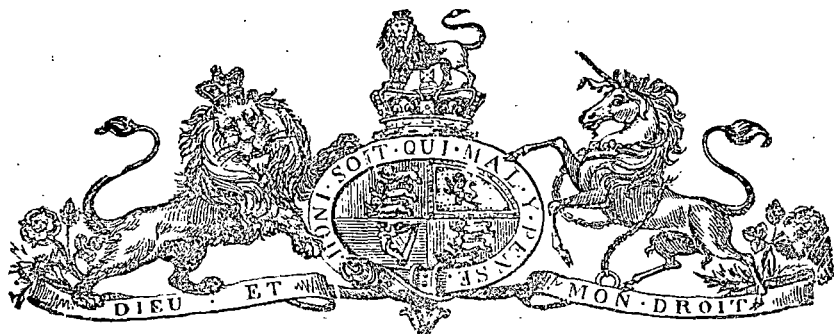1875.

TASMANIA.

LEGISLATIVE COUNCIL.

TASMANIAN SCHOLARSHIPS:

EXAMINERS' REPORT, 1874.

Laid upon the Table by Mr. Chapman, and ordered by the Council to be printed, August 10, 1875.

TASMANIAN COUNCIL OF EDUCATION.

TASMANIAN SCHOLARSHIPS.

THE Council of Education has directed the publication of the names of the under-mentioned Candidates who have passed the Examination for the Tasmanian Scholarships to the satisfaction of the Examiner, and to whom such Scholarships have been awarded accordingly, under the terms of "The Tasmanian Council of Education and Scholarship Act:"—

JAMES WILLIAM TIBBS, age 18 years and 11 months, Hobart Town, Tasmania, Associate of Arts, 1872, Pupil of the Rev. R. D. Poulett-Harris, M.A., High School, Hobart Town.

FRANCIS LEICESTER BUTLER, age 18 years and 11 months, Hobart Town, Tasmania, Associate of Arts, 1872, Pupil of the Rev. R. D. Poulett-Harris, M.A., High School, Hobart Town.

The Report of the Examiner is annexed.

By Order of the Council,

Hobart Town, 24th Sept. 1874.   GEO. RICHARDSON, *Secretary.*

EXAMINER'S REPORT.

MR. PRESIDENT AND MEMBERS OF THE TASMANIAN COUNCIL OF EDUCATION.

I HAVE the honor to report that the Examination for the Tasmanian Scholarships commenced on the afternoon of Tuesday, the 15th, and concluded yesterday.

On adding up the marks of the Candidates, it appeared that three of the five had satisfied the conditions prescribed by the Council for the award of a Scholarship; viz.—

E, who obtained 898 marks in Mathematics, and 2069 in all.
B, who obtained 751 marks in Mathematics, and 1812 in all.
C, who obtained 937 marks in Classics, and 1739 in all.

On opening the sealed envelopes it was found that the Scholars for the year were—

JAMES WILLIAM TIBBS, A.A. 1872.
FRANCIS LEICESTER BUTLER, A.A. 1872.

And that the third on the list was—

ALFRED DORAN, A.A. 1873.

M. H. IRVING, *M.A., Examiner.*

A full schedule of the marks obtained by all the Candidates is appended to this Report.

Hobart Town, 23rd September, 1874.

EXAMINATION for Tasmanian Scholarships, 1874.

	Full Marks.	A.	B.	C.	D.	E.
MATHEMATICS.						
I. Arithmetic and Algebra	350	17	117	75	111	111
II. Euclid and Geometrical Conics and Trigonometry	375	49	265	132	202	286
III. Trigonometry and Analytical Conics	375	11	161	62	126	276
IV. Differential Calculus and Natural Philosophy	400	40	208	80	225	225
Total....................	1500	117	751	349	664	898
CLASSICS.						
I. Greek Authors	260	149	133	180	112	165
II. Latin Authors....................	240	161	141	170	161	155
III. General Questions................	300	188	118	170	136	169
IV. Greek Composition	250	122	84	160	72	140
V. Latin Composition	300	170	122	176	94	178
VI. Ancient History	150	26	78	81	28	50
Total.........	1500	816	676	937	603	857
MODERN LANGUAGES AND HISTORY.						
I. English	250	117	133	114	96	110
II. French	250	75	84	159	123	127
III. Constitutional History	250	75	168	180	57	77
Total..................	750	267	385	453	276	314
GRAND TOTAL..............	3750	1200	1812	1739	1543	2069

M. H. IRVING, *M.A., Examiner.*

23rd September, 1874.

Mathematics.—I.

Four hours.

ARITHMETIC AND ALGEBRA.

1. How are magnitudes represented numerically? What is the standard unit of length in England? Show how the units of area, volume, and weight may be obtained from it. If a mile be represented by the number 440, what is the number of yards in the unit of length, and what is the number of pounds Avoirdupois of water contained in the unit of volume? The weight of a cubic inch of water is 252·458 grains.

2. State and prove the rule for testing multiplication by the process of casting out nines. Why is it so called? Illustrate your answer by multiplying 277·274 by 252·458.

3. A selection of land was surveyed with a chain which was three inches too long, and appeared to contain 320 acres. What was its real area in acres correct to three places of decimals?

4. In making calculations involving periods of many years, how may leap years be conveniently allowed for? The Melbourne *Argus* of August 24th, 1874, is numbered 8797. Supposing that a paper has been published on every day of the year, except Sundays and Good Friday, on what day of the month and in what year was No. 1 published?

5. Find the number of inches in the edge of a cube which contains a gallon. What would be the number of inches in the side of a square which would have the same area as the surface of this cube?

6. What is meant by the present value of a given sum of money due after a given time at a given rate per cent? Show that bankers' discount is the amount of the true discount for the given time, at the given rate. What is the sum whose discount for 5 years at 5 per cent. is £50?

7. If $f(x)$, a rational integral function of x, be divided by $x - a$, the remainder is what $f(x)$ becomes when in it a is written for x. Hence show that if a is a root of the equation $f(x) = 0$, $x - a$ is a factor of $f(x)$. Apply this to resolve $a^2 (b - c) + b^2 (c - a) + c^2 (a - b)$ into factors.

8. Explain clearly what is meant by the Highest Common Measure of two Algebraical Expressions. State and prove the different steps of the general process for finding it, and state the precautions to be observed. Apply the process to find the H. C. M. of $(x + a)^2 - (b + c)^2$ and $(x + b)^2 - (a + c)^2$, and test the result by resolving the expressions into factors.

9. What is meant by a root of an equation? When are equations said to be simultaneous? What is the condition that the equations $ax + by + c = 0$, $a'x + b'y + c' = 0$, $a''x + b''y + c'' = 0$, should be simultaneous, and that the equations $x^p + ax + \beta = 0$, $x^p - \beta x - a = 0$, should have a root in common?

