Majesty's Indian Civil Service; Member of the Royal Asiatic Society, and of the Society of Biblical Archaeology; Fellow of the Royal Geographical Society.



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PREFACE

THE present volume has been prepared in continuation of the "Indian Calendar", which contained, *inter alia*, Tables drawn up by Dr. Robert Schram for determining questions connected with eclipses of the sun in India for a period of 1600 years. The eclipses of the moon are now dealt with, and a few notes added.

I desire to express my best thanks for their kind advice and assistance to Professor H. H. Turner, of Oxford, and Mr. A. C. D. Crommelin, of the Royal Observatory, Greenwich.

Pandit Śaṅkara Bâlkrishṇa Dîkshit, whose death early in the present year is greatly to be deplored, rendered valuable help by checking my figures.

June, 1898.

R. SEWELL.





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ECLIPSES OF THE MOON IN INDIA

BY

ROBERT SEWELL.

INTRODUCTION, RULES, AND EXAMPLES.

THE following Tables will be found to contain all that is necessary for the determination of the actual time of occurrence of eclipses of the moon for the period of sixteen hundred years, from A.D. 300 to 1900. The calculations in Table E. have been based on von Oppolzer's *Canon der Finsternisse* (*Denkschriften der Mathematisch naturwissenschaftlichen classe der Kais. Akademie der Wissenschaften in Wien, Vol. LII., 1887*). All eclipses are included, whether visible or invisible. Visibility at a given spot, if not apparent on the face of Table E., must be tested according to the rules hereinafter given.

The results obtained will be closely approximate, but are liable to small errors of a minute or two, owing to minor inequalities in the moon's motion which have been left out of account by Oppolzer. Table G. also is similarly liable to slight variations, for reasons which will be noted below. Absolute exactness is impossible under the circumstances, and it would be useless to attempt more than is given in this volume.

A comparison between the times fixed by Oppolzer's *Canon* and by the *Nautical Almanacks* since the year 1767 (*see Table H.*) will shew how even the most reliable authorities differ in their calculations.

A lunar eclipse is visible in the same degree on every part of the earth's surface which, during any part of its occurrence, is turned away from the sun and towards the moon—then at the full and on the other side of the earth; or, in other words and speaking broadly, on any meridian between the hours of sunset and sunrise. For Indian purposes, therefore, the calculations for these tables have been made for the meridian of Lañka (Ujjain), *i.e.* Greenwich East Longitude $75^{\circ} 46'$, and the necessary time-correction, 5 h. 3 m., has been applied to the *Canon* figures which were prepared for the meridian of Greenwich. All times are measured from mean sunrise at Lañka, taken as 6 A.M.

Von Oppolzer calculated every eclipse in apparent time; and then, for civil purposes, changed this to mean- or clock-time for the meridian of Greenwich by applying the daily equation of time. The tables in the present volume give similar mean time for the meridian of Lañka.

No account has been taken of the effect produced on the moon by the penumbra, but

only of her passage across the cone of complete shadow. In actual observation little change is witnessed until the phenomenon of positive occultation, or positive alteration of the shape of the illuminated surface, takes place. Moreover I am assured by Pandit Śāṅkara Bālkrishṇa Dikshit that in Hindu astronomical works only the latter is taken into account.

The dates given in Col. 1 of Table E. will sometimes be found to be one day behind those given in the *Canon*. This is due to a different meridian having been selected as base. Thus the *Canon* fixes, for Greenwich, an eclipse as having occurred on October 25th, A.D. 310, of which the greatest phase was seen at "0.5", i.e., 0 h. 5 m. after midnight on the 24th-25th October. This moment, on the meridian of Laṅka, was 5 h. 8 m. A.M. But we begin our day throughout this work, for Indian purposes, from mean sunrise at Laṅka, taken as 6 A.M. Hence the moment of greatest phase of this eclipse must be recorded as "23 h. 8 m." and the day must be altered to October 24th, which means the same thing. The beginning was "21.24" on 24th; and the end, which took place at Greenwich mean time 1 h. 49 m. A.M., the hour at Laṅka being then 6.52 A.M., or 52 minutes after sunrise, is recorded as "24.52". This obviates the inconvenience of having to enter two dates for the eclipse. In other words, whenever an eclipse happens on portions of two different days, it is recorded under the earlier day, and the hours of the later phases of the eclipse are carried beyond 24. General Cunningham seems not to have noticed this time-difference, due to longitude, in the list of eclipses he published in his "*Indian Eras*", which is therefore apt to mislead.

I have added to the list the days of the week corresponding to the dates given in Col. 1.

I have also worked out and recorded (*Col. 2*) the Hindu month, and current Śaka year in each case. For the latter purpose I adopt only one reckoning out of the several in use, viz., the full-moon (*pūrṇimā*) day of the month in the Chaitrādi Śaka year. The month is the same whether the amānta or pūrṇimānta reckoning be used. For other modes of reckoning it will be necessary to convert the dates according to the rules given in the "*Indian Calendar*".

The name given to the month in question by the Hindus necessarily varies with their diversity of practice (prior to about 1100 A.D.) in the interpolation of a month in intercalary years, some using the true and some the mean system; and this difference of name is shewn by a double entry in Col. 2. In such case the earlier entry refers throughout to the true system, the later to the mean system, and to this is prefixed the letters "*w. m. i.*" i.e. "with mean intercalations." When the month in which the eclipse occurs bears the name of an intercalated month, so that there are in that year two months having the same name, I have distinguished them by numbers, at the suggestion of Professor Kielhorn. Such a system is safer than entering a name; in view of the difference in the nomenclature adopted at different times and in different tracts.

For the magnitude of the eclipse (*Col. 3*) I adopt the *Canon* figures, with the sole exception that I have not thought it necessary to record magnitudes higher than total. For these last, the letter "*t*" suffices.

A note on the page of Table E. containing the entry for A.D. 1582 explains fully the "Old" and "New" Style of A.D. reckoning, and shews why, between A.D. 1582 and 1752, my dates differ from those given in the *Canon*. The subject is fully discussed in Nicholas's *Chronology of History*, pp. 34-48.

The figures given in Table E. will often shew, without further examination, that an eclipse must have been visible all over India, or invisible in any part of that country; but often

the question remains doubtful, and in such case the actual visibility at any given spot must be ascertained.

For this purpose it is necessary (a) to alter the hour given in Table E. to suit the longitude of the given place; (b) to convert the mean time of the table into apparent (or true) time; (c) to find the moment of sunrise or sunset on the day and at the place in question.

(a) The time-correction for longitude is plus one minute of time for every 15' of longitude east of, or greater than, the base meridian ($75^{\circ} 46'$), and minus one minute of time for every 15' west of, or less than, the same. Four minutes of time to one degree of longitude.

(b) Table F. gives the equation of time in minutes, for intervals of five days throughout the year for the period covered by the principal table. (If it is at any time desired to convert apparent time into mean time, this can be done by using the table with reversed signs.)

(c) Table G., copied from Raper's *Practice of Navigation* Table 26, but with the days of the year added to the sun's declination in degrees in order to facilitate work, gives the hours and minutes of sunrise and sunset in different latitudes on different days. I have ventured to add the days of the year to this table, because there are no almanacks extant in India earlier than those of the last few decades to which reference can be made in order to ascertain the sun's declination on any given day. It is true that the inclusion of the days of the year introduces, in distant epochs, small errors due to various causes, such as the change in the obliquity of the ecliptic, and of the perihelion point of the earth's orbit. But the sum of these would not amount to much;¹ and if the little Table given in Rule 5 below be used, which brings Old Style dates into harmony with the present Calendar, these slight variations in the sun's declination may well be left out of account.

Another variation is caused by the fact that, since the moon is actually at the full at mid-eclipse, she is not quite full at the beginning, and she is a little past the full at the end of the eclipse. For localities such as India, no part of which is very far distant from the equator, this variation, even in the extreme case of an eclipse prolonged to a duration of four hours, would not amount to more than four minutes.

If all these variations operated in one direction the time-difference so caused might of course amount to several minutes, but it often, indeed generally, happens that one cause of variation works against and helps to annul another. At the worst they only affect the question of the visibility at the last few moments of an eclipse ending when the moon is just rising, or the first few moments of an eclipse beginning when the moon is just setting; and since the difference is then compensated by the effects produced by refraction, it is not necessary to consider them. The beginning or ending of an eclipse cannot be generally observed nearer than one minute, and sometimes two or three minutes of time, even under the most favourable conditions.

I have thought it advisable to give a list of eclipses as fixed by the *Nautical Almanack* since A.D. 1767, the date of its first publication. These may be compared with the data obtained from Oppolzer's Canon. I have reduced the actual figures given in the *Nautical Almanack* to our requirements (1) by altering the hour to suit the Indian system, according to which the day begins at mean sunrise (6 A.M.) on the meridian of Lanka, (2) by applying the time-difference between the longitudes of Greenwich and Lanka, and, (3) up to the year 1834, by applying the daily equation of time. Since 1834 the *Nautical Almanack* figures are themselves given in

¹ Probably not more than half a degree, or two minutes of time, for two years differing as much as possible. (Professor Turner.)

mean time. Table H. therefore gives the *Nautical Almanack* fixtures on the basis of the system adopted in Table E., and one or the other may be used at pleasure in examining eclipses in India. The *Connaissance des Temps* was commenced about a century earlier than the *Nautical Almanack*, but in those early years the lunar tables used were so imperfect that Oppolzer's *Canon* is the more reliable work. Indeed the *Canon* is probably more accurate than the *Almanack* up to about 1821 A.D., when Burchardt's tables were introduced into the latter's calculations.

The next point will be to consider within what limits the figures given in Table E. or H. may be taken to prove conclusively that an eclipse was invisible in any part of India on the day in question.

Let it be remembered that those figures relate to mean or clock time measured from 6 A.M., or approximate sunrise on the meridian of Lañka, or Ujjain, Gr. E. Long. $75^{\circ} 46'$, latitude $0^{\circ} 0'$.

At that point, given no minor variations and no refraction, every eclipse was invisible which fell entirely between 0 h. and 12 h. in columns 4 to 7 of Tables E. or H.

But to be quite safe we will allow 5 minutes for possible variations, and reduce the limits to 0 h. 5 m. and 11 h. 55 m.

The greatest possible difference between mean and apparent time was ζ in about A.D. 300, when it was as high as $\pm 20^m$.; at present the differences lie between -14^m . and $+16^m$. To be quite certain we will allow 20 m. This reduces the limits to 0 h. 25 m. and 11 h. 35 m.

The outside differences due to longitude are, westwards $75^{\circ} 46' - 66^{\circ} 45'$ (Karâchi), or 9° , or 36 m. of time, and eastwards 97° (East of Assam) $-75^{\circ} 46'$, or $21^{\circ} 14'$, or 1 h. 25 m. of time.

The outside parallel of north latitude is 36° (Gilgit). Here, and relatively in a less degree for places further south, the prolongation of daylight at certain seasons may well render invisible an eclipse visible at the equator; but we have only to consider the converse case, viz. the most extreme case of late sunrise and early sunset which may render visible an eclipse otherwise invisible. This occurs at the winter solstice, when in latitude 36° (Table G.) the sun rises at 7 h. 14 m. A.M. and sets at 4 h. 46 m. P.M. Difference 1 h. 14 m. both in the morning and the evening. If the extreme limits of both longitude and latitude were separately considered and applied, our outside limits would thus be reduced to (0 h. 25 m. + 0 h. 36 m. + 1 h. 14 m. =) 2 h. 15 m., and [11 h. 35 m. - (1 h. 25 m. + 1 h. 14 m.) =] 8 h. 56 m.

But it is not necessary to allow for such a wide limit. We can ascertain¹ the outside difference for longitude and latitude combined, by drawing on a map great circles inclined at an angle of $27\frac{1}{2}^{\circ}$ to the meridian (this angle being the actual angle at which the sunrise or sunset lines intersect the meridians in India at the time of the solstices) just touching the furthest east and west limits of India, and producing them to meet the equator. The western great circle cuts the equator about Gr. E. long. $54\frac{1}{4}^{\circ}$, or $21\frac{1}{2}^{\circ}$ west of Lañka, equivalent to 1 h. 26 m. of time-difference, and the eastern great circle cuts the equator about Gr. E. long. 109° , or $33\frac{1}{4}^{\circ}$ E. of Lañka, equivalent to 2 h. 13 m. of time-difference. Applying these outside time-differences to the limits of 0 h. 25 m. and 11 h. 35 m. already obtained, we have (0 h. 25 m. + 1 h. 26 m. =) 1 h. 51 m., and (11 h. 35 m. - 2 h. 13 m. =) 9 h. 22 m. No eclipse could by any possibility be visible in any part of India, provided the whole fell within these limits. I have really exceeded the requirements of the case in fixing these limits, but the error, if one there be, is on the right side.

¹ I am indebted to Mr. Crommelin for this. Similar results are arrived at by calculation from Raper's Table (Table G. below).

It may be as well to point out that these Tables are applicable not only to India, but to all places in the world lying between N. Lat. 0° and 39° . To use them for mean or clock time for any part of the globe, it is only necessary to apply to the figures given in Table E. the time-difference for longitude (4 minutes to a degree) east or west of our base-meridian, which is, as stated, $75^{\circ} 46'$ east of Greenwich. This gives the hour of eclipse by the clock on any meridian in latitude 0° . For apparent time Table F. is applicable to all parts of the world. To find the hour of sunset or sunrise Table G. may be used for any place between the equator and N. Lat. 39° .

RULES, AND USE OF TABLES.

Rule I. Note the details regarding the eclipse given in Table E.

On any date and for any place in India the eclipse was invisible if it occurred altogether between 1.51 and 9.22.

If its beginning or ending overstep these limits the eclipse may have been visible at some place in India. In such case it must be examined.

Rule II. In case an examination is necessary take the latitude and longitude of the place in question. Table XI. of the "*Indian Calendar*" (p. cxix) may be used, or a reliable map.

Rule III. Correct Table E. for longitude, thus;—Lanka longitude, or the longitude of the base meridian of the Tables, being $75^{\circ} 46'$ east of Greenwich, add one minute of time for every $15'$ of longitude east of this, and deduct one minute of time for every $15'$ of longitude west of it.

Rule IV. To find the apparent or true time of eclipse, apply to the figures given in E., the correction noted in Table F.

Rule V. Then consider the latitude of the place. The moment of the occurrence of the different phases of the eclipse will remain unaffected, but the visibility of the eclipse depends on the time of sunrise or sunset in this locality, and this varies with the latitude.

Table G. gives these hours of sunrise and sunset. But for Old Style dates a correction is necessary, which is supplied by the little Table below. It must be borne in mind that this

OLD STYLE ADJUSTMENT FOR USE OF TABLE G.												
A.D.												
500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
1	2	3	3	4	5	6	6	7	8	9	9	10
N.B. No adjustment is necessary before A.D. 500, or after A.D. 1752.												

alteration of date is solely for use of Table G., the English date of eclipse remaining unaffected. Where necessary, therefore, add to the day given in Table E. the number of days noted in this sub-Table, and then use Table G. to ascertain the duration of daylight on the day of eclipse at the latitude in question.

EXAMPLES.

1. Eclipse of December 2, 1750. This began at 3 h. 32 m. after 6 A.M. and ended at 7 h. 16 m. It was therefore invisible in any part of India.

2. Eclipse of February 28, 1896. I select this because it can be tested by a reliable almanack. How was it at Madras? Work with Table H. It began at 17.19 and ended at 20.18. Nearly $11\frac{1}{12}$ ths. of the disc were obscured.

Rule I. It was visible, clearly, in some part of India.

Rule III. Madras E. Long. $80^{\circ} 13' 30''$ or + 18 m. of time. Apply this, and we have for the beginning 17.37, and for the ending 20.36. This corresponds with the entry in the Madras Asylum Press Almanack, viz., 11.37 P.M. on 28th, and 2.36 A.M. on 29th February.

There is no need to apply Rules IV. or V.

3. Eclipse of November 13, A.D. 300. How was it at Śrīnagar in Kashmir?

It was total and ended at Lañka at 12.21 (*Table E.*) or 6 h. 21 m. P.M. Correct to apparent time (*Table F.*) (6 h. 21 m. + 17 m. =) 6 h. 38 m. P.M. Totality ended (11 h. 15 m. + 17 m. =) 11 h. 32 m., or 5 h. 32 m. P.M., apparent time. At Lañka therefore the eclipse was visible for only the last 38 m. of partial obscuration, sunset being at 6.0 P.M. But at Śrīnagar (N. Lat. $34^{\circ} 6'$, E. Long. $74^{\circ} 52'$ —see the "*Indian Calendar*" *Table XI.*—) the case was different. Correct for longitude. $75^{\circ}.46' - 74^{\circ}.52' = 54' = 4$ minutes of time. 6 h. 38 m. - 4 m. = 6 h. 34 m. This then was the moment of the end of the eclipse. But the sun set (*Table G.*) at 5 h. 8 m. P.M., so that the eclipse was visible at Śrīnagar for an hour and twenty-six minutes after sunset. Totality ended at [5 h. 32 m. P.M. - 4 m. (Long.) =] 5 h. 28 m. P.M., so that at Śrīnagar the eclipse was total for twenty minutes after sunset.

4. Eclipse of November 25, A.D. 364. This began at Lanka 23.8, or 5 h. 8 m. A.M., mean time on 26th (civil reckoning); + 10 m. for apparent time (*Table F.*), 5 h. 18 m. A.M. It was therefore visible at Lañka for 42 m. before sunrise. But at Rangoon (Long. $96^{\circ} 17'$, diff. + 1 h. 22 m.) the eclipse began at, apparent time, 6 h. 40 m. A.M., while (*Table G.*) the sun rose (Lat. $16^{\circ} 46'$) at 6 h. 27 m. A.M. Here the eclipse was invisible.



ADDITIONS TO THE "INDIAN CALENDAR."

NUMERALS EXPRESSED BY WORDS.

DATES in Indian inscriptions are often expressed by words, each word representing a numeral, and selected for that purpose according to its meaning. Thus, *bhû* or *chandra* stood for the figure 1, since all the world knows that there is only one earth or one moon. Similarly *paksha* "wing", or *akshi* "eye", conveyed at once the idea of two; *trijagat*, the "three worlds", three; *Pâṇḍava*, five; *avatâra*, ten; and so on. Extending the system with considerable ingenuity, a large number of figures were represented.

The commoner words are given in the enclosed list; which contains, first, the words given by Burnell (*Br.*) in his *South-Indian Palæography*, including those mentioned by Al-Bîrûnî and C. P. Brown, then those added by Dr. Bühler (*Bh.*) (*Grundriss der Indo-Arischen Philologie und Altertumskunde, Indische Palæographie, pp. 80, 81*), lastly some supplied to me by Professor Kielhorn. (*K.*)

Units are generally written first, then tens, hundreds, and thousands. Thus *Rîshi-nâga-kh-endu-sainvatsara* is the year 1087, *guṇa-śâstra-kh-endu-gaṇita sainvatsara* is 1063. $\begin{matrix} 7 & 8 & 0 & 1 \\ 3 & 6 & 0 & 1 \end{matrix}$

0. (*Br.*) Abhra, âkâśa, ambara, ananta, gagaṇa, kha, śûnya, viyat, vyoman. (*K.*) Dyû, nabhas, vindu, Vishṇupada.

1. (*Br.*) Âdi, bhû, chandra, dharâ, dharaṇî, indu, kshiti, kshmâ, nâyaka, pitâmaha, pṛithivî, raśmi, rūpa, śaśânka, śaśin, śîtâṃśu, soma, tanu, urvarâ, vasudhâ. (*Bh.*) Mâhî, Sitarâśmi. (*K.*) Atrinayanaja, avani, chandramas, dhâtrî, jagatî, kshapeśvara, kshauṇî, kshoṇî, ku, mṛigâṅka, sudhâṃśu, vasumatî, vidhu.

2. (*Br.*) Akshi, Aśvin, bâhu, Dasra, dṛiṣṭî, kara, karṇa, kuṭumba, lochana, netra, paksha, ravichandrau, Yama, yamala. (*Bh.*) Nayana. (*K.*) Chakshus.

3. (*Br.*) Agni, dahana, guṇa, hutâśana, jvalana, loka, pâvaka, Râma, sahodara, śikhin, tapana, tri, trigata, triguṇa, trijagat, trikâla, trilochana, trinetra, vahni, vaiśvânara. (*Bh.*) Hoṭṛi. (*K.*) Anala, Haranayana, śakti, udarchis, veda, viṣṭapa.

4. (*Br.*) Abdhi, bandhu, dadhi (?), diś, jalanidhi, jalâśaya, kosṭha, kṛita, sâgara, samudra, udadhi, veda, yuga. (*Bh.*) Aya or âya, śruti, jala, jaladhi. (*K.*) Ambhôdhi, ambudhi, amburâśi, arṇava, Chaturânanavadana, vanadhi, vâridhi, vârinidhi, sindhu.

5. (*Br.*) Artha, bhûta, indriya, ishu, kalamba, mârگاṇa, Pâṇḍava, prâṇa, putra, ratna, sara, sâyaka, suta, tata, vâṇa, viśikha. (*Bh.*) Bâṇa, vishaya. (*K.*) Tryakshamukha.

6. (*Br.*) Aṅga, ari, darśana, māsārdha, mata, rāga, rasa, ṛitu, śāstra, tarka. (*Bh.*) Kāya.
7. (*Br.*) Adri, aga, aśva, Atri, chāndas, dhātu, kalatra, mahādhara, muni, naga, parvata, ṛishi, śāila, svara. (*Bh.*) Dhī. (*K.*) Giri, haya, loka, pātāla, sagara, sāgara, turāṅgama.
8. (*Br.*) Ahi, bhūti, dantin, gaja, ibha, māṅgala, nāga, sarpa, vasu. (*Bh.*) Anuṣṭubh, siddhi. (*K.*) Mūrti, naga, tanu.
9. (*Br.*) Aṅka, antara, chhidra, dvāra, go, graha, nanda, nidhi, pavana, randhra. (*K.*) Grahagaṇa, nidhāna.
10. (*Br.*) Āśā, avatāra, diś, karman, Rāvaṇasīras.
11. (*Br.*) Akṣhauhiṇī, Īśvara, lābha, Mahādeva, Rudra. (*Bh.*) Īśa, Śiva. (*K.*) Bhava.
12. (*Br.*) Āditya, arka, bhānu, māsa, sahasrāṁśu, sūrya, vyaya. (*K.*) Dyumaṇi.
13. (*Br.*) Kāma, Kāmadeva, Manmatha, viśva. (*Bh.*) Aghosha, atijagati.
14. (*Br.*) Indra, Manu, loka. (*K.*) Amarendra, pūrva, ratna.
15. (*Br.*) Ahan, paksha, tithi.
16. (*Br.*) Asṭi, bhūpa, kalā, nṛipa.
17. (*Br.*) Atyasṭi.
18. (*Br.*) Dhṛiti.
19. (*Br.*) Atidhṛiti.
20. (*Br.*) Kṛiti, nakha.
21. (*Br.*) Svarga, utkṛiti.
22. (*Br.*) Jāti.
24. (*Br.*) Jina.
25. (*Br.*) Tattva.
26. (*Br.*) Utkṛiti.

The following are said to occur only in documents of late date. (*Br.*)

27. (*Br.*) Nakshatra. (*Bh.*) Bhasamūha.
32. (*Br.*) Danta, Rada.
33. (*Br.*) Deva. (*Bh.*) sura.
34. (*Br.*) Tāna.
40. (*Br.*) Naraka.
49. (*Br.*) Tāna.

NUMERALS EXPRESSED BY LETTERS OR SYLLABLES.

[Dr. Burnell's *South-Indian Paleography* pp. 65, 79, 80, from which most of this note is taken; Dr. Bühler's *Grundriss der Indo-Arischen Philologie und Altertumskunde, Indische Paleographie*, pp. 82, 83; *Indian Antiquary*, II, pp. 361—2.]

A system of notation by which numerals are expressed by letters of the alphabet is often called the *Katipayādi* method, from *katipaya*, "a certain number", "so many".

Three systems are known.

A. *The system of Āryabhaṭṭa*, which he used in his treatises on astronomy, but which does not appear to have been adopted by any other writer, or in inscriptions. It is unnecessary to go into this. Professor Kern has edited Āryabhaṭṭa's text.

vowels to each consonant and enables the series to run as far as $(16 \times 34 =) 544$. This results, of course, in the letters having a different value from those of the former system; e.g., $kâ$ in the first (a) system = 35, in the second (b) system = 2.

Dr. Bühler states that in Siam and Ceylon there are instances of this last system being prolonged, after the exhaustion of all the syllables ending with *lah* (= 408 or 544 as the case may be), by a repetition of the whole system; noted as $2 ka, 2 kâ, 2 ki, 2 kî$, etc. which would enable numerals to be represented to any extent.

These methods are convenient as numerals for arranging papers or pages in order, but are manifestly useless for simple notation. Thus, if a loose page is picked up bearing the syllable *mû*, it can at once be put in its proper place; but no one could say without reference to a table what actual number *mû* represents:

Numbers in India are often abridged, as in England. We say for instance of the pages of a book "21-2", "243-4". This must not be lost sight of, even in the matter of inscriptions and their dates, remembering that in Europe there is sometimes a similar abbreviation. People speak of the year "ninety-eight", meaning "1798".

There is a system in use in Nepâl and amongst the Jains of N. India where syllables are used in an apparently arbitrary manner, but it is not known in the south. Dr. Burnell treats of this in his "*South-Indian Palæography*" (p. 65). The series is used for numbering pages of books, but I am not aware whether it has ever been employed for chronological purposes.

DETERMINATION OF NAKSHATRAS AND YOGAS.

[See *Ind. Calendar, Arts. 133, 158, 159, pp. 64-65, 97-98.*]

Dr. Schram proposes, in the *Indian Antiquary* for October 1896 (pp. 287-288), a simplification of the method employed by us for the determination of *nakshatras* and *yogas*.

He gives the following table by which (*n*), the *nakshatra*-index, and (*y*) the *yoga*-index may be found at once from the figures for (*t*) and (*c*); thus $(n) = (t) + (s)$. Take down (*t*), and find (*s*) from the table given below, by observing the figure given for (*c*). In the example given by us in Art. 158 we have $(t) = 1463, (c) = 439$. From the first column of the following table, observing the difference between consecutive values of (*s*) (cols. 2, 3) and using the auxiliary table, (*s*) is found to be 1559. Add (*t*) to (*s*) and we have $3022 = (n)$. $(y) = (s) + (n)$ (Art. 133), and both these quantities are found from the table.



This table may be styled Table VII A of the "Indian Calendar". It is reprinted by kind permission of the author, and of the editor of the "Indian Antiquary".

TABLE VII A.

Arg. c.	s.	Diff.	Arg. c.	s.	Diff.	Arg. c.	s.	Diff.	Arg. c.	s.	Diff.
0	7147	103	250	9707	100	500	2147	96	750	4586	100
10	7250	104	260	9807	100	510	2243	96	760	4686	101
20	7354	104	270	9907	99	520	2339	96	770	4787	100
30	7458	104	280	6	99	530	2435	96	780	4887	101
40	7562	104	290	105	99	540	2531	97	790	4988	101
50	7666	103	300	204	99	550	2628	96	800	5089	101
60	7769	104	310	303	99	560	2724	97	810	5190	102
70	7873	103	320	401	98	570	2821	96	820	5292	102
80	7976	103	330	500	99	580	2917	97	830	5394	101
90	8079	103	340	598	98	590	3014	97	840	5495	103
100	8182	103	350	696	97	600	3111	97	850	5598	102
110	8285	103	360	793	98	610	3208	97	860	5700	102
120	8388	103	370	891	97	620	3305	97	870	5802	103
130	8491	102	380	988	97	630	3402	98	880	5905	103
140	8593	103	390	1085	97	640	3500	98	890	6008	103
150	8696	102	400	1182	97	650	3598	97	900	6111	103
160	8798	102	410	1279	97	660	3695	99	910	6214	103
170	8900	101	420	1376	97	670	3794	98	920	6317	104
180	9001	102	430	1473	96	680	3892	98	930	6421	103
190	9103	101	440	1569	97	690	3990	99	940	6524	104
200	9204	101	450	1666	96	700	4089	99	950	6628	103
210	9305	101	460	1762	96	710	4188	99	960	6731	104
220	9406	101	470	1858	96	720	4287	100	970	6835	104
230	9507	100	480	1954	96	730	4387	99	980	6939	104
240	9607	100	490	2050	97	740	4486	100	990	7043	104
250	9707		500	2147		750	4586		1000	7147	

AUXILIARY TABLE.

Diff. of s.	Last figure of Argument c.								
	1	2	3	4	5	6	7	8	9
	Add.								
104	10	21	31	42	52	62	73	83	94
103	10	21	31	41	52	62	72	82	93
102	10	20	31	41	51	61	71	82	92
101	10	20	30	40	51	61	71	81	91
100	10	20	30	40	50	60	70	80	90
99	10	20	30	40	50	59	69	79	89
98	10	20	29	39	49	59	69	78	88
97	10	19	29	39	49	58	68	78	87
96	10	19	29	38	48	58	67	77	86



ADDITION TO THE "INDIAN CALENDAR" TABLE I.

The commencement of the luni-solar year (cols. 19 to 25) throughout Table I of the "Indian Calendar" was calculated for the system of true intercalations of months (cols. 8 to 12). The use of the mean system of intercalations (cols. 8a to 12a) will, in years following those where an intercalation has taken place by the mean system but not by the true system, throw the initial date a month later than that given in cols. 19 to 25. In such years the invariable intercalation of a month by the true system, when none takes place by the mean system, brings the initial dates under both systems together again in the third year. The following is a list of initial dates (cols. 19 to 25) to be substituted for the present entries in Table I in the years mentioned, *when the mean system of intercalation of months (cols. 8a to 12a) is used.*

The figures already given in Table I, however, may equally well be used if care is taken to remember the number of the month. Thus—suppose that it is necessary to ascertain a date in Chaitra of Kali 3412, where the mean system of intercalations was used. Noting that the month was called "Vaisâkha I" under the "true" system, the calculation may be made for Vaisâkha I, using the figures already given in Table I.

I. CONCURRENT YEAR.		III. COMMENCEMENT OF THE LUNI-SOLAR YEAR. (Civil day of Chaitra Śukla 1st.)						
Kali.	A. D.	Day and Month A. D.	Week day.	Moon's age.		a.	b.	c.
				Lunat. parts elapsed. (L.)	Tithis elapsed.			
1	5	19	20	21	22	23	24	25
3412	310-11	18 Mar. (77).....	0 Sat.....	58	174	52	795	282
3431	329-30	18 Mar. (77).....	3 Tues.....	180	540	157	659	282
3450	*348-49	17 Mar. (77).....	5 Thur.....	78	234	9924	486	279
3458	*356-57	19 Mar. (79).....	3 Tues.....	141	423	84	602	285
3477	375-76	19 Mar. (78).....	5 Thur.....	52	156	9851	430	282
3496	394-95	19 Mar. (78).....	1 Sun.....	232	696	9956	293	282
3515	413-14	19 Mar. (78).....	4 Wed.....	319	957	62	157	283
3526	*424-25	17 Mar. (77).....	2 Mon.....	69	207	8	904	278
3534	*432-33	19 Mar. (79).....	0 Sat.....	327	981	168	20	283
3553	451-52	20 Mar. (79).....	3 Tues.....	320	960	273	884	283
3572	470-71	19 Mar. (78).....	5 Thur.....	45	135	40	711	281
3580	478-79	21 Mar. (80).....	3 Tues.....	218	654	200	828	286
3591	489-90	19 Mar. (78).....	1 Sun.....	223	669	146	575	281
3599	497-98	21 Mar. (80).....	6 Fri.....	318	954	306	691	286
3618	*516-17	20 Mar. (80).....	1 Sun.....	196	588	72	519	284
3637	535-36	20 Mar. (79).....	3 Tues.....	95	285	9839	346	281
3656	554-55	20 Mar. (79).....	6 Fri.....	222	666	9945	210	281
3675	573-74	20 Mar. (79).....	2 Mon.....	250	750	51	73	282
3694	*592-93	20 Mar. (80).....	5 Thur.....	243	729	156	937	282
3702	*600-1	21 Mar. (81).....	2 Mon.....	183	399	9977	17	284

ADDITIONS TO THE "INDIAN CALENDAR."

I. CONCURRENT YEAR.		III. COMMENCEMENT OF THE LUNI-SOLAR YEAR. (Civil day of Chaitra Sukla 1st.)						
Kali.	A. D.	Day and Month A. D.	Week day.	Moon's age.		a.	b.	c.
				Lunat. parts elapsed. (°.)	Tithis elapsed.			
1	5	19	20	21	22	23	24	25
3713	611-12	21 Mar. (80).....	1 Sun.....	270	·810	262	800	282
3721	619-20	22 Mar. (81).....	5 Thur.....	129	·387	83	881	285
3732	630-31	20 Mar. (79).....	3 Tues.....	69	·207	29	628	279
3740	638-39	22 Mar. (81).....	1 Sun.....	190	·570	189	744	285
3759	657-58	21 Mar. (80).....	3 Tues.....	37	·111	9956	571	282
3778	*676-77	21 Mar. (81).....	6 Fri.....	258	·774	61	435	282
3797	695-96	21 Mar. (80).....	1 Sun.....	109	·327	9828	262	280
3816	714-15	21 Mar. (80).....	4 Wed.....	175	·525	9934	126	280
3835	733-34	21 Mar. (80).....	0 Sat.....	170	·510	39	989	280
3843	741-42	22 Mar. (81).....	4 Wed.....	61	·183	9860	70	283
3854	*752-53	21 Mar. (81).....	3 Tues.....	175	·525	145	853	281
3862	*760-61	22 Mar. (82).....	0 Sat.....	49	·147	9966	933	283
3873	771-72	22 Mar. (81).....	6 Fri.....	254	·762	250	717	281
3881	779-80	23 Mar. (82).....	3 Tues.....	79	·237	72	797	283
3900	798-99	23 Mar. (82).....	6 Fri.....	200	·600	177	660	284
3919	817-18	22 Mar. (81).....	1 Sun.....	76	·288	9944	488	281
3938	*836-37	22 Mar. (82).....	4 Wed.....	303	·909	50	351	281
3957	855-56	22 Mar. (81).....	6 Fri.....	85	·255	9817	179	279
3965	863-64	24 Mar. (83).....	4 Wed.....	252	·756	9977	295	284
3976	874-75	22 Mar. (81).....	2 Mon.....	100	·300	9922	42	279
3984	882-83	23 Mar. (82).....	6 Fri.....	○-19	-57	9743	122	282
3995	893-94	22 Mar. (81).....	5 Thur.....	91	·273	28	906	279
4003	901-2	23 Mar. (82).....	2 Mon.....	○-23	-69	9849	986	282
4014	*912-13	22 Mar. (82).....	1 Sun.....	136	·408	134	769	280
4022	*920-21	23 Mar. (83).....	5 Thur.....	○-17	-51	9955	850	282
4041	939-40	24 Mar. (83).....	1 Sun.....	65	·195	60	713	282
4060	958-59	24 Mar. (83).....	4 Wed.....	241	·723	166	577	283
4079	977-78	23 Mar. (82).....	6 Fri.....	160	·480	9933	404	280
4098	*996-97	23 Mar. (83).....	2 Mon.....	318	·954	38	268	280
4106	*1004-5	24 Mar. (84).....	6 Fri.....	115	·345	9860	343	283
4117	1015-16	23 Mar. (82).....	4 Wed.....	25	·75	9805	95	278
4125	1023-24	25 Mar. (84).....	2 Mon.....	242	·726	9965	211	283
4136	1035-35	23 Mar. (82).....	0 Sat.....	15	·45	9911	953	278
4144	1042-43	25 Mar. (84).....	5 Thur.....	276	·828	71	75	283
4155	1053-54	23 Mar. (82).....	3 Tues.....	32	·96	17	822	278
4163	1061-62	25 Mar. (84).....	1 Sun.....	264	·792	176	939	283
4182	*1080-81	25 Mar. (85).....	4 Wed.....	290	·870	282	802	284
4201	1099-1100	25 Mar. (84).....	6 Fri.....	89	·267	49	629	281

© See Text, Art. 101 above, para. 2.



