QUAC and the RASC, Kingston Centre

NEWSLETTER.

MEETING, MEETING, MEETING! (third time's the charm!)

LAST OF THIS SCHOOL YEAR:

TUES. MARCH 29, 1977

8:00 pm

ELLIS HALL, Rm 222.

(thought I'd liven up this space a bit)

BUSINESS WILL BE:

1.) Complete nominations and vote for new exec. Nominations last week:

President:	Vice-Pres.	Sec.-Tres.
Denis Belanger	Doug Baker	Sue McDougall
Leo Enright		

2.) Decide what to do with the fortune we've amassed (sp?) this year.

3.) Those who will be here this summer - make plans to be active (Oh, my god!).

OLD BUSINESS:

The committee set up to look into future plans for both Q.U.A.C. and the R.A.S.C. (K-G) brought forth the suggestion that we buy a telescope-making kit over the summer as a project for next (and next? and next??) year. It would be a portable one, so we could take it out on observing sessions. I believe we will be choosing the kit we want at this next meeting, so if you want to have a say in the future of the club - attend!

Sorry - there is no "SKY FOR THE FIRST PART OF APRIL" in this issue. However, I do have two Handbooks left to sell — LAST CHANCE! (For Toronto)

Rationalizing The Position Of The Planet Uranus In 1977.

Uranus will generally not be seen by any of us with the unaided eye but we may fairly easily locate it with binoculars or a telescope. None of its satellites will be seen in any of the telescopes that any of us are likely to have the opportunity of using this year.

In this article I am not going to produce a diagram. I refer you to the diagram of the relative positions of the earth and Saturn in the last issue and I point out that the orbit of Uranus will be similar to that of Saturn except for the following points: (1) Whereas Jupiter appeared in 3 constellations and Saturn in 2, Uranus appears in only 1. It is seen against the background of stars of the constellation Libra (2) It moves along the arc of its orbit only a very short apparent distance; in fact, it moves less than 1° of Right Ascension (from $14^h 34^m 14.^s9$ on Jan. 1 to only $14^h 51^m 40.^s7$ on Dec. 31) and most of its motion for part of the year seems to be taken up in a retrograde shift because the earth's orbit makes it appear to shift backward against background stars. (3) This slowness of apparent movement is due to its great distance from the sun. Amazingly, it is over twice the distance of its neighbour, Saturn, from the sun, and it takes over 84 years to complete its revolution of the sun. (4) Though this is not shown and cannot be shown on the type of diagram used in the last issue for Saturn, there is another way in which it is different. Whereas Saturn in Cancer and Leo is often high in the sky for us at Northern Latitudes, Uranus, both this year in Libra, and in coming years in Scorpius and Sagittarius, will be well below the celestial equator and therefore above the horizon for shorter periods of time each night, and also more difficult to observe at such southern declinations especially if there is haze or light pollution near our southern horizon. This year its declination changes from $-14°\,39'\,43''$ on Jan 1 to $-16°\,02'\,37''$ on Dec 31.

Construct for Uranus a diagram similar to the one for Saturn (first mentioned) and mark Uranus at opposition on April 30,

"move into the morning sky" in December. It will not be seen during most of October and November because of its apparent position being so close to the sun.

Best of luck in trying to observe Uranus. Start out by fixing on a spot half way between the stars Spica (α Virginis) and Zubenelgenubi (α Librae) and then move toward the latter. You will probably easily locate it within that path.

MORE ABOUT THE PLANET URANUS

Saturn is not the only planet with rings!!!

According to a newspaper article which I read yesterday, three American scientists found out, and observatories in India and Australia confirmed, that the planet Uranus is encircled by rings about its equatorial belt. The rings are apparently well inside the orbit of the innermost of the 5 moons.

The Saros in Review

For those who want to review the Saros, the time period which is so important to the study of eclipses, here are the figures again.

A SAROS = 223 lunations (or synodic months) = 6585.32 days
= 242 draconic months (241.999, to be exact)
= 239 anomalistic months (238.99 to be exact)

A synodic month is the time between successive new moons.
A draconic month is the time between successive lunar passages of the same node
An anomalistic month is the time between successive lunar passages of the perigee point.

