

of the planets, as their discs are quite small.

Jupiter is slowly coming into good position, and increasing in angular diameter. Towards the end of December the giant planet rises about midnight. Early morning observers may see satellite I. and its shadow on the disc of Jupiter, on December 20th, at 3 o'clock a.m. Again on the morning of Dec. 20th, at 5 o'clock, we may see the shadows of sats. I. and III. on the disc. It may be noted that a good two-inch telescope will show these shadows as little round black dots. The moons themselves, when in transit over Jupiter, are not so easily seen. It requires at least three-inch aperture to show these easily.

Saturn must be looked for before sunrise, and far south among the stars of Scorpio. We may expect to hear of some original work being done in planetary study during the coming year, as Prof. J. E. Keeler, of

Allegheny, has announced his intention of bringing spectroscopic analysis to bear on the question of the rotation periods of the planets. With everything favorable, and with such instruments as have been employed in determining the velocity of stars in the line of sight, it is proposed to note the shifting of the lines in the spectrum of a planet, directing the spectroscope first upon the hemisphere approaching us and then upon the receding. The varying velocity of the outer and inner edges of Saturn's rings were determined in this way and by Prof. Keeler. There is every reason to believe that the positive proof as to the rotation of Venus may be given by the same authority.

There will be one interesting occultation during December. On the evening of the 27th, about 6 o'clock, the dark limb of the moon occults the 4th mag. star Theta in the constellation of Aquarius.

SCHOOL WORK.

ONTARIO NORMAL COLLEGE NOTES.

The examinations for students leaving in December begin on the 7th inst.

The following time-table has been issued:

9—12.

- Dec. 7. Science of Education.
- " 8. Psychology.
- " 9. Methods in Mathematics (Pass).
- " 10. Methods in English (Pass).
- " 11. Methods in French and German (Pass).
- " 13. Methods in Science (Pass Chemistry, Physics and Biology).
- " 14. Methods in English (Specialists).

- Dec. 15. Methods in Mathematics (Specialists).

1.30—4.30.

- " 7. Methods in Latin (Pass).
- " 8. School Management.
- " 9. History of Education.
- " 10. Methods in Elementary Science (Physics and Botany)
- " 11. Methods in Greek (Pass).
- " 13. Methods in Classics (Specialists).
- " 14. Methods in French and German (Specialists).
- Dec. 15. Methods in Science (Specialists).

The sessional examinations start on the 16th.

A branch of the Y.M.C.A. has been formed, with a prospective member-