PERPUSTAKAAN NASIONAL
REPUBLIK INDONESIA

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i.e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
300 May 20 Mon.	Jyeshtha..... 223	9 56	8 5	9 6	10 46	11 47	t.
300 Nov. 13 Wed.	Mārgaśīrsha..... 223	10 34	8 47	9 53	11 15	12 21	t.
301 May 9 Fri.	Jyeshtha..... 224	10 41	9 44	—	—	11 38	3·1
301 Nov. 3 Mon.	Kārttika, (w. m. i.) Mārgaśīrsha..... 224	1 3	0 42	—	—	1 24	0·4
303 Mar. 19 Fri.	Chaitra..... 226	20 52	19 6	20 16	21 28	22 38	t.
303 Sept. 12 Sun.	Āsṛvina..... 226	18 13	16 34	18 6	18 20	19 52	t.
304 Mar. 8 Wed.	Chaitra..... 227	13 28	11 43	12 54	14 2	15 13	t.
304 Aug. 31 Thur.	Bhādrapada, (w. m. i.) Bhādrapada II..... 227	19 50	18 3	19 10	20 30	21 37	t.
305 Aug. 21 Tues.	Bhādrapada..... 228	4 27	4 4	—	—	4 50	0·5
306 July 12 Fri.	Śrāvaṇa..... 229	12 8	11 4	—	—	13 12	4·0
307 Jan. 5 Sun.	Māgha..... 229	15 40	13 56	15 9	16 11	17 24	t.
307 July 2 Wed.	Āshāḍha..... 230	4 30	2 39	3 40	5 20	6 21	t.
307 Dec. 25 Thur	Pausha..... 230	18 52	17 7	18 18	19 26	20 37	t.
308 June 20 Sun.	Āshāḍha..... 231	15 58	14 34	—	—	17 22	7·6
308 Dec. 14 Tues.	Pausha..... 231	5 16	4 55	—	—	5 37	0·4
310 Apr. 30 Sun.	Vaiśākha II, (w. m. i.) Vaiśākha..... 233	7 2	5 31	—	—	8 33	9·2
310 Oct. 24 Tues.	Kārttika..... 233	23 8	21 24	22 38	23 38	24 52	t.
311 Apr. 19 Thur.	Vaiśākha..... 234	14 37	12 47	13 50	15 24	16 27	t.
311 Oct. 14 Sun.	Kārttika..... 234	6 10	4 24	5 34	6 46	7 56	t.
312 Apr. 8 Tues.	Vaiśākha..... 235	4 47	3 57	—	—	5 37	2·4
313 Feb. 27 Fri.	Phālguna..... 235	12 56	12 17	—	—	13 35	1·4
314 Feb. 16 Tues.	Phālguna..... 236	24 46	22 59	24 4	25 28	26 33	t.
314 Aug. 12 Thur.	Bhādrapada..... 237	3 29	1 43	2 54	4 4	5 15	t.
315 Feb. 6 Sun.	Phālguna..... 237	5 20	3 41	—	—	6 59	11·9
315 Aug. 1 Mon.	Śrāvaṇa..... 238	19 27	17 42	18 54	20 0	21 12	t.
317 June 11 Tues.	Āshāḍha..... 240	13 35	12 19	—	—	14 51	6·0
317 Dec. 5 Thur.	Pausha..... 240	3 56	2 11	3 22	4 30	5 41	t.
318 May 31 Sat.	Jyeshtha..... 241	16 18	14 26	15 26	17 10	18 10	t.
318 Nov. 24 Mon.	Mārgaśīrsha..... 241	19 29	17 42	18 48	20 10	21 16	t.
319 May 20 Wed.	Jyeshtha..... 242	17 14	16 4	—	—	18 24	4·8
319 Nov. 14 Sat.	Mārgaśīrsha..... 242	9 43	9 20	—	—	10 6	0·5
321 Mar. 30 Thur.	Chaitra..... 244	4 48	3 4	4 17	5 19	6 32	t.
321 Sept. 22 Fri.	Āsṛvina..... 244	25 33	23 56	—	—	27 10	11·3
322 Mar. 19 Mon.	Chaitra..... 245	21 27	19 41	20 49	22 5	23 13	t.
322 Sept. 12 Wed.	Āsṛvina..... 245	3 19	1 31	2 36	4 2	5 7	t.
323 Sept. 1 Sun.	Bhādrapada, (w. m. i.) Bhādrapada II..... 246	12 17	11 37	—	—	12 57	1·5
324 July 22 Wed.	Śrāvaṇa..... 247	19 43	18 51	—	—	20 35	2·6
325 Jan. 15 Fri.	Māgha..... 247	23 35	21 52	23 7	24 3	25 18	t.
325 July 12 Mon.	Śrāvaṇa..... 248	11 51	10 1	11 3	12 39	13 41	t.
326 Jan. 5 Wed.	Māgha..... 248	3 14	1 29	2 39	3 49	4 59	t.
326 July 1 Fri.	Āshāḍha..... 249	22 53	21 22	—	—	24 24	9·2
326 Dec. 25 Sun.	Pausha..... 249	14 4	13 38	—	—	14 30	0·6
328 May 10 Fri.	Jyeshtha..... 251	13 48	12 24	—	—	15 12	7·6
328 Nov. 4 Mon.	Mārgaśīrsha..... 251	7 40	5 57	7 14	8 6	9 23	t.
329 Apr. 29 Tues.	Vaiśākha II, (w. m. i.) Vaiśākha..... 252	21 55	20 4	21 5	22 45	23 46	t.
329 Oct. 24 Fri.	Kārttika..... 252	14 15	12 29	13 38	14 52	16 1	t.
330 Apr. 19 Sun.	Vaiśākha..... 253	12 27	11 25	—	—	13 29	3·8
331 Mar. 10 Wed.	Chaitra..... 254	21 1	20 38	—	—	21 24	0·5
332 Feb. 28 Mon.	Phālguna..... 254	8 40	6 54	8 2	9 18	10 26	t.
332 Aug. 22 Tues.	Bhādrapada..... 255	11 18	9 35	10 50	11 46	13 1	t.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				h. m.	h. m.		
1	2	3	4	5	6	7	8
333 Feb. 16 Fri.	Phālguna..... 255	12 59	11 19	12 43	13 15	14 39	t.
333 Aug. 12 Sun.	Bhādrapada..... 256	3 17	1 30	2 38	3 56	5 4	t.
335 June 22 Sun.	Āshāḍha..... 258	20 18	19 13	—	—	21 23	4·1
335 Dec. 16 Tues.	Pausha..... 258	12 51	11 6	12 17	13 25	14 36	t.
336 June 10 Thur.	Āshāḍha..... 259	22 40	20 49	21 50	23 30	24 31	t.
336 Dec. 5 Sun.	Pausha..... 259	4 25	2 38	3 44	5 6	6 12	t.
337 May 30 Mon.	Jyeshtha II, (w. m. i.) Jyeshtha..... 260	23 46	22 25	—	—	25 7	7·0
337 Nov. 24 Thur.	Mārgasīrsha..... 260	18 27	18 6	—	—	18 48	0·4
339 Apr. 10 Tues.	Vaiśākha..... 262	12 36	10 54	12 14	12 58	14 18	t.
339 Oct. 4 Thur.	Āśvina II, (w. m. i.) Kārttika..... 262	9 8	7 33	—	—	10 43	10·6
340 Mar. 30 Sun.	Chaitra..... 263	5 22	3 34	4 40	6 4	7 10	t.
340 Sept. 22 Mon.	Āśvina..... 263	11 6	9 16	10 20	11 52	12 56	t.
341 Sept. 11 Fri.	Āśvina..... 264	20 17	19 26	—	—	21 8	2·5
342 Aug. 3 Tues.	Śrāvāna II, (w. m. i.) Bhādrapada I..... 265	3 29	2 50	—	—	4 8	1·4
343 Jan. 27 Thur.	Māgha..... 265	7 32	5 50	7 8	7 56	9 14	t.
343 July 23 Sat.	Śrāvāna..... 266	19 17	17 28	18 34	20 0	21 6	t.
344 Jan. 16 Mon.	Māgha..... 266	11 38	9 52	11 2	12 14	13 24	t.
344 July 12 Thur.	Śrāvāna..... 267	5 51	4 15	—	—	7 27	11·0
345 Jan. 4 Fri.	Māgha..... 267	22 48	22 22	—	—	23 14	0·6
346 May 21 Wed.	Jyeshtha..... 269	20 31	19 16	—	—	21 46	5·8
346 Nov. 15 Sat.	Mārgasīrsha..... 269	16 12	14 30	15 48	16 36	17 54	t.
347 May 11 Mon.	Jyeshtha..... 270	5 10	3 18	4 19	6 1	7 2	t.
347 Nov. 4 Wed.	Mārgasīrsha..... 270	22 22	20 36	21 44	23 0	24 8	t.
348 Apr. 29 Fri.	Vaiśākha..... 271	20 4	18 51	—	—	21 17	5·4
350 Mar. 10 Sat.	Chaitra..... 273	16 25	14 40	15 51	16 59	18 10	t.
350 Sept. 2 Sun.	Bhādrapada II, (w. m. i.) Āśvina I..... 273	19 13	17 32	18 54	19 32	20 54	t.
351 Feb. 27 Wed.	Phālguna..... 273	20 27	18 44	20 2	20 52	22 10	t.
351 Aug. 23 Fri.	Bhādrapada..... 274	11 15	9 27	10 32	11 58	13 3	t.
352 Aug. 12 Wed.	Bhādrapada..... 275	3 27	3 1	—	—	3 53	0·6
353 July 3 Sat.	Āshāḍha II..... 276	3 2	2 14	—	—	3 50	2·2
353 Dec. 26 Sun.	Pausha..... 276	21 41	19 56	21 8	22 14	23 26	t.
354 June 22 Wed.	Āshāḍha..... 277	5 4	3 14	4 16	5 52	6 54	t.
354 Dec. 16 Fri.	Pausha..... 277	13 21	11 34	12 40	14 2	15 8	t.
355 June 11 Sun.	Āshāḍha..... 278	6 20	4 51	—	—	7 49	8·7
355 Dec. 6 Wed.	Pausha..... 278	3 10	2 49	—	—	3 31	0·4
357 Apr. 20 Sun.	Vaiśākha..... 280	20 20	18 42	—	—	21 58	11·6
357 Oct. 14 Tues.	Kārttika..... 280	16 50	15 17	—	—	18 23	10·1
358 Apr. 10 Fri.	Vaiśākha..... 281	13 8	11 18	12 21	13 55	14 58	t.
358 Oct. 3 Sat.	Āśvina II, (w. m. i.) Kārttika..... 281	19 1	17 11	18 14	19 48	20 51	t.
359 Mar. 31 Wed.	Chaitra..... 282	2 11	1 50	—	—	2 32	0·4
359 Sept. 23 Thur.	Āśvina..... 282	4 23	3 25	—	—	5 21	3·2
361 Feb. 6 Tues.	Phālguna..... 283	15 14	13 33	14 54	15 34	16 55	t.
361 Aug. 3 Fri.	Śrāvāna, (w. m. i.) Śrāvāna II..... 284	2 47	1 1	2 9	3 25	4 33	t.
362 Jan. 26 Sat.	Māgha..... 284	19 54	18 8	19 16	20 32	21 40	t.
362 July 23 Tues.	Śrāvāna..... 285	12 51	11 11	12 39	13 3	14 31	t.
363 Jan. 16 Thur.	Māgha..... 285	7 31	7 0	—	—	8 2	0·9
364 June 1 Tues.	Jyeshtha II, (w. m. i.) Jyeshtha..... 287	3 12	2 8	—	—	4 16	4·0
364 Nov. 25 Thur.	Mārgasīrsha..... 287	24 50	23 8	24 26	25 14	26 32	t.
365 May 21 Sat.	Jyeshtha..... 288	12 21	10 29	11 29	13 13	14 13	t.
365 Nov. 15 Tues.	Mārgasīrsha..... 288	6 30	4 44	5 52	7 8	8 16	t.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Saka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]	
		Greatest phase. [i.e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
								h. m.
1	2	3	4	5	6	7	8	
366 May 11 Thur.	Jyeshtha	289	3 32	2 12	—	—	4 52	6.9
366 Nov. 4 Sat.	Mārgaśīrsha	289	6 15	6 0	—	—	6 30	0.2
368 Mar. 20 Thur.	Chaitra	291	23 53	22 10	23 28	24 18	25 36	t.
368 Sept. 13 Sat.	Āśvina	291	3 21	1 42	—	—	5 0	11.9
369 Mar. 10 Tues.	Chaitra	292	3 44	1 59	3 10	4 18	5 29	t.
369 Sept. 2 Wed.	Bhādrapada, (w. m. i.) Āśvina I.	292	19 18	17 28	18 32	20 4	21 8	t.
370 Aug. 23 Mon.	Bhādrapada	293	11 12	10 29	—	—	11 55	1.7
371 July 14 Thur.	Śrāvaṇa	294	9 48	9 27	—	—	10 9	0.4
372 Jan. 7 Sat.	Māgha	294	6 31	4 47	5 59	7 3	8 15	t.
372 July 2 Mon.	Āshāḍha II, (w. m. i.) Āshāḍha	295	11 30	9 42	10 47	12 13	13 18	t.
372 Dec. 26 Wed.	Pausha	295	22 14	20 27	21 32	22 56	24 1	t.
373 June 21 Fri.	Āshāḍha	296	12 55	11 20	—	—	14 30	10.7
373 Dec. 16 Mon.	Pausha	296	11 53	11 32	—	—	12 14	0.4
375 May 2 Sat.	Vaiśākha II, (w. m. i.) Vaiśākha	298	3 59	2 26	—	—	5 32	10.0
375 Oct. 25 Sun.	Kārttika	298	24 40	23 8	—	—	26 12	9.7
376 Apr. 20 Wed.	Vaiśākha	299	20 45	18 55	19 56	21 34	22 35	t.
376 Oct. 14 Fri.	Kārttika	299	2 58	1 8	2 9	3 47	4 48	t.
377 Apr. 10 Mon.	Vaiśākha	300	9 35	8 53	—	—	10 17	1.6
377 Oct. 3 Tues.	Āśvina, (w. m. i.) Kārttika	300	12 39	11 36	—	—	13 42	3.9
379 Feb. 17 Sun.	Phālguna	301	22 53	21 14	22 46	23 0	24 32	t.
379 Aug. 14 Wed.	Bhādrapada	302	10 23	8 39	9 52	10 54	12 7	t.
380 Feb. 7 Fri.	Phālguna	302	4 2	2 15	3 22	4 42	5 49	t.
380 Aug. 2 Sun.	Śrāvaṇa, (w. m. i.) Śrāvaṇa II.	303	19 47	18 3	19 18	20 16	21 31	t.
381 Jan. 26 Tues.	Māgha	303	16 6	15 28	—	—	16 44	1.3
382 June 12 Sun.	Āshāḍha	305	9 52	9 4	—	—	10 40	2.2
382 Dec. 7 Wed.	Pausha	305	9 24	7 42	9 3	9 45	11 6	t.
383 June 1 Thur.	Jyeshtha II, (w. m. i.) Jyeshtha	306	19 34	17 43	18 44	20 24	21 25	t.
383 Nov. 26 Sun.	Mārgaśīrsha	306	14 41	12 54	14 2	15 20	16 28	t.
384 May 21 Tues.	Jyeshtha	307	11 4	9 36	—	—	12 32	8.5
384 Nov. 14 Thur.	Mārgaśīrsha	307	14 14	13 53	—	—	14 35	0.4
386 Apr. 1 Wed.	Chaitra	309	7 18	5 38	7 8	7 28	8 58	t.
386 Sept. 24 Thur.	Āśvina	309	11 38	10 1	—	—	13 15	11.2
387 Mar. 21 Sun.	Chaitra	310	10 52	9 5	10 13	11 31	12 39	t.
387 Sept. 14 Tues.	Āśvina	310	3 29	1 39	2 41	4 17	5 19	t.
388 Sept. 2 Sat.	Bhādrapada, (w. m. i.) Āśvina I.	311	19 5	18 14	—	—	19 56	2.5
390 Jan. 17 Thur.	Māgha	312	15 16	13 32	14 45	15 47	17 0	t.
390 July 13 Sat.	Śrāvaṇa	313	18 1	16 16	17 26	18 36	19 46	t.
391 Jan. 7 Tues.	Māgha	313	7 4	5 16	6 22	7 46	8 52	t.
391 July 2 Wed.	Āshāḍha II, (w. m. i.) Āshāḍha	314	19 38	17 57	19 19	19 57	21 19	t.
391 Dec. 27 Sat.	Pausha	314	20 31	20 13	—	—	20 49	0.3
393 May 12 Thur.	Jyeshtha	316	11 31	10 2	—	—	13 0	8.7
393 Nov. 5 Sat.	Mārgaśīrsha	316	8 39	7 8	—	—	10 10	9.4
394 May 2 Tues.	Vaiśākha, II (w. m. i.) Vaiśākha	317	4 18	2 26	3 27	5 9	6 10	t.
394 Oct. 25 Wed.	Kārttika	317	11 12	9 22	10 23	12 1	13 2	t.
395 Apr. 21 Sat.	Vaiśākha	318	16 50	15 53	—	—	17 47	3.1
395 Oct. 14 Sun.	Kārttika	318	21 7	20 2	—	—	22 12	4.2
397 Feb. 28 Sat.	Phālguna	319	6 20	4 43	—	—	7 57	11.4
397 Aug. 24 Mon.	Bhādrapada	320	18 4	16 23	17 45	18 23	19 45	t.
398 Feb. 17 Wed.	Phālguna	320	12 6	10 18	11 24	12 48	13 54	t.
398 Aug. 14 Sat.	Bhādrapada	321	2 58	1 12	2 21	3 35	4 44	t.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. [" <i>v. m. i.</i> " = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. [" <i>t.</i> " = total eclipse.]	
		Greatest phase. [<i>i. e.</i> moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
1	2	h. m.	h. m.	h. m.	h. m.	h. m.	8	
399 Feb. 6 Sun.	Phālguna.....	321	24 37	23 54	—	—	25 20	1·7
400 June 22 Fri.	Āshāḍha.....	323	16 38	16 15	—	—	17 1	0·5
400 Dec. 17 Mon.	Pausha.....	323	17 58	16 17	17 38	18 18	19 39	t.
401 June 12 Wed.	Āshāḍha.....	324	2 48	0 58	2 0	3 36	4 38	t.
401 Dec. 6 Fri.	Pausha.....	324	22 51	21 4	22 11	23 31	24 38	t.
402 June 1 Sun.	Jyeshtha II, (<i>v. m. i.</i>) Jyeshtha.....	325	18 32	16 58	—	—	20 6	10·3
402 Nov. 25 Tues.	Mārgaśirsha.....	325	22 14	21 48	—	—	22 40	0·6
404 Apr. 11 Mon.	Vaiśākha.....	327	14 32	12 56	—	—	16 8	10·9
404 Oct. 4 Tues.	Kārttika I, (<i>v. m. i.</i>) Kārttika.....	327	19 59	18 23	—	—	21 35	10·9
405 Mar 31 Fri.	Chaitra.....	328	17 50	16 1	17 6	18 34	19 39	t.
405 Sept. 24 Sun.	Āśvina.....	328	11 53	10 3	11 4	12 42	13 43	t.
406 Mar. 20 Tues.	Chaitra.....	329	17 59	17 26	—	—	18 32	1·0
406 Sept. 14 Fri.	Āśvina.....	329	3 6	2 7	—	—	4 5	3·4
408 Jan. 28 Tues.	Māgha.....	330	23 52	22 8	23 23	24 21	25 36	t.
408 July 23 Thur.	Srāvaṇa.....	331	24 31	22 49	23 8	24 54	26 13	t.
409 Jan. 17 Sun.	Māgha.....	331	15 49	14 1	15 7	16 31	17 37	t.
409 July 13 Tues.	Srāvaṇa.....	332	2 21	0 36	1 48	2 54	4 6	t.
410 Jan. 7 Fri.	Māgha.....	332	5 7	4 46	—	—	5 28	0·4
411 May 23 Tues.	Jyeshtha.....	334	19 5	17 44	—	—	20 26	7·1
411 Nov. 16 Thur.	Mārgaśirsha.....	334	16 40	15 10	—	—	18 10	9·1
412 May 12 Sun.	Jyeshtha.....	335	11 43	9 51	10 51	12 35	13 35	t.
412 Nov. 4 Mon.	Mārgaśirsha.....	335	19 29	17 39	18 40	20 18	21 19	t.
413 May 1 Thur.	Vaiśākha II, (<i>v. m. i.</i>) Vaiśākha.....	336	23 55	22 48	—	—	25 2	4·5
413 Oct. 25 Sat.	Kārttika.....	336	5 41	4 32	—	—	6 50	4·7
415 Mar. 11 Thur.	Chaitra.....	338	13 48	12 14	—	—	15 22	10·3
415 Sept. 5 Sun.	Bhādrapada II, (<i>v. m. i.</i>) Āśvina.....	338	1 51	0 13	—	—	3 29	11·7
416 Feb. 23 Mon.	Phālguna.....	338	20 3	18 14	19 18	20 48	21 52	t.
416 Aug. 24 Thur.	Bhādrapada.....	339	10 9	8 21	9 27	10 51	11 57	t.
417 Feb. 17 Sat.	Phālguna.....	339	9 3	8 13	—	—	9 53	2·4
418 Dec. 29 Sun.	Pausha.....	341	2 34	0 53	2 14	2 54	4 15	t.
419 June 23 Mon.	Āshāḍha.....	342	10 1	8 12	9 17	10 45	11 50	t.
419 Dec. 18 Thur.	Pausha.....	342	7 4	5 17	6 24	7 44	8 51	t.
420 June 12 Sat.	Āshāḍha.....	343	2 0	0 21	—	—	3 39	11·9
420 Dec. 6 Mon.	Pausha.....	343	6 19	5 49	—	—	6 49	0·8
422 Apr. 22 Sat.	Vaiśākha.....	345	21 35	20 4	—	—	23 6	9·2
422 Oct. 16 Mon.	Kārttika.....	345	4 30	2 56	—	—	6 4	10·3
423 Apr. 11 Wed.	Vaiśākha.....	346	24 38	22 48	23 50	25 26	26 28	t.
423 Oct. 5 Fri.	Āśvina II, (<i>v. m. i.</i>) Kārttika.....	346	20 22	18 31	19 32	21 12	22 13	t.
424 Mar. 31 Mon.	Chaitra II, (<i>v. m. i.</i>) Chaitra.....	347	0 59	0 9	—	—	1 49	2·4
424 Sept. 24 Wed.	Āśvina.....	347	11 17	10 13	—	—	12 21	4·0
426 Feb. 8 Mon.	Phālguna.....	348	8 24	6 41	7 57	8 51	10 7	t.
426 Aug. 4 Wed.	Srāvaṇa II, (<i>v. m. i.</i>) Bhādrapada I.....	349	7 14	5 36	—	—	8 52	11·6
427 Jan. 28 Fri.	Māgha.....	349	24 27	22 38	23 43	25 11	26 16	t.
427 July 24 Sun.	Srāvaṇa.....	350	9 12	7 25	8 32	9 52	10 59	t.
428 Jan. 18 Wed.	Māgha.....	350	13 38	13 17	—	—	13 59	0·4
428 July 12 Thur.	Srāvaṇa.....	351	17 58	17 47	—	—	18 9	0·1
429 June 3 Mon.	Jyeshtha II.....	352	2 33	1 20	—	—	3 46	5·5
429 Nov. 26 Tues.	Mārgaśirsha.....	352	24 46	23 16	—	—	26 16	9·1
430 May 23 Fri.	Jyeshtha.....	353	19 6	17 14	18 15	19 57	20 58	t.
430 Nov. 16 Sun.	Mārgaśirsha.....	353	3 53	2 3	3 4	4 42	5 43	t.

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 5 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i.e. mo- ment of fullmoon] h. m.	Begin- ning of Eclipse. h. m.	Period of total obscuration.		End of Eclipse. h. m.	
				Begin- ning. h. m.	End. h. m.		
1	2	3	4	5	6	7	8
431 May 13 Wed.	Jyeshtha 354	6 56	5 40	—	—	8 12	6·0
431 Nov. 5 Thur.	Mārgasīrsha 354	14 19	13 9	—	—	15 29	4·9
433 Mar. 21 Tues.	Chaitra 356	20 58	19 27	—	—	22 29	9·3
433 Sept. 15 Fri.	Āśvina 356	9 45	8 10	—	—	11 20	10·8
434 Mar. 11 Sun.	Chaitra 357	3 50	2 0	3 2	4 38	5 40	t.
434 Sept. 4 Tues.	Bhādrapada II, (w. m. i.) Āśvina 357	17 27	15 37	16 41	18 13	19 17	t.
435 Feb. 28 Thur.	Phālguna 357	17 16	16 18	—	—	18 14	3·2
435 Aug. 24 Sat.	Bhādrapada 358	18 49	18 18	—	—	19 20	0·9
437 Jan. 8 Fri.	Māgha 359	10 58	9 17	10 41	11 15	12 39	t.
437 July 3 Sat.	Āshāḍha II 360	17 17	15 31	16 40	17 54	19 3	t.
437 Dec. 28 Tues.	Pausha 360	15 13	13 26	14 33	15 53	17 0	t.
438 June 23 Thur.	Āshāḍha 361	9 30	7 47	9 4	9 56	11 13	t.
438 Dec. 17 Sat.	Pausha 361	14 22	13 51	—	—	14 53	0·9
440 May 3 Fri.	Jyeshtha I, (w. m. i.) Vaiśākha 363	4 33	3 10	—	—	5 56	7·5
440 Oct. 26 Sat.	Kārttika 363	13 8	11 34	—	—	14 42	10·2
441 Apr. 22 Tues.	Vaiśākha 364	7 20	5 29	6 30	8 10	9 11	t.
441 Oct. 16 Thur.	Kārttika 364	4 55	3 4	4 5	5 45	6 46	t.
442 Apr. 11 Sat.	Vaiśākha 365	7 53	6 51	—	—	8 55	3·8
442 Oct. 5 Mon.	Āśvina, (w. m. i.) Kārttika 365	19 36	18 30	—	—	20 42	4·3
444 Feb. 19 Sat.	Phālguna 366	16 53	15 11	16 30	17 16	18 35	t.
444 Aug. 14 Mon.	Bhādrapada 367	14 2	12 29	—	—	15 35	10·1
445 Feb. 8 Thur.	Phālguna 367	9 0	7 11	8 15	9 45	10 49	t.
445 Aug. 3 Fri.	Śrāvaṇa II, (w. m. i.) Bhādrapada I 368	16 11	14 21	15 25	16 57	18 1	t.
446 Jan. 28 Mon.	Māgha 368	22 3	21 37	—	—	22 29	0·6
446 July 24 Wed.	Śrāvaṇa 369	1 20	0 38	—	—	2 2	1·6
447 June 14 Sat.	Āshāḍha 370	10 1	8 58	—	—	11 4	3·9
447 Dec. 8 Mon.	Pausha 370	8 52	7 22	—	—	10 22	8·9
448 June 3 Thur.	Jyeshtha II, (w. m. i.) Jyeshtha 371	2 27	0 36	1 37	3 17	4 18	t.
448 Nov. 26 Fri.	Mārgasīrsha 371	12 21	10 31	11 32	13 10	14 11	t.
449 May 23 Mon.	Jyeshtha 372	13 55	12 31	—	—	15 19	7·7
449 Nov. 15 Tues.	Mārgasīrsha 372	23 1	21 50	—	—	24 12	5·0
451 Apr. 2 Mon.	Vaiśākha I, (w. m. i.) Chaitra 374	4 5	2 38	—	—	5 32	8·2
451 Sept. 26 Wed.	Āśvina 374	17 48	16 15	—	—	19 21	10·0
452 Mar. 21 Fri.	Chaitra 375	11 32	9 42	10 43	12 21	13 22	t.
452 Sept. 14 Sun.	Chaitra 375	24 58	23 8	24 10	25 46	26 48	t.
453 Mar. 11 Wed.	Chaitra 376	1 23	0 18	—	—	2 28	4·1
453 Sept. 4 Fri.	Bhādrapada II, (w. m. i.) Āśvina 376	1 55	1 9	—	—	2 41	2·0
455 Jan. 19 Wed.	Māgha 377	19 20	17 40	19 8	19 32	21 0	t.
455 July 14 Thur.	Śrāvaṇa 378	24 43	22 59	24 13	25 13	26 27	t.
456 Jan. 8 Sun.	Māgha 378	23 16	21 29	22 35	23 57	25 3	t.
456 July 3 Tues.	Āshāḍha II 379	17 1	15 15	16 25	17 37	18 47	t.
456 Dec. 27 Thur.	Pausha 379	22 28	21 57	—	—	22 59	0·9
458 May 14 Wed.	Jyeshtha 381	11 21	10 7	—	—	12 35	5·7
458 Nov. 6 Thur.	Mārgasīrsha 381	21 53	20 20	—	—	23 26	9·9
459 May 3 Sun.	Jyeshtha I, (w. m. i.) Vaiśākha 382	13 55	12 3	13 3	14 47	15 47	t.
459 Oct. 27 Tues.	Kārttika 382	13 33	11 42	12 43	14 23	15 24	t.
460 Apr. 21 Thur.	Vaiśākha 383	14 40	13 27	—	—	15 53	5·5
460 Oct. 16 Sun.	Kārttika 383	3 57	2 48	—	—	5 6	4·7
462 Mar. 1 Thur.	Phālguna 384	25 8	23 28	24 58	25 18	26 48	t.
462 Aug. 25 Sat.	Bhādrapada 385	21 1	19 32	—	—	22 30	8·7

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. mo- ment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
		h. m.	h. m.	h. m.	h. m.	h. m.	
1	2	3	4	5	6	7	8
399 Feb. 6 Sun.	Phālguna..... 321	24 37	23 54	—	—	25 20	1·7
400 June 22 Fri.	Āshāḍha..... 323	16 38	16 15	—	—	17 1	0·5
400 Dec. 17 Mon.	Pausha..... 323	17 58	16 17	17 38	18 18	19 39	t.
401 June 12 Wed.	Āshāḍha..... 324	2 48	0 58	2 0	3 36	4 38	t.
401 Dec. 6 Fri.	Pausha..... 324	22 51	21 4	22 11	23 31	24 38	t.
402 June 1 Sun.	Jyeshtha II, (w. m. i.) Jyeshtha..... 325	18 32	16 58	—	—	20 6	10·3
402 Nov. 25 Tues.	Mārgaśirsha..... 325	22 14	21 48	—	—	22 40	0·6
404 Apr. 11 Mon.	Vaiśākha..... 327	14 32	12 56	—	—	16 8	10·9
404 Oct. 4 Tues.	Kārttika I, (w. m. i.) Kārttika..... 327	19 59	18 23	—	—	21 35	10·9
405 Mar. 31 Fri.	Chaitra..... 328	17 50	16 1	17 6	18 34	19 39	t.
405 Sept. 24 Sun.	Āśvina..... 328	11 53	10 3	11 4	12 42	13 43	t.
406 Mar. 20 Tues.	Chaitra..... 329	17 59	17 26	—	—	18 32	1·0
406 Sept. 14 Fri.	Āśvina..... 329	3 6	2 7	—	—	4 5	3·4
408 Jan. 28 Tues.	Māgha..... 330	23 52	22 8	23 23	24 21	25 36	t.
408 July 23 Thur.	Srāvaṇa..... 331	24 31	22 49	23 8	24 54	26 13	t.
409 Jan. 17 Sun.	Māgha..... 331	15 49	14 1	15 7	16 31	17 37	t.
409 July 13 Tues.	Srāvaṇa..... 332	2 21	0 36	1 48	2 54	4 6	t.
410 Jan. 7 Fri.	Māgha..... 332	5 7	4 46	—	—	5 28	0·4
411 May 23 Tues.	Jyeshtha..... 334	19 5	17 44	—	—	20 26	7·1
411 Nov. 16 Thur.	Mārgaśirsha..... 334	16 40	15 10	—	—	18 10	9·1
412 May 12 Sun.	Jyeshtha..... 335	11 43	9 51	10 51	12 35	13 35	t.
412 Nov. 4 Mon.	Mārgaśirsha..... 335	19 29	17 39	18 40	20 18	21 19	t.
413 May 1 Thur.	Vaiśākha II, (w. m. i.) Vaiśākha..... 336	23 55	22 48	—	—	25 2	4·5
413 Oct. 25 Sat.	Kārttika..... 336	5 41	4 32	—	—	6 50	4·7
415 Mar. 11 Thur.	Chaitra..... 338	13 48	12 14	—	—	15 22	10·3
415 Sept. 5 Sun.	Bhādrapada II, (w. m. i.) Āśvina..... 338	1 51	0 13	—	—	3 29	11·7
416 Feb. 28 Mon.	Phālguna..... 338	20 3	18 14	19 18	20 48	21 52	t.
416 Aug. 24 Thur.	Bhādrapada..... 339	10 9	8 21	9 27	10 51	11 57	t.
417 Feb. 17 Sat.	Phālguna..... 339	9 3	8 13	—	—	9 53	2·4
418 Dec. 29 Sun.	Pausha..... 341	2 34	0 53	2 14	2 54	4 15	t.
419 June 23 Mon.	Āshāḍha..... 342	10 1	8 12	9 17	10 45	11 50	t.
419 Dec. 18 Thur.	Pausha..... 342	7 4	5 17	6 24	7 44	8 51	t.
420 June 12 Sat.	Āshāḍha..... 343	2 0	0 21	—	—	3 39	11·9
420 Dec. 6 Mon.	Pausha..... 343	6 19	5 49	—	—	6 49	0·8
422 Apr. 22 Sat.	Vaiśākha..... 345	21 35	20 4	—	—	23 6	9·2
422 Oct. 16 Mon.	Kārttika..... 345	4 30	2 56	—	—	6 4	10·3
423 Apr. 11 Wed.	Vaiśākha..... 346	24 38	22 48	23 50	25 26	26 28	t.
423 Oct. 5 Fri.	Āśvina II, (w. m. i.) Kārttika..... 346	20 22	18 31	19 32	21 12	22 13	t.
424 Mar. 31 Mon.	Chaitra II, (w. m. i.) Chaitra..... 347	0 59	0 9	—	—	1 49	2·4
424 Sept. 24 Wed.	Āśvina..... 347	11 17	10 13	—	—	12 21	4·0
426 Feb. 8 Mon.	Phālguna..... 348	8 24	6 41	7 57	8 51	10 7	t.
426 Aug. 4 Wed.	Srāvaṇa II, (w. m. i.) Bhādrapada I..... 349	7 14	5 36	—	—	8 52	11·6
427 Jan. 28 Fri.	Māgha..... 349	24 27	22 38	23 43	25 11	26 16	t.
427 July 24 Sun.	Srāvaṇa..... 350	9 12	7 25	8 32	9 52	10 59	t.
428 Jan. 18 Wed.	Māgha..... 350	13 38	13 17	—	—	13 59	0·4
428 July 12 Thur.	Srāvaṇa..... 351	17 58	17 47	—	—	18 9	0·1
429 June 3 Mon.	Jyeshtha II..... 352	2 33	1 20	—	—	3 46	5·5
429 Nov. 26 Tues.	Mārgaśirsha..... 352	24 46	23 16	—	—	26 16	9·1
430 May 23 Fri.	Jyeshtha..... 353	19 6	17 14	18 15	19 57	20 58	t.
430 Nov. 16 Sun.	Mārgaśirsha..... 353	3 53	2 3	3 4	4 42	5 43	t.

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 5 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]	
		Greatest phase. [i.e. moment of fullmoon] h. m.	Begin- ning of Eclipse. h. m.	Period of total obscuration.		End of Eclipse. h. m.		
				Begin- ning. h. m.	End. h. m.			
								h. m.
1	2	3	4	5	6	7	8	
431 May 13 Wed.	Jyeshtha	354	6 56	5 40	—	—	8 12	6·0
431 Nov. 5 Thur.	Mārgaśīrsha	354	14 19	13 9	—	—	15 29	4·9
433 Mar. 21 Tues.	Chaitra	356	20 58	19 27	—	—	22 29	9·3
433 Sept. 15 Fri.	Āśvina	356	9 45	8 10	—	—	11 20	10·8
434 Mar. 11 Sun.	Chaitra	357	3 50	2 0	3 2	4 38	5 40	t.
434 Sept. 4 Tues.	Bhādrapada II, (w. m. i.) Āśvina	357	17 27	15 37	16 41	18 13	19 17	t.
435 Feb. 25 Thur.	Phālguna	357	17 16	16 18	—	—	18 14	3·2
435 Aug. 24 Sat.	Bhādrapada	358	18 49	18 18	—	—	19 20	0·9
437 Jan. 8 Fri.	Māgha	359	10 58	9 17	10 41	11 15	12 39	t.
437 July 3 Sat.	Āshāḍha II	360	17 17	15 31	16 40	17 54	19 3	t.
437 Dec. 23 Tues.	Pausha	360	15 13	13 26	14 33	15 53	17 0	t.
438 June 23 Thur.	Āshāḍha	361	9 30	7 47	9 4	9 56	11 13	t.
438 Dec. 17 Sat.	Pausha	361	14 22	13 51	—	—	14 53	0·9
440 May 3 Fri.	Jyeshtha I, (w. m. i.) Vaiśākha	363	4 33	3 10	—	—	5 56	7·5
440 Oct. 26 Sat.	Kārttika	363	13 8	11 34	—	—	14 42	10·2
441 Apr. 22 Tues.	Vaiśākha	364	7 20	5 29	6 30	8 10	9 11	t.
441 Oct. 16 Thur.	Kārttika	364	4 55	3 4	4 5	5 45	6 46	t.
442 Apr. 11 Sat.	Vaiśākha	365	7 53	6 51	—	—	8 55	3·8
442 Oct. 5 Mon.	Āśvina, (w. m. i.) Kārttika	365	19 36	18 30	—	—	20 42	4·3
444 Feb. 19 Sat.	Phālguna	366	16 53	15 11	16 30	17 16	18 35	t.
444 Aug. 14 Mon.	Bhādrapada	367	14 2	12 29	—	—	15 35	10·1
445 Feb. 8 Thur.	Phālguna	367	9 0	7 11	8 15	9 45	10 49	t.
445 Aug. 3 Fri.	Śrāvaṇa II, (w. m. i.) Bhādrapada I	368	16 11	14 21	15 25	16 57	18 1	t.
446 Jan. 28 Mon.	Māgha	368	22 3	21 37	—	—	22 29	0·6
446 July 24 Wed.	Śrāvaṇa	369	1 20	0 38	—	—	2 2	1·6
447 June 14 Sat.	Āshāḍha	370	10 1	8 58	—	—	11 4	3·9
447 Dec. 8 Mon.	Pausha	370	8 52	7 22	—	—	10 22	8·9
448 June 3 Thur.	Jyeshtha II, (w. m. i.) Jyeshtha	371	2 27	0 36	1 37	3 17	4 18	t.
448 Nov. 26 Fri.	Mārgaśīrsha	371	12 21	10 31	11 32	13 10	14 11	t.
449 May 23 Mon.	Jyeshtha	372	13 55	12 31	—	—	15 19	7·7
449 Nov. 15 Tues.	Mārgaśīrsha	372	23 1	21 50	—	—	24 12	5·0
451 Apr. 2 Mon.	Vaiśākha I, (w. m. i.) Chaitra	374	4 5	2 38	—	—	5 32	8·2
451 Sept. 26 Wed.	Āśvina	374	17 48	16 15	—	—	19 21	10·0
452 Mar. 21 Fri.	Chaitra	375	11 32	9 42	10 43	12 21	13 22	t.
452 Sept. 14 Sun.	Āśvina	375	24 58	23 8	24 10	25 46	26 48	t.
453 Mar. 11 Wed.	Chaitra	376	1 23	0 18	—	—	2 28	4·1
453 Sept. 4 Fri.	Bhādrapada II, (w. m. i.) Āśvina	376	1 55	1 9	—	—	2 41	2·0
455 Jan. 19 Wed.	Māgha	377	19 20	17 40	19 8	19 32	21 0	t.
455 July 14 Thur.	Śrāvaṇa	378	24 43	22 59	24 13	25 13	26 27	t.
456 Jan. 8 Sun.	Māgha	378	23 16	21 29	22 35	23 57	25 3	t.
456 July 3 Tues.	Āshāḍha II	379	17 1	15 15	16 25	17 37	18 47	t.
456 Dec. 27 Thur.	Pausha	379	22 28	21 57	—	—	22 59	0·9
458 May 14 Wed.	Jyeshtha	381	11 21	10 7	—	—	12 35	5·7
458 Nov. 6 Thur.	Mārgaśīrsha	381	21 53	20 20	—	—	23 26	9·9
459 May 3 Sun.	Jyeshtha I, (w. m. i.) Vaiśākha	382	13 55	12 3	13 3	14 47	15 47	t.
459 Oct. 27 Tues.	Kārttika	382	13 33	11 42	12 43	14 23	15 24	t.
460 Apr. 21 Thur.	Vaiśākha	383	14 40	13 27	—	—	15 53	5·5
460 Oct. 16 Sun.	Kārttika	383	3 57	2 48	—	—	5 6	4·7
462 Mar. 1 Thur.	Phālguna	384	25 8	23 28	24 58	25 18	26 48	t.
462 Aug. 25 Sat.	Bhādrapada	385	21 1	19 32	—	—	22 30	8·7

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]	
		Greatest phase. [i. e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
1	2	h. m.	h. m.	h. m.	h. m.	h. m.	8	
463 Feb. 19 Tues.	Phālguna.....	385	17 22	15 32	16 36	18 8	19 12	t.
463 Aug. 14 Wed.	Bhādrapada.....	386	23 22	21 32	22 33	24 11	25 12	t.
464 Feb. 9 Sun.	Phālguna.....	386	6 14	5 41	—	—	6 47	1.0
464 Aug. 3 Mon.	Srāvana II, (w. m. i.) Bhādrapada I.....	387	8 52	7 55	—	—	9 49	3.1
465 June 24 Thur.	Ashāḍha.....	388	17 27	16 39	—	—	18 15	2.2
465 Dec. 18 Sat.	Pausha.....	388	17 0	15 30	—	—	18 30	8.9
466 June 14 Tues.	Ashāḍha.....	389	9 40	7 50	8 53	10 27	11 30	t.
466 Dec. 7 Wed.	Pausha.....	389	20 51	19 0	20 1	21 41	22 42	t.
467 June 3 Sat.	Jyeshtha II, (w. m. i.) Jyeshtha.....	390	20 43	19 12	—	—	22 14	9.4
467 Nov. 27 Mon.	Mārgaśīrsha.....	390	7 55	6 43	—	—	9 7	5.2
469 Apr. 12 Sat.	Vaiśākha.....	392	11 7	9 47	—	—	12 27	6.8
469 Oct. 7 Tues.	Kārttika.....	392	1 58	0 27	—	—	3 29	9.4
470 Apr. 1 Wed.	Vaiśākha I, (w. m. i.) Chaitra.....	393	19 8	17 16	18 17	19 59	21 0	t.
470 Sept. 26 Sat.	Āśvina.....	393	8 34	6 44	7 45	9 23	10 24	t.
471 Mar. 22 Mon.	Chaitra.....	394	9 26	8 15	—	—	10 37	5.0
471 Sept. 15 Wed.	Āśvina.....	394	9 8	8 12	—	—	10 4	3.0
473 Jan. 30 Tues.	Māgha.....	395	3 35	1 56	3 35	3 35	5 14	t.
473 July 25 Wed.	Srāvana.....	396	8 16	6 35	7 57	8 35	9 57	t.
474 Jan. 19 Sat.	Māgha.....	396	7 14	5 26	6 32	7 56	9 2	t.
474 July 14 Sun.	Srāvana.....	397	24 35	22 47	23 52	25 18	26 23	t.
475 Jan. 8 Wed.	Māgha.....	397	6 20	5 42	—	—	6 58	1.3
475 July 4 Fri.	Ashāḍha II.....	398	17 16	17 1	—	—	17 31	0.2
476 May 24 Mon.	Jyeshtha.....	399	18 8	17 6	—	—	19 10	3.7
476 Nov. 17 Wed.	Mārgaśīrsha.....	399	6 43	5 11	—	—	8 15	9.8
477 May 13 Fri.	Jyeshtha.....	400	20 24	18 33	19 34	21 14	22 15	t.
477 Nov. 6 Sun.	Mārgaśīrsha.....	400	22 24	20 33	21 34	23 14	24 15	t.
478 May 2 Tues.	Jyeshtha I, (w. m. i.) Vaiśākha.....	401	21 27	20 5	—	—	22 49	7.2
478 Oct. 27 Fri.	Kārttika.....	401	12 20	11 10	—	—	13 30	4.9
480 Mar. 12 Wed.	Chaitra.....	403	9 21	7 44	—	—	10 58	11.4
480 Sept. 5 Fri.	Āśvina I, (w. m. i.) Āśvina.....	403	4 8	2 44	—	—	5 32	7.6
481 Mar. 1 Sun.	Phālguna.....	403	25 40	23 50	24 52	26 28	27 30	t.
481 Aug. 25 Tues.	Bhādrapada.....	404	6 40	4 49	5 50	7 30	8 31	t.
482 Feb. 19 Fri.	Phālguna.....	404	14 20	13 40	—	—	15 0	1.5
482 Aug. 14 Sat.	Bhādrapada.....	405	16 32	15 24	—	—	17 40	4.6
483 July 6 Wed.	Srāvana I.....	406	1 0	0 32	—	—	1 28	0.7
483 Dec. 29 Thur.	Pausha.....	406	25 9	23 39	—	—	26 39	8.9
484 June 24 Sun.	Ashāḍha.....	407	16 58	15 10	16 16	17 40	18 46	t.
484 Dec. 18 Tues.	Pausha.....	407	5 25	3 34	4 35	6 15	7 16	t.
485 June 14 Fri.	Ashāḍha.....	408	3 33	1 56	—	—	5 10	11.2
485 Dec. 7 Sat.	Pausha.....	408	16 46	15 35	—	—	17 57	5.1
487 Apr. 23 Thur.	Vaiśākha.....	410	18 2	16 51	—	—	19 13	5.1
487 Oct. 18 Sun.	Kārttika.....	410	10 18	8 48	—	—	11 48	8.9
488 Apr. 12 Tues.	Vaiśākha.....	411	2 37	0 45	1 45	3 29	4 29	t.
488 Oct. 6 Thur.	Kārttika I, (w. m. i.) Kārttika.....	411	16 20	14 29	15 30	17 10	18 11	t.
489 Apr. 1 Sat.	Chaitra II, (w. m. i.) Chaitra.....	412	17 20	16 3	—	—	18 37	6.2
489 Sept. 25 Mon.	Āśvina.....	412	16 32	15 30	—	—	17 34	3.8
491 Feb. 10 Sun.	Phālguna.....	413	11 44	10 6	—	—	13 22	11.7
491 Aug. 5 Mon.	Bhādrapada I, (w. m. i.) Bhādrapada.....	414	15 48	14 12	—	—	17 24	11.1
492 Jan. 30 Thur.	Māgha.....	414	15 10	13 22	14 27	15 53	16 58	t.
492 July 25 Sat.	Srāvana.....	415	8 11	6 21	7 24	8 58	10 1	t.

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 5 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]	
		Greatest phase. [i. e. mo- ment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
								h. m.
h. m.	h. m.	h. m.	h. m.	h. m.				
1	2	3	4	5	6	7	8	
493 Jan. 18 Mon.	Māgha.....	415	14 26	13 43	—	—	15 9	1·7
493 July 15 Thur.	Śrāvana.....	416	0 41	0 2	—	—	1 20	1·4
494 June 5 Sun.	Aśhādha I.....	417	0 49	0 3	—	—	1 35	2·0
494 Nov. 28 Mon.	Mārgaśīrsha.....	417	15 38	14 6	—	—	17 10	9·8
495 May 25 Thur.	Jyeshtha.....	418	2 51	1 1	2 3	3 39	4 41	t.
495 Nov. 18 Sat.	Mārgaśīrsha.....	418	7 13	5 21	6 22	8 4	9 5	t.
496 May 13 Mon.	Jyeshtha.....	419	4 6	2 36	—	—	5 36	9·0
496 Nov. 6 Wed.	Mārgaśīrsha.....	419	20 57	19 46	—	—	22 8	5·0
498 Mar. 23 Mon.	Chaitra.....	421	17 24	15 50	—	—	18 58	10·4
498 Sept. 16 Wed.	Āśvina.....	421	11 25	10 7	—	—	12 43	6·5
499 Mar. 13 Sat.	Chaitra.....	422	9 48	7 58	8 59	10 37	11 38	t.
499 Sept. 5 Sun.	Āśvina I, (w. m. i.) Āśvina.....	422	14 12	12 20	13 21	15 3	16 4	t.
500 Mar. 1 Wed.	Phālguna.....	422	22 18	21 30	—	—	23 6	2·2
500 Aug. 24 Thur.	Bhādrapada.....	423	24 14	23 1	—	—	25 27	5·5
502 Jan. 9 Wed.	Māgha.....	424	9 10	7 42	—	—	10 38	8·4
502 July 5 Fri.	Āśhādha II, (w. m. i.) Śrāvana I.....	425	24 19	22 34	23 44	24 54	26 4	t.
502 Dec. 29 Sun.	Pausha.....	425	13 52	12 1	13 2	14 42	15 43	t.
503 June 25 Wed.	Āśhādha.....	426	10 21	8 40	10 1	10 41	12 2	t.
503 Dec. 19 Fri.	Pausha.....	426	1 39	0 27	—	—	2 51	5·2
505 May 3 Tues.	Jyeshtha I, (w. m. i.) Vaiśākha II.....	428	24 55	23 54	—	—	25 56	3·6
505 Oct. 28 Fri.	Kārttika.....	428	18 37	17 9	—	—	20 5	8·4
506 Apr. 23 Sun.	Vaiśākha.....	429	10 4	8 12	9 12	10 56	11 56	t.
506 Oct. 17 Tues.	Kārttika.....	429	24 8	22 17	23 18	24 58	25 59	t.
507 Apr. 12 Thur.	Vaiśākha.....	430	25 7	23 43	—	—	26 31	7·6
507 Oct. 6 Sat.	Kārttika.....	430	24 1	22 53	—	—	25 9	4·6
509 Feb. 20 Fri.	Phālguna.....	431	19 37	18 1	—	—	21 13	10·9
509 Aug. 15 Sat.	Bhādrapada.....	432	23 36	22 3	—	—	25 9	10·1
510 Feb. 9 Tues.	Phālguna.....	432	22 45	20 56	22 0	23 30	24 34	t.
510 Aug. 5 Thur.	Śrāvana II, (w. m. i.) Bhādrapada.....	433	16 0	14 10	15 11	16 49	17 50	t.
511 Jan. 29 Sat.	Māgha.....	433	22 13	21 25	—	—	23 1	2·2
511 July 26 Tues.	Śrāvana.....	434	8 10	7 16	—	—	9 4	2·8
512 June 15 Fri.	Āśhādha.....	435	7 26	7 15	—	—	7 37	0·1
512 Dec. 8 Sat.	Pausha.....	435	24 31	22 59	—	—	26 3	9·7
513 June 4 Tues.	Āśhādha I, (w. m. i.) Jyeshtha II.....	436	9 13	7 25	8 31	9 55	11 1	t.
513 Nov. 28 Thur.	Mārgaśīrsha.....	436	16 8	14 16	15 17	16 59	18 0	t.
514 May 24 Sat.	Jyeshtha.....	437	10 46	9 11	—	—	12 21	10·7
514 Nov. 18 Tues.	Mārgaśīrsha.....	437	5 34	4 22	—	—	6 46	5·2
516 Apr. 2 Sat.	Vaiśākha I, (w. m. i.) Chaitra.....	439	25 17	23 46	—	—	26 48	9·3
516 Sept. 26 Mon.	Āśvina.....	439	18 49	17 35	—	—	20 3	5·6
517 Mar. 23 Thur.	Chaitra.....	440	17 45	15 54	16 55	18 35	19 36	t.
517 Sept. 15 Fri.	Āśvina.....	440	21 48	19 56	20 56	22 40	23 40	t.
518 Mar. 13 Tues.	Chaitra.....	441	6 4	5 7	—	—	7 1	3·1
518 Sept. 5 Wed.	Bhādrapada II, (w. m. i.) Āśvina.....	441	8 9	6 51	—	—	9 27	6·5
520 Jan. 20 Mon.	Māgha.....	442	17 14	15 46	—	—	18 42	8·4
520 July 16 Thur.	Śrāvana.....	443	7 35	5 53	7 11	7 59	9 17	t.
521 Jan. 8 Fri.	Māgha.....	443	22 23	20 32	21 33	23 13	24 14	t.
521 July 5 Mon.	Āśhādha II, (w. m. i.) Śrāvana I.....	444	17 8	15 23	16 34	17 42	18 53	t.
521 Dec. 29 Wed.	Pausha.....	444	10 29	9 16	—	—	11 42	5·4
523 May 15 Mon.	Jyeshtha.....	446	7 45	6 59	—	—	8 31	2·0
523 Nov. 9 Thur.	Mārgaśīrsha.....	446	3 3	1 36	—	—	4 30	8·2

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. mo- ment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
3	4	5	6	7	8		
524 May 3 Fri.	Jyeshtha I, (w. m. i.) Vaiśākha..... 447	17 24	15 33	16 34	18 14	19 15	t.
524 Oct. 28 Mon.	Kārttika..... 447	8 7	6 15	7 16	8 58	9 59	t.
525 Apr. 23 Wed.	Vaiśākha..... 448	8 50	7 20	—	—	10 20	9.0
525 Oct. 17 Fri.	Kārttika..... 448	7 43	6 31	—	—	8 55	5.2
527 Mar. 4 Thur.	Phālguna II, (w. m. i.) Phālguna..... 449	3 23	1 50	—	—	4 56	10.1
527 Aug. 27 Fri.	Bhādrapada..... 450	7 27	5 57	—	—	8 57	8.9
528 Feb. 21 Mon.	Phālguna..... 450	6 21	4 31	5 34	7 8	8 11	t.
528 Aug. 15 Tues.	Bhādrapada..... 451	23 52	22 0	23 1	24 43	25 44	t.
529 Feb. 9 Fri.	Phālguna..... 451	5 54	5 1	—	—	6 47	2.7
529 Aug. 5 Sun.	Śrāvaṇa II, (w. m. i.) Bhādrapada..... 452	15 47	14 42	—	—	16 52	4.2
530 Dec. 20 Fri.	Pausha..... 453	9 26	7 54	—	—	10 58	9.7
531 June 15 Sun.	Āshāḍha..... 454	15 33	13 48	14 59	16 7	17 18	t.
531 Dec. 9 Tues.	Pausha..... 454	25 2	23 10	24 11	25 53	26 54	t.
532 June 3 Thur.	Āshāḍha I, (w. m. i.) Jyeshtha II..... 455	17 20	15 38	16 59	17 41	19 2	t.
532 Nov. 28 Sun.	Mārgaśīrsha..... 455	14 13	13 3	—	—	15 23	4.9
534 Apr. 14 Fri.	Vaiśākha..... 457	9 7	7 42	—	—	10 32	7.9
534 Oct. 8 Sun.	Kārttika..... 457	2 28	1 17	—	—	3 39	5.0
535 Apr. 3 Tues.	Vaiśākha I, (w. m. i.) Chaitra..... 458	25 33	23 41	24 41	26 25	27 25	t.
535 Sept. 27 Thur.	Āśvina..... 458	5 36	3 44	4 45	6 27	7 28	t.
536 Mar. 23 Sun.	Chaitra..... 459	13 38	12 33	—	—	14 43	4.1
536 Sept. 15 Mon.	Āśvina..... 459	16 13	14 49	—	—	17 37	7.6
538 Jan. 30 Sat.	Māgha..... 460	25 8	23 43	—	—	26 33	7.8
538 July 27 Tues.	Śrāvaṇa..... 461	14 58	13 21	—	—	16 35	11.5
539 Jan. 20 Thur.	Māgha..... 461	6 48	4 57	5 58	7 38	8 39	t.
539 July 16 Sat.	Śrāvaṇa..... 462	24 0	22 12	23 18	24 42	25 48	t.
540 Jan. 9 Mon.	Māgha..... 462	19 14	18 1	—	—	20 27	5.5
541 May 25 Sat.	Jyeshtha..... 464	14 29	14 6	—	—	14 52	0.5
541 Nov. 19 Tues.	Mārgaśīrsha..... 464	11 33	10 6	—	—	13 0	8.2
542 May 14 Wed.	Jyeshtha..... 465	24 42	22 52	23 54	25 30	26 32	t.
542 Nov. 8 Sat.	Mārgaśīrsha..... 465	16 8	14 16	15 17	16 59	18 0	t.
543 May 4 Mon.	Jyeshtha I, (w. m. i.) Vaiśākha..... 466	16 26	14 52	—	—	18 0	10.4
543 Oct. 28 Wed.	Kārttika..... 466	15 33	14 20	—	—	16 46	5.4
545 Mar. 14 Tues.	Chaitra..... 468	10 55	9 25	—	—	12 25	9.0
545 Sept. 6 Wed.	Āśvina..... 468	15 26	14 1	—	—	16 51	7.8
546 Mar. 3 Sat.	Phālguna..... 468	13 43	11 53	12 54	14 32	15 33	t.
546 Aug. 27 Mon.	Bhādrapada..... 469	7 50	5 58	6 58	8 42	9 42	t.
547 Feb. 20 Wed.	Phālguna..... 469	13 29	12 29	—	—	14 29	3.5
547 Aug. 16 Fri.	Bhādrapada..... 470	23 25	22 13	—	—	24 37	5.3
548 Dec. 30 Wed.	Pausha..... 471	18 17	16 45	—	—	19 49	9.7
549 June 25 Fri.	Āshāḍha..... 472	21 56	20 16	21 42	22 10	23 36	t.
549 Dec. 20 Mon.	Pausha..... 472	9 58	8 6	9 7	10 49	11 50	t.
550 June 14 Tues.	Āshāḍha..... 473	23 59	22 14	23 25	24 33	25 44	t.
550 Dec. 9 Fri.	Pausha..... 473	22 54	21 43	—	—	24 5	5.0
552 Apr. 24 Wed.	Vaiśākha..... 475	16 47	15 28	—	—	18 6	6.6
552 Oct. 18 Fri.	Kārttika..... 475	10 14	9 8	—	—	11 20	4.3
553 Apr. 14 Mon.	Vaiśākha..... 476	9 17	7 25	8 25	10 9	11 9	t.
553 Oct. 7 Tues.	Kārttika..... 476	13 39	11 47	12 48	14 30	15 31	t.
554 Apr. 3 Fri.	Vaiśākha I, (w. m. i.) Chaitra..... 477	21 5	19 52	—	—	22 18	5.4
554 Sept. 26 Sat.	Āśvina..... 477	24 26	22 59	—	—	25 53	8.2
556 Feb. 11 Fri.	Phālguna..... 478	8 54	7 31	—	—	10 17	7.5