The Compendium Of Esoteric Facts Column

This week in our column we ask you:
Did you know that:

The period of revolution of the satellites of Jupiter has been calculated with tremendous accuracy. For example, the American Ephemeris gives data on the Galilean moons to not just the nearest minute but to the nearest one-thousandth of a second, or the nearest one-one hundred millionth of a day. For example, the mean period of Callisto is

$16^d 18^h 05^m 06.^s 916 = 16.753552 27^{days}$

Under The Dome

The Messier objects which I tried to locate with the telescope at the last meeting were M65, M66, M95, and M96, all in the constellation, Leo. In the future, we should perhaps try further north in the sky to locate M3, M51, M63 and perhaps M94, all in Canes Venatici. Perhaps some night under a clearer, less hazy sky, we will have better luck.

Note: Please do not (REPEAT: DO NOT) turn to the last 2 pages of this Newsletter. Simply close this newsletter now and file it on your shelf beside your [illegible]

PANIC! PANIC!! PANIC!! PANIC!!

EXAM. EXAM. EXAM TOUGH EXAM. EXAM.. EXAM..

You were warned but you looked anyway. Now you have to pay the penalty. You must write the exam. Besides --is is not customary for most noble institutions to have an exam at the end of the year?

Be fair. No cheating is allowed (or almost none). RULES: Complete all of the following statements by filling in the blanks in your finest penmanship. The passing mark will be 80%. Those who do not successfully complete this exam will definitely not be given a discount on next year's membership dues. Bring the paper along with yourself to our meeting on March 29th, and submit it for marking and grading.

Proceed through the questions in order, doing Part A first, and then the others. Good Luck!! May you win a scholarship!!

The Exam

Part A

1. The name of the current Secretary-Treasurer of the Kingston Centre of the Royal Astronomical Society of Canada is _____
2. The name of the Queen's professor who spoke to us at a meeting this year is _____
3. Our meetings are held regularly (bi-weekly) on _____ nights at _____ p.m. in Room _____ in _____ Hall.
4. The name of the thing which Denis built is _____.
5. Recent Centre Newsletters have featured articles on the celestial position of the planets _____ and _____ during the current year.
6. One newsletter informed me that the number of transits of Venus that can be seen during the present century is _____ .
7. Our current project is to build a _____ and maintain it for use by the Centre members.
8. The number of members we hope to have in our Centre by this time next year is _____ .

Part B

1. The exact length of a Saros is _____ days.(No peaking for this!)
2. The length of an eclipse year is _____ days.
3. The number of eclipse seasons in an eclipse year is _____.
4. The maximum number of solar eclipses possible in an eclipse season is _____ .
5. The maximum number of lunar eclipses possible in an eclipse season is _____ .
6. The maximum number of solar eclipses possible in a calendar year is _____ .
7. The maximum number of lunar eclipses possible in a calendar year is _____ .
8. The minimum number of solar eclipses possible in a calendar year is _____ .
9. The minimum number of lunar eclipses possible in a calendar year is _____ .
10. The most common number of lunar eclipses in a calendar year is _____ .
11. The three types of solar eclipses are _____ , _____ ,

and _____, the two types of easily observable lunar eclipses are _____ and _____ .

12. The EXELIGMOS is a period of time _____ times as long as the Saros. It is, therefore, _____ days or approximately _____ yr. and _____ mo. in length.
13. In the long Saros series there are usually about _____ eclipses each one of them a Saros apart. This long series, therefore, lasts about _____ years.
14. Theoretically, it has been shown that the maximum possible duration of a total solar eclipse occurring at the end of the present century is _____ minutes, _____ seconds.
15. In about 200 years hence, there will be a total solar eclipse whose duration will be within _____ seconds or reaching this limit.
16. One of the long Saros series currently in progress has brought us three very long eclipses - in the years _____ , _____, and _____ .
17. In the current year the number of solar eclipses will be _____, _____ of them will be total.
18. If I wanted to view a total solar eclipse in Canada before the end of the present century, I should plan to travel to the provinces of _____ in the year _____ .

Part C

1. Two Messier objects which we have tried to observe with our telescope are _____ and _____.
2. One of the most neglected telescopes in the area is located on the top of _____ Hall.
3. Two planets we have recently observed with the telescope are _____ and _____.
4. The main telescope is known as a _____ type of telescope.

Signature of Candidate:

For Marker's Use Only:

Number of blanks: 50

Number of Correct Answers: _____

Your mark on the exam: _____ x 2 = _____

Marker's Comment: _____

and thank you very much for participating

I hope you had some fun.