10. Solve the equations—

(α)
$$\begin{cases} \dfrac{x}{a} + \dfrac{y}{b} = 1 \\ x^2 + y^2 = \dfrac{a^2 + b^2}{4} \end{cases}$$

(β)
$$\begin{cases} x^2 + xy + y^2 = 37. \\ x^2 + xz + z^2 = 28. \\ y^2 + yz + z^2 = 19. \end{cases}$$

(γ) $x^4 + x^2 - 4x^2 + x + 1 = 0.$

(δ) $2x - \sqrt{x^2 - 3x - 3} = 9.$

(ε) At what times between p and q o'clock are the hands of a watch m minute divisions apart?

In (α) deduce the values of one of the unknown numbers from those of the other; explain the reason for the process. In (δ) explain why one of the apparent roots does not satisfy the given equation. What equation does it satisfy?

11. How many roots has the equation $ax^3 + bx^2 + cx + d = 0$? What is the connexion between the coefficients of this equation and the roots? Eliminate x between the equations—

$$p = (2a - q)\frac{1}{x} + \frac{a}{x^3} \quad \text{and} \quad p = (q - 2a)x - ax^3$$

12. Give an outline of the proof of the Exponential Theorem, clearly pointing out the assumption made in the proof. Deduce the expansion of $\log(1 + x)$.

If p and q are the roots of the equation $cx^2 - bx + a = 0$ show that $\log(ax^2 + bx + c) = \log c + (p + q)x - \frac{1}{2}(p^2 + q^2)x^2 + \&c.$

13. Write down the general even term in the expansion of $(1 + x)^n$ If n is a positive integer shew that when y is diminished without limit, $\dfrac{1}{y}\left\{(x + y)^n - x^n\right\} = nx^{n-1}$, and that if x^3 is very small compared with 1

$$\frac{(1 - x)^{\frac{3}{2}} + (1 + x)^{\frac{2}{3}}}{1 + x + \sqrt{1 - x}} = 1 - \frac{2}{3}x + \frac{13}{36}x^2 \text{ nearly.}$$

14. Find the number of permutations of n things taken p at a time. In how many ways can 6 ladies and 6 gentlemen take their seats at a round table so that two ladies may not be neighbours?

15. Shew that any integer expressed in one scale may be expressed in any other.

Several cards, each with a series of numbers written on it, are handed to you, and those which contain your age are returned. Show that the numbers may be arranged so that your age may be found by adding together the first number on the cards returned.

16. Sum the series—

$\cdot 5 + \cdot 55 + \cdot 555 + \&c.$, to n terms.

$1^3 + 2^3 + 3^3 + \&c. \ldots \ldots \ldots \ldots \ldots$ Use indeterminate coefficients.

$3 \cdot 21\dot{3}0\dot{7} \ldots \ldots$ to ∞.

Write brief notes on the determination of the meaning of the symbol a^x for different values of x.

𝔐𝔞𝔱𝔥𝔢𝔪𝔞𝔱𝔦𝔠𝔰.—II.

Four hours.

EUCLID. GEOMETRICAL CONICS. TRIGONOMETRY.

1. The difference of the squares on two unequal straight lines is equal to the rectangle contained by their sum and their difference.

ABCD is a jointed rhombus, BP, DP two equal rods hinged to B and D and to one another at a point P within the rhombus. Show that A, P, C are always in a straight line, and that the rectangle AP, PC is constant.

2. The opposite angles of a quadrilateral inscribed in a circle are together equal to two right angles.

ABC is a triangle right angled at A. P is any point in BC; perpendiculars PQ, PR, to AB, AC, respectively, meet any straight line through A in Q, R. Show that the circles which circumscribe the triangles PQR, AQB, ARC, pass through one point in BC.

3. If the sum of the squares on two sides of a triangle is constant, and the base be given, then the locus of the vertex is a circle whose centre is the middle point of the base.

4. The shortest straight line which can be drawn from a point without a circle to meet it is that which when produced passes through the centre. Prove this and assuming the previous problem find the position of a point within a triangle such that the sum of the squares on its distances from the angles is a minimum.

(Note.—The sum is a minimum when that of any two being constant, the remaining one has its least value.)

5. If a straight line be drawn parallel to one side of a triangle cutting the other sides it shall cut them proportionally.

Find the locus of the centres of the circles circumscribing a series of triangles which have a common angle and the remaining side parallel to a given straight line.

6. Equiangular parallelograms are to one another in the ratio which is compounded of the ratios of their sides. Hence, prove the rule for representing the area of a rectangle numerically.

7. Define the terms Conic Section, Directrix, Focus, Eccentricity, Tangent, Diameter, Latus Rectum. Considering a circle as a conic section, what is its eccentricity and latus rectum? In the parabola show that $PN^2 = 4AS . AN$. The locus of the foot of the perpendicular from the focus on the normal to a parabola is a parabola whose axis coincides with that of the given curve, vertex is at the given focus, and latus rectum one-fourth of the given latus rectum.

8. The perpendiculars from the foci of an ellipse intersect the tangent in the circumference of a circle having the axis major as diameter. Show that the circle having a focal radius as diameter touches the auxiliary circle.

9. Define an asymptote. The diagonals of the parallelogram whose sides touch an hyperbola and its conjugate at the vertices are asymptotes to the curve.

10. Find the circular measure of an angle of π degrees. What is the number of sides in a regular polygon the circular measure of whose angle is $\frac{5}{6}\pi$?

11. Find an expression for all the angles which have the same cosine as θ. Solve the equations—

$$\text{Sin } \theta + \cos \theta = \frac{1}{\sqrt{2}} \qquad \text{Sin}^3 \theta + \cos^3 \theta = 0.$$

12. Prove that $2 \cos \frac{\theta}{2} = \sqrt{2 + 2 \cos \theta}$

Hence show that $\cos 11^\circ 15' = \frac{1}{2} \sqrt{2 + \sqrt{2 + \sqrt{2}}}.$

And that $2 = \sqrt{2 + \sqrt{2 + \&c.}}$, ad inf.

13. Investigate the necessary formulæ for solving a triangle having given two sides and the included angle. E.g. Find A and B when $a = 18 \quad b = 2 \quad C = 55^\circ$.

Log 2 = ·30103   L cot 27° 30′ = 10·2835233.
             L tan 56° 56′ = 10·1863769   Diff. for 1′ = ·0002763.

Mathematics.—III.

Four Hours.

TRIGONOMETRY AND ANALYTICAL GEOMETRY.

1. If $A + B + C = \pi$, show that
$$\tan \frac{A}{2} . \tan \frac{B}{2} + \tan \frac{B}{2} . \tan \frac{C}{2} + \tan \frac{C}{2} . \tan \frac{A}{2} = 1.$$

2. Show that $\cos \theta = -3 \cos \frac{\theta}{3} + 4 \cos^3 \frac{\theta}{3}$.

Prove that $\sin 3a - \cos 3a = (\sin a + \cos a)(2 \sin 2a - 1)$.

Explain fully why the first equation gives three values of $\cos \frac{\theta}{3}$ when $\cos \theta$ is given.

3. Express the radius of the inscribed circle of any triangle in terms of the sides, and also the radius of the circle which touches one side and the other two produced.