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. mo- ment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
556 Aug. 6 Sun.	Bhādrapada I, (w. m. i.) Bhādrapada . . . 479	22 24	20 51	—	—	23 57	10.1
557 Jan. 30 Tues.	Māgha 479	15 6	13 14	14 15	15 57	16 55	t.
557 July 27 Fri.	Śrāvāṇa 480	6 54	5 4	6 7	7 41	8 44	t.
558 Jan. 20 Sun.	Māgha 480	3 54	2 40	—	—	5 8	5.7
558 July 16 Tues.	Śrāvāṇa 481	8 50	8 20	—	—	9 20	0.8
559 Nov. 30 Sun.	Mārgaśīrṣha 482	20 5	18 40	—	—	21 30	7.9
560 May 25 Tues.	Jyeshtha 483	7 59	6 10	7 15	8 43	9 48	t.
560 Nov. 18 Thur.	Mārgaśīrṣha 483	24 12	22 20	23 21	25 3	26 4	t.
561 May 14 Sat.	Jyeshtha 484	23 58	22 18	23 48	24 8	25 38	t.
561 Nov. 7 Mon.	Mārgaśīrṣha 484	23 30	22 15	—	—	24 45	5.9
563 Mar. 25 Sun.	Chaitra 486	18 23	16 59	—	—	19 47	7.7
563 Sept. 17 Mon.	Āśvina 486	23 40	22 19	—	—	25 1	7.1
564 Mar. 13 Thur.	Chaitra 487	20 55	19 4	20 5	21 45	22 46	t.
564 Sept. 6 Sat.	Āśvina I, (w. m. i.) Āśvina 487	15 55	14 3	15 3	16 47	17 47	t.
565 Mar. 2 Mon.	Phālguna 487	20 56	19 49	—	—	22 3	4.4
565 Aug. 27 Thur.	Bhādrapada 488	7 9	5 52	—	—	8 26	6.3
567 Jan. 11 Tues.	Māgha 489	3 4	1 32	—	—	4 36	9.6
567 July 7 Thur.	Śrāvāṇa I, (w. m. i.) Śrāvāṇa 490	4 26	2 51	—	—	6 1	10.8
567 Dec. 31 Sat.	Pauṣa 490	18 47	16 55	17 56	19 38	20 39	t.
568 June 25 Mon.	Āshāḍha 491	6 42	4 54	5 59	7 25	8 30	t.
568 Dec. 20 Thur.	Pauṣa 491	7 30	6 19	—	—	8 41	5.1
569 June 14 Fri.	Āshāḍha 492	15 48	15 25	—	—	16 11	0.5
570 May 5 Mon.	Jyeshtha, (w. m. i.) Jyeshtha I 493	24 23	23 11	—	—	25 35	5.2
570 Oct. 29 Wed.	Kārttika 493	18 6	17 3	—	—	19 9	3.9
571 Apr. 25 Sat.	Vaiśākha 494	16 46	14 54	15 55	17 37	18 38	t.
571 Oct. 18 Sun.	Kārttika 494	21 48	19 57	20 58	22 38	23 39	t.
572 Apr. 14 Thur.	Vaiśākha 495	4 19	3 1	—	—	5 37	6.5
572 Oct. 7 Fri.	Kārttika 495	8 47	7 18	—	—	10 16	8.8
574 Feb. 21 Wed.	Phālguna 496	16 36	15 16	—	—	17 56	6.9
574 Aug. 18 Sat.	Bhādrapada 497	5 56	4 27	—	—	7 25	8.7
575 Feb. 10 Sun.	Phālguna 497	23 20	21 28	22 29	24 11	25 12	t.
575 Aug. 7 Wed.	Bhādrapada I, (w. m. i.) Bhādrapada 498	13 48	11 58	12 59	14 37	15 38	t.
576 Jan. 31 Fri.	Māgha 498	12 32	11 15	—	—	13 49	6.2
576 July 26 Sun.	Śrāvāṇa 499	15 26	14 37	—	—	16 15	2.3
577 Dec. 11 Sat.	Pauṣa 500	4 38	3 13	—	—	6 3	7.8
578 June 5 Sun.	Ashāḍha I 501	15 11	13 25	14 34	15 48	16 57	t.
578 Nov. 30 Wed.	Mārgaśīrṣha 501	8 24	6 32	7 33	9 15	10 16	t.
579 May 26 Fri.	Jyeshtha 502	7 30	5 47	7 2	7 58	9 13	t.
579 Nov. 19 Sun.	Mārgaśīrṣha 502	7 30	6 14	—	—	8 46	6.1
581 Apr. 5 Sat.	Vaiśākha I, (w. m. i.) Chaitra II 504	1 36	0 17	—	—	2 55	6.6
581 Sept. 28 Sun.	Āśvina 504	7 55	6 37	—	—	9 13	6.5
582 Mar. 25 Wed.	Chaitra 505	3 58	2 6	3 6	4 50	5 50	t.
582 Sept. 17 Thur.	Āśvina 505	24 8	22 16	23 16	25 0	26 0	t.
583 Mar. 14 Sun.	Chaitra 506	4 15	3 1	—	—	5 29	5.6
583 Sept. 7 Tues.	Bhādrapada II, (w. m. i.) Āśvina 506	14 59	13 37	—	—	16 21	7.3
585 Jan. 21 Sun.	Māgha 507	11 50	10 19	—	—	13 21	9.4
585 July 17 Tues.	Śrāvāṇa 508	10 56	9 26	—	—	12 26	9.0
586 Jan. 11 Fri.	Māgha 508	3 36	1 44	2 45	4 27	5 28	t.
586 July 6 Sat.	Śrāvāṇa I, (w. m. i.) Śrāvāṇa 509	13 32	11 42	12 44	14 20	15 22	t.
586 Dec. 31 Tues.	Pauṣa 509	16 5	14 54	—	—	17 16	5.0

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Saka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]	
		Greatest phase. [i. e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
								h. m.
3	4	5	6	7	8			
587 June 25 Wed.	Āshāḍha.....	510	23 0	22 12	—	—	23 48	2·2
588 May 16 Sun.	Jyeshtha.....	511	7 58	6 56	—	—	9 0	3·7
588 Nov. 9 Tues.	Mārgaśīrsha.....	511	2 6	1 5	—	—	3 7	3·6
589 May 5 Thur.	Jyeshtha I, (w. m. i.) Vaiśākha II.....	512	24 14	22 24	23 25	25 3	26 4	t.
589 Oct. 29 Sat.	Kārtika.....	512	6 0	4 9	5 10	6 50	7 51	t.
590 Apr. 25 Tues.	Vaiśākha.....	513	11 25	9 58	—	—	12 52	8·2
590 Oct. 18 Wed.	Kārtika.....	513	17 16	15 45	—	—	18 47	9·3
592 Mar. 3 Mon.	Chaitra 515, (w. m. i.) Phālguna 514....	514	24 8	22 53	—	—	25 23	5·8
592 Aug. 28 Thur.	Bhādrapada.....	515	13 36	12 13	—	—	14 59	7·5
593 Feb. 21 Sat.	Phālguna.....	515	7 26	5 34	6 34	8 18	9 18	t.
593 Aug. 17 Mon.	Bhādrapada.....	516	20 54	19 2	20 3	21 45	22 46	t.
594 Feb. 10 Wed.	Phālguna.....	516	21 4	19 44	—	—	22 24	6·8
594 Aug. 6 Fri.	Bhādrapada I, (w. m. i.) Bhādrapada....	517	22 6	21 2	—	—	23 10	4·0
595 Dec. 22 Thur.	Pausha.....	518	13 9	11 45	—	—	14 33	7·7
596 June 15 Fri.	Āshāḍha.....	519	22 31	20 48	22 3	22 59	24 14	t.
596 Dec. 10 Mon.	Pausha.....	519	16 34	14 42	15 43	17 25	18 26	t.
597 June 5 Wed.	Āshāḍha I.....	520	14 56	13 10	14 18	15 34	16 42	t.
597 Nov. 29 Fri.	Mārgaśīrsha.....	520	15 33	14 16	—	—	16 50	6·2
599 Apr. 16 Thur.	Vaiśākha.....	522	8 44	7 34	—	—	9 54	4·9
599 Oct. 9 Fri.	Kārtika.....	522	16 25	15 9	—	—	17 41	6·0
600 Apr. 4 Mon.	Vaiśākha I, (w. m. i.) Chaitra.....	523	10 51	8 59	10 0	11 42	12 43	t.
600 Sept. 28 Wed.	Āsvina.....	523	8 30	6 38	7 39	9 21	10 22	t.
601 Mar. 24 Fri.	Chaitra.....	524	11 23	10 3	—	—	12 43	6·9
601 Sept. 17 Sun.	Āsvina.....	524	22 59	21 33	—	—	24 25	8·1
603 Feb. 1 Fri.	Māgha.....	525	20 28	18 58	—	—	21 58	9·1
603 July 28 Sun.	Srāvaṇa.....	526	17 32	16 11	—	—	18 53	7·0
604 Jan. 22 Wed.	Māgha.....	526	12 16	10 24	11 25	13 7	14 8	t.
604 July 16 Thur.	Srāvaṇa.....	527	20 19	18 28	19 29	21 9	22 10	t.
605 Jan. 10 Sun.	Māgha.....	527	24 34	23 24	—	—	25 44	4·9
605 July 6 Tues.	Srāvaṇa I, (w. m. i.) Srāvaṇa.....	528	6 19	5 15	—	—	7 23	4·0
606 May 27 Fri.	Jyeshtha.....	529	15 28	14 43	—	—	16 13	1·9
606 Nov. 20 Sun.	Mārgaśīrsha.....	529	10 11	9 10	—	—	11 12	3·6
607 May 17 Wed.	Jyeshtha.....	530	7 40	5 50	6 54	8 26	9 30	t.
607 Nov. 9 Thur.	Mārgaśīrsha.....	530	14 27	12 36	13 37	15 17	16 18	t.
608 May 5 Sun.	Jyeshtha I, (w. m. i.) Vaiśākha II.....	531	18 26	16 53	—	—	19 59	9·9
608 Oct. 29 Tues.	Kārtika.....	531	1 57	0 25	—	—	3 29	9·6
610 Mar. 15 Sun.	Chaitra.....	533	7 34	6 23	—	—	8 45	5·0
610 Sept. 8 Tues.	Āsvina.....	533	21 21	20 3	—	—	22 39	6·4
611 Mar. 4 Thur.	Chaitra.....	534	15 24	13 32	14 32	16 16	17 16	t.
611 Aug. 29 Sun.	Bhādrapada.....	534	4 4	2 12	3 12	4 56	5 56	t.
612 Feb. 22 Tues.	Phālguna.....	534	5 29	4 7	—	—	6 51	7·2
612 Aug. 17 Thur.	Bhādrapada.....	535	4 54	3 41	—	—	6 7	5·4
614 Jan. 1 Tues.	Pausha.....	536	21 35	20 11	—	—	22 59	7·6
614 June 27 Thur.	Āshāḍha.....	537	5 51	4 12	5 44	5 58	7 30	t.
614 Dec. 21 Sat.	Pausha.....	537	24 41	22 49	23 50	25 32	26 33	t.
615 June 16 Mon.	Āshāḍha.....	538	22 26	20 37	21 42	23 10	24 15	t.
615 Dec. 10 Wed.	Pausha.....	538	23 41	22 23	—	—	24 59	6·5
616 June 5 Sat.	Āshāḍha I.....	539	15 10	14 52	—	—	15 28	0·3
617 Apr. 26 Tues.	Vaiśākha.....	540	15 37	14 39	—	—	16 35	3·3
617 Oct. 19 Wed.	Kārtika.....	540	24 54	23 41	—	—	26 7	5·5

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lauka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]	
		Greatest phase. [i.e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
								h. m.
h. m.	h. m.	h. m.	h. m.	h. m.				
1	2	3	4	5	6	7	8	
618 Apr. 15 Sat.	Vaiśākha.....	541	17 36	15 46	16 47	18 25	19 26	t.
618 Oct. 9 Mon.	Kārttika.....	541	16 55	15 3	16 4	17 46	18 47	t.
619 Apr. 4 Wed.	Vaiśākha I, (w. m. i.) Chaitra.....	542	18 25	16 57	—	—	19 53	8·4
619 Sept. 29 Sat.	Āśvina.....	542	7 3	5 35	—	—	8 31	8·5
621 Feb. 12 Thur.	Phālguna.....	543	5 1	3 33	—	—	6 29	8·6
621 Aug. 7 Fri.	Bhādrapada I, (w. m. i.) Bhādrapada.....	544	24 13	22 59	—	—	25 27	5·6
622 Feb. 1 Mon.	Māgha.....	544	20 51	18 59	19 59	21 43	22 43	t.
622 July 28 Wed.	Śrāvaṇa.....	545	3 19	1 27	2 27	4 11	5 11	t.
623 Jan. 22 Sat.	Māgha.....	545	8 59	7 47	—	—	10 11	5·3
623 July 17 Sun.	Śrāvaṇa.....	546	13 37	12 23	—	—	14 51	5·7
624 June 6 Wed.	Āshāḍha.....	547	22 58	22 35	—	—	23 21	0·5
624 Nov. 30 Fri.	Mārgaśirsha.....	547	18 19	17 20	—	—	19 18	3·4
625 May 27 Mon.	Jyeshtha.....	548	14 53	13 6	14 11	15 35	16 40	t.
625 Nov. 19 Tues.	Mārgaśirsha.....	548	22 54	21 3	22 4	23 44	24 45	t.
626 May 16 Fri.	Jyeshtha.....	549	25 21	23 44	—	—	26 58	11·4
626 Nov. 9 Sun.	Mārgaśirsha.....	549	10 35	9 3	—	—	12 7	9·8
628 Mar. 25 Fri.	Chaitra.....	551	14 49	13 46	—	—	15 52	3·9
628 Sept. 19 Mon.	Āśvina.....	551	5 11	3 58	—	—	6 24	5·5
629 Mar. 14 Tues.	Chaitra.....	552	23 14	21 22	22 23	24 5	25 6	t.
629 Sept. 8 Fri.	Āśvina I, (w. m. i.) Āśvina.....	552	11 18	9 26	10 27	12 9	13 10	t.
630 Mar. 4 Sun.	Chaitra 553, (w. m. i.) Phālguna 552...	553	13 40	12 14	—	—	15 6	8·1
630 Aug. 23 Tues.	Bhādrapada.....	553	11 52	10 32	—	—	13 12	6·8
632 Jan. 13 Mon.	Māgha.....	554	5 54	4 32	—	—	7 16	7·2
632 July 7 Tues.	Śrāvaṇa I, (w. m. i.) Śrāvaṇa.....	555	13 13	11 39	—	—	14 47	10·4
633 Jan. 1 Fri.	Pausha.....	555	8 42	6 50	7 50	9 34	10 34	t.
633 June 27 Sun.	Āshāḍha.....	556	5 53	4 3	5 5	6 41	7 43	t.
633 Dec. 21 Tues.	Pausha.....	556	7 45	6 26	—	—	9 4	6·6
634 June 16 Thur.	Āshāḍha.....	557	22 33	21 49	—	—	23 17	1·8
635 May 7 Sun.	Jyeshtha, (w. m. i.) Jyeshtha I.....	558	22 29	21 47	—	—	23 11	1·6
635 Oct. 31 Tues.	Kārttika.....	558	9 37	8 24	—	—	10 50	5·4
636 Apr. 25 Thur.	Vaiśākha.....	559	24 15	22 25	23 29	25 1	26 5	t.
636 Oct. 19 Sat.	Kārttika.....	559	25 30	23 39	24 40	26 20	27 21	t.
637 Apr. 14 Mon.	Vaiśākha.....	560	25 22	23 49	—	—	26 55	9·9
637 Oct. 9 Thur.	Kārttika.....	560	15 19	13 49	—	—	16 49	9·1
639 Feb. 23 Tues.	Phālguna.....	561	13 26	12 0	—	—	14 52	8·0
639 Aug. 19 Thur.	Bhādrapada.....	562	7 7	6 3	—	—	8 11	4·0
640 Feb. 13 Sun.	Phālguna.....	562	5 21	3 29	4 29	6 13	7 13	t.
640 Aug. 7 Mon.	Bhādrapada I, (w. m. i.) Bhādrapada.....	563	10 25	8 33	9 34	11 16	12 17	t.
641 Feb. 1 Thur.	Māgha.....	563	17 14	16 0	—	—	18 28	5·7
641 July 27 Fri.	Śrāvaṇa.....	564	21 2	19 41	—	—	22 23	7·1
642 Dec. 12 Thur.	Pausha.....	565	2 32	1 32	—	—	3 32	3·5
643 June 7 Sat.	Āshāḍha I, (w. m. i.) Āshāḍha.....	566	22 10	20 25	21 37	22 43	23 55	t.
643 Dec. 1 Mon.	Mārgaśirsha.....	566	7 27	5 36	6 37	8 17	9 18	t.
644 May 27 Thur.	Jyeshtha.....	567	8 10	6 28	7 48	8 32	9 52	t.
644 Nov. 19 Fri.	Mārgaśirsha.....	567	19 23	17 50	—	—	20 56	10·1
646 Apr. 5 Wed.	Vaiśākha, (w. m. i.) Vaiśākha I.....	569	21 59	21 5	—	—	22 53	2·8
646 Sept. 30 Sat.	Āśvina.....	569	13 13	12 3	—	—	14 23	4·8
647 Mar. 26 Mon.	Chaitra.....	570	7 0	5 9	6 10	7 50	8 51	t.
647 Sept. 19 Wed.	Āśvina.....	570	18 47	16 56	17 57	19 37	20 38	t.
648 Mar. 14 Fri.	Chaitra.....	571	21 49	20 19	—	—	23 19	9·1

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lāṅka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. mo- ment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
648 Sept. 7 Sun.	Āśvina 571	18 59	17 34	—	—	20 24	7·8
650 Jan. 23 Sat.	Māgha 572	14 10	12 49	—	—	15 31	7·0
650 July 18 Sun.	Śrāvāṇa 573	20 43	19 13	—	—	22 13	8·9
651 Jan. 12 Wed.	Māgha 573	16 46	14 54	15 54	17 38	18 38	t.
651 July 8 Fri.	Śrāvāṇa I, (w. m. i.) Śrāvāṇa 574	13 28	11 37	12 38	14 18	15 19	t.
652 Jan. 1 Sun.	Pauṣa 574	15 52	14 33	—	—	17 11	6·7
652 June 27 Wed.	Āshāḍha 575	5 51	4 52	—	—	6 50	3·4
653 Nov. 10 Sun.	Mārgaśīrṣha 576	18 27	17 15	—	—	19 39	5·3
654 May 7 Wed.	Jyeshtha, (w. m. i.) Jyeshtha I 577	6 47	5 0	6 5	7 29	8 34	t.
654 Oct. 31 Fri.	Kārttika 577	10 13	8 22	9 23	11 3	12 4	t.
655 Apr. 26 Sun.	Vaiśākha 578	8 13	6 35	—	—	9 51	11·6
655 Oct. 20 Tues.	Kārttika 578	23 38	22 7	—	—	25 9	9·4
657 Mar. 5 Sun.	Chaitra 580, (w. m. i.) Phālguna 579	21 43	20 21	—	—	23 5	7·2
657 Aug. 29 Tues.	Bhādrapada 580	14 10	13 16	—	—	15 4	2·8
658 Feb. 23 Fri.	Phālguna 580	13 42	11 50	12 50	14 34	15 34	t.
658 Aug. 18 Sat.	Bhādrapada 581	17 43	15 52	16 53	18 33	19 34	t.
659 Feb. 13 Wed.	Phālguna 581	1 22	0 7	—	—	2 37	5·8
659 Aug. 8 Thur.	Bhādrapada I, (w. m. i.) Bhādrapada 582	4 39	3 11	—	—	6 7	8·4
660 Dec. 22 Tues.	Pauṣa 583	10 45	9 45	—	—	11 45	3·5
661 June 18 Fri.	Āshāḍha 584	5 19	3 38	5 2	5 36	7 0	t.
661 Dec. 11 Sat.	Pauṣa 584	16 2	14 11	15 12	16 52	17 53	t.
662 June 7 Tues.	Āshāḍha I, (w. m. i.) Āshāḍha 585	14 55	13 9	14 19	15 31	16 41	t.
662 Dec. 1 Thur.	Mārgaśīrṣha 585	4 16	2 43	—	—	5 49	10·0
664 Apr. 16 Tues.	Vaiśākha 587	5 8	4 30	—	—	5 46	1·3
664 Oct. 10 Thur.	Kārttika 587	21 19	20 14	—	—	22 24	4·2
665 Apr. 5 Sat.	Vaiśākha, (w. m. i.) Chaitra II 588	14 38	12 48	13 49	15 27	16 28	t.
665 Sept. 30 Tues.	Āśvina 588	2 22	0 32	1 33	3 11	4 12	t.
666 Mar. 26 Thur.	Chaitra 589	5 49	4 16	—	—	7 22	10·1
666 Sept. 19 Sat.	Āśvina 589	2 17	0 48	—	—	3 46	8·8
668 Feb. 3 Thur.	Māgha 590	22 18	20 59	—	—	23 37	6·7
668 July 29 Sat.	Śrāvāṇa 591	4 21	2 57	—	—	5 45	7·6
669 Jan. 22 Mon.	Māgha 591	24 38	22 46	23 46	25 30	26 30	t.
669 July 18 Wed.	Śrāvāṇa 592	21 5	19 13	20 13	21 57	22 57	t.
670 Jan. 11 Fri.	Māgha 592	23 53	22 32	—	—	25 14	7·1
670 July 8 Mon.	Śrāvāṇa I, (w. m. i.) Śrāvāṇa 593	13 10	12 1	—	—	14 19	4·7
671 Nov. 22 Sat.	Mārgaśīrṣha 594	3 16	2 4	—	—	4 28	5·2
672 May 17 Mon.	Jyeshtha 595	13 19	11 34	12 46	13 52	15 4	t.
672 Nov. 10 Wed.	Mārgaśīrṣha 595	18 59	17 8	18 9	19 49	20 50	t.
673 May 6 Fri.	Jyeshtha, (w. m. i.) Jyeshtha I 596	15 3	13 21	14 39	15 27	16 45	t.
673 Oct. 31 Mon.	Kārttika 596	8 2	6 31	—	—	9 33	9·5
675 Mar. 17 Sat.	Chaitra 598	5 50	4 32	—	—	7 8	6·4
675 Sept. 9 Sun.	Āśvina 598	21 18	20 34	—	—	22 2	1·8
676 Mar. 5 Wed.	Chaitra 599, (w. m. i.) Phālguna 598	21 54	20 2	21 2	22 46	23 46	t.
676 Aug. 28 Thur.	Bhādrapada 599	23 10	23 20	24 22	25 58	27 0	t.
677 Feb. 23 Mon.	Phālguna 599	9 21	8 2	—	—	10 40	6·6
677 Aug. 18 Tues.	Bhādrapada 600	12 21	10 49	—	—	13 53	9·8
679 Jan. 2 Sun.	Pauṣa 601	18 55	17 57	—	—	19 53	3·2
679 June 29 Wed.	Āshāḍha 602	12 34	10 58	—	—	14 10	11·0
679 Dec. 22 Thur.	Pauṣa 602	24 41	22 50	23 51	25 31	26 32	t.
680 June 17 Sun.	Āshāḍha 603	21 37	19 49	20 55	22 19	23 25	t.

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. mo- ment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
680 Dec. 11 Tues.	Pausha 603	13 11	11 37	—	—	14 45	10·2
682 Oct. 22 Wed.	Kārttika 605	5 31	4 29	—	—	6 33	3·7
683 Apr. 16 Thur.	Vaiśākha 606	22 10	20 20	21 23	22 57	24 0	t.
683 Oct. 11 Sun.	Kārttika 606	10 2	8 12	9 14	10 50	11 52	t.
684 Apr. 5 Tues.	Vaiśākha, (w. m. i.) Chaitra II. 607	13 43	12 6	—	—	15 20	11·5
684 Sept. 29 Thur.	Āśvina 607	9 39	8 7	—	—	11 11	9·7
686 Feb. 14 Wed.	Phālguna 608	6 16	5 1	—	—	7 31	5·9
686 Aug. 9 Thur.	Bhādrapada 609	11 58	10 41	—	—	13 15	6·3
687 Feb. 3 Sun.	Māgha 609	8 25	6 33	7 34	9 16	10 17	t.
687 July 30 Tues.	Srāvana 610	4 44	2 52	3 52	5 36	6 36	t.
688 Jan. 23 Thur.	Māgha 610	7 51	6 28	—	—	9 14	7·4
688 July 18 Sat.	Srāvana 611	20 32	19 15	—	—	21 49	6·3
689 Dec. 2 Thur.	Mārgaśīrsha 612	12 9	10 57	—	—	13 21	5·2
690 May 28 Sat.	Jyeshtha 613	19 41	18 1	19 31	19 51	21 21	t.
690 Nov. 22 Tues.	Mārgaśīrsha 613	3 51	2 0	3 1	4 41	5 42	t.
691 May 17 Wed.	Jyeshtha 614	21 48	20 2	21 13	22 23	23 34	t.
691 Nov. 11 Sat.	Mārgaśīrsha 614	16 36	15 4	—	—	18 8	9·6
693 Mar. 27 Thur.	Chaitra 616	13 53	12 39	—	—	15 7	5·6
693 Sept. 20 Sat.	Āśvina 616	4 42	4 11	—	—	5 13	0·9
694 Mar. 17 Tues.	Chaitra 617	5 53	4 1	5 2	6 44	7 45	t.
694 Sept. 9 Wed.	Āśvina 617	8 48	6 58	8 1	9 35	10 38	t.
695 Mar. 6 Sat.	Chaitra I 618, (w. m. i.) Phālguna 617. 618	17 11	15 48	—	—	18 34	7·4
695 Aug. 29 Sun.	Bhādrapada 618	20 13	18 37	—	—	21 49	10·9
697 Jan 13 Sat.	Māgha 619	3 4	2 8	—	—	4 0	3·0
697 July 9 Mon.	Srāvana I, (w. m. i.) Srāvana 620	19 49	18 18	—	—	21 20	9·2
698 Jan. 2 Wed.	Pausha 620	9 13	7 22	8 23	10 3	11 4	t.
698 June 29 Sat.	Āshāḍha 621	4 21	2 31	3 33	5 9	6 11	t.
698 Dec. 22 Sun.	Pausha 621	22 2	20 28	—	—	23 36	10·3
699 June 18 Wed.	Āshāḍha 622	6 23	5 48	—	—	6 58	1·1
700 Nov. 1 Mon.	Kārttika 623	13 46	12 48	—	—	14 44	3·3
701 Apr. 27 Wed.	Vaiśākha 624	5 39	3 51	4 57	6 21	7 27	t.
701 Oct. 21 Fri.	Kārttika 624	17 52	16 2	17 5	18 39	19 42	t.
702 Apr. 16 Sun.	Vaiśākha 625	21 34	19 53	21 15	21 53	23 15	t.
702 Oct. 10 Tues.	Kārttika 625	17 20	15 46	—	—	18 54	10·3
704 Feb. 25 Mon.	Phālguna 626	14 3	12 52	—	—	15 14	5·1
704 Aug. 19 Tues.	Bhādrapada 627	19 45	18 33	—	—	20 57	5·2
705 Feb. 13 Fri.	Phālguna 627	16 0	14 9	15 10	16 50	17 51	t.
705 Aug. 9 Sun.	Bhādrapada 628	12 27	10 35	11 36	13 18	14 19	t.
706 Feb. 2 Tues.	Māgha 628	15 40	14 15	—	—	17 5	7·9
706 July 30 Fri.	Srāvana 629	3 58	2 34	—	—	5 22	7·6
707 Dec. 13 Tues.	Pausha 630	21 8	19 57	—	—	22 19	5·1
708 June 8 Fri.	Āshāḍha 631	2 7	0 33	—	—	3 41	10·3
708 Dec. 2 Sun.	Mārgaśīrsha 631	12 41	10 50	11 51	13 31	14 32	t.
709 May 28 Tues.	Jyeshtha 632	4 32	2 43	3 48	5 16	6 21	t.
709 Nov. 21 Thur.	Mārgaśīrsha 632	25 9	23 37	—	—	26 41	9·8
710 May 17 Sat.	Jyeshtha 633	13 43	13 20	—	—	14 6	0·5
711 Apr. 7 Tues.	Vaiśākha, (w. m. i.) Vaiśākha I. 634	21 49	20 43	—	—	22 55	4·3
712 Mar. 27 Sun.	Chaitra 635	13 44	11 53	12 54	14 34	15 35	t.
712 Sept. 19 Mon.	Āśvina 635	16 33	14 44	15 49	17 17	18 22	t.
713 Mar. 16 Thur.	Chaitra 636	24 46	23 19	—	—	26 13	8·2

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. mo- ment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
713 Sept. 9 Sat.	Āśvina..... 636	4 11	2 32	—	—	5 50	11·9
715 Jan. 24 Thur.	Māgha..... 637	11 3	10 7	—	—	11 59	3·0
715 July 21 Sun.	Śrāvaṇa..... 638	2 59	1 35	—	—	4 23	7·6
716 Jan. 13 Mon.	Māgha..... 638	17 45	15 55	16 56	18 34	19 35	t.
716 July 9 Thur.	Śrāvaṇa I, (w. m. i.) Śrāvaṇa..... 639	11 4	9 13	10 14	11 54	12 55	t.
717 Jan. 2 Sat.	Pausha..... 639	6 51	5 17	—	—	8 25	10·4
717 June 23 Mon.	Āshāḍha..... 640	12 46	11 50	—	—	13 42	3·0
718 Nov. 12 Sat.	Mārgaśīrsha..... 641	22 11	21 17	—	—	23 5	2·8
719 May 8 Mon.	Jyeshtha..... 642	13 4	11 18	12 28	13 40	14 50	t.
719 Nov. 1 Wed.	Kārttika..... 642	25 45	23 55	24 59	26 31	27 35	t.
720 Apr. 27 Sat.	Vaiśākha..... 643	5 14	3 30	4 42	5 46	6 58	t.
720 Oct. 20 Sun.	Kārttika..... 643	25 1	23 26	—	—	26 36	10·8
722 Mar. 7 Sat.	Chaitra, (w. m. i.) Chaitra I..... 645	21 45	20 38	—	—	22 52	4·4
722 Aug. 31 Mon.	Bhādrapada..... 645	3 40	2 35	—	—	4 45	4·2
723 Feb. 24 Wed.	Phālguna..... 645	23 30	21 39	22 40	24 20	25 21	t.
723 Aug. 20 Fri.	Bhādrapada..... 646	20 21	18 30	19 31	21 11	22 12	t.
724 Feb. 13 Sun.	Phālguna..... 646	23 22	21 54	—	—	24 50	8·6
724 Aug. 9 Wed.	Bhādrapada I, (w. m. i.) Bhādrapada..... 647	11 31	10 0	—	—	13 2	9·2
725 Dec. 24 Mon.	Pausha..... 648	6 0	4 48	—	—	7 12	5·3
726 June 19 Wed.	Āshāḍha..... 649	8 29	7 1	—	—	9 57	8·4
726 Dec. 13 Fri.	Pausha..... 649	21 35	19 44	20 45	22 25	23 26	t.
727 June 8 Sun.	Ashāḍha..... 650	11 16	9 26	10 27	12 5	13 6	t.
727 Dec. 3 Wed.	Mārgaśīrsha..... 650	9 44	8 12	—	—	11 16	9·7
728 May 27 Thur.	Jyeshtha..... 651	20 54	20 3	—	—	21 45	2·5
729 Apr. 18 Mon.	Vaiśākha..... 652	5 32	4 36	—	—	6 28	3·0
730 Apr. 7 Fri.	Vaiśākha, (w. m. i.) Vaiśākha I..... 653	21 31	19 41	20 43	22 19	23 21	t.
730 Sept. 30 Sat.	Āśvina..... 653	24 28	22 41	23 46	25 10	26 15	t.
731 Mar. 23 Wed.	Chaitra..... 654	8 15	6 44	—	—	9 46	9·4
731 Sept. 20 Thur.	Āśvina..... 654	12 19	10 38	11 59	12 39	14 0	t.
733 Feb. 3 Tues.	Phālguna, (w. m. i.) Māgha II..... 655	19 0	18 8	—	—	19 52	2·6
733 July 31 Fri.	Śrāvaṇa..... 656	10 19	9 3	—	—	11 35	6·0
734 Jan. 24 Sun.	Māgha..... 656	2 13	0 23	1 24	3 2	4 3	t.
734 July 20 Tues.	Śrāvaṇa..... 657	17 46	15 54	16 54	18 38	19 38	t.
735 Jan. 13 Thur.	Māgha..... 657	15 44	14 10	—	—	17 18	10·4
735 July 9 Sat.	Śrāvaṇa I, (w. m. i.) Śrāvaṇa..... 658	19 15	18 5	—	—	20 25	4·9
736 Nov. 23 Fri.	Mārgaśīrsha..... 659	6 36	5 43	—	—	7 29	2·7
737 May 18 Sat.	Jyeshtha..... 660	20 26	18 43	19 59	20 53	22 9	t.
737 Nov. 12 Tues.	Mārgaśīrsha..... 660	9 46	7 57	9 1	10 31	11 35	t.
738 May 8 Thur.	Jyeshtha..... 661	12 50	11 3	12 11	13 29	14 37	t.
738 Nov. 1 Sat.	Kārttika..... 661	8 54	7 17	—	—	10 31	11·4
740 Mar. 18 Fri.	Chaitra..... 663	5 11	4 13	—	—	6 9	3·2
740 Sept. 10 Sat.	Āśvina..... 663	11 46	10 48	—	—	12 44	3·2
741 Mar. 7 Tues.	Chaitra 664, (w. m. i.) Phālguna II 663..... 664	6 49	4 59	6 1	7 37	8 39	t.
741 Aug. 31 Thur.	Bhādrapada..... 664	4 18	2 28	3 29	5 7	6 8	t.
742 Feb. 24 Sat.	Phālguna..... 664	7 1	5 30	—	—	8 32	9·5
742 Aug. 20 Mon.	Bhādrapada..... 665	19 6	17 32	—	—	20 40	10·2
744 Jan. 4 Sat.	Pausha..... 666	14 51	13 40	—	—	16 2	5·1
744 June 29 Mon.	Āshāḍha..... 667	14 54	13 36	—	—	16 12	6·5
744 Dec. 24 Thur.	Pausha..... 667	6 23	4 32	5 33	7 13	8 14	t.
745 June 18 Fri.	Āshāḍha..... 668	17 59	16 8	17 9	18 49	19 50	t.

ECLIPSES OF THE MOON IN INDIA.

xv

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Saka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]	
		Greatest phase. [i. e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
								h. m.
1	2	3	4	5	6	7	8	
745 Dec. 13 Mon.	Pausha	668	18 15	16 43	—	—	19 47	9·7
746 June 8 Wed.	Āshāḍha	669	4 10	3 4	—	—	5 16	4·3
747 Apr. 29 Sat.	Vaiśākha	670	13 11	12 23	—	—	13 54	1·7
748 Apr. 18 Thur.	Vaiśākha	671	5 8	3 19	4 23	5 53	6 57	t.
748 Oct. 11 Fri.	Kārttika	671	8 36	6 49	7 57	9 15	10 23	t.
749 Apr. 7 Mon.	Vaiśākha, (w. m. i.) Vaiśākha I.	672	15 34	13 58	—	—	17 10	10·9
749 Sept. 30 Tues.	Āsṛvina	672	20 39	18 56	20 14	21 4	22 22	t.
751 Feb. 15 Mon.	Phālguna	673	2 49	2 2	—	—	3 36	2·1
751 Aug. 11 Wed.	Bhādrapada	674	17 40	16 32	—	—	18 48	4·6
752 Feb. 4 Fri.	Phālguna, (w. m. i.) Māgha	674	10 33	8 43	9 44	11 22	12 23	t.
752 July 30 Sun.	Śrāvāṇa	675	24 37	22 45	23 46	25 28	26 29	t.
753 Jan. 23 Tues.	Māgha	675	24 22	22 46	—	—	25 58	10·9
753 July 20 Fri.	Śrāvāṇa	676	1 43	0 24	—	—	3 2	6·6
754 Dec. 4 Wed.	Mārgaśīrṣha	677	15 0	14 8	—	—	15 52	2·6
755 May 30 Fri.	Jyeshtha	678	3 46	2 7	—	—	5 25	11·9
755 Nov. 23 Sun.	Mārgaśīrṣha	678	17 47	15 58	17 2	18 32	19 36	t.
756 May 18 Tues.	Jyeshtha	679	20 21	18 32	19 37	21 5	22 10	t.
756 Nov. 11 Thur.	Mārgaśīrṣha	679	16 51	15 13	—	—	18 29	11·6
757 May 8 Sun.	Jyeshtha	680	13 0	12 39	—	—	13 21	0·4
758 Mar. 29 Wed.	Chaitra	681	12 26	11 39	—	—	13 13	2·1
758 Sept. 21 Thur.	Āsṛvina	681	19 58	19 7	—	—	20 49	2·5
759 Mar. 18 Sun.	Chaitra	682	13 57	12 7	13 11	14 43	15 47	t.
759 Sept. 11 Tues.	Āsṛvina	682	12 26	10 36	11 39	13 13	14 16	t.
760 Mar. 6 Thur.	Chaitra 683, (w. m. i.) Phālguna II 682.	682	14 30	12 56	—	—	16 4	10·4
760 Aug. 31 Sun.	Bhādrapada	683	2 47	1 11	—	—	4 23	11·1
762 Jan. 14 Thur.	Māgha	684	23 40	22 30	—	—	24 50	4·9
762 July 10 Sat.	Śrāvāṇa	685	21 21	20 14	—	—	22 28	4·5
763 Jan. 4 Tues.	Pausha	685	15 12	13 22	14 23	16 1	17 2	t.
763 June 29 Wed.	Āshāḍha	686	24 45	22 53	23 53	25 37	26 37	t.
763 Dec. 25 Sun.	Pausha	686	2 48	1 16	—	—	4 20	9·7
764 June 18 Mon.	Āshāḍha	687	11 19	10 4	—	—	12 34	5·8
765 May 9 Thur.	Jyeshtha	688	20 48	20 30	—	—	21 6	0·3
766 Apr. 29 Tues.	Vaiśākha	689	12 30	10 43	11 51	13 9	14 17	t.
766 Oct. 22 Wed.	Kārttika	689	16 50	15 4	16 12	17 28	18 36	t.
767 Apr. 18 Sat.	Vaiśākha	690	22 42	21 3	22 42	22 42	24 21	t.
767 Oct. 12 Mon.	Kārttika	690	5 4	3 20	4 34	5 34	6 48	t.
769 Feb. 25 Sat.	Phālguna	691	10 33	9 55	—	—	11 11	1·3
769 Aug. 22 Tues.	Bhādrapada	692	1 11	0 13	—	—	2 9	3·3
770 Feb. 14 Wed.	Phālguna	692	18 47	16 57	17 59	19 35	20 37	t.
770 Aug. 11 Sat.	Bhādrapada	693	7 32	5 42	6 43	8 21	9 22	t.
771 Feb. 4 Mon.	Phālguna, (w. m. i.) Māgha	693	9 1	7 24	—	—	10 38	11·3
771 July 31 Wed.	Śrāvāṇa	694	8 22	6 54	—	—	9 50	8·4
772 Dec. 14 Mon.	Pausha	695	23 30	22 39	—	—	24 21	2·5
773 June 9 Wed.	Āshāḍha	696	11 7	9 33	—	—	12 41	10·3
773 Dec. 4 Sat.	Mārgaśīrṣha	696	1 53	0 4	1 9	2 37	3 42	t.
774 May 30 Mon.	Jyeshtha	697	3 50	2 0	3 1	4 39	5 40	t.
774 Nov. 22 Tues.	Mārgaśīrṣha	697	24 54	23 16	—	—	26 32	11·7
775 May 19 Fri.	Jyeshtha	698	20 24	19 40	—	—	21 8	1·8
776 Apr. 8 Mon.	Vaiśākha	699	19 36	19 8	—	—	20 4	0·7
776 Oct. 2 Wed.	Āsṛvina	699	4 21	3 37	—	—	5 5	1·8

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		Greatest phase. [i. e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
777 Mar. 28 Fri.	Chaitra..... 700	20 58	19 10	20 15	21 41	22 46	t.
777 Sept. 21 Sun.	Āśvina..... 700	20 36	18 47	19 51	21 21	22 25	t.
778 Mar. 17 Tues.	Chaitra..... 701	21 49	20 12	—	—	23 26	11·5
778 Sept. 11 Fri.	Āśvina..... 701	10 36	8 57	10 29	10 43	12 15	t.
780 Jan. 26 Wed.	Māgha..... 702	8 27	7 18	—	—	9 36	4·7
780 July 21 Fri.	Śrāvana..... 703	3 53	2 59	—	—	4 47	2·8
781 Jan. 14 Sun.	Māgha..... 703	23 55	22 5	23 6	24 44	25 45	t.
781 July 10 Tues.	Śrāvana..... 704	7 39	5 48	6 49	8 29	9 30	t.
782 Jan. 4 Fri.	Pauṣa..... 704	11 15	9 42	—	—	12 48	9·9
782 June 29 Sat.	Āshāḍha..... 705	18 38	17 15	—	—	20 1	7·5
784 May 9 Sun.	Jyeshtha..... 707	19 56	18 11	19 23	20 29	21 41	t.
784 Nov. 1 Mon.	Kārttika..... 707	25 10	23 24	24 34	25 46	26 56	t.
785 Apr. 29 Fri.	Vaiśākha..... 708	5 42	3 59	5 15	6 9	7 25	t.
785 Oct. 22 Sat.	Kārttika..... 708	13 38	11 53	13 5	14 11	15 23	t.
787 Mar. 8 Thur.	Chaitra, (w. m. i.) Chaitra I..... 710	18 8	17 40	—	—	18 36	0·7
787 Sept. 2 Sun.	Bhādrapada..... 710	8 46	7 59	—	—	9 33	2·1
788 Feb. 26 Tues.	Phālguna..... 710	2 58	1 8	2 11	3 45	4 48	t.
788 Aug. 21 Thur.	Bhādrapada..... 711	14 33	12 43	13 47	15 19	16 23	t.
789 Feb. 14 Sat.	Phālguna..... 711	17 31	15 52	—	—	19 10	11·9
789 Aug. 10 Mon.	Bhādrapada..... 712	15 4	13 31	—	—	16 37	10·0
790 Dec. 26 Sun.	Pauṣa..... 713	7 52	7 3	—	—	8 41	2·3
791 June 20 Mon.	Āshāḍha..... 714	18 25	16 57	—	—	19 53	8·6
791 Dec. 15 Thur.	Pauṣa..... 714	10 1	8 13	9 18	10 44	11 49	t.
792 June 9 Sat.	Āshāḍha..... 715	11 23	9 32	10 33	12 13	13 14	t.
792 Dec. 3 Mon.	Mārgaśīrṣha..... 715	9 0	7 22	—	—	10 38	11·8
793 May 30 Thur.	Jyeshtha..... 716	3 43	2 43	—	—	4 43	3·5
794 Oct. 13 Mon.	Kārttika..... 717	12 52	12 13	—	—	13 31	1·4
795 Apr. 9 Thur.	Vaiśākha..... 718	3 49	2 3	3 13	4 25	5 35	t.
795 Oct 3 Sat.	Āśvina..... 718	4 54	3 6	4 12	5 36	6 42	t.
796 Mar. 28 Mon.	Chaitra..... 719	5 2	3 21	4 43	5 21	6 43	t.
796 Sept. 21 Wed.	Āśvina..... 719	18 33	16 52	18 14	18 52	20 14	t.
798 Feb. 5 Mon.	Phālguna, (w. m. i.) Phālguna I..... 720	17 4	15 58	—	—	18 10	4·3
798 Aug. 1 Wed.	Śrāvana..... 721	10 39	10 0	—	—	11 18	1·4
799 Jan. 26 Sat.	Māgha..... 721	8 33	6 43	7 44	9 22	10 23	t.
799 July 21 Sun.	Śrāvana..... 722	14 38	12 48	13 50	15 26	16 28	t.
800 Jan. 15 Wed.	Māgha..... 722	19 41	18 8	—	—	21 14	10·1
800 July 10 Fri.	Śrāvana..... 723	1 59	0 28	—	—	3 30	9·4
802 May 21 Sat.	Jyeshtha..... 725	3 16	1 36	3 0	3 32	4 56	t.
802 Nov. 13 Sun.	Mārgaśīrṣha..... 725	9 41	7 55	9 5	10 17	11 27	t.
803 May 10 Wed.	Jyeshtha..... 726	12 38	10 52	12 2	13 14	14 24	t.
803 Nov. 2 Thur.	Kārttika..... 726	22 16	20 31	21 42	22 50	24 1	t.
805 Sept. 12 Fri.	Āśvina..... 728	16 28	15 53	—	—	17 3	1·1
806 Mar. 8 Sun.	Chaitra, (w. m. i.) Chaitra I..... 729	10 59	9 10	10 14	11 44	12 48	t.
806 Sept. 1 Tues.	Bhādrapada..... 729	21 37	19 49	20 55	22 19	23 25	t.
807 Feb. 26 Fri.	Phālguna..... 729	1 52	0 12	1 40	2 4	3 32	t.
807 Aug. 21 Sat.	Bhādrapada..... 730	21 56	20 19	—	—	23 33	11·4
809 Jan. 5 Fri.	Pauṣa, (w. m. i.) Pauṣa II..... 731	16 16	15 27	—	—	17 5	2·3
809 July 1 Sun.	Āshāḍha..... 732	1 50	0 30	—	—	3 10	6·9
809 Dec. 25 Tues.	Pauṣa..... 732	18 2	16 14	17 19	18 45	19 50	t.
810 June 20 Thur.	Āshāḍha..... 733	18 48	16 56	17 56	19 40	20 40	t.

ECLIPSES OF THE MOON IN INDIA.

