

planet (under low power) will be the 4th magnitude star Lambda, in the foot of Virgo. Uranus will be south and east of the star. The great yellow star, Arcturus, transits the meridian about the same time as the planet and λ Virginis, slightly preceding, at an altitude of 66° . He will therefore fairly well mark the position in Right Ascension of the other two. There will be three occultations by the moon favourable for observation this month. On February 12th at 5h. 58m. the star Eta Leonis; on March 4th at 11h. 56m. ν Tauri; and March 9th at oh. 36m. A.M. the star λ Caucris. The planet Neptune on March 8th will be near enough to ϵ Tauri to be seen in the same field with low power; this star comes on top of the figure V in the Bull's head, the bright star Aldebaran forming the other. The planet will be north and

west of the star. Of course large aperture is necessary to observe Neptune with advantage.

BETHLEHEM AND CALVARY.

"With staff and hat the scallop wearing
The far-off East I journeyed through,
And homeward now, a pilgrim bearing
This message, I have come to you:

Go not with hat and staff to wander
Beside God's grave and cradle yonder,
Look inward and behold with awe
His Bethlehem and Golgotha.

"O heart! what profits all thy kneeling
Where once He laid His infant head,
To view with an enraptured feeling
His grave, long emptied of its dead?
To have Him born in thee with power
To die to earth and sin each hour
And live to Him—and this alway,
Is Bethlehem and Calvary."

SCHOOL WORK.

MATHEMATICS.

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JUNIOR LEAVING AND PASS MATRICULATION.

*Hints and Solutions, By L. B. Davidson,
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ALGEBRA.

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NOTE.—Candidates for Junior Matriculation will take any eight questions in section A. Candidates for the Junior Leaving examination will take six questions in section A, and any two questions in section B.

A.

1. Collect and reduce to the simplest form:

$$(a) \frac{x+y}{y} - \frac{2x}{x+y} + \frac{x^3 - x^2y}{y^3 - x^2y}.$$

$$(b) \frac{a}{(a-b)(a-c)} + \frac{b}{(b-c)(b-a)} + \frac{c}{(c-a)(c-b)}.$$

1 (a) Write $\frac{x+y}{y} - \frac{2x}{x+y} - \frac{x^3 - x^2y}{x^2y - y^3}$
etc. Ans. = $\frac{y}{x+y}.$

(b) Write $\frac{a}{(a-b)(a-c)} - \frac{b}{(b-c)(a-b)} + \frac{c}{(a-c)(b-c)},$ etc. Ans. 0.

2. Find the value of x in (a) and the values of x and y in (b).

$$(a) \frac{\sqrt{3x+1} + \sqrt{3x}}{\sqrt{3x+1} - \sqrt{3x}} = 4.$$

(b) $(a-b)(x+(c-d)y) = p+q, (a+b, x-(c+d)y) = p-q.$

2. (a) Add 1 to each side of equation, style this No. 2. Subtract 1 from each side of equation, style this No. 3. Divide No. 2