If S S′ be the semi-perimeters of two triangles whose escribed circles touching the sides $a a'$ are equal, show that the radii of their inscribed circles are in the ratio $\frac{S - a}{S} : \frac{S' - a'}{S'}$.

4. Eliminate θ and ϕ from the equations $2 \sin^2 \frac{1}{2}(\theta + \phi) = \cos \frac{\pi}{3} \quad a \cos \phi + b \cos \theta = c$
and $a \sin \phi - b \sin \theta = d$.

5. Given A, b, a, let ACB, ACB$'$ be two triangles having these parts; let AB $= c$ and AB$' = c'$. If $b \sin A = \frac{1}{2}(c + c')$, show that $2cc' = (c^2 + c'^2) \cos$ BCB$'$, and that $a^2 = \frac{1}{2}(c^2 + c'^2)$.

6. Expand $\sin n\theta$ in a series of powers of $\sin \theta$ and $\cos \theta$. Deduce the expansion of $\sin \theta$ in powers of θ. What is θ in the last result? If θ be so small that its second and higher powers may be neglected, explain generally how the error in a calculated side of a triangle, due to a small error in one of the observed angles, may be found. Hence (or geometrically) show that the small variations α, β of two sides of a triangle, when the third side c and the opposite angle C are constant, are connected by the equation $a \sec A + \beta \sec B = 0$.

7. What is the meaning of $\tan^{-1} x$? Show that—

$$\tan^{-1} x = x - \frac{x^3}{2} + \frac{x^5}{5} - \&c., \text{ and that } \tan^{-1} \frac{1}{2} + \tan^{-1} \frac{1}{3} = \frac{\pi}{4}, \text{ and deduce Euler's}$$

series for π.

8. Prove that $\tan \theta - \tan \dfrac{\theta}{2} = \tan \dfrac{\theta}{2} \sec \theta$, and apply the result to sum the series—

$$\tan \frac{\theta}{2} \sec \theta + \tan \frac{\theta}{4} \sec \frac{\theta}{2} + \tan \frac{\theta}{8} \sec \frac{\theta}{4} + \ldots\ldots + \tan \frac{\theta}{2^n} \sec \frac{\theta}{2^{n-1}}$$

9. Investigate the equation to a straight line in the form $x \cos a + y \sin a - p = 0$. Deduce the polar equation to a straight line. What does the *expression* on the left side of the given equation denote? Investigate the equation to a straight line which passes through a given point, and is perpendicular to a given straight line. Triangles are described on the same side of a given base, and of constant altitude. Find the equation to the locus of the intersection of perpendiculars from the ends of the base to the sides of the triangle, and interpret the result.

10. What is the condition that three straight lines should pass through a point? In a right-angled triangle AD, BE are drawn from the extremities of the hypotenuse equal and perpendicular to the adjacent sides. Show that AE, BD and the perpendicular from the right angle to the hypotenuse intersect in the same point.

11. Find the general equation to a circle referred to axes inclined at any angle ω. If a straight line of constant length have its ends on the axes, show that the locus of the intersection of straight lines through its ends perpendicular to the axes is a circle; find its centre and radius.

12. Find the polar equation to a circle, the pole being on the circumference, and the initial line a diameter.

If chords be drawn through a fixed point on the circle and be produced through it so that the rectangle contained by the chord and the part produced is constant, prove that the locus of the extremity of the line outside the circle is a straight line, and determine its position and direction.

13. The equation to the tangent to a parabola $y^2 = 4ax$ from the external point (x, y) is $y = mx + \dfrac{a}{m}$.

What is m? Hence show that two tangents can be drawn from (x, y), and find the locus of (x, y) when they are at right angles, and if θ, θ' be the inclinations of the tangents to the axis, show that when $\cot \theta - \cot \theta'$ is constant the locus of their intersection is a parabola equal to the given parabola.

14. Write down the equation to an ellipse referred to its centre and axes, and investigate the equation to a tangent at any point (h, k). Through any point chords are drawn to an ellipse, and tangents are drawn at the ends of each chord; the locus of their intersection is a straight line. Prove this, and find the straight line when the fixed point is a focus.

15. Find the equation to an hyperbola referred to its asymptotes.

A straight line moves so as to cut off a constant area from two fixed straight lines inclined at any angle. Find the equation to the intersection of the straight lines drawn through its ends parallel to the fixed straight lines.

Mathematics.—IV.

Four hours.

DIFFERENTIAL CALCULUS AND NATURAL PHILOSOPHY.

1. When is the dependent variable (y) said to be a continuous function of the independent variable (x)?

If y decreases as x increases, show that $\dfrac{dy}{dx}$ is negative. Give a geometrical illustration.

2. Define the term differential coefficient. From the definition find it for the following functions:—

x^n (n unrestricted) a^x $\phi(x) \div \psi(x)$ $\tan x$.

3. Differentiate $\dfrac{1}{a}\tan^{-1}\dfrac{x}{a}$ $\log(x + \sqrt{a^2 + x^2})$ $\sin x$ with respect to $\cos x$

4. If $x = e^{\frac{x-y}{y}}$ $\dfrac{dy}{dx} = \dfrac{\log x}{(1 + \log x)^2}$

  If $y = x + \dfrac{1}{2}\cdot\dfrac{x^3}{3} + \dfrac{1\cdot 3}{2\cdot 4}\cdot\dfrac{x^5}{5} + \&c.$ $\dfrac{dy}{dx} = \dfrac{1}{\sqrt{1 - x^2}}$

  If $y = a\cos(\log x) + b\sin(\log x)$ $x^2\dfrac{d^2y}{dx^2} + x\dfrac{dy}{dx} + y = 0.$

5. State the proposition known as the parallelogram of forces, and from it deduce the triangle of forces. What is a smooth surface? A uniform heavy rod of given weight rests between a smooth vertical wall and a rough horizontal floor, in a vertical plane perpendicular to the wall. Draw a figure showing the line of action of every force which acts on the rod.

6. What is a rough surface? What is meant by coefficient of friction? In the last question, if the length of the rod be l, and its greatest inclination to the vertical be θ, and its weight al, find each of the other forces, and determine the coefficient of friction.

7. What is a lever? Find the ratio of the power to the weight. To what order of levers does an oar belong?
    A boat is tied to a stump by a rope. A man pulls a pair of sculls with a direct pull of 40 lbs on each oar. State carefully every force which acts on the boat. If the length of a scull inboard be a, and outboard b, find the tension of the rope in pounds.

8. Define the term centre of gravity. Find its position for a thin uniform triangular plate. Show that the c.g. of a triangle coincides with that of three equal heavy particles at its angles, and that the c.g. of a thin triangular wire is the centre of the circle inscribed in the triangle whose angles are at the middle points of the sides of the given triangle.

9. Give a brief description of Atwood's machine. For what purpose is it used? If the weights be W, W¹, (W¹ > W) determine the acceleration and the velocity and space described by each weight after t seconds. Find also the tension of the string. E.G., W = 15, W¹ = 17 grammes, $g = 32$, $t = 5$.

10. A particle is projected with velocity V in a direction making an angle a with the horizon. Find its velocity and direction of motion at any subsequent instant. What will these be when it reaches its highest point? How long will it take to do so?