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		Greatest phase. [i.e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
								h. m.
1	2	3	4	5	6	7	8	
810 Dec. 14 Sat.	Pausha	733	17 9	15 29	16 59	17 19	18 49	t.
811 June 10 Tues.	Āshāḍha	734	11 2	9 51	—	—	12 13	5·0
812 Oct. 23 Sat.	Kārttika	735	21 29	20 54	—	—	22 4	1·1
813 Apr. 19 Tues.	Vaiśākha	736	10 35	8 52	10 9	11 1	12 18	t.
813 Oct. 13 Thur.	Kārttika	736	13 26	11 39	12 46	14 6	15 13	t.
814 Apr. 8 Sat.	Vaiśākha	737	12 8	10 24	11 37	12 39	13 52	t.
814 Oct. 3 Tues.	Āsvina	737	2 38	0 55	2 12	3 4	4 21	t.
816 Feb. 17 Sun.	Phālguna	738	1 34	0 31	—	—	2 37	3·9
817 Feb. 5 Thur.	Phālguna, (w. m. i.) Māgha II	739	17 7	15 17	16 19	17 55	18 57	t.
817 July 31 Fri.	Śrāvana	739	21 47	19 58	21 2	22 32	23 36	t.
818 Jan. 26 Tues.	Māgha	740	4 1	2 27	—	—	5 35	10·3
818 July 21 Wed.	Śrāvana	741	9 24	7 48	—	—	11 0	10·9
820 May 31 Thur.	Jyeshtha	743	10 26	8 51	—	—	12 1	10·7
820 Nov. 23 Fri.	Mārgasīrsha	743	18 14	16 28	17 38	18 50	20 0	t.
821 May 20 Mon.	Jyeshtha	744	19 24	17 35	18 40	20 8	21 13	t.
821 Nov. 13 Wed.	Mārgasīrsha	744	7 4	5 19	6 30	7 38	8 49	t.
822 Nov. 2 Sun.	Kārttika	745	22 47	22 29	—	—	23 5	0·3
823 Sept. 24 Thur.	Āsvina	746	0 17	0 6	—	—	0 28	0·1
824 Mar. 18 Fri.	Chaitra	747	18 54	17 7	18 12	19 36	20 41	t.
824 Sept. 12 Mon.	Āsvina	747	4 53	3 7	4 16	5 30	6 39	t.
825 Mar. 8 Wed.	Chaitra, (w. m. i.) Chaitra I	748	10 8	8 26	9 44	10 32	11 50	t.
825 Sept. 1 Fri.	Bhādrapada	748	4 55	3 14	4 38	5 12	6 36	t.
827 Jan. 16 Wed.	Māgha	749	24 30	23 45	—	—	25 15	1·9
827 July 12 Fri.	Śrāvana	750	9 19	8 6	—	—	10 32	5·5
828 Jan. 6 Mon.	Pausha	750	2 3	0 15	1 21	2 45	3 51	t.
828 July 1 Wed.	Āshāḍha	751	2 20	0 23	1 23	3 12	4 12	t.
828 Dec. 24 Thur.	Pausha	751	25 19	23 39	25 9	25 29	26 59	t.
829 June 20 Sun.	Āshāḍha	752	18 18	16 59	—	—	19 37	6·6
830 Nov. 4 Fri.	Kārttika	753	6 13	5 45	—	—	6 41	0·7
831 Apr. 30 Sun.	Vaiśākha	754	17 9	15 31	—	—	18 47	11·8
831 Oct. 24 Tues.	Kārttika	754	21 57	20 11	21 19	22 35	23 43	t.
832 Apr. 18 Thur.	Vaiśākha	755	19 10	17 23	18 31	19 49	20 57	t.
832 Oct. 13 Sun.	Kārttika	755	10 47	9 3	10 17	11 17	12 31	t.
833 Apr. 8 Tues.	Vaiśākha	756	3 40	3 29	—	—	3 51	0·1
834 Feb. 27 Fri.	Phālguna	756	9 55	8 58	—	—	10 52	3·1
835 Feb. 16 Tues.	Phālguna	757	25 30	23 40	24 43	26 17	27 20	t.
835 Aug. 12 Thur.	Bhādrapada	758	5 3	3 16	4 23	5 43	6 50	t.
836 Feb. 6 Sun.	Phālguna, (w. m. i.) Māgha II	758	12 8	10 34	—	—	13 42	10·5
836 July 31 Mon.	Śrāvana	759	16 57	15 17	16 45	17 9	18 37	t.
838 June 11 Tues.	Āshāḍha	761	17 36	16 6	—	—	19 6	9·0
838 Dec. 5 Thur.	Mārgasīrsha	761	2 53	1 7	2 18	3 28	4 39	t.
839 June 1 Sun.	Jyeshtha	762	2 5	0 15	1 16	2 54	3 55	t.
839 Nov. 24 Mon.	Mārgasīrsha	762	15 54	14 8	15 18	16 30	17 40	t.
840 May 20 Thur.	Jyeshtha	763	4 4	3 25	—	—	4 43	1·4
840 Nov. 13 Sat.	Mārgasīrsha	763	7 36	7 13	—	—	7 59	0·5
842 Mar. 30 Thur.	Chaitra	765	2 40	0 54	2 3	3 17	4 26	t.
842 Sept. 23 Sat.	Āsvina	765	12 18	10 33	11 45	12 51	14 3	t.
843 Mar. 19 Mon.	Chaitra	766	18 17	16 33	17 46	18 48	20 1	t.
843 Sept. 12 Wed.	Āsvina	766	12 6	10 23	11 38	12 34	13 49	t.
845 Jan. 27 Tues.	Māgha	767	8 38	7 58	—	—	9 18	1·5

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year: ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i.e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
845 July 22 Wed.	Śrāvaṇa 768	16 49	15 44	—	—	17 54	4.1
846 Jan. 16 Sat.	Māgha..... 768	10 0	8 13	9 18	10 42	11 47	t.
846 July 12 Mon.	Śrāvaṇa 769	9 52	8 1	9 2	10 42	11 43	t.
847 Jan. 5 Wed.	Pausha 769	9 26	7 46	9 12	9 40	11 6	t.
847 July 2 Sat.	Āshāḍha 770	1 34	0 7	—	—	3 1	8.2
848 Nov. 14 Wed.	Mārgasīrsha 771	15 1	14 35	—	—	15 27	0.6
849 May 10 Fri.	Jyeshtha 772	23 42	22 9	—	—	25 15	10.1
849 Nov. 4 Mon.	Kārttika 772	6 42	4 56	6 6	7 18	8 28	t.
850 Apr. 30 Wed.	Vaiśākha 773	2 0	0 11	1 15	2 45	3 49	t.
850 Oct. 24 Fri.	Kārttika 773	19 1	17 17	18 29	19 33	20 45	t.
851 Apr. 19 Sun.	Vaiśākha 774	11 11	10 33	—	—	11 49	1.3
852 Mar. 9 Wed.	Chaitra 775	18 11	17 22	—	—	19 0	2.3
853 Feb. 27 Mon.	Phālguna 775	9 42	7 53	8 57	10 27	11 31	t.
853 Aug. 22 Tues.	Bhādrapada 776	12 23	10 38	11 49	12 37	14 8	t.
854 Feb. 16 Fri.	Phālguna 776	20 9	18 33	—	—	21 45	11.1
854 Aug. 11 Sat.	Bhādrapada 777	24 38	22 55	24 10	25 6	26 21	t.
856 June 21 Sun.	Āshāḍha 779	24 43	23 21	—	—	26 5	7.2
856 Dec. 15 Tues.	Pausha 779	11 28	9 42	10 52	12 4	13 14	t.
857 June 11 Fri.	Āshāḍha 780	8 44	6 52	7 53	9 35	10 36	t.
857 Dec. 4 Sat.	Mārgasīrsha 780	24 46	23 0	24 10	25 22	26 32	t.
858 May 31 Tues.	Jyeshtha 781	10 29	9 31	—	—	11 27	3.3
858 Nov. 24 Thur.	Mārgasīrsha 781	16 27	16 6	—	—	16 48	0.4
860 Apr. 9 Tues.	Vaiśākha 783	10 25	8 41	9 54	10 56	12 9	t.
860 Oct. 3 Thur.	Āśvina 783	19 50	18 7	19 24	20 16	21 33	t.
861 Mar. 30 Sun.	Chaitra 784	2 18	0 32	1 41	2 55	4 4	t.
861 Sept. 22 Mon.	Āśvina 784	19 27	17 42	18 52	20 2	21 12	t.
863 Feb. 7 Sun.	Phālguna, (w. m. i.) Phālguna I. 785	16 38	16 7	—	—	17 9	0.9
863 Aug. 2 Mon.	Śrāvaṇa 786	24 28	23 35	—	—	25 21	2.7
864 Jan. 27 Thur.	Māgha 786	17 53	16 6	17 13	18 33	19 40	t.
864 July 22 Sat.	Śrāvaṇa 787	17 28	15 38	16 39	18 17	19 18	t.
865 Jan. 15 Mon.	Māgha 787	17 28	15 47	17 9	17 47	19 9	t.
865 July 12 Thur.	Śrāvaṇa 788	8 47	7 14	—	—	10 20	10.0
866 Nov. 25 Mon.	Mārgasīrsha 789	23 54	23 26	—	—	24 22	0.7
867 May 22 Thur.	Jyeshtha 790	6 6	4 40	—	—	7 32	8.0
867 Nov. 15 Sat.	Mārgasīrsha 790	15 25	13 39	14 49	16 1	17 11	t.
868 May 10 Mon.	Jyeshtha 791	8 52	7 2	8 3	9 41	10 42	t.
868 Nov. 4 Thur.	Kārttika 791	3 22	1 37	2 48	3 56	5 7	t.
869 Apr. 29 Fri.	Vaiśākha 792	18 32	17 37	—	—	19 27	2.9
870 Mar. 21 Tues.	Chaitra 793	2 17	1 37	—	—	2 57	1.5
871 Mar. 10 Sat.	Chaitra 794	17 50	16 2	17 8	18 32	19 38	t.
871 Sept. 2 Sun.	Bhādrapada 794	19 57	18 14	19 30	20 24	21 40	t.
872 Feb. 28 Thur.	Phālguna 794	4 3	2 25	—	—	5 41	11.8
872 Aug. 22 Fri.	Bhādrapada 795	8 24	6 38	7 49	8 59	10 10	t.
874 July 3 Sat.	Āshāḍha 797	7 51	6 38	—	—	9 4	5.4
874 Dec. 28 Sun.	Pausha 797	20 9	18 23	19 33	20 45	21 55	t.
875 June 22 Wed.	Āshāḍha 798	15 22	13 30	14 30	16 14	17 14	t.
875 Dec. 16 Fri.	Pausha 798	9 40	7 54	9 4	10 16	11 26	t.
876 June 10 Sun.	Āshāḍha 799	16 51	15 39	—	—	18 3	5.2
876 Dec. 5 Wed.	Mārgasīrsha 799	1 19	0 58	—	—	1 40	0.4
878 Apr. 20 Sun.	Vaiśākha 801	17 54	16 13	17 34	18 14	19 35	t.

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. mo- ment of [full moon]]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
878 Oct. 15 Wed.	Kārttika 801	3 29	1 48	3 9	3 49	5 10	t.
879 Apr. 10 Fri.	Vaiśākha 802	10 6	8 18	9 24	10 48	11 54	t.
879 Oct. 4 Sun.	Āśvina 802	2 57	1 11	2 19	3 35	4 43	t.
880 Mar. 30 Wed.	Chaitra 803	2 28	2 17	—	—	2 39	0·1
880 Sept. 22 Thur.	Āśvina 803	6 14	5 51	—	—	6 37	0·5
881 Feb. 18 Sat.	Phālguna 803	0 27	0 9	—	—	0 45	0·3
881 Aug. 13 Sun.	Bhādrapada 804	8 13	7 34	—	—	8 52	1·4
882 Feb. 6 Tues.	Phālguna, (w. m. i.) Phālguna I. 804	25 31	23 45	24 54	26 8	27 17	t.
882 Aug. 2 Thur.	Śrāvāna 805	25 6	23 17	24 21	25 51	26 55	t.
883 Jan. 26 Sat.	Māgha 805	25 26	23 44	25 2	25 50	27 8	t.
883 July 23 Tues.	Śrāvāna 806	16 9	14 32	—	—	17 46	11·2
884 Dec. 6 Sun.	Mārgaśīrsha, (w. m. i.) Mārgaśīrsha II. 807	8 44	8 21	—	—	9 7	0·5
885 June 1 Tues.	Jyeshtha 808	12 33	11 15	—	—	13 51	6·4
885 Nov. 25 Thur.	Mārgaśīrsha 808	24 12	22 27	23 37	24 47	25 57	t.
886 May 21 Sat.	Jyeshtha 809	15 46	13 54	14 55	16 37	17 38	t.
886 Nov. 15 Tues.	Mārgaśīrsha 809	11 47	10 2	11 13	12 21	13 32	t.
887 May 11 Thur.	Jyeshtha 810	1 56	0 48	—	—	3 4	4·6
888 Mar. 31 Sun.	Chaitra 811	10 16	9 53	—	—	10 39	0·5
889 Mar. 20 Thur.	Chaitra 812	25 45	23 59	25 7	26 23	27 31	t.
889 Sept. 13 Sat.	Āśvina 812	3 41	2 0	3 22	4 0	5 22	t.
890 Mar. 10 Tues.	Chaitra 813	11 43	10 2	11 26	12 0	13 24	t.
890 Sept. 2 Wed.	Bhādrapada 813	16 19	14 32	15 39	16 59	18 6	t.
891 Aug. 23 Mon.	Bhādrapada 814	8 46	8 16	—	—	9 16	0·8
892 July 13 Thur.	Śrāvāna 815	14 58	13 55	—	—	16 1	3·9
893 Jan. 6 Sat.	Māgha, (w. m. i.) Pausa II. 815	4 48	3 2	4 12	5 24	6 34	t.
893 July 2 Mon.	Āshāḍha 816	22 1	20 10	21 11	22 51	23 52	t.
893 Dec. 26 Wed.	Pausa 816	18 33	16 47	17 57	19 9	20 19	t.
894 June 21 Fri.	Āshāḍha 817	23 14	21 52	—	—	24 36	7·2
894 Dec. 16 Mon.	Pausa 817	10 11	9 48	—	—	10 34	0·5
896 Apr. 30 Fri.	Vaiśākha 819	25 26	23 48	—	—	27 4	11·6
896 Oct. 25 Mon.	Kārttika 819	11 13	9 33	10 59	11 27	12 53	t.
897 Apr. 20 Wed.	Vaiśākha 820	17 51	16 2	17 6	18 36	19 40	t.
897 Oct. 14 Fri.	Kārttika 820	10 35	8 48	9 54	11 16	12 22	t.
898 Apr. 10 Mon.	Vaiśākha 821	10 16	9 41	—	—	10 51	1·1
898 Oct. 3 Tues.	Āśvina 821	14 9	13 31	—	—	14 47	1·3
899 Aug. 24 Fri.	Bhādrapada 822	16 4	15 41	—	—	16 27	0·5
900 Feb. 18 Mon.	Phālguna 822	9 7	7 22	8 33	9 41	10 52	t.
900 Aug. 13 Wed.	Bhādrapada 823	8 51	7 4	8 10	9 32	10 38	t.
901 Feb. 6 Fri.	Phālguna, (w. m. i.) Phālguna I. 823	9 19	7 36	8 52	9 46	11 2	t.
901 Aug. 2 Sun.	Śrāvāna 824	23 31	21 50	23 14	23 48	25 12	t.
902 Dec. 17 Fri.	Pausa 825	17 45	17 22	—	—	18 8	0·5
903 June 12 Sun.	Āshāḍha 826	19 0	17 53	—	—	20 7	4·5
903 Dec. 7 Wed.	Mārgaśīrsha 826	9 1	7 15	8 25	9 37	10 47	t.
904 May 31 Thur.	Jyeshtha 827	22 33	20 41	21 41	23 25	24 25	t.
904 Nov. 25 Sun.	Mārgaśīrsha 827	20 17	18 32	19 43	20 51	22 2	t.
905 May 21 Tues.	Jyeshtha 828	9 13	7 57	—	—	10 29	6·0
907 Apr. 1 Wed.	Chaitra 830	9 32	7 47	8 58	10 6	11 17	t.
907 Sept. 24 Thur.	Āśvina 830	11 32	9 53	—	—	13 11	11·9
908 Mar. 20 Sun.	Chaitra 831	19 11	17 28	18 44	19 38	20 54	t.
908 Sept. 12 Mon.	Āśvina 831	24 23	22 34	23 39	25 7	26 12	t.

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		Greatest phase. [i. e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
1	2	3	4	5	6	7	8	
		h. m.	h. m.	h. m.	h. m.	h. m.		
909 Sept. 2 Sat.	Bhādrapada.....	832	16 46	16 4	—	—	17 28	1·6
910 July 24 Tues.	Śrāvāna.....	833	22 7	21 19	—	—	22 55	2·2
911 Jan. 17 Thur.	Māgha.....	833	13 22	11 37	12 47	13 57	15 7	t.
911 July 14 Sun.	Śrāvāna.....	834	4 38	2 48	3 50	5 26	6 28	t.
912 Jan. 7 Tues.	Māgha, (w. m. i.) Pausha II.....	834	3 22	1 36	2 46	3 58	5 8	t.
912 July 2 Thur.	Āshāḍha.....	835	5 38	4 8	—	—	7 8	8·9
912 Dec. 26 Sat.	Pausha.....	835	19 4	18 41	—	—	19 27	0·5
914 May 12 Thur.	Jyeshtha.....	837	8 57	7 24	—	—	10 30	10·1
914 Nov. 5 Sat.	Kārttika.....	837	19 9	17 29	18 59	19 19	20 49	t.
915 May 1 Mon.	Vaiśākha.....	838	25 37	23 47	24 48	26 26	27 27	t.
915 Oct. 25 Wed.	Kārttika.....	838	18 21	16 33	17 38	19 4	20 9	t.
916 Apr. 20 Sat.	Vaiśākha.....	839	17 55	17 5	—	—	18 45	2·4
916 Oct. 13 Sun.	Kārttika.....	839	22 12	21 28	—	—	22 56	1·8
918 Feb. 28 Sat.	Phālguna.....	840	16 34	14 51	16 6	17 2	18 17	t.
918 Aug. 24 Mon.	Bhādrapada.....	841	16 42	14 56	16 6	17 18	18 28	t.
919 Feb. 17 Wed.	Phālguna.....	841	17 6	15 22	16 34	17 38	18 50	t.
919 Aug. 14 Sat.	Bhādrapada.....	842	6 58	5 14	6 27	7 29	8 42	t.
920 Dec. 28 Thur.	Pausha.....	843	2 37	2 14	—	—	3 0	0·5
921 June 23 Sat.	Āshāḍha.....	844	1 25	0 33	—	—	2 17	2·6
921 Dec. 17 Mon.	Pausha.....	844	17 54	16 9	17 19	18 29	19 39	t.
922 June 12 Wed.	Āshāḍha.....	845	5 25	3 34	4 35	6 15	7 16	t.
922 Dec. 7 Sat.	Mārgaśīrsha.....	845	4 47	3 2	4 13	5 21	6 32	t.
923 June 1 Sun.	Jyeshtha.....	846	16 29	15 4	—	—	17 54	7·9
925 Apr. 11 Mon.	Vaiśākha.....	848	17 10	15 28	16 47	17 33	18 52	t.
925 Oct. 4 Tues.	Āśvina.....	848	19 36	17 59	—	—	21 13	11·3
926 Apr. 1 Sat.	Chaitra.....	849	2 31	0 46	1 56	3 6	4 16	t.
926 Sept. 24 Sun.	Āśvina.....	849	8 36	6 46	7 50	9 22	10 26	t.
927 Sept. 14 Fri.	Āśvina.....	850	0 53	0 2	—	—	1 44	2·5
928 Aug. 4 Mon.	Śrāvāna.....	851	5 22	4 59	—	—	5 45	0·5
929 Jan. 27 Tues.	Māgha.....	851	21 52	20 7	21 19	22 25	23 37	t.
929 July 24 Fri.	Śrāvāna.....	852	11 19	9 31	10 37	12 1	13 7	t.
930 Jan. 17 Sun.	Māgha.....	852	12 11	10 25	11 34	12 48	13 57	t.
930 July 13 Tues.	Śrāvāna.....	853	12 8	10 33	—	—	13 43	10·8
931 Jan. 7 Fri.	Māgha.....	853	3 53	3 32	—	—	4 14	0·4
932 May 22 Tues.	Jyeshtha.....	855	16 20	14 52	—	—	17 48	8·5
932 Nov. 16 Fri.	Mārgaśīrsha.....	855	3 6	1 28	—	—	4 44	11·7
933 May 12 Sun.	Jyeshtha.....	856	9 10	7 18	8 19	10 1	11 2	t.
933 Nov. 5 Tues.	Kārttika.....	856	2 23	0 34	1 39	3 7	4 12	t.
934 May 2 Fri.	Vaiśākha.....	857	1 22	0 20	—	—	2 24	3·8
934 Oct. 25 Sat.	Kārttika.....	857	6 24	5 36	—	—	7 12	2·2
936 Mar. 10 Thur.	Chaitra.....	859	23 48	22 7	23 29	24 7	25 29	t.
936 Sept. 3 Sat.	Bhādrapada.....	859	24 36	22 52	24 6	25 6	26 20	t.
937 Feb. 27 Mon.	Phālguna.....	859	24 45	22 59	24 9	25 21	26 31	t.
937 Aug. 24 Thur.	Bhādrapada.....	860	14 31	12 45	13 55	15 7	16 17	t.
938 Feb. 17 Sat.	Phālguna.....	860	7 58	7 47	—	—	8 9	0·1
939 Jan. 8 Tues.	Māgha, (w. m. i.) Māgha I.....	861	11 25	11 2	—	—	11 48	0·5
939 July 4 Thur.	Āshāḍha.....	862	7 57	7 27	—	—	8 27	0·8
939 Dec. 29 Sun.	Pausha.....	862	2 40	0 55	2 7	3 13	4 25	t.
940 June 22 Mon.	Āshāḍha.....	863	12 15	10 25	11 27	13 3	14 5	t.
940 Dec. 17 Thur.	Pausha.....	863	13 19	11 34	12 44	13 54	15 4	t.

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 5 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]	
		Greatest phase. [i. e. mo- ment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
1	2	3 h. m.	4 h. m.	5 h. m.	6 h. m.	7 h. m.	8	
941 June 11 Fri.	Āshāḍha	864	23 47	22 15	—	—	25 19	9·6
943 Apr. 22 Sat.	Vaiśākha	866	24 43	23 4	—	—	26 22	11·9
943 Oct. 16 Mon.	Kārttika	866	3 49	2 14	—	—	5 24	10·8
944 Apr. 11 Thur.	Vaiśākha	867	9 43	7 56	9 2	10 24	11 30	t.
944 Oct. 4 Fri.	Āśvina	867	16 55	15 5	16 8	17 42	18 45	t.
945 Sept. 24 Wed.	Āśvina	868	9 9	8 11	—	—	10 7	3·2
947 Feb. 8 Mon.	Phālguna	869	6 15	4 31	5 44	6 46	7 59	t.
947 Aug. 4 Wed.	Srāvaṇa	870	18 6	16 27	17 30	18 42	19 52	t.
948 Jan. 28 Fri.	Māgha	870	20 57	19 10	20 18	21 36	22 44	t.
948 July 23 Sun.	Srāvaṇa	871	18 41	17 0	18 24	18 58	20 22	t.
949 Jan. 17 Wed.	Māgha	871	12 36	12 13	—	—	12 59	0·5
950 June 2 Sun.	Jyeshtha	873	23 46	22 25	—	—	25 7	7·0
950 Nov. 27 Wed.	Mārgaśīrsha	873	11 7	9 30	—	—	12 44	11·5
951 May 23 Fri.	Jyeshtha	874	16 43	14 51	15 51	17 35	18 35	t.
951 Nov. 16 Sun.	Mārgaśīrsha	874	10 21	8 32	9 36	11 6	12 10	t.
952 May 12 Wed.	Jyeshtha	875	8 49	7 37	—	—	10 1	5·2
952 Nov. 4 Thur.	Kārttika	875	14 43	13 51	—	—	15 35	2·6
954 Mar. 22 Wed.	Chaitra	877	6 55	5 17	—	—	8 33	11·7
954 Sept. 15 Fri.	Āśvina	877	8 46	7 4	8 24	9 8	10 28	t.
955 Mar. 11 Sun.	Chaitra	878	8 11	6 24	7 30	8 52	9 58	t.
955 Sept. 4 Tues.	Bhādrapada	878	22 11	20 24	21 30	22 52	23 58	t.
956 Feb. 28 Thur.	Phālguna	878	16 1	15 30	—	—	16 32	0·9
957 Jan. 18 Sun.	Māgha	879	20 15	20 0	—	—	20 30	0·2
958 Jan. 8 Fri.	Māgha, (w. m. i.) Māgha I.	880	11 24	9 39	10 51	11 57	13 9	t.
958 July 3 Sat.	Āshāḍha	881	19 9	17 20	18 26	19 52	20 58	t.
958 Dec. 28 Tues.	Pauṣa	881	21 44	19 59	21 9	22 19	23 29	t.
959 June 23 Thur.	Āshāḍha	882	7 6	5 29	—	—	8 43	11·2
961 May 3 Fri.	Vaiśākha	884	8 3	6 29	—	—	9 37	10·3
961 Oct. 26 Sat.	Kārttika	884	12 7	10 33	—	—	13 41	10·4
962 Apr. 22 Tues.	Vaiśākha	885	16 45	14 56	16 0	17 30	18 34	t.
962 Oct. 15 Wed.	Kārttika	885	25 24	23 34	24 35	26 13	27 14	t.
963 Apr. 11 Sat.	Vaiśākha	886	18 40	18 19	—	—	19 1	0·4
963 Oct. 5 Mon.	Āśvina	886	17 28	16 25	—	—	18 31	3·9
965 Feb. 18 Sat.	Phālguna	887	14 31	12 48	14 3	14 59	16 14	t.
965 Aug. 14 Mon.	Bhādrapada	888	24 58	23 15	24 33	25 23	26 41	t.
966 Feb. 8 Thur.	Phālguna	888	5 29	3 42	4 48	6 10	7 16	t.
966 Aug. 3 Fri.	Srāvaṇa	889	25 18	23 33	24 45	25 51	27 3	t.
967 Jan. 28 Mon.	Māgha	889	21 16	20 46	—	—	21 46	0·8
968 June 13 Sat.	Āshāḍha	891	7 4	5 52	—	—	8 16	5·3
968 Dec. 7 Mon.	Mārgaśīrsha, (w. m. i.) Mārgaśīrsha II.	891	19 10	17 33	—	—	20 47	11·3
969 June 2 Wed.	Jyeshtha	892	24 12	22 20	23 20	25 4	26 4	t.
969 Nov. 26 Fri.	Mārgaśīrsha	892	18 25	16 36	17 40	19 10	20 14	t.
970 May 23 Mon.	Jyeshtha	893	16 7	14 47	—	—	17 27	6·8
970 Nov. 15 Tues.	Mārgaśīrsha	893	23 7	22 11	—	—	24 3	3·0
972 Apr. 1 Mon.	Chaitra	895	13 54	12 20	—	—	15 28	10·5
972 Sept. 25 Wed.	Āśvina	895	16 55	15 16	16 55	16 55	18 34	t.
973 Mar. 21 Fri.	Chaitra	896	15 37	13 48	14 52	16 22	17 26	t.
973 Sept. 15 Mon.	Āśvina	896	5 55	4 6	5 10	6 40	7 44	t.
974 Mar. 10 Tues.	Chaitra	897	23 59	23 16	—	—	24 42	1·7
976 Jan. 19 Wed.	Māgha	898	20 2	18 18	19 30	20 34	21 46	t.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]	
		Greatest phase. [i. e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
1	2	3 h. m.	4 h. m.	5 h. m.	6 h. m.	7 h. m.	8	
976 July 14 Fri.	Śrāvāna	899	2 7	0 21	1 30	2 44	3 53	t.
977 Jan. 8 Mon.	Māgha, (w. m. i.) Māgha I.	899	6 8	4 23	5 33	6 43	7 53	t.
977 July 3 Tues.	Āshāḍha	900	14 27	12 45	14 5	14 49	16 9	t.
979 May 14 Wed.	Jyeshṭha	902	15 22	13 53	—	—	16 51	8·8
979 Nov. 6 Thur.	Kārtika	902	20 36	19 2	—	—	22 10	10·3
980 May 2 Sun.	Vaiśākha	903	23 37	21 47	22 48	24 26	25 27	t.
980 Oct. 26 Tues.	Kārtika	903	10 1	8 11	9 12	10 50	11 51	t.
981 Apr. 22 Fri.	Vaiśākha	904	1 23	0 36	—	—	2 10	2·1
981 Oct. 16 Sun.	Kārtika	904	1 57	0 51	—	—	3 3	4·3
983 Mar. 1 Thur.	Phālguna	905	22 40	20 58	22 17	23 3	24 22	t.
983 Aug. 26 Sun.	Bhādrapada	906	7 54	6 16	—	—	9 32	11·8
984 Feb. 19 Tues.	Phālguna	906	13 58	12 10	13 15	14 41	15 46	t.
984 Aug. 14 Thur.	Bhādrapada	907	8 6	6 19	7 26	8 46	9 53	t.
985 Feb. 8 Sun.	Phālguna	907	5 49	5 14	—	—	6 24	1·1
985 Aug. 3 Mon.	Śrāvāna	908	11 30	11 15	—	—	11 45	0·2
986 June 24 Thur.	Āshāḍha	909	14 31	13 29	—	—	15 33	3·7
986 Dec. 19 Sun.	Pausha	909	3 14	1 38	—	—	4 50	11·1
987 June 14 Tues.	Āshāḍha	910	7 40	5 49	6 50	8 30	9 31	t.
987 Dec. 8 Thur.	Mārgaśīrsha, (w. m. i.) Mārgaśīrsha II.	910	2 39	0 49	1 53	3 25	4 29	t.
988 June 2 Sat.	Jyeshṭha	911	23 24	21 56	—	—	24 52	8·5
988 Nov. 26 Mon.	Mārgaśīrsha	911	7 40	6 43	—	—	8 37	3·1
990 Apr. 12 Sat.	Vaiśākha	913	20 46	19 16	—	—	22 16	9·1
990 Oct. 6 Mon.	Āśvina	913	25 16	23 39	—	—	26 53	11·5
991 Apr. 1 Wed.	Chaitra	914	22 54	21 4	22 6	23 42	24 44	t.
991 Sept. 26 Sat.	Āśvina	914	13 48	11 58	13 2	14 34	15 38	t.
992 Mar. 21 Mon.	Chaitra	915	7 49	6 55	—	—	8 43	2·8
992 Sept. 14 Wed.	Āśvina	915	19 27	18 59	—	—	19 55	0·7
994 Jan. 30 Tues.	Māgha	916	4 37	2 53	4 7	5 7	6 21	t.
994 July 25 Wed.	Śrāvāna	917	9 15	7 32	8 48	9 42	10 58	t.
995 Jan. 19 Sat.	Māgha	917	14 24	12 38	13 48	15 0	16 10	t.
995 July 14 Sun.	Śrāvāna	918	21 52	20 7	21 18	22 26	23 37	t.
997 May 24 Mon.	Jyeshṭha	920	22 34	21 13	—	—	23 55	7·0
997 Nov. 17 Wed.	Mārgaśīrsha	920	5 9	3 35	—	—	6 43	10·2
998 May 14 Sat.	Jyeshṭha	921	6 26	4 34	5 35	7 17	8 18	t.
998 Nov. 6 Sun.	Kārtika	921	18 46	16 56	17 57	19 35	20 36	t.
999 May 3 Wed.	Vaiśākha	922	7 56	6 54	—	—	8 58	3·7
999 Oct. 27 Fri.	Kārtika	922	10 36	9 28	—	—	11 44	4·6
1001 Mar. 12 Wed.	Chaitra	924	6 45	5 5	6 33	6 57	8 25	t.
1001 Sept. 5 Fri.	Bhādrapada	924	15 1	13 26	—	—	16 36	10·6
1002 Mar. 1 Sun.	Phālguna	924	22 20	20 31	21 35	23 5	24 9	t.
1002 Aug. 25 Tues.	Bhādrapada	925	15 1	13 12	14 16	15 46	16 50	t.
1003 Feb. 19 Fri.	Phālguna	925	14 15	13 32	—	—	14 58	1·7
1003 Aug. 14 Sat.	Bhādrapada	926	18 41	17 57	—	—	19 25	1·8
1004 July 4 Tues.	Āshāḍha	927	21 56	21 10	—	—	22 42	2·0
1004 Dec. 29 Fri.	Pausha	927	11 18	9 43	—	—	12 53	10·8
1005 June 24 Sun.	Āshāḍha	928	15 10	13 20	14 22	15 58	17 0	t.
1005 Dec. 18 Tues.	Pausha	928	10 52	9 2	10 6	11 38	12 42	t.
1006 June 14 Fri.	Āshāḍha	929	6 37	5 4	—	—	8 10	10·1
1006 Dec. 7 Sat.	Mārgaśīrsha, (w. m. i.) Mārgaśīrsha II.	929	16 11	15 13	—	—	17 9	3·2
1008 Apr. 23 Fri.	Vaiśākha	931	3 28	2 5	—	—	4 51	7·5

ECLIPSES OF THE MOON IN INDIA.

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TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lāṅka mean sunrise, taken as 5 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]	
		Greatest phase. [i. e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
								h. m.
1	2	3	4	5	6	7	8	
1008 Oct. 17 Sun.	Kārttika	931	9 47	8 11	—	—	11 23	11·0
1009 Apr. 12 Tues.	Vaiśākha	932	6 7	4 16	5 17	6 57	7 58	t.
1009 Oct. 6 Thur.	Āśvina	932	21 46	19 56	20 58	22 34	23 36	t.
1010 Apr. 1 Sat.	Chaitra	933	15 35	14 31	—	—	16 39	4·0
1010 Sept. 26 Tues.	Āśvina	933	2 54	2 12	—	—	3 36	1·6
1012 Feb. 10 Sun.	Phālguna	934	13 3	11 20	12 36	13 30	14 46	t.
1012 Aug. 4 Mon.	Śrāvaṇa	935	16 31	14 52	16 24	16 38	18 10	t.
1013 Jan. 29 Thur.	Māgha	935	22 38	20 52	22 1	23 15	24 24	t.
1013 July 25 Sat.	Śrāvaṇa	936	5 23	3 36	4 42	6 4	7 10	t.
1014 July 14 Wed.	Śrāvaṇa	937	22 12	21 51	—	—	22 33	0·4
1015 June 5 Sun.	Jyeshtha	938	5 39	4 27	—	—	6 51	5·2
1015 Nov. 28 Mon.	Mārgaśīrsha	938	13 46	12 13	—	—	15 19	10·0
1016 May 24 Thur.	Jyeshtha	939	13 8	11 16	12 16	14 0	15 0	t.
1016 Nov. 17 Sat.	Mārgaśīrsha	939	3 31	1 40	2 41	4 21	5 22	t.
1017 May 13 Mon.	Jyeshtha	940	14 29	13 16	—	—	15 42	5·4
1017 Nov. 6 Wed.	Kārttika	940	19 22	18 12	—	—	20 32	4·9
1019 Mar. 23 Mon.	Chaitra	942	14 45	13 8	—	—	16 22	11·3
1019 Sept. 16 Wed.	Āśvina	942	22 16	20 45	—	—	23 47	9·4
1020 Mar. 12 Sat.	Chaitra	943	6 35	4 45	5 48	7 22	8 25	t.
1020 Sept. 4 Sun.	Bhādrapada	943	22 7	20 17	21 19	22 55	23 57	t.
1021 Mar. 1 Wed.	Phālguna	943	22 32	21 43	—	—	23 21	2·3
1021 Aug. 25 Fri.	Bhādrapada	944	2 4	1 8	—	—	3 0	3·0
1022 July 16 Mon.	Śrāvaṇa	945	5 28	4 58	—	—	5 58	0·8
1023 Jan. 9 Wed.	Māgha	945	19 16	17 41	—	—	20 51	10·7
1023 July 5 Fri.	Āshāḍha	946	22 38	20 49	21 54	23 22	24 27	t.
1023 Dec. 29 Sun.	Pausha	946	19 5	17 15	18 18	19 52	20 55	t.
1024 June 24 Wed.	Āshāḍha	947	13 49	12 11	—	—	15 27	11·7
1024 Dec. 17 Thur.	Pausha	947	24 49	23 50	—	—	25 48	3·4
1026 May 4 Wed.	Vaiśākha	949	10 5	8 50	—	—	11 20	5·8
1026 Oct. 28 Fri.	Kārttika	949	18 18	16 44	—	—	19 52	10·5
1027 Apr. 23 Sun.	Vaiśākha	950	13 11	11 19	12 20	14 2	15 3	t.
1027 Oct. 18 Wed.	Kārttika	950	5 56	4 6	5 7	6 45	7 46	t.
1028 Apr. 11 Thur.	Vaiśākha	951	23 10	21 58	—	—	24 22	5·3
1028 Oct. 6 Sun.	Āśvina	951	10 30	9 42	—	—	11 18	2·2
1030 Feb. 20 Fri.	Phālguna	952	21 21	19 39	20 59	21 43	23 3	t.
1030 Aug. 15 Sat.	Bhādrapada	953	23 51	22 15	—	—	25 27	10·9
1031 Feb. 10 Wed.	Phālguna	953	6 38	4 51	5 59	7 17	8 25	t.
1031 Aug. 5 Thur.	Śrāvaṇa	954	12 59	11 9	12 13	13 45	14 49	t.
1032 July 25 Tues.	Śrāvaṇa	955	5 48	5 3	—	—	6 33	1·9
1033 June 15 Fri.	Āshāḍha	956	12 44	11 46	—	—	13 42	3·3
1033 Dec. 8 Sat.	Pausha, (w. m. i.) Pausha I.	956	22 28	20 54	—	—	24 2	10·2
1034 June 4 Tues.	Jyeshtha	957	19 43	17 52	18 53	20 33	21 34	t.
1034 Nov. 28 Thur.	Mārgaśīrsha	957	12 23	10 32	11 33	13 13	14 14	t.
1035 May 24 Sat.	Jyeshtha	958	20 54	19 31	—	—	22 17	7·4
1035 Nov. 18 Tues.	Mārgaśīrsha	958	4 4	2 53	—	—	5 15	5·1
1037 Apr. 2 Sat.	Chaitra	960	22 23	20 55	—	—	24 3	10·4
1037 Sept. 27 Tues.	Āśvina	960	5 34	4 6	—	—	7 2	8·6
1038 Mar. 23 Thur.	Chaitra	961	14 41	12 51	13 52	15 30	16 31	t.
1038 Sept. 16 Sat.	Āśvina	961	5 20	3 29	4 30	6 10	7 11	t.
1039 Mar. 13 Tues.	Chaitra	962	6 36	5 41	—	—	7 31	2·9

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]	
		Greatest phase. [i. e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
								h. m.
1	2	3	4	5	6	7	8	
1039 Sept. 5 Wed.	Bhādrapada.....	962	9 30	8 26	—	—	10 34	4·0
1041 Jan. 20 Tues.	Māgha.....	963	3 11	1 37	—	—	4 45	10·5
1041 July 16 Thur.	Śrāvāṇa.....	964	6 9	4 23	5 31	6 47	7 55	t.
1042 Jan. 9 Sat.	Māgha.....	964	3 13	1 23	2 27	3 59	5 3	t.
1042 July 5 Mon.	Āshāḍha.....	965	20 59	19 17	20 35	21 23	22 41	t.
1042 Dec. 29 Wed.	Pausha.....	965	9 26	8 26	—	—	10 26	3·5
1044 May 14 Mon.	Jyeshtha.....	967	16 38	15 33	—	—	17 43	4·2
1044 Nov. 8 Thur.	Kārttika, (w. m. i.) Kārttika II.....	967	2 54	1 20	—	—	4 28	10·2
1045 May 3 Fri.	Vaiśākha.....	968	20 7	18 15	19 15	20 59	21 59	t.
1045 Oct. 28 Mon.	Kārttika.....	968	14 5	12 15	13 16	14 54	15 55	t.
1046 Apr. 23 Wed.	Vaiśākha.....	969	6 44	5 25	—	—	8 3	6·6
1046 Oct. 17 Fri.	Kārttika.....	969	18 13	17 20	—	—	19 6	2·7
1048 Mar. 3 Thur.	Phālguna.....	970	5 32	3 52	5 18	5 46	7 12	t.
1048 Aug. 26 Fri.	Bhādrapada.....	971	7 23	5 51	—	—	8 55	9·6
1049 Feb. 20 Mon.	Phālguna.....	971	14 35	12 48	13 53	15 17	16 22	t.
1049 Aug. 15 Tues.	Bhādrapada.....	972	20 43	18 53	19 54	21 32	22 33	t.
1050 Aug. 5 Sun.	Śrāvāṇa.....	973	13 28	12 30	—	—	14 26	3·2
1051 June 26 Wed.	Āshāḍha.....	974	19 45	19 2	—	—	20 28	1·7
1051 Dec. 20 Fri.	Pausha.....	974	7 11	5 38	—	—	8 44	10·0
1052 June 15 Mon.	Āshāḍha.....	975	2 16	0 26	1 29	3 3	4 6	t.
1052 Dec. 8 Tues.	Mārgasīrsha, (w. m. i.) Pausha I.....	975	21 16	19 25	20 26	22 6	23 7	t.
1053 June 4 Fri.	Jyeshtha.....	976	3 21	1 50	—	—	4 52	9·4
1053 Nov. 28 Sun.	Mārgasīrsha.....	976	12 51	11 40	—	—	14 2	5·0
1055 Apr. 14 Tues.	Vaiśākha.....	978	6 15	4 44	—	—	7 46	9·3
1055 Oct. 8 Sun.	Āsvina.....	978	13 6	11 42	—	—	14 30	7·7
1056 Apr. 2 Tues.	Chaitra.....	979	22 41	20 50	21 51	23 31	24 32	t.
1056 Sept. 26 Thur.	Āsvina.....	979	12 44	10 53	11 54	13 34	14 35	t.
1057 Mar. 23 Sun.	Chaitra.....	980	14 31	13 29	—	—	15 33	3·8
1057 Sept. 15 Mon.	Āsvina.....	980	17 12	16 1	—	—	18 23	5·0
1059 Jan. 31 Sun.	Māgha.....	981	10 57	9 24	—	—	12 30	9·9
1059 July 27 Tues.	Śrāvāṇa.....	982	13 45	12 1	13 15	14 15	15 29	t.
1060 Jan. 20 Thur.	Māgha.....	982	11 18	9 28	10 30	12 6	13 8	t.
1060 July 16 Sun.	Śrāvāṇa.....	983	4 10	2 24	3 35	4 45	5 56	t.
1061 Jan. 8 Mon.	Māgha.....	983	18 0	16 58	—	—	19 2	3·7
1062 May 25 Sat.	Jyeshtha.....	985	23 7	22 18	—	—	23 56	2·3
1062 Nov. 19 Tues.	Mārgasīrsha.....	985	11 41	10 8	—	—	13 14	10·1
1063 May 15 Thur.	Jyeshtha.....	986	3 5	1 14	2 15	3 55	4 56	t.
1063 Nov. 8 Sat.	Kārttika, (w. m. i.) Kārttika II.....	986	22 24	20 34	21 35	23 13	24 14	t.
1064 May 3 Mon.	Vaiśākha.....	987	14 10	12 43	—	—	15 37	8·3
1064 Oct. 28 Thur.	Kārttika.....	987	1 59	1 2	—	—	2 56	3·1
1066 Mar. 14 Tues.	Chaitra.....	989	13 31	11 54	—	—	15 8	11·4
1066 Sept. 6 Wed.	Bhādrapada.....	989	15 2	13 34	—	—	16 30	8·6
1067 Mar. 3 Sat.	Phālguna.....	989	22 19	20 30	21 35	23 3	24 8	t.
1067 Aug. 27 Mon.	Bhādrapada.....	990	4 34	2 43	3 44	5 24	6 25	t.
1068 Feb. 20 Wed.	Phālguna.....	990	24 0	23 32	—	—	24 28	0·7
1068 Aug. 15 Fri.	Bhādrapada.....	991	21 18	20 11	—	—	22 25	4·4
1069 Dec. 30 Wed.	Pausha.....	992	15 52	14 19	—	—	17 25	10·1
1070 June 26 Sat.	Āshāḍha.....	993	8 48	7 1	8 7	9 29	10 35	t.
1070 Dec. 20 Mon.	Pausha.....	993	6 9	4 18	5 19	6 59	8 0	t.
1071 June 15 Wed.	Āshāḍha.....	994	9 44	8 7	—	—	11 21	11·2

ECLIPSES OF THE MOON IN INDIA.