11. A body whose mass is m is constrained to move in a circle of radius r. What is its radial acceleration at the instant when its velocity is v? What is the force which then acts on the body, and what is its direction? Explain the origin of the term centrifugal force.
    A heavy particle slides down the smooth convex surface of a sphere, starting from the highest point. At what point will it leave the surface?

12. Describe the barometer. State clearly what it measures and what must be observed for this purpose. A bent tube, containing mercury, whose legs are vertical and its bend downwards, has one end in communication with the steam of a boiler; the other end is open. The difference of the heights of the mercury in the two legs is h inches; the specific gravity of mercury is σ; and the height of the water barometer is H feet. Find an expression for the pressure of the steam in pounds per square inch.

13. What is the difference and what the similarity between a liquid and a gas? Describe Smeaton's air-pump, and find an expression for the density of the air in the receiver after n strokes.

14. Explain fully why a rocket ascends.
    Supposing that the powder burns uniformly, and that when it is all burned, the rocket has ascended vertically through h feet in t seconds, find the pressure of the gas in it in pounds per square inch; given that the weight of the rocket and stick is W pounds and the cross section of the rocket is a square inches. How far will the rocket ascend after this?

Classics.—I.

Three hours.

GREEK AUTHORS.

Translate, adding brief notes in the margin if you judge it necessary :—

    (A) Τῆς παρελθούσης νυκτὸς ταυτησί, ἔτι βαθέος ὄρθρου, Ἱπποκράτης, ὁ Ἀπολλοδώρου υἱός, Φάσωνος δὲ ἀδελφός, τὴν θύραν τῇ βακτηρίᾳ πάνυ σφόδρα ἔκρουε, καὶ ἐπειδὴ αὐτῷ ἀνέῳξέ τις, εὐθὺς εἴσω ᾔει ἐπειγόμενος, καὶ τῇ φωνῇ μέγα λέγων, Ὦ Σώκρατες, ἔφη, ἐγρήγορας ἢ καθεύδεις; Καὶ ἐγὼ τὴν φωνὴν γνοὺς αὐτοῦ, Ἱπποκράτης, ἔφην, οὗτος· μή τι νεώτερον ἀγγέλλεις; Οὐδέν γ', ἦ δ' ὅς, εἰ μὴ ἀγαθά γε. Εὖ ἂν λέγοις, ἦν δ' ἐγώ· ἔστι δὲ τί, καὶ τοῦ ἕνεκα τηνικάδε ἀφίκου; Πρωταγόρας, ἔφη, ἥκει, στὰς παρ' ἐμοί. Πρώην, ἔφην ἐγώ· σὺ δὲ ἄρτι πέπυσαι; Νὴ τοὺς θεούς, ἔφη, ἑσπέρας γε. Καὶ ἅμα ἐπιψηλαφήσας τοῦ σκίμποδος ἐκαθέζετο

παρὰ τοὺς πόδας μου, καὶ εἶπεν· Ἑσπέρας δῆτα, μάλα γε ὀψὲ ἀφικόμενος ἐξ Οἰνόης. ὁ γάρ τοι παῖς με ὁ Σάτυρος ἀπέδρα· καὶ δῆτα μέλλων σοι φράζειν, ὅτι διωξοίμην αὐτόν, ὑπό τινος ἄλλου ἐπελαθόμην.

(B) Δοκεῖ δέ μοι δηλοῦν ἀνδρὸς ἀρετὴν πρώτη τε μηνύουσα καὶ τελευταία βεβαιοῦσα. ἡ νῦν τῶνδε καταστροφή. καὶ γὰρ τοῖς τἆλλα χείροσι δίκαιον τὴν ἐς τοὺς πολέμους ὑπὲρ τῆς πατρίδος ἀνδραγαθίαν προτίθεσθαι· ἀγαθῷ γὰρ κακὸν ἀφανίσαντες κοινῶς μᾶλλον ὠφέλησαν ἢ ἐκ τῶν ἰδίων ἔβλαψαν. τῶνδε δὲ οὔτε πλούτῳ τις τὴν ἔτι ἀπόλαυσιν προτιμήσας ἐμαλακίσθη οὔτε πενίας ἐλπίδι ὡς κἂν ἔτι διαφυγὼν αὐτὴν πλουτήσειεν ἀναβολὴν τοῦ δεινοῦ ἐποιήσατο· τὴν δὲ τῶν ἐναντίων τιμωρίαν ποθεινοτέραν αὐτῶν λαβόντες καὶ κινδύνων ἅμα τόνδε κάλλιστον νομίσαντες ἐβουλήθησαν μετ' αὐτοῦ τοὺς μὲν τιμωρεῖσθαι, τῶν δὲ ἐφίεσθαι, ἐλπίδι μὲν τὸ ἀφανὲς τοῦ κατορθώσειν ἐπιτρέψαντες, ἔργῳ δὲ περὶ τοῦ ἤδη ὁρωμένου σφίσιν αὐτοῖς ἀξιοῦντες πεποιθέναι, καὶ ἐν αὐτῷ τὸ ἀμύνεσθαι καὶ παθεῖν μᾶλλον ἡγησάμενοι ἢ τὸ ἐνδόντες σώζεσθαι, τὸ μὲν αἰσχρὸν τοῦ λόγου ἔφυγον, τὸ δ' ἔργον τῷ σώματι ὑπέμειναν, καὶ δι' ἐλαχίστου καιροῦ τύχης ἅμα ἀκμῇ τῆς δόξης μᾶλλον ἢ τοῦ δέους ἀπηλλάγησαν.

(C)
τρόπους τε πολλοὺς μαντικῆς ἐστοίχισα,
κἄκρινα πρῶτος ἐξ ὀνειράτων ἃ χρὴ
ὕπαρ γενέσθαι, κληδόνας τε δυσκρίτους
ἐγνώρισ' αὐτοῖς· ἐνοδίους τε συμβόλους
γαμψωνύχων τε πτῆσιν οἰωνῶν σκεθρῶς
διώρισ', οἵτινές τε δεξιοὶ φύσιν
εὐωνύμους τε, καὶ δίαιταν ἥντινα
ἔχουσ' ἕκαστοι, καὶ πρὸς ἀλλήλους τίνες
ἔχθραι τε καὶ στέργηθρα καὶ συνεδρίαι·
σπλάγχνων τε λειότητα, καὶ χροιάν τινα
ἔχοντ' ἂν εἴη δαίμοσιν πρὸς ἡδονήν,
χολῆς λοβοῦ τε ποικίλην εὐμορφίαν,
κνίσῃ τε κῶλα συγκαλυπτὰ καὶ μακρὰν
ὀσφῦν πυρώσας δυστέκμαρτον ἐς τέχνην
ὥδωσα θνητούς· καὶ φλογωπὰ σήματα
ἐξωμμάτωσα, πρόσθεν ὄντ' ἐπάργεμα.