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A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. [" <i>w. m. i.</i> " = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. [" <i>t.</i> " = total eclipse.]	
		Greatest phase. [i. e. mo- ment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
								h. m.
1	2	3	4	5	6	7	8	
1071 Dec. 9 Fri.	Mārgaśīrsha, (<i>w. m. i.</i>) Pausha I.....	994	21 42	20 31	—	—	22 53	5·1
1073 Apr. 24 Wed.	Vaiśākha.....	996	13 51	12 26	—	—	15 16	7·9
1073 Oct. 18 Fri.	Kārttika.....	996	20 45	19 25	—	—	22 7	7·0
1074 Apr. 14 Mon.	Vaiśākha.....	997	6 29	4 37	5 38	7 20	8 21	t.
1074 Oct. 7 Tues.	Āśvina.....	997	20 21	18 29	19 30	21 12	22 13	t.
1075 Apr. 3 Fri.	Chaitra.....	998	22 21	21 11	—	—	23 31	4·8
1075 Sept. 26 Sat.	Āśvina.....	998	25 2	23 46	—	—	26 18	6·0
1077 Feb. 10 Fri.	Phālguna.....	999	18 41	17 9	—	—	20 13	9·6
1077 Aug. 6 Sun.	Śrāvana.....	1000	21 21	19 41	21 9	21 33	23 1	t.
1078 Jan. 30 Tues.	Māgha.....	1000	19 21	17 31	18 32	20 10	21 11	t.
1078 July 27 Fri.	Śrāvana.....	1001	11 25	9 37	10 43	12 7	13 13	t.
1079 Jan. 20 Sun.	Māgha.....	1001	2 29	1 25	—	—	3 33	4·0
1080 June 5 Fri.	Jyeshtha.....	1003	5 36	5 15	—	—	5 57	0·4
1080 Nov. 29 Sun.	Mārgaśīrsha.....	1003	20 22	18 50	—	—	21 54	9·8
1081 May 25 Tues.	Jyeshtha.....	1004	10 3	8 13	9 15	10 51	11 53	t.
1081 Nov. 19 Fri.	Mārgaśīrsha.....	1004	6 46	4 55	5 56	7 36	8 37	t.
1082 May 14 Sat.	Jyeshtha.....	1005	21 33	20 1	—	—	23 5	9·7
1082 Nov. 8 Tues.	Kārttika, (<i>w. m. i.</i>) Kārttika II.....	1005	9 55	8 57	—	—	10 53	8·3
1084 Mar. 24 Sun.	Chaitra.....	1007	21 23	19 49	—	—	22 57	10·4
1084 Sept. 16 Mon.	Āśvina.....	1007	22 53	21 28	—	—	24 18	7·8
1085 Mar. 14 Fri.	Chaitra.....	1008	5 52	4 2	5 5	6 39	7 42	t.
1085 Sept. 6 Sat.	Bhādrapada.....	1008	12 31	10 39	11 40	13 22	14 23	t.
1086 Mar. 3 Tues.	Phālguna.....	1008	7 23	6 43	—	—	8 3	1·5
1086 Aug. 27 Thur.	Bhādrapada.....	1009	5 12	3 59	—	—	6 25	5·5
1088 Jan. 10 Mon.	Māgha.....	1010	24 34	23 1	—	—	26 7	10·0
1088 July 6 Thur.	Āshādha.....	1011	15 19	13 35	14 48	15 50	17 3	t.
1088 Dec. 30 Sat.	Pausha.....	1011	15 3	13 12	14 13	15 53	16 54	t.
1089 June 25 Mon.	Āshādha.....	1012	16 3	14 20	15 38	16 28	17 46	t.
1089 Dec. 20 Thur.	Pausha.....	1012	6 35	5 24	—	—	7 46	5·0
1091 May 5 Mon.	Vaiśākha.....	1014	21 26	20 8	—	—	22 44	6·4
1091 Oct. 30 Thur.	Kārttika.....	1014	4 30	3 12	—	—	5 48	6·5
1092 Apr. 24 Sat.	Vaiśākha.....	1015	14 15	12 23	13 23	15 7	16 7	t.
1092 Oct. 18 Mon.	Kārttika.....	1015	4 7	2 15	3 15	4 59	5 59	t.
1093 Apr. 14 Thur.	Vaiśākha.....	1016	6 2	4 47	—	—	7 17	5·9
1093 Oct. 7 Fri.	Āśvina.....	1016	9 1	7 42	—	—	10 20	6·7
1095 Feb. 22 Thur.	Phālguna.....	1017	2 11	0 41	—	—	3 41	8·9
1095 Aug. 18 Sat.	Bhādrapada.....	1018	5 2	3 26	—	—	6 38	11·0
1096 Feb. 11 Mon.	Phālguna.....	1018	3 15	1 25	2 26	4 4	5 5	t.
1096 Aug. 6 Wed.	Śrāvana.....	1019	18 42	16 52	17 56	19 28	20 32	t.
1097 Jan. 30 Fri.	Māgha.....	1019	10 54	9 48	—	—	12 0	4·3
1098 Dec. 11 Sat.	Pausha.....	1021	5 8	3 35	—	—	6 41	9·9
1099 June 5 Sun.	Jyeshtha.....	1022	16 54	15 6	16 12	17 36	18 42	t.
1099 Nov. 30 Wed.	Mārgaśīrsha.....	1022	15 7	13 17	14 18	15 56	16 57	t.
1100 May 25 Fri.	Jyeshtha.....	1023	4 58	3 21	—	—	6 35	11·5
1100 Nov. 18 Sun.	Mārgaśīrsha.....	1023	17 56	16 56	—	—	18 56	3·5
1102 Apr. 5 Sat.	Chaitra.....	1025	5 2	3 31	—	—	6 33	9·2
1102 Sept. 28 Sun.	Āśvina.....	1025	6 49	5 29	—	—	8 9	6·9
1103 Mar. 25 Wed.	Chaitra.....	1026	13 13	11 23	12 24	14 2	15 3	t.
1103 Sept. 17 Thur.	Āśvina.....	1026	20 40	18 48	19 48	21 32	22 32	t.
1104 Mar. 13 Sun.	Chaitra.....	1027	14 38	13 49	—	—	15 27	2·3

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. t." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i.e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	h. m.	h. m.	h. m.	h. m.	h. m.	8
1104 Sept. 6 Tues	Bhādrapada 1027	13 10	11 52	—	—	14 28	6·5
1106 Jan. 21 Sun.	Māgha 1028	9 10	7 37	—	—	10 43	10·0
1106 July 17 Tues.	Śrāvaṇa 1029	21 57	20 17	21 43	22 11	23 37	t.
1107 Jan. 10 Thur.	Māgha 1029	23 58	22 7	23 8	24 48	25 49	t.
1107 July 6 Sat.	Āshāḍha 1030	22 32	20 46	21 56	23 8	24 18	t.
1107 Dec. 31 Tues.	Māgha 1030	15 24	14 14	—	—	16 34	4·9
1109 May 16 Sun.	Jyeshtha 1032	4 55	3 43	—	—	6 7	5·2
1109 Nov. 9 Tues.	Kārttika 1032	12 25	11 9	—	—	13 41	6·0
1110 May 5 Thur.	Vaiśākha 1033	21 56	20 4	21 5	22 47	23 48	t.
1110 Oct. 29 Sat.	Kārttika 1033	11 58	10 6	11 7	12 49	13 50	t.
1111 Apr. 25 Tues.	Vaiśākha 1034	13 39	12 16	—	—	15 2	7·4
1111 Oct. 18 Wed.	Kārttika 1034	17 10	15 48	—	—	18 32	7·3
1113 Mar. 4 Tues.	Phālguna 1035	9 36	8 10	—	—	11 2	8·1
1113 Aug. 28 Thur.	Bhādrapada 1036	12 25	11 22	—	—	14 28	9·9
1114 Feb. 21 Sat.	Phālguna 1036	11 0	9 9	10 10	11 50	12 51	t.
1114 Aug. 18 Tues.	Bhādrapada 1037	2 8	0 18	1 19	2 57	3 58	t.
1115 Feb. 10 Wed.	Phālguna 1037	19 13	18 4	—	—	20 22	4·7
1115 Aug. 7 Sat.	Śrāvaṇa 1038	8 33	7 57	—	—	9 9	1·2
1116 Dec. 21 Thur.	Pausha 1039	13 55	12 23	—	—	15 27	9·7
1117 June 15 Fri.	Āshāḍha 1040	23 52	22 6	23 17	24 27	25 38	t.
1117 Dec. 10 Mon.	Pausha 1040	23 34	21 43	22 44	24 24	25 25	t.
1118 June 5 Wed.	Jyeshtha 1041	12 16	10 33	11 51	12 41	13 59	t.
1118 Nov. 30 Sat.	Mārgaśīrsha 1041	1 57	0 56	—	—	2 58	3·6
1120 Apr. 15 Thur.	Vaiśākha 1043	12 38	11 13	—	—	14 3	7·9
1120 Oct. 8 Fri.	Āśvina 1043	15 0	13 42	—	—	16 18	6·4
1121 Apr. 4 Mon.	Chaitra 1044	20 29	18 38	19 39	21 19	22 20	t.
1121 Sept. 28 Wed.	Āśvina 1044	4 54	3 2	4 2	5 46	6 46	t.
1122 Mar. 24 Fri.	Chaitra 1045	21 45	20 45	—	—	22 45	3·5
1122 Sept. 17 Sun.	Āśvina 1045	21 16	19 54	—	—	22 38	7·3
1124 Feb. 1 Fri.	Māgha 1046	17 41	16 9	—	—	19 13	9·7
1124 July 28 Mon.	Śrāvaṇa 1047	4 35	3 0	—	—	6 10	10·6
1125 Jan. 21 Wed.	Māgha 1047	8 42	6 51	7 52	9 32	10 33	t.
1125 July 17 Fri.	Śrāvaṇa 1048	5 8	3 19	4 25	5 51	6 57	t.
1126 Jan. 10 Sun.	Māgha 1048	24 9	22 58	—	—	25 20	5·0
1126 July 6 Tues.	Āshāḍha 1049	8 50	8 19	—	—	9 21	0·9
1127 May 27 Fri.	Jyeshtha 1050	12 23	11 23	—	—	13 23	3·5
1127 Nov. 20 Sun.	Mārgaśīrsha 1050	20 19	19 4	—	—	21 34	5·9
1128 May 16 Wed.	Jyeshtha 1051	5 30	3 39	4 40	6 20	7 21	t.
1128 Nov. 8 Thur.	Kārttika 1051	19 58	18 6	19 7	20 49	21 50	t.
1129 May 5 Sun.	Vaiśākha 1052	21 3	19 34	—	—	22 32	8·8
1129 Oct. 29 Tues.	Kārttika 1052	1 28	0 4	—	—	2 52	7·6
1131 Mar. 15 Sun.	Chaitra 1054	16 50	15 30	—	—	18 10	6·9
1131 Sept. 8 Tues.	Bhādrapada 1054	20 53	19 24	—	—	22 22	8·7
1132 Mar. 3 Thur.	Phālguna 1054	18 45	16 53	17 54	19 36	20 37	t.
1132 Aug. 28 Sun.	Bhādrapada 1055	9 35	7 44	8 45	10 25	11 26	t.
1133 Feb. 21 Tues.	Phālguna 1055	3 29	2 16	—	—	4 42	5·5
1133 Aug. 17 Thur.	Bhādrapada 1056	15 31	14 37	—	—	16 25	2·8
1135 Jan. 1 Tues.	Pausha 1057	22 45	21 14	—	—	24 16	9·5
1135 June 27 Thur.	Āshāḍha 1058	6 47	5 5	6 24	7 10	8 29	t.
1135 Dec. 22 Sun.	Pausha 1058	8 1	6 10	7 11	8 51	9 52	t.

ECLIPSES OF THE MOON IN INDIA.

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TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. mo- ment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	h. m.	h. m.	h. m.	h. m.	h. m.	3
1136 June 15 Mon.	Āshāḍha 1059	19 39	17 53	19 3	20 15	21 25	t.
1136 Dec. 10 Thur.	Pausha 1059	10 2	8 59	—	—	11 5	3·9
1138 Apr. 26 Tues.	Vaiśākha 1061	20 2	18 44	—	—	21 20	6·5
1138 Oct. 19 Wed.	Kārttika 1061	23 20	22 5	—	—	24 35	5·9
1139 Apr. 16 Sun.	Vaiśākha 1062	3 34	1 42	2 42	4 26	5 26	t.
1139 Oct. 9 Mon.	Kārttika 1062	13 21	11 29	12 29	14 13	15 13	t.
1140 Apr. 4 Thur.	Chaitra 1063	4 41	3 30	—	—	5 52	5·0
1140 Sept. 28 Sat.	Āśvina 1063	5 28	4 3	—	—	6 53	7·9
1142 Feb. 12 Thur.	Phālguna 1064	2 7	0 36	—	—	3 38	9·3
1142 Aug. 8 Sat.	Śrāvaṇa 1065	11 20	9 50	—	—	12 50	9·0
1143 Feb. 1 Mon.	Māgha 1065	17 23	15 31	16 32	18 14	19 15	t.
1143 July 28 Wed.	Śrāvaṇa 1066	11 41	9 51	10 52	12 30	13 31	t.
1144 Jan. 22 Sat.	Māgha 1066	8 51	7 39	—	—	10 3	5·2
1144 July 16 Sun.	Śrāvaṇa 1067	15 47	14 56	—	—	16 38	2·5
1145 June 6 Wed.	Jyeshtha 1068	19 48	19 2	—	—	20 34	2·0
1145 Dec. 1 Sat.	Mārgaśīrsha 1068	4 20	3 6	—	—	5 34	5·6
1146 May 27 Mon.	Jyeshtha 1069	13 0	11 10	12 13	13 47	14 50	t.
1146 Nov. 20 Wed.	Mārgaśīrsha 1069	4 2	2 10	3 11	4 53	5 54	t.
1147 May 17 Sat.	Jyeshtha 1070	4 21	2 47	—	—	5 55	10·4
1147 Nov. 9 Sun.	Kārttika 1070	9 56	8 31	—	—	11 21	7·9
1149 Mar. 25 Fri.	Chaitra 1072	23 54	22 39	—	—	25 9	5·9
1149 Sept. 19 Mon.	Āśvina 1072	4 58	3 34	—	—	6 22	7·6
1150 Mar. 15 Wed.	Chaitra 1073	2 19	0 27	1 27	3 11	4 11	t.
1150 Sept. 8 Fri.	Bhādrapada 1073	17 12	15 20	16 21	18 3	19 4	t.
1151 Mar. 4 Sun.	Phālguna 1073	11 33	10 16	—	—	12 50	6·2
1151 Aug. 28 Tues.	Bhādrapada 1074	22 28	21 24	—	—	23 32	4·0
1153 Jan. 12 Mon.	Māgha 1075	7 20	5 49	—	—	8 51	9·3
1153 July 7 Tues.	Āshāḍha 1076	13 50	12 13	—	—	15 27	11·5
1154 Jan. 1 Fri.	Pausha 1076	16 22	14 31	15 32	17 12	18 13	t.
1154 June 27 Sun.	Āshāḍha 1077	3 0	1 12	2 17	3 43	4 48	t.
1154 Dec. 21 Tues.	Pausha 1077	18 7	17 4	—	—	19 10	3·9
1155 June 16 Thur.	Āshāḍha 1078	20 0	19 30	—	—	20 30	0·8
1156 May 7 Mon.	Vaiśākha 1079	3 16	2 7	—	—	4 25	4·7
1156 Oct. 30 Tues.	Kārttika 1079	7 43	6 29	—	—	8 57	5·6
1157 Apr. 26 Fri.	Vaiśākha 1080	10 27	8 35	9 36	11 18	12 19	t.
1157 Oct. 19 Sat.	Kārttika 1080	21 48	19 56	20 56	22 40	23 40	t.
1158 Apr. 15 Tues.	Vaiśākha 1081	11 32	10 14	—	—	12 50	6·5
1158 Oct. 9 Thur.	Āśvina 1081	13 51	12 22	—	—	15 20	8·7
1160 Feb. 23 Tues.	Phālguna 1082	10 23	8 53	—	—	11 53	8·9
1160 Aug. 18 Thur.	Bhādrapada 1083	18 11	16 49	—	—	19 33	7·2
1161 Feb. 12 Sun.	Phālguna 1083	1 56	0 4	1 5	2 47	3 48	t.
1161 Aug. 7 Mon.	Śrāvaṇa 1084	18 26	16 35	17 36	19 16	20 17	t.
1162 Feb. 1 Thur.	Māgha 1084	17 23	16 11	—	—	18 35	5·3
1162 July 27 Fri.	Śrāvaṇa 1085	22 51	21 45	—	—	23 57	4·3
1163 June 18 Tues.	Āshāḍha 1086	3 11	2 45	—	—	3 37	0·6
1163 Dec. 12 Thur.	Pausha 1086	12 26	11 13	—	—	13 39	5·4
1164 June 6 Sat.	Jyeshtha 1087	20 25	18 37	19 42	21 8	22 13	t.
1164 Nov. 30 Mon.	Mārgaśīrsha 1087	12 15	10 23	11 24	13 6	14 7	t.
1165 May 27 Thur.	Jyeshtha 1088	11 36	9 57	11 36	11 36	13 15	t.
1165 Nov. 19 Fri.	Mārgaśīrsha 1088	18 24	16 57	—	—	19 51	8·2

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A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. t." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phasc. [i.e. mo- ment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	h. m.	h. m.	h. m.	h. m.	7	8
1167 Apr. 6 Thur.	Chaitra 1090	6 57	5 50	—	—	8 4	4·5
1167 Sept. 30 Sat.	Āśvina 1090	13 8	11 48	—	—	14 28	6·9
1168 Mar. 25 Mon.	Chaitra 1091	9 45	7 53	8 53	10 37	11 37	t.
1168 Sept. 18 Wed.	Āśvina 1091	24 55	23 3	24 3	25 47	26 47	t.
1169 Mar. 14 Fri.	Chaitra 1092	19 33	18 12	—	—	20 54	7·1
1169 Sept. 8 Mon.	Bhādrapada 1092	5 37	4 25	—	—	6 49	5·3
1171 Jan. 23 Sat.	Māgha 1093	15 56	14 25	—	—	17 27	9·2
1171 July 18 Sun.	Śrāvaṇa 1094	20 54	19 21	—	—	22 27	9·9
1172 Jan. 12 Wed.	Māgha 1094	24 38	22 47	23 48	25 28	26 29	t.
1172 July 7 Fri.	Āshāḍha 1095	10 25	8 35	9 38	11 12	12 15	t.
1173 Jan. 1 Mon.	Pausha 1095	2 8	1 3	—	—	3 13	4·2
1173 June 27 Wed.	Āshāḍha 1096	3 26	2 37	—	—	4 15	2·3
1174 May 18 Sat.	Jyeshtha 1097	10 28	9 30	—	—	11 26	3·2
1174 Nov. 10 Sun.	Mārgasīrsha 1097	16 13	15 0	—	—	17 26	5·4
1175 May 7 Wed.	Vaiśākha 1098	17 15	15 25	16 26	18 4	19 5	t.
1175 Oct. 31 Fri.	Kārttika 1098	6 31	4 39	5 40	7 22	8 23	t.
1176 Apr. 25 Sun.	Vaiśākha 1099	18 12	16 46	—	—	19 38	8·1
1176 Oct. 19 Tues.	Kārttika 1099	22 23	20 53	—	—	23 53	9·0
1178 Mar. 5 Sun.	Phālguna 1100	18 37	17 10	—	—	20 4	8·2
1178 Aug. 29 Tues.	Bhādrapada 1101	25 6	23 51	—	—	26 21	5·9
1179 Feb. 23 Fri.	Phālguna 1101	10 27	8 35	9 36	11 18	12 19	t.
1179 Aug. 18 Sat.	Bhādrapada 1102	25 20	23 28	24 28	26 12	27 12	t.
1180 Feb. 13 Wed.	Phālguna 1102	1 54	0 40	—	—	3 8	5·7
1180 Aug. 7 Thur.	Śrāvaṇa 1103	6 2	4 47	—	—	7 17	5·8
1181 Dec. 22 Tues.	Pausha 1104	20 26	19 14	—	—	21 38	5·2
1182 June 18 Fri.	Āshāḍha 1105	3 55	2 9	3 19	4 31	5 41	t.
1182 Dec. 11 Sat.	Pausha 1105	20 30	18 38	19 39	21 21	22 22	t.
1183 June 7 Tues.	Jyeshtha 1106	18 45	17 2	18 17	19 13	20 28	t.
1183 Dec. 1 Thur.	Mārgasīrsha 1106	2 59	1 32	—	—	4 26	8·3
1185 Apr. 16 Tues.	Vaiśākha 1108	13 44	12 48	—	—	14 40	3·0
1185 Oct. 10 Thur.	Āśvina 1108	21 27	20 9	—	—	22 45	6·4
1186 Apr. 5 Sat.	Chaitra 1109	17 6	15 15	16 16	17 56	18 57	t.
1186 Sept. 30 Tues.	Āśvina 1109	8 40	6 48	7 49	9 31	10 32	t.
1187 Mar. 26 Thur.	Chaitra 1110	3 27	2 0	—	—	4 54	8·2
1187 Sept. 19 Sat.	Āśvina 1110	12 57	11 40	—	—	14 14	6·3
1189 Feb. 2 Thur.	Māgha 1111	24 25	22 56	—	—	25 54	8·7
1189 July 29 Sat.	Śrāvaṇa 1112	4 9	2 42	—	—	5 36	8·2
1190 Jan. 23 Tues.	Māgha 1112	8 50	6 59	8 0	9 40	10 41	t.
1190 July 18 Wed.	Śrāvaṇa 1113	17 55	16 4	17 5	18 45	19 46	t.
1191 Jan. 12 Sat.	Māgha 1113	10 8	9 2	—	—	11 14	4·3
1191 July 8 Mon.	Āshāḍha 1114	11 2	10 0	—	—	12 4	3·8
1192 May 28 Thur.	Jyeshtha 1115	17 31	16 52	—	—	18 10	1·4
1192 Nov. 20 Fri.	Mārgasīrsha 1115	24 55	23 42	—	—	26 8	5·4
1193 May 17 Mon.	Jyeshtha 1116	23 56	22 7	23 11	24 41	25 45	t.
1193 Nov. 10 Wed.	Kārttika 1116	15 17	13 25	14 26	16 8	17 9	t.
1194 May 6 Fri.	Vaiśākha 1117	24 50	23 17	—	—	26 23	9·9
1194 Oct. 31 Mon.	Kārttika 1117	6 58	5 27	—	—	8 29	9·3
1196 Mar. 16 Sat.	Chaitra 1119	2 45	1 22	—	—	4 8	7·4
1196 Sept. 9 Mon.	Bhādrapada 1119	8 12	7 5	—	—	9 19	4·4
1197 Mar. 5 Wed.	Phālguna 1119	18 48	16 56	17 56	19 40	20 40	t.

ECLIPSES OF THE MOON IN INDIA.

XXIX

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse]
		Greatest phase. [i. e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
1197 Aug. 29 Fri.	Bhādrapada 1120	8 17	6 25	7 26	9 8	10 9	t.
1198 Feb. 23 Mon.	Phālguna 1120	10 13	8 56	—	—	11 30	6·3
1198 Aug. 18 Tues.	Phādrapada 1121	13 19	11 57	—	—	14 41	7·2
1200 Jan. 3 Mon.	Pausha 1122	4 28	3 17	—	—	5 39	5·1
1200 June 28 Wed.	Āshāḍha 1123	11 20	9 37	10 54	11 46	13 3	t.
1200 Dec. 22 Fri.	Pausha 1123	4 44	2 52	3 53	5 35	6 36	t.
1201 June 18 Mon.	Āshāḍha 1124	1 54	0 8	1 18	2 30	3 40	t.
1201 Dec. 11 Tues.	Pausha 1124	11 34	10 6	—	—	13 2	8·5
1203 Apr. 27 Sun.	Vaiśākha 1126	20 27	19 44	—	—	21 10	1·7
1203 Oct. 22 Wed.	Kārttika 1126	5 52	4 38	—	—	7 6	5·7
1204 Apr. 15 Thur.	Vaiśākha 1127	24 18	22 28	23 29	25 7	26 8	t.
1204 Oct. 10 Sun.	Āsvina 1127	16 41	14 49	15 50	17 32	18 33	t.
1205 Apr. 5 Tues.	Chaitra 1128	11 13	9 42	—	—	12 44	9·4
1205 Sept. 29 Thur.	Āsvina 1128	20 18	18 57	—	—	21 39	7·0
1207 Feb. 14 Wed.	Phālguna 1129	8 47	7 20	—	—	10 14	8·2
1207 Aug. 9 Thur.	Śrāvaṇa 1130	11 29	10 9	—	—	12 49	6·9
1208 Feb. 3 Sun.	Māgha 1130	16 55	15 4	16 5	17 45	18 46	t.
1208 July 28 Mon.	Śrāvaṇa 1131	25 29	23 37	24 38	26 20	27 21	t.
1209 Jan. 22 Thur.	Māgha 1131	18 1	16 54	—	—	19 8	4·5
1209 July 18 Sat.	Śrāvaṇa 1132	18 34	17 21	—	—	19 47	5·4
1210 Dec. 2 Thur.	Mārgaśīrsha 1133	9 33	8 21	—	—	10 45	5·3
1211 May 29 Sun.	Jyeshtha 1134	6 32	4 45	5 52	7 12	8 19	t.
1211 Nov. 21 Mon.	Mārgaśīrsha 1134	24 5	22 13	23 14	24 56	25 57	t.
1212 May 17 Thur.	Jyeshtha 1135	7 21	5 43	—	—	8 59	11·8
1212 Nov. 10 Sat.	Kārttika 1135	15 37	14 6	—	—	17 8	9·5
1214 Mar. 27 Thur.	Chaitra 1137	10 40	9 21	—	—	11 59	6·6
1214 Sept. 20 Sat.	Āsvina 1137	15 23	14 25	—	—	16 21	3·3
1215 Mar. 17 Tues.	Chaitra 1138	2 57	1 5	2 5	3 49	4 49	t.
1215 Sept. 9 Wed.	Bhādrapada 1138	15 27	13 36	14 37	16 17	17 18	t.
1216 Mar. 5 Sat.	Phālguna 1138	18 24	17 4	—	—	19 44	6·9
1216 Aug. 28 Sun.	Bhādrapada 1139	20 44	19 16	—	—	22 12	8·5
1218 Jan. 13 Sat.	Māgha 1140	12 27	11 17	—	—	13 37	4·8
1218 July 9 Mon.	Āshāḍha 1141	18 46	17 8	—	—	20 24	11·7
1219 Jan. 2 Wed.	Pausha 1141	13 0	11 9	12 10	13 50	14 51	t.
1219 June 29 Sat.	Āshāḍha 1142	9 2	7 13	8 18	9 46	10 51	t.
1219 Dec. 22 Sun.	Pausha 1142	20 16	18 47	—	—	21 45	8·7
1221 Nov. 1 Mon.	Kārttika 1144	14 24	13 11	—	—	15 37	5·5
1222 Apr. 27 Wed.	Vaiśākha 1145	7 28	5 38	6 42	8 14	9 18	t.
1222 Oct. 21 Fri.	Kārttika 1145	24 44	22 53	23 54	25 34	26 35	t.
1223 Apr. 16 Sun.	Vaiśākha 1146	18 52	17 17	—	—	20 27	10·7
1223 Oct. 11 Wed.	Āsvina 1146	3 53	2 29	—	—	5 17	7·7
1225 Feb. 24 Mon.	Phālguna 1147	16 59	15 35	—	—	18 23	7·7
1225 Aug. 19 Tues.	Bhādrapada 1148	18 59	17 45	—	—	20 13	5·6
1226 Feb. 13 Fri.	Phālguna 1148	24 53	23 1	24 2	25 44	26 45	t.
1226 Aug. 9 Sun.	Śrāvaṇa 1149	9 9	7 17	8 17	10 1	11 1	t.
1227 Feb. 3 Wed.	Māgha 1149	1 52	0 40	—	—	3 4	5·2
1227 July 30 Fri.	Śrāvaṇa 1150	2 4	0 45	—	—	3 23	6·7
1228 Dec. 12 Tues.	Pausha 1151	18 17	17 4	—	—	19 30	5·4
1229 June 8 Fri.	Jyeshtha II 1152	13 4	11 20	12 35	13 33	14 48	t.
1229 Dec. 2 Sun.	Mārgaśīrsha 1152	8 56	7 4	8 5	9 47	10 48	t.

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A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lāṅka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3 h. m.	4 h. m.	5 h. m.	6 h. m.	7 h. m.	8
1230 May 28 Tues.	Jyeshtha 1153	13 46	12 3	13 19	14 13	15 29	t.
1230 Nov. 21 Thur.	Mārgasīrsha 1153	24 19	22 48	—	—	25 50	9·5
1232 Apr. 6 Tues.	Chaitra 1155	18 31	17 18	—	—	19 44	5·5
1232 Sept. 30 Thur.	Āsvina 1155	22 43	21 51	—	—	23 35	2·6
1233 Mar. 27 Sun.	Chaitra 1156	11 3	9 11	10 12	11 54	12 55	t.
1233 Sept. 19 Mon.	Āsvina 1156	22 43	20 53	21 55	23 31	24 33	t.
1234 Mar. 17 Fri.	Chaitra 1157	2 22	0 58	—	—	3 46	7·7
1234 Sept. 9 Sat.	Bhādrapada 1157	4 23	2 51	—	—	5 55	9·7
1236 Jan. 24 Thur.	Māgha 1158	20 17	19 10	—	—	21 24	4·4
1236 July 20 Sun.	Śrāvaṇa 1159	2 19	0 46	—	—	3 52	10·0
1237 Jan. 12 Mon.	Māgha 1159	21 14	19 23	20 24	22 4	23 5	t.
1237 July 9 Thur.	Āshāḍha 1160	16 9	14 19	15 21	16 57	17 59	t.
1238 Jan. 2 Sat.	Pausha 1160	4 55	3 26	—	—	6 24	8·7
1238 June 28 Mon.	Āshāḍha 1161	23 12	22 51	—	—	23 33	0·4
1239 Nov. 12 Sat.	Mārgasīrsha 1162	22 58	21 46	—	—	24 10	5·2
1240 May 7 Mon.	Vaiśākha II 1163	14 33	12 46	13 52	15 14	16 20	t.
1240 Nov. 1 Thur.	Kārttika 1163	8 52	7 1	8 2	9 42	10 43	t.
1241 Apr. 27 Sat.	Vaiśākha 1164	2 27	0 47	2 17	2 37	4 7	t.
1241 Oct. 21 Mon.	Kārttika 1164	11 35	10 8	—	—	13 2	8·3
1243 Mar. 7 Sat.	Phālguna 1165	25 3	23 43	—	—	26 23	6·9
1243 Aug. 31 Mon.	Bhādrapada 1166	2 32	1 24	—	—	3 40	4·6
1244 Feb. 25 Thur.	Phālguna 1166	8 39	6 47	7 47	9 31	10 31	t.
1244 Aug. 19 Fri.	Bhādrapada 1167	16 53	15 1	16 2	17 44	18 45	t.
1245 Feb. 13 Mon.	Phālguna 1167	9 30	8 16	—	—	10 44	5·7
1245 Aug. 9 Wed.	Śrāvaṇa 1168	9 46	8 20	—	—	11 12	8·1
1246 Dec. 24 Mon.	Pausha 1169	3 4	1 51	—	—	4 17	5·5
1247 June 19 Wed.	Āshāḍha 1170	19 31	17 53	—	—	21 9	11·8
1247 Dec. 13 Fri.	Pausha 1170	17 49	15 57	16 58	18 40	19 41	t.
1248 June 7 Sun.	Jyeshtha II 1171	20 13	18 26	19 34	20 52	22 0	t.
1248 Dec. 2 Wed.	Mārgasīrsha 1171	9 9	7 38	—	—	10 40	9·5
1250 Apr. 18 Mon.	Vaiśākha 1173	2 16	1 10	—	—	3 22	4·3
1250 Oct. 12 Wed.	Āsvina II 1173	6 17	5 33	—	—	7 1	1·8
1251 Apr. 7 Fri.	Chaitra 1174	18 59	17 8	18 9	19 49	20 50	t.
1251 Oct. 1 Sun.	Āsvina 1174	6 18	4 28	5 32	7 4	8 8	t.
1252 Mar. 27 Wed.	Chaitra 1175	10 17	8 48	—	—	11 46	8·8
1252 Sept. 19 Thur.	Āsvina 1175	12 8	10 33	—	—	13 43	10·7
1254 Feb. 4 Wed.	Māgha 1176	4 6	3 1	—	—	5 11	4·2
1254 July 31 Fri.	Śrāvaṇa 1177	9 50	8 22	—	—	11 18	8·6
1255 Jan. 24 Sun.	Māgha 1177	5 22	3 31	4 32	6 12	7 13	t.
1255 July 20 Tues.	Śrāvaṇa 1178	23 13	21 22	22 23	24 3	25 4	t.
1256 Jan. 13 Thur.	Māgha 1178	13 33	12 3	—	—	15 3	8·9
1256 July 9 Sun.	Āshāḍha 1179	5 50	5 2	—	—	6 38	2·2
1257 Nov. 23 Fri.	Mārgasīrsha 1180	7 36	6 26	—	—	8 46	4·9
1258 May 18 Sat.	Jyeshtha 1181	21 34	19 49	21 0	22 8	23 19	t.
1258 Nov. 12 Tues.	Kārttika II 1181	17 2	15 11	16 12	17 52	18 53	t.
1259 May 8 Thur.	Vaiśākha 1182	9 59	8 16	9 31	10 27	11 42	t.
1259 Nov. 1 Sat.	Kārttika 1182	19 21	17 53	—	—	20 49	8·6
1261 Mar. 18 Fri.	Chaitra 1184	8 57	7 41	—	—	10 13	6·0
1261 Sept. 10 Sat.	Bhādrapada II 1184	10 20	9 19	—	—	11 21	3·6
1262 Mar. 7 Tues.	Phālguna 1184	16 15	14 23	15 23	17 7	18 7	t.

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase, [i. e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
h. m.	h. m.	h. m.	h. m.	h. m.			
1	2	3	4	5	6	7	8
1262 Aug. 30 Wed.	Bhādrapada..... 1185	24 45	22 54	23 55	25 35	26 36	t.
1263 Feb. 24 Sat.	Phālguna..... 1185	17 0	15 42	—	—	18 18	6·5
1263 Aug. 20 Mon.	Bhādrapada..... 1186	17 34	16 3	—	—	19 5	9·3
1265 Jan. 3 Sat.	Pausha..... 1187	11 46	10 34	—	—	12 58	5·3
1265 June 30 Tues.	Āshāḍha..... 1188	1 59	0 26	—	—	3 32	9·9
1265 Dec. 24 Thur.	Pausha..... 1188	2 44	0 53	1 54	3 34	4 35	t.
1266 June 19 Sat.	Āshāḍha..... 1189	2 37	0 48	1 52	3 22	4 26	t.
1266 Dec. 13 Mon.	Pausha..... 1189	17 55	16 23	—	—	19 27	9·6
1267 June 8 Wed.	Jyeshtha II..... 1190	6 36	5 58	—	—	7 14	1·3
1268 Apr. 28 Sat.	Vaiśākha..... 1191	9 53	8 57	—	—	10 49	3·0
1268 Oct. 22 Mon.	Kārttika..... 1191	13 54	13 16	—	—	14 32	1·3
1269 Apr. 18 Thur.	Vaiśākha..... 1192	2 48	0 58	1 59	3 37	4 38	t.
1269 Oct. 11 Fri.	Āśvina II..... 1192	14 0	12 11	13 16	14 44	15 49	t.
1270 Apr. 7 Mon.	Chaitra..... 1193	18 0	16 27	—	—	19 33	9·9
1270 Sept. 30 Tues.	Āśvina..... 1193	20 4	18 27	—	—	21 41	11·3
1272 Feb. 15 Mon.	Phālguna..... 1194	11 44	10 42	—	—	12 46	3·7
1272 Aug. 10 Wed.	Śrāvāna..... 1195	17 26	16 5	—	—	18 47	7·1
1273 Feb. 3 Fri.	Māgha..... 1195	13 27	11 36	12 37	14 17	15 18	t.
1273 July 31 Mon.	Śrāvāna..... 1196	6 23	4 31	5 31	7 15	8 15	t.
1274 Jan. 23 Tues.	Māgha..... 1196	22 3	20 32	—	—	23 34	9·2
1274 July 20 Fri.	Śrāvāna..... 1197	12 25	11 23	—	—	13 27	3·8
1275 Dec. 4 Wed.	Mārgaśīrsha..... 1198	16 21	15 12	—	—	17 30	4·7
1276 May 29 Fri.	Jyeshtha..... 1199	4 31	2 49	4 10	4 52	6 13	t.
1276 Nov. 22 Sun.	Mārgaśīrsha..... 1199	25 24	23 34	24 35	26 13	27 14	t.
1277 May 18 Tues.	Jyeshtha..... 1200	17 22	15 36	16 45	17 59	19 8	t.
1277 Nov. 12 Fri.	Kārttika II..... 1200	3 14	1 44	—	—	4 44	9·0
1279 Mar. 29 Wed.	Chaitra..... 1202	16 38	15 28	—	—	17 48	4·9
1279 Sept. 21 Thur.	Āśvina..... 1202	18 16	17 22	—	—	19 10	2·8
1280 Mar. 17 Sun.	Chaitra..... 1203	23 45	21 53	22 54	24 36	25 37	t.
1280 Sept. 10 Tues.	Bhādrapada..... 1203	8 50	7 0	8 1	9 39	10 40	t.
1281 Mar. 6 Thur.	Phālguna..... 1203	24 22	23 0	—	—	25 44	7·3
1281 Aug. 30 Sat.	Bhādrapada..... 1204	25 25	23 51	—	—	26 59	10·5
1283 Jan. 14 Thur.	Māgha..... 1205	20 31	19 19	—	—	21 43	5·2
1283 July 11 Sun.	Āshāḍha II..... 1206	8 31	7 5	—	—	9 57	8·1
1284 Jan. 4 Tues.	Pausha..... 1206	11 36	9 45	10 46	12 26	13 27	t.
1284 June 29 Thur.	Āshāḍha..... 1207	9 5	7 15	8 16	9 54	10 55	t.
1284 Dec. 24 Sun.	Pausha..... 1207	2 44	1 12	—	—	4 16	9·7
1285 June 18 Mon.	Āshāḍha..... 1208	13 25	12 29	—	—	14 21	3·0
1286 May 9 Thur.	Vaiśākha II..... 1209	17 27	16 45	—	—	18 9	1·6
1286 Nov. 2 Sat.	Kārttika..... 1209	21 41	21 11	—	—	22 11	0·8
1287 Apr. 29 Tues.	Vaiśākha..... 1210	10 31	8 41	9 45	11 17	12 21	t.
1287 Oct. 22 Wed.	Kārttika..... 1210	21 45	19 57	21 3	22 27	23 33	t.
1288 Apr. 18 Sun.	Vaiśākha..... 1211	1 36	0 0	—	—	3 12	11·0
1288 Oct. 11 Mon.	Āśvina..... 1211	4 8	2 28	3 58	4 18	5 48	t.
1290 Feb. 25 Sat.	Phālguna..... 1212	19 17	18 22	—	—	20 12	2·9
1290 Aug. 21 Mon.	Bhādrapada..... 1213	25 11	23 57	—	—	26 25	5·6
1291 Feb. 14 Wed.	Phālguna..... 1213	21 24	19 34	20 35	22 13	23 14	t.
1291 Aug. 11 Sat.	Śrāvāna..... 1214	13 40	11 48	12 48	14 32	15 32	t.
1292 Feb. 4 Mon.	Māgha..... 1214	6 31	5 0	—	—	8 2	9·5
1292 July 30 Wed.	Śrāvāna..... 1215	19 10	17 57	—	—	20 23	5·5

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A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				h. m.	h. m.		
1	2	3	4	5	6	7	8
1293 Dec. 14 Mon.	Pausha 1216	25 5	23 57	—	—	26 13	4·6
1294 June 9 Wed.	Jyeshtha II. 1217	11 32	9 56	—	—	13 8	11·1
1294 Dec. 4 Sat.	Mārgasīrsha 1217	9 43	7 53	8 54	10 32	11 33	t.
1295 May 29 Sun.	Jyeshtha 1218	24 49	23 0	24 6	25 32	26 38	t.
1295 Nov. 23 Wed.	Mārgasīrsha 1218	11 15	9 44	—	—	12 46	9·2
1296 May 18 Fri.	Jyeshtha 1219	17 47	17 11	—	—	18 23	1·2
1297 Apr. 8 Mon.	Chaitra 1220	24 15	23 13	—	—	25 17	3·7
1297 Oct. 2 Wed.	Āśvina 1220	2 20	1 34	—	—	3 6	2·0
1298 Mar. 29 Sat.	Chaitra 1221	7 0	5 9	6 10	7 50	8 51	t.
1298 Sept. 21 Sun.	Āśvina 1221	17 0	15 10	16 12	17 48	18 50	t.
1299 Mar. 18 Wed.	Chaitra 1222	7 40	6 12	—	—	9 8	8·5
1299 Sept. 11 Fri.	Bhādrapada 1222	9 25	7 48	—	—	11 2	11·5
1301 Jan. 25 Wed.	Māgha 1223	5 5	3 53	—	—	6 17	5·2
1301 July 21 Fri.	Śrāvaṇa 1224	15 5	13 48	—	—	16 22	6·3
1302 Jan. 14 Sun.	Māgha 1224	20 27	18 36	19 37	21 17	22 18	t.
1302 July 10 Tues.	Āshādha II. 1225	15 37	13 45	14 46	16 28	17 29	t.
1303 Jan. 4 Fri.	Pausha 1225	11 29	9 57	—	—	13 1	9·7
1303 June 29 Sat.	Āshādha 1226	20 19	19 9	—	—	21 29	4·9
1304 May 20 Wed.	Jyeshtha 1227	0 59	0 44	—	—	1 14	0·2
1304 Nov. 13 Fri.	Mārgasīrsha 1227	5 35	5 14	—	—	5 56	0·4
1305 May 9 Sun.	Vaiśākha II. 1228	18 9	16 22	17 27	18 51	19 56	t.
1305 Nov. 2 Tues.	Kārttika 1228	5 47	4 0	5 6	6 28	7 34	t.
1306 Apr. 29 Fri.	Vaiśākha 1229	9 1	7 21	8 45	9 17	10 41	t.
1306 Oct. 22 Sat.	Kārttika 1229	12 25	10 45	12 9	12 41	14 5	t.
1308 Mar. 8 Fri.	Phālguna 1230	2 38	1 50	—	—	3 26	2·2
1308 Sept. 1 Sun.	Bhādrapada 1231	8 56	7 49	—	—	10 3	4·5
1309 Feb. 25 Tues.	Phālguna 1231	5 14	3 24	4 25	6 3	7 4	t.
1309 Aug. 21 Thur.	Bhādrapada 1232	20 56	19 5	20 6	21 46	22 47	t.
1310 Feb. 14 Sat.	Phālguna 1232	14 53	13 20	—	—	16 26	10·1
1310 Aug. 11 Tues.	Śrāvaṇa 1233	1 57	0 35	—	—	3 19	7·3
1311 Dec. 26 Sun.	Pausha 1234	9 47	8 40	—	—	10 54	4·4
1312 June 19 Mon.	Āshādha 1235	18 36	17 5	—	—	20 7	9·4
1312 Dec. 14 Thur.	Pausha 1235	18 1	16 11	17 12	18 50	19 51	t.
1313 June 9 Sat.	Jyeshtha II. 1236	8 13	6 23	7 25	9 1	10 3	t.
1313 Dec. 3 Mon.	Mārgasīrsha 1236	19 15	17 44	—	—	20 46	9·4
1314 May 30 Thur.	Jyeshtha 1237	1 16	0 25	—	—	2 7	2·5
1315 Apr. 20 Sun.	Vaiśākha 1238	7 40	6 51	—	—	8 29	2·3
1315 Oct. 13 Mon.	Kārttika I. 1238	10 35	9 55	—	—	11 15	1·5
1316 Apr. 8 Thur.	Chaitra 1239	14 3	12 13	13 16	14 50	15 53	t.
1316 Oct. 1 Fri.	Āśvina 1239	25 20	23 30	24 34	26 6	27 10	t.
1317 Mar. 28 Mon.	Chaitra 1240	14 42	13 10	—	—	16 14	9·8
1317 Sept. 21 Wed.	Āśvina 1240	17 30	15 50	17 18	17 42	19 10	t.
1319 Feb. 5 Mon.	Māgha 1241	13 40	12 30	—	—	14 50	4·8
1319 Aug. 1 Wed.	Śrāvaṇa 1242	21 40	20 33	—	—	22 47	4·4
1320 Jan. 26 Sat.	Māgha 1242	5 11	3 20	4 21	6 1	7 2	t.
1320 July 20 Sun.	Śrāvaṇa 1243	22 11	20 19	21 20	23 2	24 3	t.
1321 Jan. 14 Wed.	Māgha 1243	20 10	18 37	—	—	21 43	9·9
1321 July 10 Fri.	Āshādha II 1244	3 16	1 57	—	—	4 35	6·6
1323 May 20 Fri.	Jyeshtha 1246	25 39	23 54	25 5	26 13	27 24	t.
1323 Nov. 13 Sun.	Mārgasīrsha 1246	13 51	12 4	13 11	14 31	15 38	t.

ECLIPSES OF THE MOON IN INDIA.

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TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i.e. mo- ment of fallmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
1324 May 9 Wed.	Vaiśākha II. 1247	16 23	14 39	15 53	16 53	18 7	t.
1324 Nov. 1 Thur.	Kārttika 1247	20 50	19 9	20 30	21 10	22 31	t.
1326 Mar. 19 Wed.	Chaitra 1249	9 55	9 19	—	—	10 31	1·2
1326 Sept. 12 Fri.	Bhādrapada II. 1249	16 53	15 54	—	—	17 52	3·4
1327 Mar. 8 Sun.	Phālguna 1249	13 1	11 11	12 14	13 48	14 51	t.
1327 Sept. 2 Wed.	Bhādrapada 1250	4 23	2 33	3 34	5 12	6 13	t.
1328 Feb. 25 Thur.	Phālguna 1250	23 8	21 32	—	—	24 44	10·9
1328 Aug. 21 Sun.	Bhādrapada 1251	8 51	7 23	—	—	10 19	8·4
1330 Jan. 5 Fri.	Pausha 1252	18 27	17 21	—	—	19 33	4·3
1330 July 1 Sun.	Āshāḍha 1253	1 37	0 12	—	—	3 2	7·8
1330 Dec. 26 Wed.	Pausha 1253	2 22	0 32	1 33	3 11	4 12	t.
1331 June 20 Thur.	Āshāḍha 1254	15 34	13 43	14 44	16 24	17 25	t.
1331 Dec. 15 Sun.	Pausha 1254	3 19	1 47	—	—	4 51	9·7
1332 June 9 Tues.	Jyeshtha II. 1255	8 48	7 43	—	—	9 53	4·1
1333 Apr. 30 Fri.	Vaiśākha 1256	14 57	14 29	—	—	15 25	0·7
1333 Oct. 23 Sat.	Kārttika 1256	18 58	18 22	—	—	19 34	1·2
1334 Apr. 19 Tues.	Vaiśākha 1257	21 2	19 14	20 19	21 45	22 50	t.
1334 Oct. 13 Thur.	Āśvina II. 1257	9 45	7 56	9 0	10 30	11 34	t.
1335 Apr. 8 Sat.	Chaitra 1258	21 40	20 3	—	—	23 17	11·2
1335 Oct. 3 Tues.	Āśvina 1258	1 43	0 1	1 22	2 4	3 25	t.
1337 Feb. 15 Sat.	Phālguna 1259	22 8	21 1	—	—	23 15	4·5
1337 Aug. 12 Tues.	Srāvaṇa II. 1260	4 23	3 29	—	—	5 17	2·8
1338 Feb. 5 Thur.	Māgha 1260	13 53	12 2	13 3	14 43	15 44	t.
1338 Aug. 1 Sat.	Srāvaṇa 1261	4 51	3 1	4 2	5 40	6 41	t.
1339 Jan. 26 Tues.	Māgha 1261	4 51	3 17	—	—	6 25	10·2
1339 July 21 Wed.	Srāvaṇa 1262	10 20	8 52	—	—	11 48	8·4
1341 May 31 Thur.	Jyeshtha 1264	9 10	7 28	8 47	9 33	10 52	t.
1341 Nov. 23 Fri.	Mārgaśīrsha 1264	22 1	20 15	21 23	22 39	23 47	t.
1342 May 20 Mon.	Jyeshtha 1265	23 38	21 52	23 0	24 16	25 24	t.
1342 Nov. 13 Wed.	Mārgaśīrsha 1265	5 20	3 37	4 55	5 45	7 3	t.
1344 Sept. 23 Thur.	Āśvina 1267	0 57	0 7	—	—	1 47	2·4
1345 Mar. 18 Fri.	Chaitra 1268	20 38	18 49	19 54	21 22	22 27	t.
1345 Sept. 12 Mon.	Āśvina 1268	11 56	10 6	11 9	12 43	13 46	t.
1346 Mar. 8 Wed.	Phālguna 1268	7 19	5 42	—	—	8 56	11·5
1346 Sept. 1 Fri.	Bhādrapada 1269	15 48	14 16	—	—	17 20	9·7
1348 Jan. 17 Thur.	Māgha 1270	3 5	2 0	—	—	4 10	4·2
1348 July 11 Fri.	Āshāḍha II. 1271	8 47	7 30	—	—	10 4	6·2
1349 Jan. 5 Mon.	Pausha 1271	10 39	8 49	9 51	11 27	12 29	t.
1349 June 30 Tues.	Āshāḍha 1272	23 1	21 9	22 9	23 53	24 53	t.
1349 Dec. 25 Fri.	Pausha 1272	11 18	9 46	—	—	12 50	9·8
1350 June 20 Sun.	Āshāḍha 1273	16 15	15 0	—	—	17 30	5·8
1351 Nov. 4 Fri.	Mārgaśīrsha 1274	3 29	2 56	—	—	4 2	1·0
1352 Apr. 30 Mon.	Vaiśākha 1275	3 50	2 5	3 15	4 25	5 35	t.
1352 Oct. 23 Tues.	Kārttika 1275	18 19	16 30	17 36	19 2	20 8	t.
1353 Apr. 19 Fri.	Vaiśākha 1276	4 26	2 45	4 6	4 46	6 7	t.
1353 Oct. 13 Sun.	Āśvina 1276	10 8	8 25	9 41	10 35	11 51	t.
1355 Feb. 27 Fri.	Phālguna 1277	6 30	5 26	—	—	7 34	4·0
1355 Aug. 23 Sun.	Bhādrapada 1278	11 13	10 35	—	—	11 51	1·3
1356 Feb. 16 Tues.	Phālguna 1278	22 24	20 34	21 35	23 13	24 14	t.
1356 Aug. 11 Thur.	Srāvaṇa II. 1279	11 43	9 53	10 57	12 29	13 33	t.