εἰδότι τοί μοι τάσδ' ἀγγελίας
ὅδ' ἐθώϋξεν, πάσχειν δὲ κακῶς
ἐχθρὸν ὑπ' ἐχθρῶν οὐδὲν ἀεικές.
πρὸς ταῦτ' ἐπ' ἐμοὶ ῥιπτέσθω μὲν
πυρὸς ἀμφήκης βόστρυχος, αἰθὴρ δ'
ἐρεθιζέσθω
βροντῇ σφακέλῳ τ' ἀγρίων ἀνέμων·
χθόνα δ' ἐκ πυθμένων αὐταῖς ῥίζαις
πνεῦμα κραδαίνοι,
κῦμα δὲ πόντου τραχεῖ ῥοθίῳ
ξυγχώσειεν τῶν τ' οὐρανίων
ἄστρων διόδους, ἔς τε κελαινὸν
Τάρταρον ἄρδην ῥίψειε δέμας
τοὐμὸν ἀνάγκης στερραῖς δίναις·
πάντως ἐμέ γ' οὐ θανατώσει.

(D) τὰ μέν νυν μετέωρα τῶν οἰκημάτων αὐτοί τε ὁρέομεν διεξιόντες, καὶ αὐτοὶ θησάμενοι λέγομεν· τὰ δὲ αὐτέων ὑπόγαια λόγοισι ἐπυνθανόμεθα· οἱ γὰρ ἐπεστεῶτες τῶν Αἰγυπτίων δεικνύναι αὐτὰ οὐδαμῶς ἤθελον, φάμενοι θήκας αὐτόθι εἶναι τῶν τε ἀρχὴν τὸν λαβύρινθον τοῦτον οἰκοδομησαμένων βασιλήων, καὶ τῶν ἱρῶν κροκοδείλων· οὕτω τῶν μὲν κάτω πέρι οἰκημάτων ἀκοῇ παραλαβόντες λέγομεν· τὰ δὲ ἄνω, μέζονα ἀνθρωπηίων ἔργων, αὐτοὶ ὁρέομεν. αἵ τε γὰρ ἔξοδοι διὰ τῶν στεγέων, καὶ οἱ ἑλιγμοὶ διὰ τῶν αὐλέων ἐόντες ποικιλώτατοι, θῶυμα μυρίον παρέχοντο ἐξ αὐλῆς τε ἐς τὰ οἰκήματα διεξιοῦσι, καὶ ἐκ τῶν οἰκημάτων ἐς παστάδας, ἐς στέγας τε ἄλλας ἐκ τῶν παστάδων, καὶ ἐς αὐλὰς ἄλλας ἐκ τῶν οἰκημάτων. ὀροφὴ δὲ πάντων τούτων, λιθίνη, κατάπερ οἱ τοῖχοι· οἱ δὲ τοῖχοι, τύπων ἐγγεγλυμμένων πλέοι. αὐλὴ δὲ ἑκάστη, περίστυλος, λίθου λευκοῦ ἁρμοσμένου τὰ μάλιστα. τῆς δὲ γωνίης τελευτῶντος τοῦ λαβυρίνθου ἔχεται πυραμὶς τεσσερακοντόργυιος, ἐν τῇ ζῶα μεγάλα ἐγγέγλυπται· ὁδὸς δ' ἐς αὐτὴν ὑπὸ γῆν πεποίηται.

(E)
Δήεις ἀγλαὸν ἄλσος Ἀθήνης ἄγχι κελεύθου
αἰγείρων, ἐν δὲ κρήνη νάει, ἀμφὶ δὲ λειμών,
ἔνθα δὲ πατρὸς ἐμοῦ τέμενος, τεθαλυῖά τ' ἀλωή,
τόσσον ἀπὸ πτόλιος, ὅσσον τε γέγωνε βοήσας·
ἔνθα καθεζόμενος μεῖναι χρόνον, εἰσόκεν ἡμεῖς
ἄστυδε ἔλθωμεν, καὶ ἱκώμεθα δώματα πατρός·
αὐτὰρ ἐπὴν ἡμέας ἔλπῃ ποτὶ δώματ' ἀφῖχθαι,
καὶ τότε Φαιήκων ἴμεν ἐς πόλιν, ἠδ' ἐρέεσθαι
δώματα πατρὸς ἐμοῦ μεγαλήτορος Ἀλκινόοιο.
ῥεῖα δ' ἀρίγνωτ' ἐστὶ, καὶ ἂν πάϊς ἡγήσαιτο
νήπιος· οὐ μὲν γάρ τι ἐοικότα τοῖσι τέτυκται
δώματα Φαιήκων, οἷος δόμος Ἀλκινόοιο
ἥρωος· ἀλλ' ὁπόταν σε δόμοι κεκύθωσι καὶ αὐλή,
ὦκα μάλα μεγάροιο διελθέμεν, ὄφρ' ἂν ἵκηαι
μητέρ' ἐμήν. ἡ δ' ἧσται ἐπ' ἐσχάρῃ ἐν πυρὸς αὐγῇ,
ἠλάκατα στρωφῶσ' ἁλιπόρφυρα, θαῦμα ἰδέσθαι,
κίονι κεκλιμένη· δωμαὶ δέ οἱ εἴατ' ὄπισθεν.
ἔνθα δὲ πατρὸς ἐμοῖο θρόνος ποτικέκλιται αὐγῇ,
τῷ ὅγε οἰνοποτάζει ἐφήμενος, ἀθάνατος ὥς.

10

GENERAL QUESTIONS.

1. Write notes on the construction of πρίν and Quin; and on the use of δή and an.

2. Construct a scheme of the Typical Case Endings in Latin, and illustrate from the Greek forms.

3. Construct or quote examples of all forms of Conditional Sentences in Greek, and give the corresponding Latin constructions.

4. Rescribere, Discribere—Explain the use of these words, and mention other Latin words in connection with borrowing, lending, and paying money.

5. Accentuate and arrange metrically—

γνωσει δε ταδε ὡς ἐτυμα, οὐδε ματην χαριτογλωσσειν ἐνι μοι· φερε γαρ σημαινε ὁτι χρη σοι ζυμπρασσειν· οὐ γαρ ποτε ἐρεις ὡς Ὠκεανου φιλος ἐστι βεβαιοτερος σοι.

What is the metre, and what are its laws?

6.
εἰ δὲ πάντ' εἴρηκας, ἡμῖν αὖ χάριν
δὸς ἥντιν' ἡγούμεσθα· μέμνησαι δέ που.

Translate. What is the objection to the reading given? How may it be obviated without emendation? What emendations have been proposed? Which do you consider most likely to be correct, and why?

7. Περὶ Ἀρκτούρου ἐπιτολάς. Translate. State what period of the year is meant; and explain how it is that, though the time of a star's rising varies daily, a particular day can be thus indicated.

8. Translate, and refer to the context, and explain any difficulties in—

(a) ἔπειτα ᾧ μάλιστα πιστεύοντες προσέρχονται, ὡς προσῆκον σφίσιν ἀνδρείοις εἶναι, οὐ δι' ἄλλο τι θαρσοῦσιν ἢ διὰ τὴν ἐν τῷ πεζῷ ἐμπειρίαν τὰ πλείω κατορθοῦντες καὶ οἴονται σφίσι καὶ ἐν τῷ ναυτικῷ ποιήσειν τὸ αὐτό.

(b) ἐν τούτῳ τοίνυν τῷ χρόνῳ τετράκις ἔλεγον ἐξ ἠθέων τὸν ἥλιον ἀνατεῖλαι, ἔνθα τε νῦν καταδύεται ἐνθεῦτεν δὶς ἐπαντεῖλαι, καὶ ἐνθὲν νῦν ἀνατέλλει ἐνθαῦτα δὶς καταδῦναι.

(c) ἐπὶ τούτου βασιλεύοντος ἀμιξίης ἰούσης πολλῆς χρημάτων, γενέσθαι νόμον ἀποδεικνύντα ἐνέχυρον τοῦ πατρὸς τὸν νέκυν οὕτω λαμβάνειν τὸ χρέος. προστεθῆναι δὲ τὸν διδόντα καὶ ἁπάσης κρατέειν τῆς τοῦ λαμβάνοντος θήκης.

9. Distinguish by meaning and etymology—ἄπλατος, ἄπλετος, ἄπλαστος, ἄπληστος.

10. Parse—ἄπίει, δαμέντων, ἐείσατο, ἐξέωσαν, ἐτεθήπεα, ᾖσαν, κατεκάη.

11. Give the Attic forms of ἄπηκαν, ἐνείκαντο, ἔσσεαι, κατέαται, νηὸς, ὅτεῳ, and the Ionic for αὐτοῦ, ἀφίκοιντο, ἐστηκυῖαν, μόνος, πασῶν, πολίταις.

12. Give the meaning of διέκπλοος, εὐρύχορος, ἐφεψαλώθη, καταπειρητηρίη, κυλλῆστις, στυπτηρίη, and of eluvies, exauguratio, pomoerium, serpyllum, succenturiatus, trabea.

13. Write notes on the meaning and derivation of ἀκροτελεύτιον, ἀναφανδόν, ἀρμοῖ, ἀρουραῖος, ἐπιζαφελῶς, λεωργός, μετέωρος, περιλεσχήνευτος: assiduus, discrimen, protelare, provincia, sedulus, sollennis, ultimus, villa.

14. Translate, explain, and refer to the context—

(a) Pecua relinquuntur, agricultura deseritur, mercatorum navigatio conquiescit. Ita neque ex portu, neque ex decumis, neque ex scriptura, vectigal conservari potest. This construction is called χίασμα. Why?

(b) Vetere consilio condentium urbes............ locum qui nunc sæptus descendentibus inter duos lucos est asylum aperit. What was the vetus consilium? Descendentibus—Whence?

(c)   is nunc me retinet: nam absque eo esset,
Recte ego mihi vidissem, et senis essem ultus iracundiam
Aliquid convasassem, atque hinc me prolinam conjicerem in pedes.
What various reading has been proposed for convasassem?—Why? Which is preferable?

(d) In media duo signa, Conon et quis fuit alter
Descripsit radio totum qui gentibus orbem,
Tempora, quæ messor, quæ curvus arator haberet?
Who were Conon, and the other? When and where did they live?

15. Translate and explain very briefly—Bene audisset, Emunxi argento senes, Haud pœnitendo magistro, Lupi Mærin videre priores, Lupum auribus teneo, Purgem me? laterem lavem, Quo pignore certas?, Solutione impedita fides concidit, Suum defrudans genium.

16. Who was Virgil's model in the Eclogues? Quote lines in which he alludes to this. How does Horace describe the style of the Eclogues?

17. To what legends is allusion made in Alter erit tum Tiphys, Inter delphinas Arion, Hesperidum miratam mala puellam, Mutatos Terei artus?

Classics.—III.

Latin Translation.

Three hours.

Translate, with brief marginal notes if you judge them necessary—

(A)   Ipsi lætitia voces ad sidera jactant
Intonsi montes ; ipsæ jam carmina rupes,
Ipsa sonant arbusta : " deus, deus ille, Menalca."
Sis bonus o felixque tuis ! en quatuor aras :
Ecce duas tibi, Daphni, duas altaria Phœbo.
Pocula bina novo spumantia lacte quotannis,
Craterasque duo statuam tibi pinguis olivi ;
Et multo in primis hilarans convivia Baccho,
Ante focum, si frigus erit, si messis, in umbra,
Vina novum fundam calathis Ariusia nectar.
Cantabunt mihi Damœtas et Lyctius Ægon ;
Saltantes Satyros imitabitur Alphesibœus.
Hæc tibi semper erunt, et quum solemnia vota
Reddemus Nymphis, et quum lustrabimus agros.
Dum juga montis aper, fluvios dum piscis amabit,
Dumque thymo pascentur apes, dum rore cicadæ,
Semper honos nomenque tuum laudesque manebunt.
Ut Baccho Cererique, tibi sic vota quotannis
Agricolæ facient ; damnabis tu quoque votis.

(B)   At (hercle) aliquot annos continuos ante legem Gabiniam, ille populus Romanus, cujus, usque ad nostram memoriam, nomen invictum in navalibus pugnis permanserat, magna ac multo maxima parte non modo utilitatis, sed dignitatis atque imperii, caruit : nos, quorum majores Antiochum regem classe Persenque superarunt, omnibusque navalibus pugnis Carthaginienses, homines in maritimis rebus exercitatissimos paratissimosque, vicerunt, ii nullo in loco jam prædonibus pares esse poteramus. Nos quoque, qui antea non modo Italiam tutam habebamus, sed omnes socios in ultimis oris auctoritate nostri imperii salvos præstare poteramus ; tum, cum insula Delos tam procul a nobis in Ægæo mari posita, quo omnes undique cum mercibus atque oneribus commeabant, referta divitiis, parva, sine muro nihil timebat ; iidem non modo provinciis, atque oris Italiæ maritimis, ac portubus nostris, sed etiam Appia jam via carebamus : et his temporibus non pudebat magistratus populi Romani, in hunc ipsum locum escendere, cum eum vobis majores vestri exuviis nauticis et classium spoliis ornatum reliquissent.

(C)   Convenimus in ædem Concordiæ. Ibi ego, " Si mater," inquam, " te ex parte quarta scripsisset hæredem, num queri posses ? Quid si hæredem quidem instituisset ex asse, sed legatis ita exhausisset, ut non amplius apud te, quam quarta, remaneret ? Igitur sufficere tibi debet, si, exhæredatus a matre, quartam partem ab hæredibus ejus accipias, quam tamen ego augebo. Scis te non subscripsisse mecum, et jam biennium transisse, omniaque me usucepisse. Sed, ut te cohæredes mei tractabiliorem experiantur, utque tibi nihil abstulerit reverentia mei, offero, pro mea parte, tantumdem." Tuli fructum non conscientiæ modo, verum etiam famæ. Ille ergo Curianus legatum mihi reliquit : et factum meum, (nisi forte blandior mihi) antiquum, nobili honore signavit. Hæc tibi scripsi, quia, de omnibus quæ me vel delectant vel angunt, non aliter tecum quam mecum loqui soleo : deinde, quod durum existimabam, te, amantissimum mei, fraudare voluptate, quam ipse capiebam. Neque enim sum tam sapiens, ut nihil mea intersit, an iis, quæ honeste fecisse me credo, testificatio quædam, et quasi præmium, accedat. Vale.