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		Greatest phase. [i.e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				h. m.	h. m.		
1	2	3	4	5	6	7	8
1357 Feb. 5 Sun.	Māgha..... 1279	13 21	11 47	—	—	14 55	10·4
1357 July 31 Mon.	Śrāvana..... 1280	17 31	15 58	—	—	19 4	10·1
1359 June 11 Tues.	Jyeshtha II..... 1282	16 33	14 56	—	—	18 10	11·2
1359 Dec. 5 Thur.	Mārgasīrsha..... 1282	6 18	4 32	5 40	6 56	8 4	t.
1360 May 31 Sun.	Jyeshtha..... 1283	6 43	4 54	5 58	7 28	8 32	t.
1360 Nov. 23 Mon.	Mārgasīrsha..... 1283	13 54	12 11	13 27	14 21	15 37	t.
1362 Oct. 4 Tues.	Āśvina..... 1285	9 7	8 23	—	—	9 51	1·8
1363 Mar. 30 Thur.	Chaitra..... 1286	4 7	2 20	3 25	4 49	5 54	t.
1363 Sept. 23 Sat.	Āśvina..... 1286	19 34	17 45	18 51	20 17	21 23	t.
1364 Mar. 18 Mon.	Chaitra..... 1287	15 23	13 43	15 7	15 39	17 3	t.
1364 Sept. 11 Wed.	Bhādrapada II..... 1287	22 56	21 20	—	—	24 32	11·0
1366 Jan. 27 Tues.	Māgha..... 1288	11 33	10 31	—	—	12 35	3·8
1366 July 22 Wed.	Śrāvana..... 1289	16 0	14 52	—	—	17 8	4·6
1367 Jan. 16 Sat.	Māgha..... 1289	18 49	16 59	18 1	19 37	20 39	t.
1367 July 12 Mon.	Āshāḍha I..... 1290	6 30	4 38	5 38	7 22	8 22	t.
1368 Jan. 5 Wed.	Pausha..... 1290	19 22	17 49	—	—	20 55	10·0
1368 June 30 Fri.	Āshāḍha..... 1291	23 42	22 20	—	—	25 4	7·3
1369 Nov. 14 Wed.	Mārgasīrsha..... 1292	12 3	11 35	—	—	12 31	0·7
1370 May 11 Sat.	Vaiśākha II..... 1293	10 34	8 52	10 12	10 56	12 16	t.
1370 Nov. 4 Mon.	Kārttika..... 1293	3 0	1 12	2 18	3 42	4 48	t.
1371 Apr. 30 Wed.	Vaiśākha..... 1294	11 8	9 23	10 35	11 41	12 53	t.
1371 Oct. 24 Fri.	Kārttika..... 1294	18 35	16 52	18 7	19 3	20 18	t.
1373 Mar. 9 Wed.	Phālguna..... 1295	14 38	13 38	—	—	15 38	3·5
1374 Feb. 27 Mon.	Phālguna..... 1296	6 51	5 1	6 2	7 40	8 41	t.
1374 Aug. 22 Tues.	Bhādrapada..... 1297	18 38	16 51	17 56	19 20	20 25	t.
1375 Feb. 16 Fri.	Phālguna..... 1297	21 43	20 8	—	—	23 18	10·8
1375 Aug. 11 Sat.	Śrāvana II..... 1298	24 45	23 8	—	—	26 22	11·5
1377 June 21 Sun.	Āshāḍha..... 1300	23 58	22 26	—	—	25 30	9·6
1377 Dec. 15 Tues.	Pausha..... 1300	14 34	12 48	13 57	15 11	16 20	t.
1378 June 11 Fri.	Jyeshtha II..... 1301	13 51	12 1	13 2	14 40	15 41	t.
1378 Dec. 4 Sat.	Mārgasīrsha..... 1301	22 32	20 49	22 5	22 59	24 15	t.
1379 May 31 Tues.	Jyeshtha..... 1302	20 51	20 20	—	—	21 22	0·9
1380 Oct. 14 Sun.	Kārttika I..... 1303	17 22	16 47	—	—	17 57	1·1
1381 Apr. 9 Tues.	Vaiśākha I..... 1304	11 31	9 46	10 56	12 6	13 16	t.
1381 Oct. 4 Fri.	Āśvina..... 1304	3 18	1 31	2 37	3 59	5 5	t.
1382 Mar. 29 Sat.	Chaitra..... 1305	23 15	21 32	22 48	23 42	24 58	t.
1382 Sept. 23 Tues.	Āśvina..... 1305	6 11	4 33	—	—	7 49	11·8
1384 Feb. 7 Sun.	Māgha..... 1306	19 59	19 0	—	—	20 58	3·4
1384 Aug. 1 Mon.	Śrāvana..... 1307	23 18	22 19	—	—	24 17	3·4
1385 Jan. 27 Fri.	Māgha..... 1307	2 56	1 6	2 9	3 43	4 46	t.
1385 July 22 Sat.	Śrāvana..... 1308	14 3	12 11	13 12	14 54	15 55	t.
1386 Jan. 16 Tues.	Māgha..... 1308	3 17	1 43	—	—	4 51	10·3
1386 July 12 Thur.	Āshāḍha II..... 1309	7 12	5 42	—	—	8 42	8·9
1387 Nov. 25 Mon.	Mārgasīrsha..... 1310	20 46	20 18	—	—	21 14	0·7
1388 May 21 Thur.	Jyeshtha..... 1311	17 12	15 35	—	—	18 49	11·3
1388 Nov. 14 Sat.	Mārgasīrsha..... 1311	11 45	9 58	11 4	12 26	13 32	t.
1389 May 10 Mon.	Jyeshtha I..... 1312	17 44	15 57	17 3	18 25	19 31	t.
1389 Nov. 4 Thur.	Kārttika..... 1312	3 9	1 25	2 38	3 40	4 53	t.
1390 Apr. 29 Fri.	Vaiśākha..... 1313	21 9	20 58	—	—	21 20	0·1
1391 Mar. 20 Mon.	Chaitra..... 1314	22 48	21 57	—	—	23 39	2·5

ECLIPSES OF THE MOON IN INDIA.

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TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
1392 Mar. 9 Sat.	Phālguna 1314	15 9	13 19	14 22	15 56	16 59	t.
1392 Sept. 1 Sun.	Bhādrapada 1315	25 43	23 57	25 7	26 19	27 29	t.
1393 Feb. 27 Thur.	Phālguna 1315	5 58	4 21	—	—	7 35	11.4
1393 Aug. 22 Fri.	Bhādrapada 1316	8 9	6 23	7 49	8 29	9 50	t.
1395 July 3 Sat.	Āshāḍha 1318	7 22	5 57	—	—	8 47	7.9
1395 Dec. 26 Sun.	Pausha 1318	22 55	21 9	22 19	23 31	24 41	t.
1396 June 21 Wed.	Āshāḍha 1319	20 48	18 57	19 58	21 38	22 39	t.
1396 Dec. 15 Fri.	Pausha 1319	7 15	5 31	6 46	7 44	8 59	t.
1397 June 11 Mon.	Jyeshtha II 1320	3 29	2 36	—	—	4 22	2.7
1398 Oct. 26 Sat.	Kārttika 1321	1 47	1 24	—	—	2 10	0.5
1399 Apr. 20 Sun.	Vaiśākha 1322	18 48	17 5	18 22	19 14	20 31	t.
1399 Oct. 15 Wed.	Kārttika I 1322	11 13	9 27	10 35	11 51	12 59	t.
1400 Apr. 9 Fri.	Chaitra II 1323	7 3	5 18	6 29	7 37	8 48	t.
1400 Oct. 3 Sun.	Āsṛvina 1323	13 37	11 56	13 17	13 57	15 18	t.
1402 Feb. 18 Sat.	Phālguna 1324	4 10	3 15	—	—	5 5	2.9
1402 Aug. 13 Sun.	Bhādrapada I 1325	6 44	5 59	—	—	7 29	1.9
1403 Feb. 7 Wed.	Māgha 1325	10 58	9 8	10 12	11 44	12 48	t.
1403 Aug. 2 Thur.	Śrāvana 1326	21 36	19 46	20 47	22 25	23 26	t.
1404 Jan. 27 Sun.	Māgha 1326	11 12	9 37	—	—	12 47	10.7
1404 July 22 Tues.	Śrāvana 1327	14 42	13 8	—	—	16 16	10.4
1405 Dec. 6 Sun.	Mārgaśīrsha 1328	5 31	5 3	—	—	5 59	0.7
1406 June 1 Tues.	Jyeshtha 1329	23 41	22 10	—	—	25 12	9.5
1406 Nov. 25 Thur.	Mārgaśīrsha 1329	20 30	18 43	19 50	21 10	22 17	t.
1407 May 21 Sat.	Jyeshtha 1330	24 15	22 25	23 28	25 2	26 5	t.
1407 Nov. 15 Tues.	Mārgaśīrsha 1330	11 45	10 0	11 12	12 18	13 30	t.
1408 May 10 Thur.	Vaiśākha II 1331	4 9	3 25	—	—	4 53	1.8
1409 Mar. 31 Sun.	Chaitra 1332	6 42	6 0	—	—	7 24	1.6
1410 Mar. 20 Thur.	Chaitra 1333	23 16	21 27	22 31	24 1	25 5	t.
1410 Sept. 13 Sat.	Bhādrapada II 1333	8 59	7 15	8 30	9 28	10 43	t.
1411 Mar. 10 Tues.	Phālguna 1333	14 1	12 22	14 1	14 1	15 40	t.
1411 Sept. 2 Wed.	Bhādrapada 1334	15 44	14 0	15 13	16 15	17 28	t.
1413 July 13 Thur.	Āshāḍha II 1336	14 47	13 30	—	—	16 4	6.2
1414 Jan. 6 Sat.	Pausha 1336	7 14	5 28	6 38	7 50	9 0	t.
1414 July 3 Tues.	Āshāḍha 1337	3 54	2 2	3 2	4 46	5 46	t.
1414 Dec. 26 Wed.	Pausha 1337	15 56	14 12	15 26	16 26	17 40	t.
1415 June 22 Sat.	Āshāḍha 1338	10 0	8 54	—	—	11 6	4.3
1416 Nov. 5 Thur.	Kārttika 1339	10 12	9 54	—	—	10 30	0.3
1417 May 1 Sat.	Vaiśākha 1340	2 2	0 23	1 55	2 9	3 41	t.
1417 Oct. 25 Mon.	Kārttika 1340	19 11	17 25	18 36	19 46	20 57	t.
1418 Apr. 20 Wed.	Vaiśākha 1341	14 44	12 57	14 3	15 25	16 31	t.
1418 Oct. 14 Fri.	Kārttika I 1341	21 8	19 25	20 42	21 34	22 51	t.
1419 Apr. 10 Mon.	Chaitra 1342	7 15	6 49	—	—	7 41	0.6
1420 Feb. 29 Thur.	Phālguna 1342	12 20	11 31	—	—	13 9	2.3
1420 Aug. 23 Fri.	Bhādrapada 1343	14 17	13 51	—	—	14 43	0.6
1421 Feb. 17 Mon.	Phālguna 1343	18 46	16 57	18 1	19 31	20 35	t.
1421 Aug. 13 Wed.	Śrāvana II 1344	5 19	3 29	4 33	6 5	7 9	t.
1422 Feb. 6 Fri.	Māgha 1344	18 57	17 20	—	—	20 34	11.2
1422 Aug. 2 Sun.	Śrāvana 1345	22 13	20 35	—	—	23 51	11.8
1423 Dec. 17 Fri.	Pausha 1346	14 21	13 51	—	—	14 51	0.8
1424 June 12 Mon.	Āshāḍha I 1347	6 6	4 43	—	—	7 29	7.5

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lāṅka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]		
		Greatest phase. [i. e. mo- ment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.			
				h. m.	h. m.			h. m.	h. m.
1	2	3	4	5	6	7	8		
1424 Dec. 6 Wed.	Mārgaśīrsha	1347	5 23	3 36	4 42	6 4	7 10	t.	
1425 June 1 Fri.	Jyeshtha	1348	6 46	4 55	5 56	7 36	8 37	t.	
1425 Nov. 25 Sun.	Mārgaśīrsha	1348	20 26	18 41	19 53	20 59	22 11	t.	
1426 May 21 Tues.	Jyeshtha	1349	11 8	10 8	—	—	12 8	3·5	
1427 Apr. 11 Fri.	Vaiśākha I	1350	14 36	14 13	—	—	14 59	0·5	
1428 Mar. 31 Wed.	Chaitra	1351	7 19	5 32	6 38	8 0	9 6	t.	
1428 Sept. 23 Thur.	Āsvina	1351	16 26	14 45	16 7	16 45	18 7	t.	
1429 Mar. 20 Sun.	Chaitra	1352	21 59	20 17	21 38	22 20	23 41	t.	
1429 Sept. 12 Mon.	Bhādrapada II	1352	23 29	21 43	22 53	24 5	25 15	t.	
1430 Sept. 2 Sat.	Bhādrapada	1353	13 14	13 3	—	—	13 25	0·1	
1431 July 24 Tues.	Śrāvaṇa	1354	22 16	21 6	—	—	23 26	4·8	
1432 Jan. 17 Thur.	Māgha	1354	15 28	13 42	14 52	16 4	17 14	t.	
1432 July 13 Sun.	Aśadhā II	1355	10 55	9 3	10 4	11 46	12 47	t.	
1433 Jan. 5 Mon.	Pausha	1355	24 39	22 55	24 9	25 9	26 23	t.	
1433 July 2 Thur.	Āshāḍha	1356	16 31	15 14	—	—	17 48	6·2	
1435 May 12 Thur.	Jyeshtha I	1358	9 9	7 34	—	—	10 44	10·6	
1435 Nov. 6 Sun.	Kārttika	1358	3 14	1 29	2 41	3 47	4 59	t.	
1436 Apr. 30 Mon.	Vaiśākha	1359	22 19	20 30	21 34	23 4	24 8	t.	
1436 Oct. 25 Thur.	Kārttika	1359	4 47	3 3	4 16	5 18	6 31	t.	
1437 Apr. 20 Sat.	Vaiśākha	1360	15 7	14 22	—	—	15 52	1·9	
1438 Mar. 11 Tues.	Phālguna	1360	20 14	19 35	—	—	20 53	1·4	
1439 Mar. 1 Sun.	Phālguna	1361	2 23	0 35	1 41	3 5	4 11	t.	
1439 Aug. 24 Mon.	Bhādrapada	1362	13 8	11 20	12 26	13 50	14 56	t.	
1440 Feb. 18 Thur.	Phālguna	1362	2 33	0 55	—	—	4 11	11·7	
1440 Aug. 13 Sat.	Śrāvaṇa II	1363	5 55	4 13	5 33	6 17	7 37	t.	
1441 Dec. 27 Wed.	Pausha	1364	23 7	22 41	—	—	23 33	0·6	
1442 June 23 Sat.	Āshāḍha	1365	12 35	11 21	—	—	13 49	5·7	
1442 Dec. 17 Mon.	Pausha	1365	14 21	12 34	13 41	15 1	16 8	t.	
1443 June 12 Wed.	Āshāḍha I	1366	13 15	11 23	12 23	14 7	15 7	t.	
1443 Dec. 7 Sat.	Mārgaśīrsha	1366	5 13	3 23	4 40	5 46	6 58	t.	
1444 May 31 Sun.	Jyeshtha	1367	18 3	16 51	—	—	19 15	5·2	
1446 Apr. 11 Mon.	Vaiśākha I	1369	15 14	13 28	14 38	15 50	17 0	t.	
1446 Oct. 4 Tues.	Āsvina	1369	24 2	22 23	23 55	24 9	25 41	t.	
1447 Apr. 1 Sat.	Chaitra	1370	5 46	4 2	5 16	6 16	7 30	t.	
1447 Sept. 24 Sun.	Āsvina	1370	7 20	5 33	6 39	8 1	9 7	t.	
1448 Sept. 12 Thur.	Bhādrapada II	1371	21 14	20 38	—	—	21 50	1·2	
1449 Aug. 4 Mon.	Śrāvaṇa	1372	5 45	4 46	—	—	6 44	3·4	
1450 Jan. 27 Tues.	Māgha	1372	23 41	21 56	23 6	24 16	25 26	t.	
1450 July 24 Fri.	Śrāvaṇa	1373	17 57	16 7	17 8	18 46	19 47	t.	
1451 Jan. 17 Sun.	Māgha	1373	9 16	7 32	8 44	9 48	11 0	t.	
1451 July 13 Tues.	Āshāḍha II	1374	23 4	21 38	—	—	24 30	8·0	
1453 May 22 Tues.	Jyeshtha	1376	16 17	14 47	—	—	17 47	9·0	
1453 Nov. 16 Fri.	Mārgaśīrsha	1376	11 27	9 43	10 55	11 59	13 11	t.	
1454 May 12 Sun.	Jyeshtha I	1377	5 50	4 0	5 1	6 39	7 40	t.	
1454 Nov. 5 Tues.	Kārttika	1377	12 33	10 48	11 59	13 7	14 18	t.	
1455 May 1 Thur.	Vaiśākha	1378	22 48	21 51	—	—	23 45	3·1	
1456 Mar. 22 Mon.	Chaitra	1379	4 2	3 44	—	—	4 20	0·3	
1457 Mar. 11 Fri.	Phālguna	1379	9 55	8 9	9 17	10 33	11 41	t.	
1457 Sept. 3 Sat.	Bhādrapada	1380	21 9	19 23	20 32	21 46	22 55	t.	
1458 Feb. 28 Tues.	Phālguna	1380	10 3	8 23	9 47	10 19	11 43	t.	

ECLIPSES OF THE MOON IN INDIA.

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TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w.m.t." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 5 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]		
		Greatest phase. [i.e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.			
				h. m.	h. m.			h. m.	h. m.
1458 Aug. 24 Thur.	Bhādrapada..... 1381	13 43	11 58	13 10	14 16	15 28	t.		
1460 Jan. 8 Tues.	Pausha..... 1382	7 52	7 24	—	—	8 20	0·7		
1460 July 3 Thur.	Āshāḍha..... 1383	19 1	18 0	—	—	20 2	3·6		
1460 Dec. 27 Sat.	Pausha..... 1383	23 11	21 24	22 32	23 50	24 58	t.		
1461 June 22 Mon.	Āshāḍha..... 1384	19 42	17 51	18 52	20 32	21 33	t.		
1461 Dec. 17 Thur.	Pausha..... 1384	13 56	12 11	13 22	14 30	15 41	t.		
1462 June 11 Fri.	Āshāḍha I..... 1385	24 58	23 38	—	—	26 18	6·9		
1464 Apr. 21 Sat.	Vaiśākha..... 1387	22 58	21 14	22 29	23 27	24 42	t.		
1464 Oct. 15 Mon.	Kārttika..... 1387	7 47	6 10	—	—	9 24	11·5		
1465 Apr. 11 Thur.	Chaitra II..... 1388	13 24	11 38	12 48	14 0	15 10	t.		
1465 Oct. 4 Fri.	Āśvina..... 1388	15 21	13 33	14 38	16 4	17 9	t.		
1466 Sept. 24 Wed.	Āśvina..... 1389	5 21	4 34	—	—	6 8	2·1		
1467 Aug. 15 Sat.	Bhādrapada I..... 1390	13 17	12 34	—	—	14 0	1·7		
1468 Feb. 8 Mon.	Māgha..... 1390	7 51	6 7	7 19	8 23	9 35	t.		
1468 Aug. 3 Wed.	Srāvaṇa..... 1391	25 5	23 16	24 20	25 50	26 54	t.		
1469 Jan. 27 Fri.	Māgha..... 1391	17 52	16 7	17 18	18 26	19 37	t.		
1469 July 24 Mon.	Srāvaṇa..... 1392	5 39	4 7	—	—	7 11	9·7		
1470 Jan. 17 Wed.	Māgha..... 1392	8 50	8 39	—	—	9 1	0·1		
1471 June 2 Sun.	Jyeshtha..... 1394	23 24	22 1	—	—	24 47	7·5		
1471 Nov. 27 Wed.	Mārgaśīrsha..... 1394	19 36	17 52	19 5	20 7	21 20	t.		
1472 May 22 Fri.	Jyeshtha..... 1395	13 20	11 28	12 29	14 11	15 12	t.		
1472 Nov. 15 Sun.	Mārgaśīrsha..... 1395	20 26	18 41	19 51	21 1	22 11	t.		
1473 May 12 Wed.	Jyeshtha I..... 1396	6 26	5 17	—	—	7 35	4·7		
1473 Nov. 4 Thur.	Kārttika..... 1396	20 7	19 56	—	—	20 18	0·1		
1475 Mar. 22 Wed.	Chaitra..... 1398	17 17	15 32	16 44	17 50	19 2	t.		
1475 Sept. 15 Fri.	Āśvina I..... 1398	5 9	3 24	4 36	5 42	6 54	t.		
1476 Mar. 10 Sun.	Phālguna..... 1398	17 27	15 44	17 0	17 54	19 10	t.		
1476 Sept. 3 Tues.	Bhādrapada..... 1399	21 36	19 50	20 58	22 14	23 22	t.		
1478 Jan. 18 Sun.	Māgha..... 1400	16 32	16 9	—	—	16 55	0·5		
1478 July 15 Wed.	Srāvaṇa I..... 1401	1 28	0 43	—	—	2 13	1·9		
1479 Jan. 8 Fri.	Pausha..... 1401	8 3	6 16	7 24	8 42	9 50	t.		
1479 July 4 Sun.	Āshāḍha..... 1402	2 14	0 24	1 26	3 2	4 4	t.		
1479 Dec. 28 Tues.	Pausha..... 1402	22 44	20 59	22 11	23 17	24 29	t.		
1480 June 22 Thur.	Āshāḍha..... 1403	7 51	6 21	—	—	9 21	8·9		
1482 May 3 Fri.	Vaiśākha..... 1405	6 36	4 56	6 22	6 50	8 16	t.		
1482 Oct. 26 Sat.	Kārttika..... 1405	15 44	14 8	—	—	17 20	11·1		
1483 Apr. 22 Tues.	Vaiśākha..... 1406	20 49	19 1	20 7	21 31	22 37	t.		
1483 Oct. 15 Wed.	Kārttika..... 1406	23 35	21 46	22 50	24 20	25 24	t.		
1484 Oct. 4 Mon.	Āśvina..... 1407	13 42	12 49	—	—	14 35	2·7		
1485 Aug. 25 Thur.	Bhādrapada..... 1408	21 4	20 38	—	—	21 30	0·6		
1486 Feb. 18 Sat.	Phālguna..... 1408	15 50	14 6	15 20	16 20	17 34	t.		
1486 Aug. 15 Tues.	Srāvaṇa II..... 1409	8 15	6 28	7 34	8 56	10 2	t.		
1487 Feb. 8 Thur.	Māgha..... 1409	2 21	0 35	1 46	2 56	4 7	t.		
1487 Aug. 4 Sat.	Srāvaṇa..... 1410	12 23	10 46	—	—	14 0	11·3		
1488 Jan. 23 Mon.	Māgha..... 1410	17 35	17 9	—	—	18 1	0·6		
1489 June 13 Sat.	Āshāḍha I..... 1412	6 26	5 11	—	—	7 41	5·9		
1489 Dec. 8 Tues.	Mārgaśīrsha..... 1412	3 54	2 11	3 26	4 22	5 37	t.		
1490 June 2 Wed.	Jyeshtha..... 1413	20 49	18 57	19 57	21 41	22 41	t.		
1490 Nov. 27 Sat.	Mārgaśīrsha..... 1413	4 25	2 39	3 49	5 1	6 11	t.		
1491 May 23 Mon.	Jyeshtha..... 1414	13 56	12 40	—	—	15 12	6·0		

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lāṅka mean sunrise, taken as 6 A. M.						Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.		
				Begin- ning.	End.			
							h. m.	
3	4	5	6	7	8			
1491 Nov. 16 Wed.	Mārgaśīrsha 1414	4 9	3 46	—	—	4 32	0 5	
1493 Apr. 1 Mon.	Chaitra 1416	24 28	22 46	24 4	24 52	26 10	t.	
1493 Sept. 25 Wed.	Āśvina 1416	13 19	11 36	12 52	13 46	15 2	t.	
1494 Mar. 21 Fri.	Chaitra 1417	24 35	22 50	25 1	25 9	26 20	t.	
1494 Sept. 15 Mon.	Bhādrapada II 1417	5 31	3 44	4 49	6 13	7 18	t.	
1496 Jan. 30 Sat.	Māgha 1418	1 13	0 50	—	—	1 36	0·5	
1497 Jan. 18 Wed.	Māgha 1419	16 53	15 7	16 16	17 30	18 39	t.	
1497 July 14 Fri.	Śrāvaṇa I 1420	8 45	6 56	8 2	9 28	10 34	t.	
1498 Jan. 8 Mon.	Pausha 1420	7 25	5 40	6 51	7 59	9 10	t.	
1498 July 3 Tues.	Āshāḍha 1421	14 55	13 20	—	—	16 30	10·6	
1500 May 13 Wed.	Jyeshtha I 1423	14 13	12 38	—	—	15 48	10·8	
1500 Nov. 5 Thur.	Kārttika 1423	23 48	22 13	—	—	25 23	10·7	
1501 May 3 Mon.	Vaiśākha 1424	4 13	2 23	3 27	4 59	6 3	t.	
1501 Oct. 26 Tues.	Kārttika 1424	7 53	6 3	7 6	8 40	9 43	t.	
1502 Oct. 15 Sat.	Kārttika 1425	22 7	21 9	—	—	23 5	3·2	
1504 Feb. 29 Thur.	Phālguna 1426	23 42	21 59	23 17	24 7	25 25	t.	
1504 Aug. 25 Sun.	Bhādrapada 1427	15 28	13 43	14 54	16 2	17 13	t.	
1505 Feb. 18 Tues.	Phālguna 1427	10 44	8 58	10 6	11 22	12 30	t.	
1505 Aug. 14 Thur.	Śrāvaṇa II 1428	19 5	17 23	18 43	19 27	20 47	t.	
1506 Feb. 8 Sun.	Māgha 1428	2 10	1 40	—	—	2 40	0·8	
1507 June 24 Thur.	Āshāḍha 1430	13 33	12 26	—	—	14 40	4·4	
1507 Dec. 19 Sun.	Pausha 1430	12 11	10 28	11 45	12 37	13 54	t.	
1508 June 13 Tues.	Āshāḍha I 1431	4 14	2 22	3 22	5 6	6 6	t.	
1508 Dec. 7 Thur.	Mārgaśīrsha 1431	12 24	10 38	11 47	13 1	14 10	t.	
1509 June 2 Sat.	Jyeshtha 1432	21 26	20 2	—	—	22 50	7·7	
1509 Nov. 26 Mon.	Mārgaśīrsha 1432	12 17	11 51	—	—	12 43	0·6	
1511 Apr. 13 Sun.	Vaiśākha I 1434	7 25	5 47	—	—	9 3	11·8	
1511 Oct. 6 Mon.	Āśvina 1434	21 44	20 2	21 22	22 6	23 26	t.	
1512 Apr. 1 Thur.	Chaitra 1435	7 41	5 54	7 1	8 21	9 28	t.	
1512 Sept. 25 Sat.	Āśvina 1435	13 35	11 46	12 51	14 19	15 24	t.	
1513 Mar. 21 Mon.	Chaitra 1436	10 25	10 7	—	—	10 43	0·3	
1513 Sept. 15 Thur.	Bhādrapada II 1436	1 29	1 18	—	—	1 40	0·1	
1514 Feb. 9 Thur.	Māgha 1436	9 45	9 30	—	—	10 0	0·2	
1515 Jan. 29 Mon.	Māgha 1437	25 36	23 50	25 0	26 12	27 22	t.	
1515 July 25 Wed.	Śrāvaṇa 1438	15 28	13 42	14 52	16 4	17 14	t.	
1516 Jan. 19 Sat.	Māgha 1438	16 1	14 16	15 26	16 36	17 46	t.	
1516 July 13 Sun.	Śrāvaṇa I 1439	21 57	20 17	21 43	22 11	23 37	t.	
1518 May 24 Mon.	Jyeshtha 1441	21 42	20 11	—	—	23 13	9·2	
1518 Nov. 17 Wed.	Mārgaśīrsha 1441	7 58	6 23	—	—	9 33	10·6	
1519 May 14 Sat.	Jyeshtha I 1442	11 28	9 38	10 39	12 17	13 18	t.	
1519 Nov. 6 Sun.	Kārttika 1442	16 20	14 30	15 33	17 7	18 10	t.	
1520 May 2 Wed.	Vaiśākha 1443	18 14	17 35	—	—	18 53	1·4	
1520 Oct. 26 Fri.	Kārttika 1443	6 41	5 39	—	—	7 43	3·8	
1522 Mar. 12 Wed.	Chaitra 1445	7 30	5 50	7 14	7 46	9 10	t.	
1522 Sept. 5 Fri.	Bhādrapada 1445	22 49	21 6	22 24	23 14	24 32	t.	
1523 Mar. 1 Sun.	Phālguna 1445	19 1	17 14	18 20	19 42	20 48	t.	
1523 Aug. 26 Wed.	Bhādrapada 1446	1 56	0 11	1 23	2 29	3 41	t.	
1524 Feb. 19 Fri.	Phālguna 1446	10 41	10 3	—	—	11 19	1·3	
1525 July 4 Tues.	Āshāḍha 1448	20 42	19 49	—	—	21 35	2·7	
1525 Dec. 29 Fri.	Pausha 1448	20 23	18 41	19 59	20 47	22 5	t.	

ECLIPSES OF THE MOON IN INDIA.

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TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. [" <i>u. m. i.</i> " = with mean intercalations.]	Time measured from Lāṅka mean sunrise, taken as 5 A. M.					Number of twelfths eclipsed. [" <i>t.</i> " = total eclipse.]
		Greatest phase. [i. e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
1526 June 24 Sun.	Āshāḍha 1449	11 39	9 48	10 49	12 29	13 30	t.
1526 Dec. 18 Tues.	Pausha 1449	20 27	18 41	19 49	21 5	22 13	t.
1527 June 14 Fri.	Āshāḍha I 1450	4 55	3 25	—	—	6 25	9·1
1527 Dec. 7 Sat.	Mārgaśīrsha 1450	20 32	20 1	—	—	21 3	0·9
1529 Apr. 23 Fri.	Vaiśākha 1452	14 21	12 47	—	—	15 55	10·4
1529 Oct. 17 Sun.	Kārttika 1452	6 11	4 31	5 59	6 23	7 51	t.
1530 Apr. 12 Tues.	Vaiśākha I 1453	14 36	12 47	13 51	15 21	16 25	t.
1530 Oct. 6 Thur.	Āśvina 1453	21 49	19 59	21 3	22 35	23 39	t.
1531 Apr. 1 Sat.	Chaitra 1454	17 49	17 7	—	—	18 31	1·6
1531 Sept. 26 Tues.	Āśvina 1454	9 10	8 40	—	—	9 40	0·8
1533 Feb. 9 Sun.	Māgha 1455	10 15	8 30	9 40	10 50	12 0	t.
1533 Aug. 4 Mon.	Śrāvana 1456	22 17	20 34	21 51	22 43	24 0	t.
1534 Jan. 29 Thur.	Māgha 1456	24 36	22 50	24 0	25 12	26 22	t.
1534 July 25 Sat.	Śrāvana 1457	5 9	3 25	4 39	5 39	6 53	t.
1536 June 4 Sun.	Jyeshtha 1459	5 10	3 46	—	—	6 34	7·7
1536 Nov. 27 Mon.	Mārgaśīrsha 1459	16 13	14 39	—	—	17 47	10·4
1537 May 24 Thur.	Jyeshtha 1460	18 32	16 40	17 41	19 23	20 24	t.
1537 Nov. 16 Fri.	Mārgaśīrsha 1460	24 53	23 3	24 5	25 41	26 43	t.
1538 May 14 Tues.	Jyeshtha I 1461	0 59	0 3	—	—	1 55	3·0
1538 Nov. 6 Wed.	Kārttika 1461	15 18	14 15	—	—	16 21	3·9
1540 Mar. 22 Mon.	Chaitra 1463	15 13	13 35	—	—	16 51	11·8
1540 Sept. 16 Thur.	Āśvina I 1463	6 17	4 37	6 3	6 31	7 57	t.
1541 Mar. 12 Sat.	Chaitra I 1464	3 10	1 21	2 27	3 53	4 59	t.
1541 Sept. 5 Mon.	Bhādrapada 1464	8 57	7 10	8 18	9 36	10 44	t.
1542 Mar. 1 Wed.	Phālguna 1464	19 10	18 27	—	—	19 53	1·7
1543 July 16 Mon.	Śrāvana I 1466	3 57	3 22	—	—	4 32	1·1
1544 Jan. 10 Thur.	Pausha 1466	4 38	2 56	4 16	5 0	6 20	t.
1544 July 4 Fri.	Āshāḍha 1467	19 5	17 15	18 17	19 53	20 55	t.
1544 Dec. 29 Mon.	Pausha 1467	4 31	2 44	3 52	5 10	6 18	t.
1545 June 24 Wed.	Āshāḍha 1468	12 19	10 44	—	—	13 54	10·8
1545 Dec. 18 Fri.	Pausha 1468	4 45	4 10	—	—	5 20	1·1
1547 May 4 Wed.	Vaiśākha 1470	21 2	19 32	—	—	22 32	8·9
1547 Oct. 28 Fri.	Kārttika 1470	14 43	13 4	14 43	14 43	16 22	t.
1548 Apr. 22 Sun.	Vaiśākha 1471	21 25	19 35	20 37	22 13	23 15	t.
1548 Oct. 17 Wed.	Kārttika 1471	6 6	4 16	5 18	6 54	7 56	t.
1549 Apr. 12 Fri.	Vaiśākha I 1472	1 8	0 13	—	—	2 3	2·9
1549 Oct. 6 Sun.	Āśvina 1472	17 3	16 21	—	—	17 45	1·6
1551 Feb. 20 Fri.	Phālguna 1473	18 42	16 57	18 9	19 15	20 27	t.
1551 Aug. 16 Sun.	Bhādrapada I 1474	5 9	3 30	5 9	5 9	6 48	t.
1552 Feb. 10 Wed.	Māgha 1474	8 59	7 13	8 23	9 35	10 45	t.
1552 Aug. 4 Thur.	Śrāvana 1475	12 23	10 36	11 44	13 2	14 10	t.
1554 June 15 Fri.	Āshāḍha I 1477	12 30	11 15	—	—	13 45	5·9
1554 Dec. 8 Sat.	Mārgaśīrsha 1477	24 33	23 0	—	—	26 6	10·1
1555 June 4 Tues.	Jyeshtha 1478	25 36	23 44	24 44	26 28	27 28	t.
1555 Nov. 28 Thur.	Mārgaśīrsha 1478	9 33	7 43	8 45	10 21	11 23	t.
1556 May 24 Sun.	Jyeshtha 1479	7 37	6 29	—	—	8 45	4·6
1556 Nov. 16 Mon.	Mārgaśīrsha 1479	24 6	23 1	—	—	25 11	4·2
1558 Apr. 2 Sat.	Chaitra 1481	22 45	21 10	—	—	24 20	10·8
1558 Sept. 27 Tues.	Āśvina 1481	13 54	12 17	—	—	15 31	11·3
1559 Mar. 23 Thur.	Chaitra 1482	11 16	9 26	10 30	12 2	13 6	t.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. mo- ment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
3	4	5	6	7			
1559 Sept. 16 Sat.	Āśvina I. 1482	16 2	14 13	15 19	16 45	17 51	t.
1560 Mar. 12 Tues.	Phālguna 1482	3 26	2 35	—	—	4 17	2·5
1560 Sept. 4 Wed.	Bhādrapada 1483	16 11	15 36	—	—	16 46	1·1
1562 Jan. 20 Tues.	Māgha 1484	12 42	11 1	12 22	13 2	14 23	t.
1562 July 16 Thur.	Śrāvāṇa I. 1485	2 38	0 49	1 54	3 22	4 27	t.
1563 Jan. 9 Sat.	Pausha 1485	12 27	10 40	11 47	13 7	14 14	t.
1563 July 5 Mon.	Āshāḍha 1486	19 45	18 5	19 29	20 1	21 25	t.
1563 Dec. 29 Wed.	Pausha 1486	12 59	12 21	—	—	13 37	1·3
1565 May 15 Tues.	Jyeshtha 1488	3 38	2 16	—	—	5 0	7·2
1565 Nov. 7 Wed.	Kārttika 1488	23 24	21 47	—	—	25 1	11·4
1566 May 4 Sat.	Vaiśākha 1489	4 7	2 16	3 17	4 57	5 58	t.
1566 Oct. 28 Mon.	Kārttika 1489	14 32	12 42	13 44	15 20	16 22	t.
1567 Apr. 23 Wed.	Vaiśākha 1490	8 19	7 14	—	—	9 24	4·1
1567 Oct. 18 Sat.	Kārttika 1490	0 59	0 14	—	—	1 44	1·9
1569 Mar. 3 Thur.	Phālguna 1491	3 8	1 24	2 39	3 37	4 52	t.
1569 Aug. 26 Fri.	Bhādrapada 1492	12 11	10 36	—	—	13 46	10·6
1570 Feb. 20 Mon.	Phālguna 1492	17 16	15 29	16 37	17 55	19 3	t.
1570 Aug. 15 Tues.	Bhādrapada I. 1493	19 48	17 59	19 4	20 32	21 37	t.
1571 Aug. 5 Sun.	Śrāvāṇa 1494	9 56	9 16	—	—	10 36	1·5
1572 June 25 Wed.	Āshāḍha 1495	19 54	18 47	—	—	21 1	4·4
1572 Dec. 19 Fri.	Pausha 1495	8 58	7 25	—	—	10 31	10·1
1573 June 15 Mon.	Āshāḍha I. 1496	8 35	6 44	7 45	9 25	10 26	t.
1573 Dec. 8 Tues.	Mārgaśīrsha 1496	18 16	16 26	17 28	19 4	20 6	t.
1574 June 4 Fri.	Jyeshtha 1497	14 12	12 53	—	—	15 31	6·7
1574 Nov. 28 Sun.	Mārgaśīrsha 1497	8 54	7 47	—	—	10 1	4·4
1576 Apr. 13 Fri.	Vaiśākha 1499	6 12	4 40	—	—	7 44	9·6
1576 Oct. 7 Sun.	Āśvina 1499	21 35	20 0	—	—	23 10	10·6
1577 Apr. 2 Tues.	Chaitra 1500	19 11	17 21	18 22	20 0	21 1	t.
1577 Sept. 26 Thur.	Āśvina 1500	23 17	21 27	22 31	24 3	25 7	t.
1578 Mar. 23 Sun.	Chaitra 1501	11 36	10 38	—	—	12 34	3·3
1578 Sept. 15 Mon.	Āśvina I. 1501	23 24	22 35	—	—	24 13	2·3
1580 Jan. 31 Sun.	Māgha 1502	20 40	19 0	20 24	20 56	22 20	t.
1580 July 26 Tues.	Śrāvāṇa 1503	10 9	8 23	9 31	10 47	11 55	t.
1581 Jan. 19 Thur.	Māgha 1503	20 24	18 37	19 43	21 5	22 11	t.
1581 July 16 Sun.	Śrāvāṇa I. 1504	3 12	1 28	2 42	3 42	4 56	t.
1582 Jan. 8 Mon.	Pausha 1504	21 13	20 33	—	—	21 53	1·5
1583 May 26*Sun.	Jyeshtha 1506	10 13	9 2	—	—	11 24	5·1
1583 Nov. 19 Tues.	Mārgaśīrsha 1506	8 9	6 32	—	—	9 46	11·2
1584 May 14 Thur.	Jyeshtha 1507	10 43	8 51	9 51	11 35	12 35	t.
1584 Nov. 7 Sat.	Kārttika 1507	23 2	21 12	22 13	23 51	24 52	t.
1585 May 3 Mon.	Vaiśākha 1508	15 25	14 11	—	—	16 39	5·7
1585 Oct. 28 Thur.	Kārttika 1508	9 5	8 16	—	—	9 54	2·3
1587 Mar. 14 Tues.	Chaitra 1510	11 23	9 41	11 1	11 45	13 5	t.
1587 Sept. 6 Wed.	Bhādrapada 1510	19 25	17 54	—	—	20 56	9·4
1588 Mar. 2 Sat.	Phālguna 1510	25 27	23 39	24 45	26 9	27 15	t.
1588 Aug. 26 Mon.	Bhādrapada 1511	3 15	1 25	2 28	4 2	5 5	t.
1589 Aug. 15 Fri.	Bhādrapada I. 1512	17 38	16 43	—	—	18 33	2·9
1590 July 7 Tues.	Āshāḍha 1513	3 12	2 20	—	—	4 4	2·6
1590 Dec. 30 Wed.	Pausha 1513	17 17	15 44	—	—	18 50	9·9
1591 June 26 Sat.	Āshāḍha 1514	15 32	13 42	14 44	16 20	17 22	t.

* Old and New Style. Pope Gregory XIII reformed the Julian Calendar, deducting 10 days after October 4th A. D. 1582, so that October 6th was styled October 15th. The reform was adopted in France, Denmark, Holland, Italy, Lorraine, Portugal, and Spain in that year, though some countries deducted the ten days from the month of December. The Roman Catholics in Germany and Switzerland introduced it in A. D. 1684. The Protestants in the two latter countries made the change in A. D. 1700. Poland adopted it in A. D. 1686, Hungary in 1687, England adopted it in A. D. 1752, after September 2nd, calling what would have been Sept. 3rd "Sept. 14th." Tuscany introduced the change in 1751, and Sweden in 1753. Russia and Greece have never accepted the reform. The present tables having been prepared according to English computation the dates are given in Old Style till A. D. 1752, differing thus from von Oppolzer, who calculates by New Style from A. D. 1582.

ECLIPSES OF THE MOON IN INDIA.