(D)   Servio propere accito quum paene exsanguem virum ostendisset ; dextram tenens orat, ne inultam mortem soceri, ne socrum inimicis ludibrio esse sinat. ' Tuum est,' inquit, ' Servi, si vir es, regnum ; non eorum, qui alienis manibus pessimum facinus fecere. Erige te, deosque duces sequere, qui clarum hoc fore caput divino quondam circumfuso igni portenderunt. Nunc te illa coelestis excitet flamma : nunc expergiscere vere. Et nos peregrini regnavimus. Qui sis, non unde natus sis, reputa. Si tua re subita consilia torpent, at tu mea sequere.' Quum clamor impetusque multitudinis vix sustineri posset, ex superiore parte aedium per fenestras, in Novam viam versas (habitabat enim rex ad Iovis Statoris) populum Tanaquil alloquitur. Jubet ' bono animo esse : sopitum fuisse regem subito ictu : ferrum haud alte in corpus descendisse : jam ad se redisse. Inspectum vulnus, absterso cruore : omnia salubria esse : confidere, propediem ipsum eos visuros. Interim Ser. Tullio jubere populum dicto audientem esse. Eum jura redditurum, obiturumque alia regis munia esse.' Servius cum trabea et lictoribus prodit ; ac, sede regia sedens, alia decernit, de aliis consulturum se regem esse simulat.

(E) *De.* Agedum, ut soles, Nausistrata, fac illa ut placetur nobis ;
Ut sua voluntate id quod est faciendum faciat. *Na.* Faciam.
De. Pariter nunc opera me adjuvas ac re dudum opitulata es.
Na. Factum volo ; at pol minus queo viri culpa quam me dignum est.
De. Quid autem ? *Na.* Quia pol mei patris bene parta indiligenter

Tutatur; nam ex his praediis talenta argenti bina.
Statim capiebat. Vir viro quid praestat! *De*. Binan quaeso?
Na. Ac rebus vilioribus multo, tamen talenta bina. *De*. Hui.
Na. Quid haec videntur? *De*. Scilicet. *Na*. Virum me natum vellem:
Ego ostenderem—*De*. Certo scio. *Na*. quo pacto—*De*. Parce, sodes,
Ut possis cum illa; ne te adolescens mulier defatiget.
Na. Faciam ut jubes: sed meum virum abs te exire video. *Ch*. Hem, Demipho,
Jam illi datum est argentum? *De*. Curavi ilico. *Ch*. Nollem datum.
Hei, video uxorem, paene plus quam sat erat. *De*. Cur nolles, Chreme?
Ch. Jam recte. *De*. Quid tu? ecquid locutus cum ista es quamobrem hanc ducimus?
Ch. Transegi. *De*. Quid ait tandem? *Ch*. Abduci non potest. *De*. Qui non potest?
Ch. Quia uterque utrique est cordi. *De*. Quid istuc nostra? *Ch*. Magni: praeter haec,
Cognatam comperi esse nobis. *De*. Quid? deliras? *Ch*. Sic erit.

Classics.—IV.

GREEK COMPOSITION.

1. Translate into Greek Prose, in the style of Thucydides—

And thus the season at which Pericles delivered his discourse lends to it an additional and peculiar pathos. It was delivered at a time when Athens was as yet erect and at her maximum; for though her real power was, doubtless, much diminished compared with the period before the thirty years' truce, yet the great edifices and works of art achieved since then tended to compensate that loss, in so far as the sense of greatness was concerned; and no one, either citizen or enemy, considered Athens as having at all declined. It was delivered at the commencement of the great struggle with the Peloponnesian confederacy, the coming hardships of which Pericles never disguised either to himself or to his fellow citizens, though he fully counted upon eventual success. Attica had been already invaded; it was no longer "the unwasted territory," as Euripides had designated it in his tragedy "Medea," represented three or four months before the march of Archidamus, and a picture of Athens in her social glory, was well calculated both to rouse the pride and nerve the courage of those individual citizens, who had been compelled once and would be compelled again and again to abandon their country residences and fields for a thin tent or confined hole in the city.

2. Translate into Greek Iambics—

The very gods above
Can scantly help you more than now I do;
For, listen! as upon this day ye go
Unto the narrow ending of the sea,
Anigh the clashing* rocks lie patiently,
And let the keenest-eyed among you stand
Upon the prow, and let loose from his hand
This dove, who from my mouth to-day has heard
So many a mystic and compelling word,
He cannot choose, being loosed, but fly down straight
Into the opening of that dreadful gate.
So let the keen-eyed watch, and if so be
He comes out safe into the evil sea,
Then bend unto the oars, nor fear at all
Of aught that from the clashers may befall,
But if he perish, then turn back again,
And know, the gods have made your passage vain.

* Συμπληγάδες.

Classics.—V.

LATIN COMPOSITION.

Translate into Latin Prose—

How then could Romulus with diviner wisdom have embraced the advantages of a site on the sea coast, and shunned its disadvantages than by placing his city on the bank of a river flowing steadily all the year and entering the sea by a broad channel; so that his town might receive from the sea what it lacked, and give forth its superfluity; and by the same river not merely import by sea the chief necessaries of life and comfort, but also receive those brought down from the interior? It would therefore seem that even then he foresaw that this city should one day give its abode and dwelling place to the mightest empire; for in no

other part of Italy could a city have been placed so as to command so many objects with such facility. Again who is so thoughtless as not to have observed and appreciated the natural strength of the place? The line of its walls was by the wisdom of Romulus and other kings conducted along steep and precipitous ridges; the only easy access between the Esquiline and Quirinal was guarded by a huge rampart and wide ditch: while its stronghold rested on the lofty platform of so scarped a rock, that it remained safe, a virgin fortress even in the awful storm of the Gallic inroad.

Moreover the site he chose was rich in springs; salubrious though in an unhealthy district, for its hills while they draw the breezes shade the valleys.

Translate into Latin Hexameters—

It was a mountain at whose verdant feet
A spacious plain, outstretch'd in circuit wide,
Lay pleasant; from his side two rivers flow'd,
The one winding, tho other straight, and left between
Fair champaign with less rivers intervened,
Then meeting join'd their tribute to the sea; .
Fertile of corn the glebe, of oil, and wine;
With herds the pastures throng'd, with flocks the hills;
Huge cities and high-tower'd, that well might seem
The seats of mightiest monarchs; and so large
The prospect was, that here and there was room
For barren desert, fountainless and dry.

Or,

Translate into Latin Elegiacs—

Love is the blossom where there blows
Every thing that lives and grows:
Love doth make the heav'ns to move,
And the sun doth burn in love:
Love the strong and weak doth yoke,
And makes the ivy climb the oak;
Under whose shadows lions wild,
Soften'd by love, grow tame and mild:
Love no med'cine can appease,
He burns the fishes in the seas;
Not all the skill his wounds can staunch,
Not all the sea his fire can quench.