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A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i.e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	h. m.	h. m.	h. m.	h. m.	h. m.	3
1591 Dec. 20 Mon.	Pausha 1514	3 3	1 13	2 14	3 52	4 53	t.
1592 June 14 Wed.	Āshāḍha I 1515	20 41	19 13	—	—	22 9	8·5
1592 Dec. 8 Fri.	Mārgasīrsha 1515	17 42	16 35	—	—	18 49	4·5
1594 Apr. 24 Wed.	Vaiśākha 1517	13 36	12 8	—	—	15 4	8·4
1594 Oct. 19 Sat.	Kārttika 1517	5 22	3 49	—	—	6 55	9·9
1595 Apr. 14 Mon.	Vaiśākha 1518	2 59	1 8	2 9	3 49	4 50	t.
1595 Oct. 8 Wed.	Āsvina 1518	6 40	4 50	5 52	7 28	8 30	t.
1596 Apr. 2 Fri.	Chaitra 1519	19 35	18 28	—	—	20 42	4·4
1596 Sept. 26 Sun.	Āsvina 1519	6 46	5 49	—	—	7 43	3·1
1598 Feb. 11 Sat.	Māgha 1520	4 32	2 54	—	—	6 10	11·8
1598 Aug. 6 Sun.	Śrāvana 1521	17 50	16 6	17 19	18 21	19 34	t.
1599 Jan. 31 Wed.	Māgha 1521	4 14	2 26	3 32	4 56	6 2	t.
1599 July 27 Fri.	Śrāvana 1522	10 42	8 56	10 4	11 20	12 28	t.
1600 Jan. 20 Sun.	Māgha 1522	5 27	4 43	—	—	6 11	1·8
1601 June 5 Fri.	Jyeshtha 1524	16 39	15 41	—	—	17 37	3·3
1601 Nov. 29 Sun.	Mārgasīrsha 1524	17 0	15 24	—	—	18 36	11·1
1602 May 25 Tues.	Jyeshtha 1525	17 21	15 30	16 31	18 11	19 12	t.
1602 Nov. 19 Fri.	Mārgasīrsha 1525	7 40	5 50	6 51	8 29	9 30	t.
1603 May 14 Sat.	Jyeshtha 1526	22 33	21 10	—	—	23 56	7·4
1603 Nov. 8 Tues.	Kārttika 1526	17 11	16 19	—	—	18 3	2·6
1605 Mar. 24 Sun.	Chaitra 1528	19 27	17 47	19 17	19 37	21 7	t.
1605 Sept. 17 Tues.	Āsvina 1528	2 45	1 17	—	—	4 13	8·4
1606 Mar. 14 Fri.	Chaitra I 1529	9 24	7 35	8 40	10 8	11 13	t.
1606 Sept. 6 Sat.	Bhādrapada 1529	10 57	9 6	10 7	11 47	12 48	t.
1607 Aug. 27 Thur.	Bhādrapada 1530	1 30	0 26	—	—	2 34	4·0
1608 July 17 Sun.	Śrāvana 1531	10 34	10 3	—	—	11 5	0·9
1609 Jan. 10 Tues.	Pausha 1531	1 42	0 10	—	—	3 14	9·8
1609 July 6 Thur.	Āshāḍha 1532	22 26	20 37	21 43	23 9	24 15	t.
1609 Dec. 30 Sat.	Pausha 1532	11 46	9 56	10 57	12 35	13 36	t.
1610 June 26 Tues.	Āshāḍha 1533	3 10	1 36	—	—	4 44	10·2
1610 Dec. 20 Thur.	Pausha 1533	2 42	1 33	—	—	3 51	4·7
1612 May 4 Mon.	Vaiśākha 1535	20 51	19 30	—	—	22 12	7·0
1612 Oct. 29 Thur.	Kārttika 1535	13 20	11 50	—	—	14 50	9·1
1613 Apr. 24 Sat.	Vaiśākha 1536	10 43	8 51	9 52	11 34	12 35	t.
1613 Oct. 18 Mon.	Kārttika 1536	14 10	12 20	13 21	14 59	16 0	t.
1614 Apr. 14 Thur.	Vaiśākha 1537	3 30	2 17	—	—	4 43	5·4
1614 Oct. 7 Fri.	Āsvina 1537	14 21	13 17	—	—	15 25	4·0
1616 Feb. 22 Thur.	Phālguna 1538	12 16	10 39	—	—	13 53	11·3
1616 Aug. 16 Fri.	Bhādrapada 1539	25 37	23 56	25 17	25 57	27 18	t.
1617 Feb. 10 Mon.	Māgha 1539	11 59	10 10	11 15	12 43	13 48	t.
1617 Aug. 6 Wed.	Śrāvana 1540	18 16	16 27	17 32	19 0	20 5	t.
1618 Jan. 30 Fri.	Māgha 1540	13 35	12 47	—	—	14 23	2·2
1619 June 16 Wed.	Āshāḍha 1542	23 4	22 25	—	—	23 43	1·4
1619 Dec. 11 Sat.	Mārgasīrsha 1542	1 51	0 15	—	—	3 27	10·9
1620 June 4 Sun.	Jyeshtha 1543	23 53	22 3	23 5	24 41	25 43	t.
1620 Nov. 29 Wed.	Mārgasīrsha 1543	16 20	14 30	15 31	17 9	18 10	t.
1621 May 25 Fri.	Jyeshtha 1544	5 34	4 3	—	—	7 5	9·4
1621 Nov. 19 Mon.	Mārgasīrsha 1544	1 23	0 28	—	—	2 18	2·9
1623 Apr. 5 Sat.	Chaitra 1546	3 25	1 49	—	—	5 1	10·9
1623 Sept. 28 Sun.	Āsvina 1546	10 20	8 57	—	—	11 43	7·4

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		Greatest phase. [i.e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
1624 Mar. 24 Wed.	Chaitra..... 1547	17 12	15 22	16 25	17 59	19 2	t.
1624 Sept. 16 Thur.	Āśvina..... 1547	18 43	16 51	17 52	19 34	20 35	t.
1625 Mar. 13 Sun.	Chaitra I..... 1548	24 12	23 46	—	—	24 38	0·6
1625 Sept. 6 Tues.	Bhādrapada..... 1548	9 26	8 14	—	—	10 38	5·3
1627 Jan. 21 Sun.	Māgha..... 1549	9 59	8 26	—	—	11 32	10·0
1627 July 18 Wed.	Śrāvaṇa I..... 1550	5 22	3 36	4 46	5 58	7 8	t.
1628 Jan. 10 Thur.	Pausha..... 1550	20 31	18 41	19 42	21 20	22 21	t.
1628 July 6 Sun.	Āshāḍha..... 1551	9 40	8 0	9 30	9 50	11 20	t.
1628 Dec. 30 Tues.	Pausha..... 1551	11 32	10 23	—	—	12 41	4·7
1630 May 16 Sun.	Jyeshtha..... 1553	4 3	2 51	—	—	5 15	5·3
1630 Nov. 9 Tues.	Kārttika..... 1553	21 21	19 53	—	—	22 49	8·5
1631 May 5 Thur.	Vaiśākha..... 1554	18 17	16 25	17 25	19 9	20 9	t.
1631 Oct. 29 Sat.	Kārttika..... 1554	21 55	20 4	21 5	22 45	23 46	t.
1632 Apr. 24 Tues.	Vaiśākha..... 1555	11 16	9 56	—	—	12 36	6·8
1632 Oct. 17 Wed.	Kārttika..... 1555	22 4	20 54	—	—	23 14	4·8
1634 Mar. 4 Tues.	Phālguna..... 1556	19 55	18 20	—	—	21 30	10·6
1634 Aug. 28 Thur.	Bhādrapada..... 1557	9 23	7 46	—	—	11 0	11·4
1635 Feb. 21 Sat.	Phālguna..... 1557	19 39	17 49	18 53	20 25	21 29	t.
1635 Aug. 18 Tues.	Bhādrapada I..... 1558	1 52	0 2	1 5	2 39	3 42	t.
1636 Feb. 10 Wed.	Māgha..... 1558	21 39	20 46	—	—	22 32	2·7
1636 Aug. 6 Sat.	Śrāvaṇa..... 1559	14 33	14 7	—	—	14 59	0·6
1637 Dec. 21 Thur.	Pausha..... 1560	10 43	9 7	—	—	12 19	10·9
1638 June 16 Sat.	Āshāḍha..... 1561	6 26	4 38	5 44	7 8	8 14	t.
1638 Dec. 10 Mon.	Mārgaśīrsha..... 1561	25 1	23 11	24 12	25 50	26 51	t.
1639 June 5 Wed.	Jyeshtha..... 1562	12 35	10 59	—	—	14 11	11·1
1639 Nov. 30 Sat.	Mārgaśīrsha..... 1562	9 41	8 46	—	—	10 36	2·9
1641 Apr. 15 Thur.	Vaiśākha..... 1564	11 20	9 47	—	—	12 53	9·9
1641 Oct. 8 Fri.	Āśvina..... 1564	18 0	16 41	—	—	19 19	6·6
1642 Apr. 4 Mon.	Chaitra..... 1565	24 55	23 5	24 6	25 44	26 45	t.
1642 Sept. 28 Wed.	Āśvina..... 1565	2 45	0 53	1 54	3 36	4 37	t.
1643 Mar. 25 Sat.	Chaitra..... 1566	7 34	6 51	—	—	8 17	1·7
1643 Sept. 17 Sun.	Āśvina..... 1566	17 26	16 9	—	—	18 43	6·2
1645 Jan. 31 Fri.	Māgha..... 1567	18 13	16 41	—	—	19 45	9·6
1645 July 28 Mon.	Śrāvaṇa..... 1568	12 21	10 38	11 55	12 47	14 4	t.
1646 Jan. 21 Wed.	Māgha..... 1568	5 7	3 17	4 18	5 56	6 57	t.
1646 July 17 Fri.	Śrāvaṇa I..... 1569	16 11	14 27	15 40	16 42	17 55	t.
1647 Jan. 10 Sun.	Pausha..... 1569	20 25	19 16	—	—	21 34	4·7
1648 May 26 Fri.	Jyeshtha..... 1571	11 17	10 13	—	—	12 21	4·0
1648 Nov. 20 Mon.	Mārgaśīrsha..... 1571	5 29	4 2	—	—	6 56	8·3
1649 May 16 Wed.	Jyeshtha..... 1572	1 53	0 1	1 2	2 44	3 45	t.
1649 Nov. 9 Fri.	Kārttika..... 1572	5 41	3 50	4 51	6 31	7 32	t.
1650 May 5 Sun.	Vaiśākha..... 1573	18 57	17 30	—	—	20 24	8·2
1650 Oct. 29 Tues.	Kārttika..... 1573	5 55	4 42	—	—	7 8	5·4
1652 Mar. 15 Mon.	Chaitra..... 1575	3 18	1 47	—	—	4 49	9·5
1652 Sept. 7 Tues.	Bhādrapada..... 1575	17 23	15 49	—	—	18 57	10·3
1653 Mar. 4 Fri.	Phālguna..... 1575	3 5	1 15	2 17	3 53	4 55	t.
1653 Aug. 28 Sun.	Bhādrapada..... 1576	9 40	7 50	8 51	10 29	11 30	t.
1654 Feb. 21 Tues.	Phālguna..... 1576	5 33	4 35	—	—	6 31	3·3
1654 Aug. 17 Thur.	Bhādrapada I..... 1577	21 46	21 0	—	—	22 32	2·0
1656 Jan. 1 Tues.	Pausha..... 1578	19 36	18 1	—	—	21 11	10·8

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. mo- ment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	h. m.	h. m.	h. m.	h. m.	h. m.	3
1656 June 26 Thur.	Āshāḍha 1579	12 55	11 10	12 20	13 30	14 40	t.
1656 Dec. 21 Sun.	Pausha 1579	9 42	7 52	8 53	10 31	11 32	t.
1657 June 15 Mon.	Āshāḍha 1580	19 36	17 55	19 17	19 55	21 17	t.
1657 Dec. 10 Thur.	Mārgaśīrsha 1580	17 56	17 0	—	—	18 52	3·0
1659 Apr. 26 Tues.	Vaiśākha 1582	19 1	17 33	—	—	20 29	8·6
1659 Oct. 20 Thur.	Kārttika 1582	1 56	0 41	—	—	3 11	5·9
1660 Apr. 15 Sun.	Vaiśākha 1583	8 24	6 33	7 34	9 14	10 15	t.
1660 Oct. 8 Mon.	Āśvina 1583	10 52	9 0	10 0	11 44	12 44	t.
1661 Apr. 4 Thur.	Chaitra 1584	14 49	13 55	—	—	15 43	2·8
1661 Sept. 28 Sat.	Āśvina 1584	1 40	0 19	—	—	3 1	7 0
1663 Feb. 12 Thur.	Phālguna 1585	2 26	0 55	—	—	3 57	9·2
1663 Aug. 8 Sat.	Srāvana 1586	19 21	17 42	—	—	21 0	11·9
1664 Feb. 1 Mon.	Māgha 1586	13 47	11 57	12 58	14 36	15 37	t.
1664 July 27 Wed.	Srāvana 1587	22 41	20 54	22 2	23 20	24 28	t.
1665 Jan. 21 Sat.	Māgha 1587	5 14	4 3	—	—	6 25	5·0
1666 June 6 Wed.	Jyeshtha 1589	18 25	17 34	—	—	19 16	2·5
1666 Dec. 1 Sat.	Mārgaśīrsha 1589	13 35	12 10	—	—	15 0	7·9
1667 May 27 Mon.	Jyeshtha 1590	9 23	7 32	8 33	10 13	11 14	t.
1667 Nov. 20 Wed.	Mārgaśīrsha 1590	13 33	11 41	12 42	14 24	15 25	t.
1668 May 16 Sat.	Jyeshtha 1591	2 32	1 0	—	—	4 4	9·7
1668 Nov. 8 Sun.	Kārttika 1591	13 55	12 40	—	—	15 10	5·8
1670 Mar. 26 Sat.	Chaitra 1593	10 33	9 5	—	—	12 1	8·6
1670 Sept. 18 Sun.	Āśvina 1593	25 27	23 56	—	—	26 58	9·3
1671 Mar. 15 Wed.	Chaitra 1594	10 24	8 33	9 34	11 14	12 15	t.
1671 Sept. 8 Fri.	Bhādrapada 1594	17 27	15 36	16 37	18 17	19 18	t.
1672 Mar. 3 Sun.	Phālguna 1594	13 24	12 20	—	—	14 28	4·0
1672 Aug. 28 Wed.	Bhādrapada 1595	5 7	4 10	—	—	6 4	3·1
1674 Jan. 12 Mon.	Pausha 1596	4 26	2 51	—	—	6 1	10·6
1674 July 7 Tues.	Āshāḍha 1597	19 34	17 52	19 13	19 55	21 16	t.
1675 Jan. 1 Fri.	Pausha 1597	18 22	16 32	17 33	19 11	20 12	t.
1675 June 27 Sun.	Āshāḍha 1598	2 39	0 54	2 4	3 14	4 24	t.
1675 Dec. 22 Wed.	Pausha 1598	2 20	1 25	—	—	3 15	2·9
1677 May 7 Mon.	Vaiśākha 1600	2 36	1 16	—	—	3 56	6·9
1677 Oct. 30 Tues.	Kārttika 1600	9 58	8 44	—	—	11 12	5·6
1678 Apr. 26 Fri.	Vaiśākha 1601	15 48	13 56	14 56	16 40	17 40	t.
1678 Oct. 19 Sat.	Kārttika 1601	19 11	17 19	18 19	20 3	21 3	t.
1679 Apr. 15 Tues.	Vaiśākha 1602	21 52	20 48	—	—	22 56	4·0
1679 Oct. 9 Thur.	Āśvina 1602	9 59	8 35	—	—	11 23	7·7
1681 Feb. 22 Tues.	Phālguna 1603	10 32	9 3	—	—	12 1	8·8
1681 Aug. 19 Fri.	Bhādrapada 1604	2 28	0 54	—	—	4 2	10·3
1682 Feb. 11 Sat.	Phālguna 1604	22 19	20 28	21 29	23 9	24 10	t.
1682 Aug. 8 Tues.	Srāvana 1605	5 20	3 31	4 35	6 5	7 9	t.
1683 Feb. 1 Thur.	Māgha 1605	13 54	12 42	—	—	15 6	5·3
1683 July 28 Sat.	Srāvana 1606	5 53	5 17	—	—	6 29	1·2
1684 June 17 Tues.	Āshāḍha 1607	1 33	1 5	—	—	2 1	0·7
1684 Dec. 11 Thur.	Mārgaśīrsha 1607	21 48	20 23	—	—	23 13	7·9
1685 June 6 Sat.	Jyeshtha 1608	16 49	14 59	16 2	17 36	18 39	t.
1685 Nov. 30 Mon.	Mārgaśīrsha 1608	21 31	19 39	20 40	22 22	23 23	t.
1686 May 27 Thur.	Jyeshtha 1609	10 3	8 26	—	—	11 40	11·2
1686 Nov. 19 Fri.	Mārgaśīrsha 1609	22 4	20 48	—	—	23 20	6·1

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. t." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i.e. mo- ment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3 h. m.	4 h. m.	5 h. m.	6 h. m.	7 h. m.	8
1688 Apr. 5 Thur.	Chaitra 1611	17 38	16 16	—	—	19 0	7·3
1688 Sept. 29 Sat.	Āśvina 1611	9 39	8 11	—	—	11 7	8·5
1689 Mar. 25 Mon.	Chaitra 1612	17 39	15 47	16 48	18 30	19 31	t.
1689 Sept. 18 Wed.	Āśvina 1612	25 24	23 32	24 33	26 15	27 16	t.
1690 Mar. 14 Fri.	Chaitra 1613	21 7	19 57	—	—	22 17	4·9
1690 Sept. 8 Mon.	Bhādrapada 1613	12 33	11 27	—	—	13 39	4·3
1692 Jan. 23 Sat.	Māgha 1614	13 14	11 40	—	—	14 48	10·4
1692 July 18 Mon.	Srāvana 1615	2 13	0 37	—	—	3 49	10·9
1693 Jan. 12 Thur.	Pausha 1615	3 3	1 12	2 13	3 53	4 54	t.
1693 July 7 Fri.	Āshāḍha 1616	9 43	7 55	9 1	10 25	11 31	t.
1694 Jan. 1 Mon.	Pausha 1616	10 36	9 40	—	—	11 32	3·0
1694 June 26 Tues.	Āshāḍha 1617	23 55	23 34	—	—	24 16	0·4
1695 May 18 Sat.	Jyeshtha 1618	10 8	8 55	—	—	11 21	5·5
1695 Nov. 10 Sun.	Kārttika 1618	18 2	16 50	—	—	19 14	5·2
1696 May 6 Wed.	Vaiśākha 1619	23 2	21 10	22 10	23 54	24 54	t.
1696 Oct. 30 Fri.	Kārttika 1619	3 32	1 40	2 40	4 24	5 24	t.
1697 Apr. 26 Mon.	Vaiśākha 1620	4 47	3 33	—	—	6 1	5·7
1697 Oct. 19 Tues.	Kārttika 1620	18 29	17 2	—	—	19 56	8·2
1699 Mar. 5 Sun.	Phālguna 1621	18 23	17 1	—	—	19 55	8·2
1699 Aug. 30 Wed.	Bhādrapada 1622	9 40	8 11	—	—	11 9	8·8
1700 Feb. 23 Fri.	Phālguna 1622	6 43	4 52	5 53	7 33	8 34	t.
1700 Aug. 18 Sun.	Bhādrapada 1623	12 3	10 13	11 14	12 52	13 53	t.
1701 Feb. 11 Tues.	Māgha 1623	22 31	21 17	—	—	23 45	5·6
1701 Aug. 7 Thur.	Srāvana 1624	12 38	11 45	—	—	13 31	2·7
1702 Dec. 23 Wed.	Pausha 1625	6 0	4 37	—	—	7 23	7·5
1703 June 17 Thur.	Āshāḍha 1626	24 19	22 31	23 37	25 1	26 7	t.
1703 Dec. 12 Sun.	Mārgaśīrsha 1626	5 32	3 40	4 41	6 23	7 24	t.
1704 June 6 Tues.	Jyeshtha 1627	17 29	15 47	17 8	17 50	19 11	t.
1704 Nov. 30 Thur.	Mārgaśīrsha 1627	6 16	4 58	—	—	7 34	6·5
1706 Apr. 16 Tues.	Vaiśākha 1629	24 36	23 22	—	—	25 50	5·7
1706 Oct. 10 Thur.	Āśvina 1629	18 4	16 40	—	—	19 28	7·7
1707 Apr. 5 Sat.	Chaitra 1630	24 45	22 53	23 53	25 37	26 37	t.
1707 Sept. 30 Tues.	Āśvina 1630	9 27	7 35	8 35	10 19	11 19	t.
1708 Mar. 25 Thur.	Chaitra 1631	4 42	3 26	—	—	5 58	6·1
1708 Sept. 18 Sat.	Āśvina 1631	20 2	18 50	—	—	21 14	5·2
1710 Feb. 2 Thur.	Māgha 1632	21 55	20 22	—	—	23 28	10·1
1710 July 29 Sat.	Srāvana 1633	9 0	7 29	—	—	10 31	9·4
1711 Jan. 23 Tues.	Māgha 1633	11 34	9 43	10 44	12 24	13 25	t.
1711 July 18 Wed.	Srāvana 1634	16 55	15 5	16 8	17 42	18 45	t.
1712 Jan. 12 Sat.	Pausha 1634	18 51	17 53	—	—	19 49	3·2
1712 July 7 Mon.	Āshāḍha 1635	7 26	6 37	—	—	8 15	2·3
1713 May 28 Thur.	Jyeshtha 1636	17 34	16 31	—	—	18 37	3·9
1713 Nov. 21 Sat.	Mārgaśīrsha 1636	2 20	1 9	—	—	3 31	5·0
1714 May 18 Tues.	Jyeshtha 1637	6 11	4 20	5 21	7 1	8 2	t.
1714 Nov. 10 Wed.	Kārttika 1637	12 5	10 13	11 14	12 56	13 57	t.
1715 May 7 Sat.	Vaiśākha 1638	11 34	10 12	—	—	12 56	7·3
1715 Oct. 31 Mon.	Kārttika 1638	3 3	1 33	—	—	4 33	8·9
1717 Mar. 16 Sat.	Chaitra 1640	2 18	0 55	—	—	3 41	7·4
1717 Sept. 9 Mon.	Bhādrapada 1640	16 57	15 34	—	—	18 20	7·5
1718 Mar. 5 Wed.	Phālguna 1640	14 58	13 6	14 7	15 49	16 50	t.

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
1718 Aug. 29 Fri.	Bhādrapada 1641	18 55	17 3	18 4	19 46	20 47	t.
1719 Feb. 23 Mon.	Phālguna 1641	7 3	5 47	—	—	8 19	6·1
1719 Aug. 18 Tues.	Bhādrapada 1642	19 28	18 21	—	—	20 35	4·4
1721 Jan. 2 Mon.	Pausha 1643	14 11	12 48	—	—	15 34	7·4
1721 June 28 Wed.	Āshāḍha 1644	7 46	6 1	7 11	8 21	9 31	t.
1721 Dec. 22 Fri.	Pausha 1644	13 38	11 46	12 47	14 29	15 30	t.
1722 June 17 Sun.	Āshāḍha 1645	24 55	23 10	24 22	25 28	26 40	t.
1722 Dec. 11 Tues.	Mārgaśīrsha 1645	14 33	13 14	—	—	15 52	6·7
1724 Apr. 27 Mon.	Vaiśākha 1647	7 22	6 17	—	—	8 27	4·2
1724 Oct. 21 Wed.	Kārttika 1647	2 32	1 10	—	—	3 54	7·2
1725 Apr. 16 Fri.	Vaiśākha 1648	7 42	5 51	6 52	8 32	9 33	t.
1725 Oct. 10 Sun.	Āśvina 1648	17 38	15 46	16 46	18 30	19 30	t.
1726 Apr. 5 Tues.	Chaitra 1649	12 11	10 49	—	—	13 33	7·3
1726 Sept. 30 Fri.	Āśvina 1649	3 40	2 24	—	—	4 56	6·0
1728 Feb. 14 Wed.	Phālguna 1650	6 32	5 0 ₄	—	—	8 4	9·7
1728 Aug. 8 Thur.	Śrāvaṇa 1651	15 53	14 28	—	—	17 18	7·8
1729 Feb. 2 Sun.	Māgha 1651	20 1	18 10	19 11	20 51	21 52	t.
1729 July 28 Mon.	Śrāvaṇa 1652	24 8	22 17	23 18	24 58	25 59	t.
1730 Jan. 23 Fri.	Māgha 1652	2 59	2 0	—	—	3 58	3·4
1730 July 18 Sat.	Śrāvaṇa 1653	14 54	13 51	—	—	15 57	3·9
1731 June 9 Wed.	Jyeshtha 1654	0 53	0 5	—	—	1 41	2·2
1731 Dec. 2 Thur.	Mārgaśīrsha 1654	10 40	9 30	—	—	11 50	4·8
1732 May 28 Sun.	Jyeshtha 1655	13 10	11 20	12 22	13 58	15 0	t.
1732 Nov. 20 Mon.	Mārgaśīrsha 1655	20 42	18 50	19 51	21 33	22 34	t.
1733 May 17 Thur.	Jyeshtha 1656	18 12	16 42	—	—	19 42	9·1
1733 Nov. 10 Sat.	Kārttika 1656	11 42	10 12	—	—	13 12	8·9
1735 Mar. 27 Thur.	Chaitra 1658	10 3	8 45	—	—	11 21	6·5
1735 Sept. 20 Sat.	Āśvina 1658	24 21	23 4	—	—	25 38	6·3
1736 Mar. 15 Mon.	Chaitra 1659	23 12	21 20	22 20	24 4	25 4	t.
1736 Sept. 9 Thur.	Bhādrapada 1659	1 56	0 4	1 4	2 48	3 48	t.
1737 Mar. 5 Sat.	Phālguna 1659	15 27	14 8	—	—	16 46	6·7
1737 Aug. 29 Mon.	Bhādrapada 1660	2 28	1 12	—	—	3 44	6·0
1739 Jan. 13 Sat.	Pausha 1661	22 18	20 56	—	—	23 40	7·3
1739 July 9 Mon.	Āshāḍha 1662	15 12	13 29	14 47	15 37	16 55	t.
1740 Jan. 2 Wed.	Pausha 1662	21 37	19 45	20 46	22 28	23 29	t.
1740 June 28 Sat.	Āshāḍha 1663	8 17	6 30	7 36	8 58	10 4	t.
1740 Dec. 21 Sun.	Pausha 1663	22 50	21 30	—	—	24 10	6·8
1742 May 8 Sat.	Vaiśākha 1665	14 0	13 8	—	—	14 52	2·6
1742 Nov. 1 Mon.	Kārttika 1665	11 6	9 47	—	—	12 25	6·7
1743 Apr. 27 Wed.	Vaiśākha 1666	14 31	12 41	13 42	15 20	16 21	t.
1743 Oct. 22 Sat.	Kārttika 1666	1 54	0 2	1 3	2 45	3 46	t.
1744 Apr. 15 Snn.	Vaiśākha 1667	19 32	18 4	—	—	21 0	8·6
1744 Oct. 10 Wed.	Āśvina 1667	11 31	10 11	—	—	12 51	6·8
1746 Feb. 24 Mon.	Phālguna 1668	14 57	13 26	—	—	16 28	9·2
1746 Aug. 19 Tues.	Bhādrapada 1669	22 50	21 34	—	—	24 6	6·1
1747 Feb. 14 Sat.	Phālguna 1669	4 21 [*]	2 30	3 31	5 11	6 12	t.
1747 Aug. 9 Sun.	Śrāvaṇa 1670	7 30	5 38	6 39	8 21	9 22	t.
1748 Feb. 3 Wed.	Māgha 1670	11 3	10 2	—	—	12 4	3·6
1748 July 28 Thur.	Śrāvaṇa 1671	22 25	21 12	—	—	23 38	5·4
1749 June 19 Mon.	Āshāḍha 1672	8 15	7 49	—	—	8 41	0·6

TABLE E.

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		Greatest phase. [i. e. mo- ment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
1749 Dec. 12 Tues.	Mārgasīrsha..... 1672	19 6	17 55	—	—	20 17	5·1
1750 June 8 Fri.	Jyeshtha..... 1673	20 5	18 17	19 23	20 47	21 53	t.
1750 Dec. 2 Sun.	Mārgasīrsha..... 1673	5 24	3 32	4 33	6 15	7 16	t.
1751 May 28 Tues.	Jyeshtha..... 1674	24 46	23 10	—	—	26 22	10·9
1751 Nov. 21 Thur.	Mārgasīrsha..... 1674	20 29	18 58	—	—	22 0	9·2
NEW STYLE.							
1753 Apr. 17 Tues.	Chaitra..... 1676	17 38	16 25	—	—	18 51	5·5
1753 Oct. 12 Fri.	Āśvina..... 1676	7 52	6 40	—	—	9 4	5·2
1754 Apr. 7 Sun.	Chaitra..... 1677	7 12	5 20	6 20	8 4	9 4	t.
1754 Oct. 1 Tues.	Āśvina..... 1677	9 1	7 9	8 10	9 52	10 53	t.
1755 Mar. 27 Thur.	Chaitra..... 1678	23 40	22 16	—	—	25 4	7·6
1755 Sept. 20 Sat.	Bhādrapada..... 1678	9 37	8 15	—	—	10 59	7·2
1757 Feb. 4 Fri.	Māgha..... 1679	6 17	4 57	—	—	7 37	6·9
1757 July 30 Sat.	Śrāvana..... 1680	22 43	21 5	—	—	24 21	11·7
1758 Jan. 24 Tues.	Pausha..... 1680	5 36	3 44	4 44	6 28	7 28	t.
1758 July 20 Thur.	Āshāḍha..... 1681	15 38	13 48	14 52	16 24	17 28	t.
1759 Jan. 13 Sat.	Pausha..... 1681	7 10	5 50	—	—	8 30	6·9
1760 May 29 Thur.	Jyeshtha..... 1683	20 36	20 5	—	—	21 7	6·9
1760 Nov. 22 Sat.	Kārttika..... 1683	19 46	18 29	—	—	21 3	6·3
1761 May 18 Mon.	Vaiśākha..... 1684	21 15	19 25	20 29	22 1	23 5	t.
1761 Nov. 12 Thur.	Kārttika..... 1684	10 18	8 26	9 27	11 9	12 10	t.
1762 May 8 Sat.	Vaiśākha..... 1685	2 49	1 15	—	—	4 23	10·3
1762 Nov. 1 Mon.	Kārttika..... 1685	19 25	18 3	—	—	20 47	7·2
1764 Mar. 17 Sat.	Phālguna..... 1686	23 18	21 50	—	—	24 46	8·4
1764 Sept. 10 Mon.	Bhādrapada..... 1687	6 3	4 53	—	—	7 13	4·9
1765 Mar. 7 Thur.	Phālguna..... 1687	12 36	10 44	11 45	13 27	14 28	t.
1765 Aug. 30 Fri.	Bhādrapada..... 1688	15 2	13 10	14 10	15 54	16 54	t.
1766 Feb. 24 Mon.	Phālguna..... 1688	18 58	17 54	—	—	20 2	4·0
1766 Aug. 20 Wed.	Śrāvana..... 1689	6 4	4 44	—	—	7 24	6·8
1768 Jan. 4 Mon.	Pausha..... 1690	3 33	2 23	—	—	4 43	4·9
1768 June 30 Thur.	Āshāḍha..... 1691	2 56	1 11	2 21	3 31	4 41	t.
1768 Dec. 23 Fri.	Mārgasīrsha..... 1691	14 11	12 19	13 20	15 2	16 3	t.
1769 June 19 Mon.	Jyeshtha..... 1692	7 16	5 35	6 57	7 35	8 57	t.
1769 Dec. 13 Wed.	Mārgasīrsha..... 1692	5 17	3 46	—	—	6 48	9·3
1771 Apr. 29 Mon.	Vaiśākha..... 1694	1 8	0 1	—	—	2 15	4·4
1771 Oct. 23 Wed.	Āśvina..... 1694	15 33	14 26	—	—	16 40	4·4
1772 Apr. 17 Fri.	Chaitra..... 1695	15 9	13 17	14 18	16 0	17 1	t.
1772 Oct. 11 Sun.	Āśvina..... 1695	16 16	14 25	15 26	17 6	18 7	t.
1773 Apr. 7 Wed.	Chaitra..... 1696	7 46	6 18	—	—	9 14	8·4
1773 Sept. 30 Thur.	Āśvina..... 1696	16 55	15 27	—	—	18 23	8·4
1775 Feb. 15 Wed.	Māgha..... 1697	14 11	12 52	—	—	15 30	6·6
1775 Aug. 11 Fri.	Śrāvana..... 1698	6 20	4 47	—	—	7 53	10·0
1776 Feb. 4 Sun.	Māgha..... 1698	13 32	11 40	12 40	14 24	15 24	t.
1776 July 30 Tues.	Śrāvana..... 1699	23 6	21 16	22 17	23 55	24 56	t.
1777 Jan. 23 Thur.	Pausha..... 1699	15 28	14 6	—	—	16 50	7·2
1777 July 20 Sun.	Āshāḍha..... 1700	11 55	11 16	—	—	12 34	1·4
1778 Dec. 4 Fri.	Mārgasīrsha..... 1701	4 32	3 15	—	—	5 49	6·2
1779 May 30 Sun.	Jyeshtha..... 1702	3 55	2 8	3 15	4 35	5 42	t.
1779 Nov. 23 Tues.	Kārttika..... 1702	18 51	16 59	18 0	19 42	20 43	t.
1780 May 18 Thur.	Vaiśākha..... 1703	10 1	8 23	—	—	11 39	11·8
1780 Nov. 12 Sun.	Kārttika..... 1703	3 23	1 59	—	—	4 47	7·6

ECLIPSES OF THE MOON IN INDIA.

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TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lanka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	h. m.	h. m.	h. m.	h. m.	h. m.	3
1782 Mar. 29 Fri.	Chaitra 1705	7 31	6 6	—	—	8 56	7·8
1782 Sept. 21 Sat.	Bhādrapada 1705	13 20	12 18	—	—	14 22	3·7
1783 Mar. 18 Tues.	Phālguna 1705	20 37	18 45	19 45	21 29	22 29	t.
1783 Sept. 10 Wed.	Bhādrapada 1706	22 38	20 46	21 47	23 29	24 30	t.
1784 Mar. 7 Sun.	Phālguna 1706	2 42	1 32	—	—	3 52	4·8
1784 Aug. 30 Mon.	Bhādrapada 1707	13 48	12 22	—	—	15 14	8·0
1786 Jan. 14 Sat.	Pausha 1708	12 0	10 50	—	—	13 10	4·8
1786 July 11 Tues.	Āshāḍha 1709	9 49	8 8	9 29	10 9	11 30	t.
1787 Jan. 3 Wed.	Pausha 1709	22 59	21 7	22 8	23 50	24 51	t.
1787 June 30 Sat.	Āshāḍha 1710	13 43	11 58	13 9	14 17	15 28	t.
1787 Dec. 24 Mon.	Mārgaśīrsha 1710	14 8	12 37	—	—	15 39	9·4
1789 May 9 Sat.	Vaiśākha 1712	8 32	7 34	—	—	9 30	3·2
1789 Nov. 2 Mon.	Kārttika 1712	23 20	22 18	—	—	24 22	3·8
1790 Apr. 28 Wed.	Vaiśākha 1713	23 1	21 10	22 11	23 51	24 52	t.
1790 Oct. 22 Fri.	Āśvina 1713	23 44	21 54	22 55	24 33	25 34	t.
1791 Apr. 18 Mon.	Chaitra 1714	15 45	14 14	—	—	17 16	9·5
1791 Oct. 11 Tues.	Āśvina 1714	24 27	22 56	—	—	25 58	9·3
1793 Feb. 25 Mon.	Phālguna 1715	22 4	20 49	—	—	23 19	5·9
1793 Aug. 21 Wed.	Srāvaṇa 1716	14 2	12 33	—	—	15 31	8·8
1794 Feb. 14 Fri.	Māgha 1716	21 26	19 34	20 35	22 17	23 18	t.
1794 Aug. 11 Mon.	Srāvaṇa 1717	6 33	4 41	5 42	7 24	8 25	t.
1795 Feb. 3 Tues.	Māgha 1717	23 44	22 21	—	—	25 7	7·5
1795 July 31 Fri.	Srāvaṇa 1718	18 56	17 58	—	—	19 54	3·2
1796 Dec. 14 Wed.	Mārgaśīrsha 1719	13 22	12 6	—	—	14 38	6·1
1797 June 9 Fri.	Jyeshṭha 1720	10 35	8 51	10 4	11 6	12 19	t.
1797 Dec. 4 Mon.	Mārgaśīrsha 1720	3 23	1 32	2 33	4 13	5 14	t.
1798 May 29 Tues.	Jyeshṭha 1721	17 12	15 30	16 48	17 36	18 54	t.
1798 Nov. 23 Fri.	Kārttika 1721	11 30	10 5	—	—	12 55	7·9
1800 Apr. 9 Wed.	Chaitra 1723	15 31	14 11	—	—	16 51	6·9
1800 Oct. 2 Thur.	Āśvina 1723	20 47	19 53	—	—	21 41	2·8
1801 Mar. 30 Mon.	Chaitra 1724	4 29	2 37	3 37	5 21	6 21	t.
1801 Sept. 22 Tues.	Bhādrapada 1724	6 21	4 30	5 31	7 11	8 12	t.
1802 Mar. 19 Fri.	Phālguna 1724	10 21	9 8	—	—	11 34	5·4
1802 Sept. 11 Sat.	Bhādrapada 1725	21 39	20 8	—	—	23 10	9·4
1804 Jan. 26 Thur.	Māgha 1726	20 23	19 14	—	—	21 32	4·7
1804 July 22 Sun.	Āshāḍha 1727	16 42	15 6	—	—	18 18	10·9
1805 Jan. 15 Tues.	Pausha 1727	7 44	5 52	6 53	8 35	9 36	t.
1805 July 11 Thur.	Āshāḍha 1728	20 8	18 20	19 25	20 51	21 56	t.
1806 Jan. 4 Sat.	Pausha 1728	23 5	21 34	—	—	24 36	9·4
1807 May 21 Thur.	Vaiśākha 1730	15 53	15 9	—	—	16 37	1·8
1807 Nov. 15 Sun.	Kārttika 1730	7 13	6 15	—	—	8 11	3·2
1808 May 10 Tues.	Vaiśākha 1731	6 41	4 51	5 52	7 30	8 31	t.
1808 Nov. 3 Thur.	Kārttika 1731	7 18	5 28	6 30	8 6	9 8	t.
1809 Apr. 29 Sat.	Vaiśākha 1732	23 36	22 1	—	—	25 11	10·6
1809 Oct. 23 Mon.	Āśvina 1732	8 8	6 34	—	—	9 42	10·2
1811 Mar. 10 Sun.	Phālguna 1733	5 43	4 31	—	—	6 55	5·3
1811 Sept. 2 Mon.	Bhādrapada 1734	21 48	20 25	—	—	23 11	7·4
1812 Feb. 27 Thur.	Phālguna 1734	5 9	3 17	4 18	6 0	7 1	t.
1812 Aug. 22 Sat.	Srāvaṇa 1735	14 5	12 13	13 13	14 57	15 57	t.
1813 Feb. 15 Mon.	Māgha 1735	7 54	6 28	—	—	9 20	8·0

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lānka mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]
		Greatest phase. [i. e. moment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.	
				Begin- ning.	End.		
1	2	3	4	5	6	7	8
1818 Aug. 12 Thur.	Śrāvaṇa 1786	1 55	0 48	—	—	3 2	4·5
1814 Dec. 26 Mon.	Mārgaśirsha 1787	22 13	20 57	—	—	23 29	6·0
1815 June 21 Wed.	Jyeshtha 1788	17 11	15 31	16 57	17 25	18 51	t.
1815 Dec. 16 Sat.	Mārgaśirsha 1788	12 1	10 10	11 11	12 51	13 52	t.
1816 June 9 Sun.	Jyeshtha 1789	24 20	22 34	23 44	24 56	26 6	t.
1816 Dec. 4 Wed.	Mārgaśirsha 1789	19 38	18 11	—	—	21 5	8·2
1818 Apr. 20 Mon.	Chaitra 1741	23 28	22 14	—	—	24 42	5·6
1818 Oct. 14 Wed.	Āśvina 1741	4 26	3 42	—	—	5 10	1·8
1819 Apr. 10 Sat.	Chaitra 1742	12 12	10 20	11 21	13 3	14 4	t.
1819 Oct. 3 Sun.	Āśvina 1742	14 15	12 25	13 26	15 4	16 5	t.
1820 Mar. 29 Wed.	Chaitra 1743	17 47	16 29	—	—	19 5	6·4
1820 Sept. 22 Fri.	Bhādrapada 1743	5 37	4 3	—	—	7 11	10·3
1822 Feb. 6 Wed.	Māgha 1744	4 45	3 37	—	—	5 53	4·6
1822 Aug. 2 Fri.	Śrāvaṇa 1745	23 31	22 1	—	—	25 1	9·1
1823 Jan. 26 Sun.	Māgha 1745	16 28	14 36	15 37	17 19	18 20	t.
1823 July 23 Wed.	Āshāḍha 1746	2 35	0 45	1 48	3 22	4 25	t.
1824 Jan. 16 Fri.	Pauṣa 1746	7 56	6 24	—	—	9 28	9·6
1824 July 11 Sun.	Āshāḍha 1747	3 19	2 34	—	—	4 4	1·9
1825 May 31 Tues.	Jyeshtha 1748	23 12	22 54	—	—	23 30	0·3
1825 Nov. 25 Fri.	Kārttika 1748	15 11	14 17	—	—	16 5	2·8
1826 May 21 Sun.	Vaiśākha 1749	14 19	12 29	13 33	15 5	16 9	t.
1826 Nov. 14 Tues.	Kārttika 1749	15 0	13 10	14 14	15 46	16 50	t.
1827 May 11 Fri.	Vaiśākha 1750	7 19	5 40	7 12	7 26	8 58	t.
1827 Nov. 3 Sat.	Kārttika 1750	15 57	14 22	—	—	17 32	10·6
1829 Mar. 20 Fri.	Phālguna 1751	13 8	12 1	—	—	14 15	4·4
1829 Sept. 13 Sun.	Bhādrapada 1752	5 38	4 21	—	—	6 55	6·3
1830 Mar. 9 Tues.	Phālguna 1752	12 46	10 55	11 56	13 36	14 37	t.
1830 Sept. 2 Thur.	Bhādrapada 1753	21 39	19 47	20 47	22 31	23 31	t.
1831 Feb. 26 Sat.	Phālguna 1753	16 0	14 33	—	—	17 27	8·3
1831 Aug. 23 Tues.	Śrāvaṇa 1754	9 0	7 45	—	—	10 15	5·9
1833 Jan. 6 Sun.	Pauṣa 1755	7 3	5 48	—	—	8 18	5·8
1833 July 1 Mon.	Āshāḍha 1756	23 46	22 12	—	—	25 20	10·5
1833 Dec. 26 Thur.	Mārgaśirsha 1756	20 35	18 44	19 45	21 25	22 26	t.
1834 June 21 Sat.	Jyeshtha 1757	7 24	5 35	6 41	8 7	9 13	t.
1834 Dec. 16 Tues.	Mārgaśirsha 1757	3 50	2 23	—	—	5 17	8·2
1835 June 10 Wed.	Jyeshtha 1758	21 38	21 3	—	—	22 13	1·1
1836 May 1 Sun.	Vaiśākha 1759	7 12	6 5	—	—	8 19	4·5
1836 Oct. 24 Mon.	Āśvina 1759	12 18	11 39	—	—	12 57	1·4
1837 Apr. 20 Thur.	Chaitra 1760	19 45	17 54	18 55	20 35	21 36	t.
1837 Oct. 13 Fri.	Āśvina 1760	22 20	20 30	21 32	23 8	24 10	t.
1838 Apr. 9 Mon.	Chaitra 1761	25 1	23 38	—	—	26 24	7·5
1838 Oct. 3 Wed.	Āśvina 1761	13 43	12 6	—	—	15 20	11·4
1840 Feb. 17 Mon.	Māgha 1762	13 6	11 59	—	—	14 13	4·5
1840 Aug. 13 Thur.	Śrāvaṇa 1763	6 22	4 59	—	—	7 45	7·4
1841 Feb. 5 Fri.	Māgha 1763	25 11	23 19	24 20	26 2	27 3	t.
1841 Aug. 2 Mon.	Śrāvaṇa 1764	9 2	7 11	8 12	9 52	10 53	t.
1842 Jan. 26 Wed.	Pauṣa 1764	16 46	15 14	—	—	18 18	9·6
1842 July 22 Fri.	Āshāḍha 1765	9 51	8 50	—	—	10 52	3·6
1843 Dec. 6 Wed.	Mārgaśirsha 1766	23 14	22 23	—	—	24 5	2·5
1844 May 31 Fri.	Jyeshtha 1767	21 52	20 5	21 11	22 33	23 39	t.

ECLIPSES OF THE MOON IN INDIA.

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalattons.]	Time measured from Lāika mean sunrise, taken as 6 A. M.					Number of twelfths eclipsed. ["t." = total eclipse.]					
		Greatest phase. [i. e. moment of fullmoon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.						
				Begin- ning.	End.							
1	2	h. m.	h. m.	h. m.	h. m.	h. m.	3	4	5	6	7	8
1844 Nov. 24 Sun.	Kārttika..... 1767	22 49	21 0	22 4	23 34	24 38	t.					
1845 May 21 Wed.	Vaiśākha..... 1768	14 58	13 15	14 33	15 23	16 41	t.					
1845 Nov. 13 Thur.	Kārttika..... 1768	23 51	22 14	—	—	25 28	11.2					
1847 Mar. 31 Wed.	Chaitra..... 1770	20 29	19 29	—	—	21 29	3.5					
1847 Sept. 24 Fri.	Bhādrapada..... 1770	13 36	12 24	—	—	14 48	5.2					
1848 Mar. 19 Sun.	Phālguna..... 1770	20 15	18 25	19 26	21 4	22 5	t.					
1848 Sept. 13 Wed.	Bhādrapada..... 1771	5 25	3 33	4 34	6 16	7 17	t.					
1849 Mar. 8 Thur.	Phālguna..... 1771	23 59	22 29	—	—	25 29	9.1					
1849 Sept. 2 Sun.	Bhādrapada..... 1772	16 15	14 53	—	—	17 37	7.2					
1851 Jan. 17 Fri.	Pausha..... 1773	15 53	14 41	—	—	17 9	5.7					
1851 July 13 Sun.	Āshāḍha..... 1774	6 24	4 55	—	—	7 53	8.7					
1852 Jan. 7 Wed.	Pausha..... 1774	5 16	3 25	4 26	6 6	7 7	t.					
1852 July 1 Thur.	Āshāḍha..... 1775	14 29	12 39	13 41	15 17	16 19	t.					
1852 Dec. 26 Sun.	Mārgaśīrsha..... 1775	12 5	10 38	—	—	13 32	8.3					
1853 June 21 Tues.	Jyeshtha..... 1776	5 5	4 12	—	—	5 58	2.7					
1854 May 12 Fri.	Vaiśākha..... 1777	14 52	13 54	—	—	15 50	3.2					
1854 Nov. 4 Sat.	Kārttika..... 1777	20 16	19 46	—	—	20 46	0.8					
1855 May 2 Wed.	Vaiśākha..... 1778	3 9	1 19	2 20	3 58	4 59	t.					
1855 Oct. 25 Thur.	Āśvina..... 1778	6 34	4 44	5 48	7 20	8 24	t.					
1856 Apr. 20 Sun.	Chaitra..... 1779	8 11	6 42	—	—	9 40	8.7					
1856 Oct. 13 Mon.	Āśvina..... 1779	21 57	20 18	21 50	22 4	23 36	t.					
1858 Feb. 27 Sat.	Phālguna..... 1780	21 19	20 14	—	—	22 24	4.2					
1858 Aug. 24 Tues.	Srāvana..... 1781	13 22	12 7	—	—	14 37	5.8					
1859 Feb. 17 Thur.	Māgha..... 1781	9 48	7 57	8 58	10 38	11 39	t.					
1859 Aug. 13 Sat.	Srāvana..... 1782	15 35	13 43	14 43	16 27	17 27	t.					
1860 Feb. 6 Mon.	Māgha..... 1782	25 31	23 59	—	—	27 3	9.7					
1860 Aug. 1 Wed.	Srāvana..... 1783	16 27	15 13	—	—	17 41	5.6					
1861 Dec. 17 Tues.	Mārgaśīrsha..... 1784	7 17	6 29	—	—	8 5	2.2					
1862 June 12 Thur.	Jyeshtha..... 1784	5 22	3 38	4 50	5 54	7 6	t.					
1862 Dec. 6 Sat.	Mārgaśīrsha..... 1785	6 43	4 54	5 59	7 27	8 32	t.					
1863 June 1 Mon.	Jyeshtha..... 1786	22 27	20 42	21 52	23 2	24 12	t.					
1863 Nov. 25 Wed.	Kārttika..... 1786	8 0	6 22	—	—	9 38	11.6					
1865 Apr. 11 Tues.	Chaitra..... 1788	3 39	2 48	—	—	4 30	2.5					
1865 Oct. 4 Wel.	Āśvina..... 1788	21 45	20 40	—	—	22 50	4.2					
1866 Mar. 31 Sat.	Chaitra..... 1789	3 36	1 46	2 48	4 24	5 26	t.					
1866 Sept. 24 Mon.	Bhādrapada..... 1789	13 10	11 20	12 21	13 59	15 0	t.					
1867 Mar. 20 Wed.	Phālguna..... 1789	7 52	6 20	—	—	9 24	9.8					
1867 Sept. 13 Fri.	Bhādrapada..... 1790	23 29	22 1	—	—	24 57	8.4					
1869 Jan. 27 Wed.	Māgha..... 1791	24 44	23 30	—	—	25 58	5.6					
1869 July 23 Fri.	Āshāḍha..... 1792	13 7	11 47	—	—	14 27	6.8					
1870 Jan. 17 Mon.	Pausha..... 1792	13 50	11 59	13 0	14 40	15 41	t.					
1870 July 12 Tues.	Āshāḍha..... 1793	21 37	19 46	20 47	22 27	23 28	t.					
1871 Jan. 6 Fri.	Pausha..... 1793	20 19	18 51	—	—	21 47	8.5					
1871 July 2 Sun.	Āshāḍha..... 1794	12 27	11 22	—	—	13 32	4.2					
1872 May 22 Wed.	Vaiśākha..... 1795	22 23	21 41	—	—	23 5	1.6					
1872 Nov. 15 Fri.	Kārttika..... 1795	4 24	4 3	—	—	4 45	0.4					
1873 May 12 Mon.	Vaiśākha..... 1796	10 23	8 34	9 38	11 8	12 12	t.					
1873 Nov. 4 Tues.	Kārttika..... 1796	14 55	13 6	14 10	15 40	16 44	t.					
1874 May 1 Fri.	Vaiśākha..... 1797	15 8	13 35	—	—	16 41	10.0					
1874 Oct. 25 Sun.	Āśvina..... 1797	6 15	4 33	5 54	6 36	7 57	t.					

TABLE E.

A. D. Year, Month, and Day.	Hindu Month and Current Śaka Year. ["w. m. i." = with mean intercalations.]	Time measured from Lāṅka mean sunrise, taken as 6 A. M.					Number of twelfth eclipsed. ["t." = total eclipse.]					
		Greatest phase. [i. e. mo- ment of full moon]	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.						
				Begin- ning.	End.							
1	2	h. m.	h. m.	h. m.	h. m.	h. m.	3	4	5	6	7	8
1876 Mar. 10 Fri.	Phālguna 1798	5 24	4 22	—	—	6 26	3·8					
1876 Sept. 3 Sun.	Bhādrapada 1799	20 26	19 22	—	—	21 30	4·0					
1877 Feb. 27 Tues.	Phālguna 1799	18 22	16 31	17 32	19 12	20 13	t.					
1877 Aug. 23 Thur.	Śrāvāna 1800	22 13	20 22	21 23	23 3	24 4	t.					
1878 Feb. 17 Sun.	Māgha 1800	10 12	8 38	—	—	11 46	10·3					
1878 Aug. 12 Mon.	Śrāvāna 1801	23 10	21 47	—	—	24 33	7·4					
1879 Dec. 28 Sun.	Mārgaśīrsha 1802	15 25	14 40	—	—	16 10	1·9					
1880 June 22 Tues.	Jyeshtha 1803	12 52	11 10	12 31	13 13	14 34	t.					
1880 Dec. 16 Thur.	Mārgaśīrsha 1803	14 42	12 54	13 59	15 25	16 30	t.					
1881 June 12 Sun.	Jyeshtha 1804	5 57	4 9	5 15	6 39	7 45	t.					
1881 Dec. 5 Mon.	Mārgaśīrsha 1804	16 12	14 33	16 12	16 12	17 51	t.					
1883 Apr. 22 Sun.	Chaitra 1806	10 40	10 5	—	—	11 15	1·1					
1883 Oct. 16 Tues.	Āsīna 1806	5 57	4 59	—	—	6 55	3·3					
1884 Apr. 10 Wed.	Chaitra 1807	10 50	9 1	10 5	11 3*	12 39	t.					
1884 Oct. 4 Sat.	Āsīna 1807	21 6	19 16	20 18	21 54	22 56	t.					
1885 Mar. 30 Mon.	Chaitra 1808	15 39	14 3	—	—	17 15	11·0					
1885 Sept. 24 Thur.	Bhādrapada 1808	6 52	5 20	—	—	8 24	9·6					
1887 Feb. 8 Tues.	Māgha 1809	9 25	8 13	—	—	10 37	5·3					
1887 Aug. 3 Wed.	Śrāvāna 1810	19 50	18 39	—	—	21 1	5·1					
1888 Jan. 23 Sat.	Māgha 1810	22 21	20 30	21 31	23 11	24 12	t.					
1888 July 23 Mon.	Āshāḍha 1811	4 49	2 57	3 57	5 41	6 41	t.					
1889 Jan. 17 Thur.	Pausha 1811	4 33	3 5	—	—	6 1	8·4					
1889 July 12 Fri.	Āshāḍha 1812	19 55	18 40	—	—	21 10	5·9					
1890 June 3 Tues.	Jyeshtha 1813	5 49	5 38	—	—	6 0	0·1					
1890 Nov. 26 Wed.	Kārttika 1813	12 36	12 25	—	—	12 47	0·1					
1891 May 23 Sat.	Vaiśākha 1814	17 29	15 42	16 50	18 8	19 16	t.					
1891 Nov. 15 Sun.	Kārttika 1814	23 21	21 32	22 38	24 4	25 10	t.					
1892 May 11 Wed.	Vaiśākha 1815	21 56	20 18	—	—	23 34	11·6					
1892 Nov. 4 Fri.	Kārttika 1815	14 46	13 4	14 22	15 10	16 28	t.					
1894 Mar. 21 Wed.	Phālguna 1816	13 24	12 27	—	—	14 21	3·1					
1894 Sept. 15 Sat.	Bhādrapada 1817	3 30	2 36	—	—	4 24	2·8					
1895 Mar. 11 Mon.	Phālguna 1817	2 45	0 54	1 55	3 35	4 36	t.					
1895 Sept. 4 Wed.	Bhādrapada 1818	4 59	3 9	4 11	5 47	6 49	t.					
1896 Feb. 28 Fri.	Phālguna 1818	18 48	17 13	—	—	20 23	10·7					
1896 Aug. 23 Sun.	Śrāvāna 1819	6 0	4 30	—	—	7 30	9·0					
1898 Jan. 7 Fri.	Pausha 1820	23 33	22 49	—	—	24 17	1·8					
1898 July 3 Sun.	Āshāḍha 1821	20 20	18 43	—	—	21 57	11·2					
1898 Dec. 27 Tues.	Mārgaśīrsha 1821	22 41	20 53	21 59	23 23	24 29	t.					
1899 June 23 Fri.	Jyeshtha 1822	13 20	11 30	12 33	14 7	15 10	t.					
1899 Dec. 16 Sat.	Mārgaśīrsha 1822	24 28	22 48	24 18	24 38	26 8	t.					
1900 June 13 Wed.	Jyeshtha 1823	2 27	2 12	—	—	2 42	0·2					

ECLIPSES OF THE MOON IN INDIA.

TABLE F.

MEAN TO APPARENT TIME CORRECTION-TABLE.

Day.	OLD STYLE.									NEW STYLE.
	A. D. 200	A. D. 400	A. D. 600	A. D. 800	A. D. 1000	A. D. 1200	A. D. 1400	A. D. 1600	A. D. 1700 to Sept. 2nd. 1752	Since Sept. 14 A. D. 1752
	m.	m.	m.	m.	m.	m.	m.	m.	m.	m.
January 1	- 12	- 11	- 10	- 10	- 9	- 9	- 9	- 9	- 8	- 4
„ 6	- 14	- 13	- 13	- 12	- 11	- 11	- 11	- 11	- 10	- 6
„ 11	- 16	- 15	- 15	- 14	- 13	- 13	- 13	- 12	- 12	- 8
„ 16	- 18	- 16	- 16	- 16	- 15	- 14	- 14	- 13	- 13	- 10
„ 21	- 19	- 18	- 17	- 17	- 16	- 15	- 15	- 14	- 14	- 12
„ 26	- 19	- 19	- 18	- 18	- 17	- 16	- 15	- 14	- 14	- 13
„ 31	- 20	- 19	- 18	- 18	- 17	- 16	- 16	- 15	- 14	- 14
February 5	- 20	- 19	- 18	- 17	- 16	- 16	- 15	- 15	- 14	- 14
„ 10	- 19	- 18	- 18	- 17	- 16	- 16	- 15	- 14	- 13	- 14
„ 15	- 18	- 17	- 17	- 16	- 15	- 15	- 14	- 13	- 13	- 14
„ 20	- 17	- 16	- 16	- 15	- 15	- 14	- 13	- 13	- 12	- 14
„ 25	- 16	- 15	- 14	- 14	- 13	- 12	- 12	- 12	- 11	- 13
March 2	- 14	- 13	- 13	- 12	- 12	- 11	- 11	- 10	- 10	- 13
„ 7	- 12	- 11	- 11	- 10	- 10	- 9	- 9	- 8	- 8	- 11
„ 12	- 9	- 9	- 9	- 9	- 8	- 8	- 7	- 7	- 7	- 10
„ 17	- 7	- 7	- 7	- 7	- 6	- 6	- 5	- 5	- 5	- 8
„ 22	- 5	- 5	- 5	- 5	- 5	- 4	- 4	- 4	- 4	- 7
„ 27	- 3	- 3	- 3	- 3	- 3	- 3	- 2	- 2	- 2	- 5
April 1	0	- 1	- 1	- 1	- 1	- 1	- 1	- 1	0	- 4
„ 6	+ 2	+ 1	+ 1	+ 1	+ 1	0	0	+ 1	+ 1	- 2
„ 11	+ 4	+ 3	+ 3	+ 2	+ 2	+ 2	+ 2	+ 2	+ 1	- 1
„ 16	+ 6	+ 5	+ 5	+ 4	+ 3	+ 3	+ 3	+ 3	+ 2	0
„ 21	+ 7	+ 6	+ 6	+ 5	+ 4	+ 4	+ 4	+ 4	+ 3	+ 1
„ 26	+ 9	+ 7	+ 7	+ 6	+ 5	+ 4	+ 4	+ 4	+ 4	+ 2
May 1	+ 10	+ 8	+ 8	+ 7	+ 6	+ 5	+ 5	+ 4	+ 4	+ 3
„ 6	+ 10	+ 9	+ 8	+ 7	+ 6	+ 5	+ 5	+ 4	+ 4	+ 3
„ 11	+ 10	+ 9	+ 8	+ 7	+ 6	+ 5	+ 5	+ 4	+ 4	+ 4
„ 16	+ 9	+ 8	+ 7	+ 7	+ 6	+ 5	+ 4	+ 3	+ 3	+ 4
„ 21	+ 9	+ 8	+ 7	+ 6	+ 6	+ 5	+ 4	+ 3	+ 3	+ 3
„ 26	+ 8	+ 7	+ 6	+ 6	+ 5	+ 4	+ 3	+ 2	+ 2	+ 3
„ 31	+ 7	+ 6	+ 6	+ 5	+ 4	+ 3	+ 2	+ 1	+ 1	+ 3
June 5	+ 6	+ 5	+ 5	+ 4	+ 3	+ 2	+ 1	0	0	+ 2
„ 10	+ 4	+ 4	+ 3	+ 2	+ 2	+ 1	0	- 1	- 1	+ 1
„ 15	+ 2	+ 2	+ 1	+ 1	0	0	- 1	- 2	- 2	0
„ 20	0	0	0	0	- 1	- 1	- 2	- 3	- 3	- 1
„ 25	- 2	- 2	- 2	- 2	- 2	- 2	- 3	- 3	- 3	- 2
„ 30	- 3	- 3	- 3	- 3	- 3	- 3	- 4	- 4	- 4	- 3

TABLE F.

MEAN TO APPARENT TIME CORRECTION-TABLE.

Day.	OLD STYLE.									NEW STYLE.
	A. D. 200	A. D. 400	A. D. 600	A. D. 800	A. D. 1000	A. D. 1200	A. D. 1400	A. D. 1600	A. D. 1700 to Sept. 2nd. 1752	Since Sept. 14 A. D. 1752
	m.	m.	m.	m.	m.	m.	m.	m.	m.	m.
July 5.....	- 5	- 5	- 5	- 4	- 4	- 4	- 4	- 4	- 4	- 4
„ 10.....	- 6	- 6	- 6	- 5	- 5	- 5	- 5	- 5	- 5	- 5
„ 15.....	- 7	- 6	- 6	- 5	- 5	- 5	- 5	- 5	- 6	- 5
„ 20.....	- 8	- 7	- 7	- 6	- 6	- 6	- 6	- 6	- 6	- 6
„ 25.....	- 8	- 7	- 7	- 6	- 6	- 6	- 6	- 6	- 6	- 6
„ 30.....	- 8	- 7	- 7	- 6	- 6	- 5	- 5	- 5	- 5	- 6
August 4.....	- 7	- 6	- 6	- 5	- 5	- 5	- 4	- 4	- 4	- 6
„ 9.....	- 7	- 6	- 5	- 5	- 4	- 4	- 4	- 3	- 3	- 5
„ 14.....	- 6	- 5	- 4	- 4	- 3	- 3	- 3	- 2	- 2	- 4
„ 19.....	- 4	- 4	- 3	- 2	- 2	- 2	- 1	- 1	0	- 3
„ 24.....	- 2	- 2	- 1	- 1	0	0	+ 1	+ 1	+ 1	- 2
„ 29.....	0	0	0	+ 1	+ 1	+ 2	+ 2	+ 2	+ 3	- 1
September 3.....	+ 2	+ 2	+ 2	+ 2	+ 3	+ 3	+ 3	+ 4	+ 4	0
„ 8.....	+ 4	+ 4	+ 4	+ 4	+ 5	+ 5	+ 5	+ 6	+ 6	+ 2
„ 13.....	+ 6	+ 6	+ 6	+ 6	+ 6	+ 7	+ 7	+ 7	+ 8	+ 4
„ 18.....	+ 8	+ 8	+ 8	+ 8	+ 8	+ 8	+ 9	+ 9	+ 9	+ 6
„ 23.....	+ 10	+ 10	+ 10	+ 10	+ 10	+ 10	+ 11	+ 11	+ 11	+ 8
„ 28.....	+ 12	+ 12	+ 12	+ 12	+ 12	+ 12	+ 12	+ 12	+ 12	+ 10
October 5.....	+ 14	+ 13	+ 13	+ 13	+ 13	+ 13	+ 13	+ 13	+ 14	+ 11
„ 8.....	+ 16	+ 15	+ 15	+ 15	+ 15	+ 15	+ 15	+ 15	+ 15	+ 12
„ 13.....	+ 17	+ 17	+ 16	+ 16	+ 16	+ 16	+ 16	+ 16	+ 16	+ 13
„ 18.....	+ 18	+ 18	+ 17	+ 16	+ 16	+ 16	+ 16	+ 16	+ 16	+ 14
„ 23.....	+ 18	+ 18	+ 17	+ 17	+ 16	+ 16	+ 16	+ 16	+ 16	+ 15
„ 28.....	+ 19	+ 18	+ 18	+ 17	+ 17	+ 16	+ 16	+ 16	+ 16	+ 16
November 2.....	+ 19	+ 18	+ 17	+ 17	+ 16	+ 16	+ 15	+ 15	+ 15	+ 16
„ 7.....	+ 18	+ 17	+ 16	+ 16	+ 15	+ 15	+ 15	+ 14	+ 14	+ 16
„ 12.....	+ 17	+ 16	+ 15	+ 15	+ 14	+ 14	+ 13	+ 13	+ 13	+ 16
„ 17.....	+ 15	+ 14	+ 14	+ 13	+ 13	+ 12	+ 12	+ 12	+ 11	+ 15
„ 22.....	+ 13	+ 12	+ 12	+ 11	+ 11	+ 10	+ 10	+ 10	+ 9	+ 13
„ 27.....	+ 10	+ 9	+ 9	+ 9	+ 9	+ 8	+ 8	+ 8	+ 7	+ 12
December 2.....	+ 7	+ 7	+ 7	+ 7	+ 7	+ 6	+ 6	+ 6	+ 6	+ 10
„ 7.....	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 3	+ 3	+ 3	+ 8
„ 12.....	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	0	+ 6
„ 17.....	- 2	- 2	- 2	- 2	- 2	- 2	- 2	- 2	- 2	+ 3
„ 22.....	- 6	- 5	- 5	- 5	- 5	- 5	- 5	- 5	- 5	+ 1
„ 27.....	- 9	- 8	- 8	- 7	- 7	- 7	- 7	- 7	- 8	- 1
„ 32.....	- 12	- 11	- 10	- 9	- 9	- 9	- 9	- 9	- 9	- 3
„ 37.....	- 14	- 13	- 12	- 12	- 11	- 11	- 11	- 11	- 10	- 6

ECLIPSES OF THE MOON IN INDIA.

TABLE G.

APPARENT TIME OF THE SUN'S RISING AND SETTING.

N.B. On and after each date entered herein use the column to which it refers. The arrows indicate the order.

Latitude.	NORTH DECLINATION.													
	0°		2°		4°		6°		8°		9°		10°	
	Mar. 17 →		Mar. 23 →		Mar. 28 →		Apr. 1 →		Apr. 8 →		Apr. 12 →		Apr. 14 →	
	← Sept. 19		← Sept. 15		← Sept. 10		← Sept. 5		← Sept. 1		← Aug. 29		← Aug. 26	
	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets
	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
0°	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0
2°	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	5 59	6 1	5 59	6 1	5 59	6 1
4°	6 0	6 0	6 0	6 0	5 59	6 1	5 59	6 1	5 58	6 2	5 58	6 2	5 57	6 3
6°	6 0	6 0	6 0	6 0	5 58	6 2	5 58	6 2	5 57	6 3	5 57	6 3	5 56	6 4
8°	6 0	6 0	5 59	6 1	5 58	6 2	5 57	6 3	5 56	6 4	5 55	6 5	5 55	6 5
10°	6 0	6 0	5 59	6 1	5 57	6 3	5 56	6 4	5 54	6 6	5 54	6 6	5 53	6 7
12°	6 0	6 0	5 58	6 2	5 57	6 3	5 55	6 5	5 53	6 7	5 53	6 7	5 52	6 8
14°	6 0	6 0	5 58	6 2	5 56	6 4	5 54	6 6	5 52	6 8	5 51	6 9	5 51	6 9
16°	6 0	6 0	5 58	6 2	5 55	6 5	5 53	6 7	5 51	6 9	5 50	6 10	5 48	6 12
18°	6 0	6 0	5 58	6 2	5 55	6 5	5 52	6 8	5 50	6 10	5 48	6 12	5 47	6 13
20°	6 0	6 0	5 57	6 3	5 54	6 6	5 51	6 9	5 48	6 12	5 47	6 13	5 45	6 15
21°	6 0	6 0	5 57	6 3	5 54	6 6	5 51	6 9	5 48	6 12	5 46	6 14	5 44	6 16
22°	6 0	6 0	5 57	6 3	5 54	6 6	5 50	6 10	5 47	6 13	5 45	6 15	5 44	6 16
23°	6 0	6 0	5 57	6 3	5 53	6 7	5 50	6 10	5 46	6 14	5 45	6 15	5 43	6 17
24°	6 0	6 0	5 57	6 3	5 53	6 7	5 49	6 11	5 46	6 14	5 44	6 16	5 42	6 18
25°	6 0	6 0	5 56	6 4	5 53	6 7	5 49	6 11	5 45	6 15	5 43	6 17	5 41	6 19
26°	6 0	6 0	5 56	6 4	5 52	6 8	5 48	6 12	5 44	6 16	5 42	6 18	5 40	6 20
27°	6 0	6 0	5 56	6 4	5 52	6 8	5 48	6 12	5 44	6 16	5 41	6 19	5 39	6 21
28°	6 0	6 0	5 56	6 4	5 51	6 9	5 47	6 13	5 43	6 17	5 41	6 19	5 38	6 22
29°	6 0	6 0	5 56	6 4	5 51	6 9	5 47	6 13	5 42	6 18	5 40	6 20	5 38	6 22
30°	6 0	6 0	5 55	6 5	5 51	6 9	5 46	6 14	5 41	6 19	5 39	6 21	5 37	6 23
31°	6 0	6 0	5 55	6 5	5 50	6 10	5 46	6 14	5 41	6 19	5 38	6 22	5 36	6 24
32°	6 0	6 0	5 55	6 5	5 50	6 10	5 45	6 15	5 40	6 20	5 37	6 23	5 35	6 25
33°	6 0	6 0	5 55	6 5	5 50	6 10	5 44	6 16	5 39	6 21	5 36	6 24	5 34	6 26
34°	6 0	6 0	5 55	6 5	5 49	6 11	5 44	6 16	5 38	6 22	5 35	6 25	5 33	6 27
35°	6 0	6 0	5 55	6 5	5 49	6 11	5 43	6 17	5 37	6 23	5 35	6 25	5 32	6 28
36°	6 0	6 0	5 55	6 5	5 48	6 12	5 42	6 18	5 37	6 23	5 34	6 26	5 31	6 29
37°	6 0	6 0	5 55	6 5	5 48	6 12	5 42	6 18	5 36	6 24	5 33	6 27	5 29	6 31
38°	6 0	6 0	5 55	6 5	5 47	6 13	5 41	6 19	5 35	6 25	5 32	6 28	5 28	6 32
39°	6 0	6 0	5 55	6 5	5 47	6 13	5 40	6 20	5 34	6 26	5 31	6 29	5 27	6 33
	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises
	Sept. 19 →		Sept. 26 →		Oct. 1 →		Oct. 6 →		Oct. 11 →		Oct. 15 →		Oct. 18 →	
	← Mar. 17		← Mar. 13		← Mar. 8		← Mar. 3		← Feb. 27		← Feb. 24		← Feb. 21	
	0°		2°		4°		6°		8°		9°		10°	
SOUTH DECLINATION.														

THE INDIAN CALENDAR.

TABLE G. (CONTINUED.)

APPARENT TIME OF THE SUN'S RISING AND SETTING.

N.B. On and after each date entered herein use the column to which it refers. The arrows indicate the order.

Latitude. \Rightarrow \Leftarrow	NORTH DECLINATION.															
	11°		12°		13°		14°		15°		16°		17°			
	\Rightarrow Apr. 17 \Rightarrow \Leftarrow Aug. 23 \Leftarrow		\Rightarrow Apr. 20 \Rightarrow \Leftarrow Aug. 20 \Leftarrow		\Rightarrow Apr. 23 \Rightarrow \Leftarrow Aug. 17 \Leftarrow		\Rightarrow Apr. 26 \Rightarrow \Leftarrow Aug. 14 \Leftarrow		\Rightarrow Apr. 29 \Rightarrow \Leftarrow Aug. 10 \Leftarrow		\Rightarrow May 3 \Rightarrow \Leftarrow Aug. 7 \Leftarrow		\Rightarrow May 6 \Rightarrow \Leftarrow Aug. 3 \Leftarrow			
	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets		
0°	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	
2°	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	
4°	5 59	6 1	5 58	6 2	5 58	6 2	5 58	6 2	5 58	6 2	5 58	6 2	5 58	6 2	5 58	
6°	5 57	6 3	5 57	6 3	5 56	6 4	5 56	6 4	5 56	6 4	5 56	6 4	5 55	6 5	5 55	
8°	5 56	6 4	5 55	6 5	5 55	6 5	5 54	6 6	5 54	6 6	5 53	6 7	5 53	6 7	5 53	
10°	5 54	6 6	5 53	6 7	5 53	6 7	5 52	6 8	5 51	6 9	5 51	6 9	5 50	6 10	5 50	
12°	5 52	6 8	5 52	6 8	5 51	6 9	5 50	6 10	5 49	6 11	5 49	6 11	5 48	6 12	5 48	
14°	5 51	6 9	5 50	6 10	5 49	6 11	5 48	6 12	5 47	6 13	5 46	6 14	5 45	6 15	5 45	
16°	5 50	6 10	5 48	6 12	5 48	6 12	5 46	6 14	5 45	6 15	5 44	6 16	5 43	6 17	5 43	
18°	5 47	6 13	5 46	6 14	5 45	6 15	5 44	6 16	5 42	6 18	5 41	6 19	5 40	6 20	5 40	
20°	5 46	6 14	5 44	6 16	5 43	6 17	5 41	6 19	5 40	6 20	5 39	6 21	5 37	6 23	5 37	
22°	5 44	6 16	5 42	6 18	5 41	6 19	5 39	6 21	5 38	6 22	5 36	6 24	5 34	6 26	5 34	
24°	5 43	6 17	5 41	6 19	5 40	6 20	5 38	6 22	5 36	6 24	5 35	6 25	5 33	6 27	5 33	
26°	5 42	6 18	5 40	6 20	5 39	6 21	5 37	6 23	5 35	6 25	5 33	6 27	5 32	6 28	5 32	
28°	5 41	6 19	5 39	6 21	5 38	6 22	5 36	6 24	5 34	6 26	5 32	6 28	5 30	6 30	5 30	
30°	5 40	6 20	5 38	6 22	5 36	6 24	5 34	6 26	5 33	6 27	5 31	6 29	5 29	6 31	5 29	
32°	5 39	6 21	5 37	6 23	5 35	6 25	5 33	6 27	5 31	6 29	5 29	6 31	5 27	6 33	5 27	
34°	5 38	6 22	5 36	6 24	5 34	6 26	5 32	6 28	5 30	6 30	5 28	6 32	5 26	6 34	5 26	
36°	5 37	6 23	5 35	6 25	5 33	6 27	5 31	6 29	5 29	6 31	5 26	6 34	5 24	6 36	5 24	
38°	5 36	6 24	5 34	6 26	5 32	6 28	5 30	6 30	5 27	6 33	5 25	6 35	5 23	6 37	5 23	
39°	5 35	6 25	5 33	6 27	5 31	6 29	5 28	6 32	5 26	6 34	5 23	6 37	5 21	6 39	5 21	
30°	5 34	6 26	5 32	6 28	5 29	6 31	5 27	6 33	5 24	6 36	5 22	6 38	5 19	6 41	5 19	
31°	5 33	6 27	5 31	6 29	5 28	6 32	5 26	6 34	5 23	6 37	5 20	6 40	5 18	6 42	5 18	
32°	5 32	6 28	5 29	6 31	5 27	6 33	5 24	6 36	5 21	6 39	5 19	6 41	5 16	6 44	5 16	
33°	5 31	6 29	5 28	6 32	5 26	6 34	5 23	6 37	5 20	6 40	5 17	6 43	5 14	6 46	5 14	
34°	5 30	6 30	5 27	6 33	5 24	6 36	5 21	6 39	5 18	6 42	5 15	6 45	5 12	6 48	5 12	
35°	5 29	6 31	5 26	6 34	5 23	6 37	5 20	6 40	5 17	6 43	5 14	6 46	5 11	6 49	5 11	
36°	5 28	6 32	5 24	6 36	5 21	6 39	5 18	6 42	5 15	6 45	5 12	6 48	5 9	6 51	5 9	
37°	5 26	6 34	5 23	6 37	5 20	6 40	5 17	6 43	5 13	6 47	5 10	6 50	5 7	6 53	5 7	
38°	5 25	6 35	5 22	6 38	5 18	6 42	5 15	6 45	5 12	6 48	5 8	6 52	5 5	6 55	5 5	
39°	5 24	6 36	5 20	6 40	5 17	6 43	5 13	6 47	5 10	6 50	5 6	6 54	5 3	6 57	5 3	
	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	
\Rightarrow \Leftarrow	\Rightarrow Oct. 21 \Rightarrow \Leftarrow Feb. 19 \Leftarrow	\Rightarrow Oct. 23 \Rightarrow \Leftarrow Feb. 16 \Leftarrow	\Rightarrow Oct. 26 \Rightarrow \Leftarrow Feb. 13 \Leftarrow	\Rightarrow Oct. 29 \Rightarrow \Leftarrow Feb. 10 \Leftarrow	\Rightarrow Nov. 1 \Rightarrow \Leftarrow Feb. 7 \Leftarrow	\Rightarrow Nov. 5 \Rightarrow \Leftarrow Feb. 3 \Leftarrow	\Rightarrow Nov. 8 \Rightarrow \Leftarrow Jan. 31 \Leftarrow									
	11°	12°	13°	14°	15°	16°	17°									
	SOUTH DECLINATION.															

ECLIPSES OF THE MOON IN INDIA.

TABLE G. (CONTINUED.)

APPARENT TIME OF THE SUN'S RISING AND SETTING.

N.B. On and after each date entered herein use the column to which it refers. The arrows indicate the order.

Latitude. \rightsquigarrow \leftarrow	NORTH DECLINATION.													
	18°		19°		20°		21°		22°		23°		23 $\frac{1}{2}$ °	
	\rightsquigarrow May 10 \rightsquigarrow \leftarrow July 30		\rightsquigarrow May 14 \rightsquigarrow \leftarrow July 26		\rightsquigarrow May 18 \rightsquigarrow \leftarrow July 21		\rightsquigarrow May 23 \rightsquigarrow \leftarrow July 15		\rightsquigarrow May 28 \rightsquigarrow \leftarrow July 5		\rightsquigarrow June 5 \rightsquigarrow \leftarrow June 29		\rightsquigarrow June 14 \rightsquigarrow \leftarrow	
	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets
	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
0°	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0
2°	5 58	6 2	5 58	6 2	5 58	6 2	5 57	6 3	5 57	6 3	5 57	6 3	5 57	6 3
4°	5 55	6 5	5 55	6 5	5 55	6 5	5 54	6 6	5 54	6 6	5 53	6 7	5 53	6 7
6°	5 52	6 8	5 52	6 8	5 52	6 8	5 51	6 9	5 51	6 9	5 50	6 10	5 50	6 10
8°	5 50	6 10	5 49	6 11	5 49	6 11	5 48	6 12	5 47	6 13	5 47	6 13	5 46	6 14
10°	5 47	6 13	5 46	6 14	5 46	6 14	5 45	6 15	5 44	6 16	5 43	6 17	5 43	6 17
12°	5 44	6 16	5 44	6 16	5 43	6 17	5 42	6 18	5 41	6 19	5 40	6 20	5 39	6 21
14°	5 41	6 19	5 40	6 20	5 39	6 21	5 38	6 22	5 37	6 23	5 36	6 24	5 35	6 25
16°	5 39	6 21	5 37	6 23	5 36	6 24	5 35	6 25	5 33	6 27	5 32	6 28	5 31	6 29
18°	5 36	6 24	5 34	6 26	5 33	6 27	5 31	6 29	5 30	6 30	5 28	6 32	5 28	6 32
20°	5 33	6 27	5 31	6 29	5 30	6 30	5 28	6 32	5 26	6 34	5 24	6 36	5 24	6 36
21°	5 31	6 29	5 30	6 30	5 28	6 32	5 26	6 34	5 24	6 36	5 22	6 38	5 22	6 38
22°	5 30	6 30	5 28	6 32	5 26	6 34	5 24	6 36	5 22	6 38	5 21	6 39	5 20	6 40
23°	5 28	6 32	5 26	6 34	5 24	6 36	5 22	6 38	5 21	6 39	5 19	6 41	5 18	6 42
24°	5 27	6 33	5 25	6 35	5 23	6 37	5 21	6 39	5 19	6 41	5 16	6 44	5 15	6 45
25°	5 25	6 35	5 23	6 37	5 21	6 39	5 19	6 41	5 17	6 43	5 14	6 46	5 13	6 47
26°	5 24	6 36	5 21	6 39	5 19	6 41	5 17	6 43	5 15	6 45	5 12	6 48	5 11	6 49
27°	5 22	6 38	5 20	6 40	5 17	6 43	5 15	6 45	5 12	6 48	5 10	6 50	5 9	6 51
28°	5 20	6 40	5 18	6 42	5 15	6 45	5 13	6 47	5 10	6 50	5 8	6 52	5 7	6 53
29°	5 18	6 42	5 16	6 44	5 13	6 47	5 11	6 49	5 8	6 52	5 6	6 54	5 4	6 56
30°	5 17	6 43	5 14	6 46	5 11	6 49	5 9	6 51	5 6	6 54	5 3	6 57	5 2	6 58
31°	5 15	6 45	5 12	6 48	5 9	6 51	5 7	6 53	5 4	6 56	5 1	6 59	5 0	7 0
32°	5 13	6 47	5 10	6 50	5 7	6 53	5 4	6 56	5 2	6 58	4 59	7 1	4 57	7 3
33°	5 11	6 49	5 8	6 52	5 5	6 55	5 2	6 58	4 59	7 1	4 56	7 4	4 55	7 5
34°	5 9	6 51	5 6	6 54	5 3	6 57	5 0	7 0	4 57	7 3	4 53	7 7	4 52	7 8
35°	5 7	6 53	5 4	6 56	5 1	6 59	4 58	7 2	4 54	7 6	4 51	7 9	4 49	7 11
36°	5 5	6 55	5 2	6 58	4 59	7 1	4 55	7 5	4 52	7 8	4 48	7 12	4 46	7 14
37°	5 3	6 58	5 0	7 0	4 56	7 4	4 53	7 7	4 49	7 11	4 45	7 15	4 44	7 16
38°	5 1	6 59	4 58	7 2	4 53	7 7	4 50	7 10	4 46	7 14	4 43	7 17	4 41	7 19
39°	4 59	7 1	4 55	7 5	4 51	7 9	4 48	7 12	4 44	7 16	4 40	7 20	4 38	7 22
	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises	sets	rises
\rightsquigarrow \leftarrow	\rightsquigarrow Nov. 11 \rightsquigarrow \leftarrow Jan. 27		\rightsquigarrow Nov. 15 \rightsquigarrow \leftarrow Jan. 23		\rightsquigarrow Nov. 19 \rightsquigarrow \leftarrow Jan. 18		\rightsquigarrow Nov. 24 \rightsquigarrow \leftarrow Jan. 13		\rightsquigarrow Nov. 29 \rightsquigarrow \leftarrow Jan. 6		\rightsquigarrow Dec. 6 \rightsquigarrow \leftarrow Dec. 29		\rightsquigarrow Dec. 15 \rightsquigarrow \leftarrow	
	18°		19°		20°		21°		22°		23°		23 $\frac{1}{2}$ °	
SOUTH DECLINATION.														

TABLE H.

ECLIPSES BY NAUTICAL ALMANACK RECKONING.

N.B. It is probable that up to A. D. 1821 von Oppolzer's Canon is more reliable than the Nautical Almanack.

A. D. Year, Month, and Day.	Time measured from Lanka mean sunrise, taken as 6 A. M.				
	Greatest phase.	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.
			Begin- ning.	End.	
1	3	4	5	6	7
1768 Jan. 4.....	3 32	2 26	—	—	4 37
1768 June 30.....	2 53	1 6	2 18	3 27	4 40
1768 Dec. 23.....	14 10	12 21	13 20	15 0	15 58
1769 June 19.....	omitted in Nautical Almanack.				
1769 Dec. 13.....					
1771 Apr. 29.....	1 12	0 6	—	—	2 19
1771 Oct. 23.....	15 33	14 24	—	—	16 43
1772 Apr. 17.....	15 9	13 22	14 19	15 59	16 56
1772 Oct. 11.....	16 17	14 19	15 25	17 9	18 15
1773 Apr. 7.....	7 46	6 23	—	—	9 8
1773 Sept. 30.....	16 56	15 25	—	—	18 26
1775 Feb. 15.....	14 14	12 50	—	—	15 38
1775 Aug. 11.....	6 19	4 50	—	—	7 48
1776 Feb. 4.....	13 32	11 33	12 38	14 25	15 30
1776 July 30.....	23 5	21 19	22 18	23 53	24 52
1777 Jan. 23.....	15 27	14 2	—	—	16 51
1777 July 20.....	11 51	11 14	—	—	12 27
1778 Dec. 4.....	4 31	3 18	—	—	5 43
1779 May 30.....	3 55	2 2	3 13	4 37	5 48
1779 Nov. 23.....	18 48	16 58	17 58	19 38	20 38
1780 May 18.....	10 1	8 24	—	—	11 38
1780 Nov. 12.....	3 21	1 55	—	—	4 48
1782 Mar. 29.....	7 26	6 5	—	—	8 47
1782 Sept. 21.....	13 20	12 16	—	—	14 24
1783 Mar. 18.....	20 34	18 42	19 43	21 25	22 26
1783 Sept. 10.....	22 35	20 44	21 44	23 26	24 26
1784 Mar. 7.....	2 42	1 31	—	—	3 54
1784 Aug. 30.....	13 48	12 26	—	—	15 10
1786 Jan. 14.....	11 57	10 46	—	—	13 8
1786 July 11.....	9 49	8 4	9 29	10 8	11 33
1787 Jan. 3.....	22 56	21 8	22 6	23 45	24 43
1787 June 30.....	12 35	11 43	12 59	14 10	15 26
1787 Dec. 24.....	14 10	12 45	—	—	15 36
1789 May 9.....	8 31	7 27	—	—	9 23
1789 Nov. 2.....	23 19	22 15	—	—	24 24
1790 Apr. 28.....	23 3	21 16	22 14	23 51	24 49
1790 Oct. 22.....	23 42	21 44	22 51	24 34	25 41
1791 Apr. 18.....	15 44	14 18	—	—	17 11
1791 Oct. 11.....	24 26	22 50	—	—	26 1
1793 Feb. 25.....	22 1	20 40	—	—	23 23
1793 Aug. 21.....	13 59	12 35	—	—	15 23
1794 Feb. 14.....	21 24	19 25	20 31	22 17	23 22

ECLIPSES OF THE MOON IN INDIA.

TABLE H. (CONTINUED.)

ECLIPSES BY NAUTICAL ALMANACK RECKONING.

N.B. It is probable that up to A. D. 1821 von Oppolzer's Canon is more reliable than the Nautical Almanack.

A. D. Year, Month, and Day.		Time measured from Lanka mean sunrise, taken as 6 A. M.				End of Eclipse.
		Greatest phase.	Begin- ning of Eclipse.	Period of total obscuration.		
				Begin- ning.	End.	
1	3	4	5	6	7	
1794 Aug. 11.....	6 32	4 44	5 42	7 22	8 19	
1795 Feb. 3.....	23 42	22 16	—	—	25 8	
1795 July 31.....	18 51	17 56	—	—	19 47	
1796 Dec. 14.....	13 19	12 7	—	—	14 32	
1797 June 9.....	10 32	8 43	10 0	11 4	12 21	
1797 Dec. 4.....	3 21	1 31	2 30	4 11	5 11	
1798 May 29.....	17 10	15 27	16 45	17 35	18 53	
1798 Nov. 23.....	11 28	9 59	—	—	12 56	
1800 Apr. 9.....	15 28	14 11	—	—	16 46	
1800 Oct. 2.....	20 48	19 53	—	—	21 43	
1801 Mar. 30.....	4 27	2 35	3 35	5 19	6 19	
1801 Sept. 22.....	6 21	4 32	5 32	7 10	8 10	
1802 Mar. 19.....	10 17	9 1	—	—	11 34	
1802 Sept. 11.....	21 39	20 13	—	—	23 5	
1804 Jan. 26.....	20 23	19 13	—	—	21 32	
1804 July 22.....	16 40	15 1	—	—	18 19	
1805 Jan. 15.....	7 43	5 55	6 53	8 32	9 30	
1805 July 11.....	20 7	18 12	19 22	20 52	22 2	
1806 Jan. 4.....	23 3	21 37	—	—	24 29	
1807 May 21.....	15 51	15 8	—	—	16 34	
1807 Nov. 15.....	7 12	6 11	—	—	8 13	
1808 May 10.....	6 40	4 55	5 53	7 27	8 25	
1808 Nov. 3.....	7 16	5 19	6 26	8 5	9 12	
1809 Apr. 29.....	23 42	22 11	—	—	25 12	
1809 Oct. 23.....	8 5	6 28	—	—	9 42	
1811 Mar. 10.....	5 41	4 24	—	—	6 58	
1811 Sept. 2.....	21 45	20 26	—	—	23 3	
1812 Feb. 27.....	5 8	3 10	4 16	6 0	7 6	
1812 Aug. 22.....	14 4	12 15	13 13	14 55	15 53	
1813 Feb. 15.....	7 54	6 28	—	—	9 20	
1813 Aug. 12.....	1 56	0 49	—	—	3 3	
1814 Dec. 26.....	22 11	21 0	—	—	23 22	
1815 June 21.....	17 9	15 25	17 2	17 16	18 53	
1815 Dec. 16.....	11 58	10 10	11 9	12 47	13 46	
1816 June 9.....	24 17	22 32	23 41	24 53	26 3	
1816 Dec. 4.....	19 38	18 9	—	—	21 8	
1818 Apr. 20.....	23 23	22 13	—	—	24 34	
1818 Oct. 14.....	4 28	3 42	—	—	5 14	
1819 Apr. 10.....	12 11	10 20	11 20	13 2	14 2	
1819 Oct. 3.....	14 16	12 28	13 28	15 4	16 4	
1820 Mar. 29.....	17 46	16 25	—	—	19 7	
1820 Sept. 22.....	5 38	4 9	—	—	7 6	
1822 Feb. 6.....	4 46	3 38	—	—	5 54	
1822 Aug. 2.....	23 30	21 58	—	—	25 2	
1823 Jan. 26.....	16 28	14 41	15 39	17 17	18 14	

TABLE H. (CONTINUED.)

ECLIPSES BY NAUTICAL ALMANACK RECKONING.

N.B. It is probable that up to A. D. 1821 von Oppolzer's Canon is more reliable than the Nautical Almanack.

A. D. Year, Month, and Day.	Time measured from Lanka mean sunrise, taken as 6 A. M.				
	Greatest phase.	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.
			Begin- ning.	End.	
1	3	4	5	6	7
1823 July 23.....	2 35	0 39	1 46	3 25	4 31
1824 Jan. 16.....	7 57	6 31	—	—	9 22
1824 July 11.....	3 18	2 34	—	—	4 2
1825 May 31.....	23 9	22 54	—	—	23 23
1825 Nov. 25.....	15 12	14 15	—	—	16 9
1826 May 21.....	14 18	12 35	13 35	15 1	16 1
1826 Nov. 14.....	14 59	13 3	14 11	15 47	16 55
1827 May 11.....	7 19	5 46	*	*	8 53
1827 Nov. 3.....	15 57	14 19	—	—	17 35
1829 Mar. 20.....	13 11	12 0	—	—	14 23
1829 Sept. 13.....	5 36	4 24	—	—	6 48
1830 Mar. 9.....	12 46	10 49	11 54	13 38	14 43
1830 Sept. 2.....	21 41	19 53	20 51	22 31	23 29
1831 Feb. 26.....	15 59	14 30	—	—	17 27
1831 Aug. 23.....	9 3	7 47	—	—	10 19
1833 Jan. 6.....	7 2	5 52	—	—	8 13
1833 July 1.....	23 45	22 7	—	—	25 23
1833 Dec. 26.....	20 35	18 46	19 46	21 24	22 24
1834 June 21.....	7 23	5 35	6 40	8 5	9 10
1834 Dec. 16.....	3 51	2 22	—	—	5 20
1835 June 10.....	21 39	21 10	—	—	22 7
1836 May 1.....	7 9	6 7	—	—	8 12
1836 Oct. 24.....	12 17	11 41	—	—	12 53
1837 Apr. 20.....	19 44	17 53	18 54	20 34	21 35
1837 Oct. 13.....	22 20	20 34	21 34	23 6	24 6
1838 Apr. 9.....	25 2	23 35	—	—	26 28
1838 Oct. 3.....	13 44	12 13	—	—	15 15
1840 Feb. 17.....	13 5	11 59	—	—	14 11
1840 Aug. 13.....	6 26	5 1	—	—	7 51
1841 Feb. 5.....	25 10	23 23	24 21	25 58	26 56
1841 Aug. 2.....	9 4	7 7	8 12	9 56	11 1
1842 Jan. 26.....	16 47	15 21	—	—	18 13
1842 July 22.....	9 50	8 48	—	—	10 53
1843 Dec. 6.....	23 14	22 21	—	—	24 7
1844 May 31.....	21 53	20 12	21 15	22 31	23 34
1844 Nov. 24.....	22 48	20 53	22 1	23 34	24 42
1845 May 21.....	14 57	13 20	14 34	15 20	16 34
1845 Nov. 13.....	23 52	22 13	—	—	25 31
1847 Mar. 31.....	20 29	19 26	—	—	21 32
1847 Sept. 24.....	13 36	12 30	—	—	14 43
1848 Mar. 19.....	20 15	18 19	19 24	21 6	22 11
1848 Sept. 13.....	5 22	3 34	4 43	6 11	7 10
1849 Mar. 8.....	23 58	22 28	—	—	25 28
1849 Sept. 2.....	16 13	14 50	—	—	17 36
1851 Jan. 17.....	15 53	14 43	—	—	17 3

* The Nautical Almanack gives the eclipse as not quite total the digits eclipsed being $11^{\circ} 47\frac{1}{2}'$.

ECLIPSES OF THE MOON IN INDIA.

TABLE H. (CONTINUED.)

ECLIPSES BY NAUTICAL ALMANACK RECKONING.

N.B. It is probable that up to A. D. 1821 von Oppolzer's Canon is more reliable than the Nautical Almanack.

A. D. Year, Month, and Day.	Time measured from Lanka mean sunrise, taken as 6 A. M.				End of Eclipse.
	Greatest phase.	Begin- ning of Eclipse.	Period of total obscuration.		
			Begin- ning.	End.	
1	3	4	5	6	7
1851 July 13.....	6 24	4 53	—	—	7 55
1852 Jan. 7.....	5 13	3 24	4 24	6 2	7 2
1852 July 1.....	14 29	12 40	13 41	15 16	16 17
1852 Dec. 26.....	12 6	10 36	—	—	13 35
1853 June 21.....	5 4	4 16	—	—	5 53
1854 May 12.....	14 49	13 56	—	—	15 41
1854 Nov. 4.....	20 15	19 48	—	—	20 42
1855 May 2.....	3 8	1 17	2 20	3 56	4 59
1855 Oct. 25.....	6 32	4 47	5 48	7 16	8 18
1856 Apr. 20.....	8 9	6 37	—	—	9 42
1856 Oct. 13.....	21 57	20 24	—*	—*	23 30
1858 Feb. 27.....	21 17	20 13	—	—	22 20
1858 Aug. 24.....	13 23	12 7	—	—	14 40
1859 Feb. 17.....	9 46	8 0	8 58	10 34	11 32
1859 Aug. 13.....	15 37	13 39	14 44	16 30	17 35
1860 Feb. 6†.....	25 32	24 5	—	—	26 59
1860 Aug. 1.....	16 28	15 11	—	—	17 44
1861 Dec. 17.....	7 21	6 30	—	—	8 12
1862 June 12.....	5 24	3 45	4 53	5 55	7 3
1862 Dec. 6.....	6 43	4 49	5 58	7 29	8 38
1863 June 1.....	22 29	20 49	21 56	23 2	24 9
1863 Nov. 25.....	7 59	6 19	—	—	9 39
1865 Apr. 11.....	3 41	2 48	—	—	4 34
1865 Oct. 4.....	21 43	20 42	—	—	22 44
1866 Mar. 31.....	3 36	1 41	2 47	4 25	5 31
1866 Sept. 24.....	13 10	11 23	12 22	13 58	14 57
1867 Mar. 20.....	7 52	6 19	—	—	9 25
1867 Sept. 13.....	23 29	22 0	—	—	24 58
1869 Jan. 27.....	24 41	23 32	—	—	25 50
1869 July 23.....	13 6	11 43	—	—	14 28
1870 Jan. 17.....	13 49	12 0	13 0	14 38	15 38
1870 July 12.....	21 37	19 47	20 47	22 27	23 27
1871 Jan. 6.....	20 19	18 49	—	—	21 49
1871 July 2.....	12 31	11 29	—	—	13 32
1872 May 22.....	22 21	21 44	—	—	22 59
1872 Nov. 15.....	4 22	4 5	—	—	4 40
1873 May 12.....	10 23	8 33	9 38	11 8	12 13
1873 Nov. 4.....	14 54	13 10	14 11	15 37	16 38
1874 May 1.....	15 6	13 28	—	—	16 44
1874 Oct. 25.....	6 19	4 45	6 3	6 36	7 54
1876 Mar. 10.....	5 24	4 24	—	—	6 24
1876 Sept. 3.....	20 25	19 18	—	—	21 32
1877 Feb. 27.....	18 18	16 33	17 30	19 6	20 4
1877 Aug. 23.....	22 14	20 17	21 22	23 7	24 12
1878 Feb. 17.....	10 14	8 46	—	—	11 42

* The^o Nautical almanack gives this as not quite total, the digits eclipsed being 0.994.

† The day is really the 7th (1.32, etc.). The entry of the sixth is retained for comparison with Table E.

THE INDIAN CALENDAR.

TABLE H. (CONTINUED)

ECLIPSES BY NAUTICAL ALMANACK RECKONING.

N.B. It is probable that up to A.D. 1821 von Oppolzer's Canon is more reliable than the Nautical Almanack.

A. D. Year, Month, and Day.	Time measured from Lanka mean sunrise, taken as 6 A. M.				
	Greatest phase.	Begin- ning of Eclipse.	Period of total obscuration.		End of Eclipse.
			Begin- ning.	End.	
1	3	4	5	6	7
1878 Aug. 12.....	23 11	21 46	—	—	24 37
1879 Dec. 28.....	15 29	14 40	—	—	16 18
1880 June 22.....	12 53	11 18	12 34	13 12	14 28
1880 Dec. 16.....	14 42	12 48	13 57	15 27	16 36
1881 June 12.....	5 56	4 14	5 17	6 36	7 39
1881 Dec. 5.....	16 11	14 31	—*	—*	17 52
1883 Apr. 22.....	10 42	10 6	—	—	11 17
1883 Oct. 16.....	5 57	5 2	—	—	6 53
1884 Apr. 10.....	10 50	8 56	10 3	11 36	12 44
1884 Oct. 4.....	21 5	19 18	20 19	21 51	22 52
1885 Mar. 30.....	15 37	14 2	—	—	17 13
1885 Sept. 24.....	6 51	5 18	—	—	8 25
1887 Feb. 8.....	9 25	8 17	—	—	10 33
1887 Aug. 3.....	19 52	18 39	—	—	21 5
1888 Jan. 28.....	22 23	20 34	21 34	23 12	24 12
1888 July 23.....	4 48	2 58	3 57	5 39	6 38
1889 Jan. 17.....	4 33	3 2	—	—	6 4
1889 July 12.....	19 57	18 46	—	—	21 8
1890 June 3.....	†	†	†	†	†
1890 Nov. 26.....	12 37	12 32	—	—	12 42
1891 May 23.....	17 32	15 44	16 52	18 12	19 20
1891 Nov. 15.....	23 22	21 38	22 40	24 4	25 6
1892 May 11.....	21 56	20 13	—	—	23 40
1892 Nov. 4.....	14 48	13 12	14 24	15 12	16 24
1894 Mar. 21.....	13 24	12 29	—	—	14 18
1894 Sept. 15.....	3 35	2 39	—	—	4 30
1895 Mar. 11.....	2 42	0 57	1 55	3 30	4 28
1895 Sept. 4.....	5 0	3 3	4 10	5 50	6 57
1896 Feb. 28.....	18 49	17 19	—	—	20 19
1896 Aug. 23.....	6 0	4 27	—	—	7 33
1898 Jan. 7.....	23 38	22 50	—	—	24 25
1898 July 3.....	20 21	18 49	—	—	21 52
1898 Dec. 27.....	22 45	20 51	22 0	23 30	24 39
1899 June 23.....	13 21	11 36	12 36	14 6	15 6
1899 Dec. 16.....	24 29	22 48	—§	—§	26 10
1900 June 13.....	2 31	2 27	—	—	2 34

* The Nautical Almanack makes this eclipse just short of total.

† The Canon gives a very small eclipse. The Nautical Almanack and *Connaissance des Temps*, none.

§ The Nautical Almanack makes this Eclipse just short of total.



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