Classics.—VI.

HISTORY OF GREECE.
One hour.

SMITH.—History. Last three Books. B.C. 477-146.

1. Sketch briefly the Revolution of the "Four Hundred."
2. A concise account of the "Supremacy of Thebes."
3. The successive events in the conquest of Greece by Rome.
4. A brief account, with dates, of—Dionysius the younger, Isocrates, Myron, Pausanias, Pericles, Polysperchon.
5. Where are—Ægospotami, Chæronea, Cunaxa, Ipsus, Œnophyta, Potidæa? In connection with what events and at what dates are they known in Grecian History?

HISTORY OF ROME.
One hour.

LIDDELL.—History. Last three Books. B.C. 214-30.

1. Give a concise account of the condition of Rome and her people at the close of the "Period of Conquest."
2. A brief sketch of Caius Gracchus and his times.
3. The leading events of the Second Civil War.
4. A brief account, with dates, of—Ennius, Jugurtha, Lucretius, Mithridates, Sertorius, Vipsanius, Agrippa.
5. Where are—Aquæ Sextiæ, Charræ, Mutina, Numantia, Philippi, Thyatira. In connection with what events and at what dates are they known in the History of Rome?

English.

Three hours.

MARSH AND SMITH.—The Student's Manual.

1. Analyse, describing each sentence and its relations fully—

"The permanent literature of a given period is not a true index of the general vocabulary of the period, for the exemption of a great work from the fleeting interests and passions that inspire the words of its own time is one of the very circumstances that insure its permanence. That which is to live for ever must appeal to more catholic and lasting sympathies than those immediately belonging to the special concerns of any era, however pregnant it may be with great consequences to the weal or the woe of man."

2. Arrange the nouns, adjectives, and verbs, of the foregoing, in four columns under the heads:— English pure, Latin through French, Latin direct, Greek.

3. State Grimm's law. What are the apparent irregularities involved in identifying *did* with the Sanscrit dadhau,·*stand* with στα and ἴστημι, Old English *fader* with pater, *greet* with Latin gratus? Give an explanation of each.

4. "Upon the whole, then, I think we are authorised to say that the theory which makes the possessive sign *s* a derivative or contraction of the possessive pronoun his, is without historical evidence or probable analogy to support it."

On what does Mr. Marsh base this conclusion?

5. Name with examples of each the principal formative terminations of proper names used in English but due to Norse.

6. "And thaet flod infleow, and hraedlice hyt afeoll: and wearth mycel hryre thaes huses."

Put into modern English. Explain as far as you can the forms of words, show how they have changed, and how far any are still preserved. Illustrate by other words.

7. "We express most moral affections, most intellectual functions, and most scientific notions by words derived from Greek or Latin primitives."

Justify this statement by examples. On what grounds does Marsh consider our practice preferable to what he calls "German purism?"

8. "It may not be irrelevant to make a remark or two on the etymology of the Latin and English words for book."

Reproduce these remarks.

9. "Few languages are richer than English in approximate synonyms and conjugates."

Explain and justify this assertion.

10. What derivation of the following words is rejected by Marsh, and what is the correct etymology of each—Cattle, compliment, elf, isle, right, shepster, war, world?

11. What is the meaning of the following Old English prefixes—And, for, mis, ne, wan, with? Name words containing them which are still in use.

12. Distinguish rhyme, assonance, rhythm, metre. Give examples of each.

13. What do you know of the dates and writings of Ascham, Froissart, Langland, Wiclif?

14. The following quotations occur in your handbook. Who are the authors, and what their date? In what work does each passage occur?—(*a*) Language most shows the man. (*b*) And shrieks the wild sea mew. (*c*) In him the pure well-head of poesy did dwell. (*d*) A star ypointing pyramid.

French.

Three hours.

GRAMMAR. COMPOSITION. RACINE—Athalie.

1. Translate—

Un jour un homme fit un battue dans son propre cerveau : il en sonda les replis ; il chercha dessus, dessous ; il visita les plus obscurs recoins, et, de ce qu'il trouva, fit un livre, le livre des *Maximes*, miroir fidèle ou l'homme se voit bien plus laid qu'il ne croyait l'être. Le Duc, en cela, avait suivi la maxime de Socrate, qui exhorte l'homme à regarder dans son cerveau. Γνῶθι σεαυτόν (c'est du grec) ne signifie pas autre chose. Pour moi, je doute fort s'il y a beaucoup à gagner dans cette habituelle contemplation. Sur bien des choses, mieux vaut s'ignorer soi-même. Certains, à se connaître mieux, deviendraient pires. Tel voyant son champ ingrat au bon grain, prend l'idée de tirer parti des mauvaises herbes. Aussi je ne regarde plus tant dans mon cerveau, mais ce m'est un passe-temps des plus récréatifs que de lorgner dans celui des autres. J'y applique la loupe, le microscope, et vous ne sauriez croire ce que j'y découvre de petites particularités curieuses, sans compter les grosses qui se

voient à l'œil nu, et les monstruosites qui frappent à distance. Bien fou Gall, qui prétend juger du contenu par le contenant, et du goût d'une orange par ses aspérités, d'un onguent par la boîte. Moi, j'ouvre et je goûte; j'ôte le couvercle et je flaire.

Who was the Duke mentioned in the foregoing? Of what was Gall the inventor?

2. Translate—

Plato, who had listened to our conversation without saying anything, seeing it suddenly ended in an unexpected manner, took up the word in his turn. "I understand," said he, "how the discoveries which your great men have made in all the branches of physics are useless to medicine, which will never be able to change the course of nature save at the expense of human life; but it will not be the same, doubtless, with the researches which have been made in politics. The discoveries of Locke on the nature of the human mind, the invention of printing, the accumulated observations drawn from history, so many profound books which have spread science even among the people; in a word, so many wonders will doubtless have contributed to make men better, and that happy republic which I imagined, and which the age in which I lived had made me regard as an impracticable dream, doubtless exists to-day in the world." To this question the honest doctor answered only by tears; and as he wiped them with his handkerchief he accidentally turned his wig so that part of his face was covered by it. "Immortal gods," said Aspasia, with a shrill cry, "is it then a discovery of your great men that has made you think of thus covering your head with another's scalp?"

3. Distinguish the meaning of faite, faîte, fête; mer, mère, maire; voie, voit, voix; vu, veut, vœu. State from what Latin word each is derived.

4. Translate and correct, giving the reason in each case for the correction—
    (a) Ne vous informez pas ce que je deviendrai.
    (b) Il attaqua et s'empara de la ville.
    (c) Ils se sont nui les uns les autres.
    (d) Vous vous plaisez au spectacle ou à vous promener.

5. Translate—

O mon fils, de ce nom j'ose encore vous nommer,
Souffrez cette tendresse, et pardonnez aux larmes
Qne m'arrachent pour vous de trop justes alarmes.
Loin du trône nourri, de ce fatal honneur,
Hélas! vous ignorez le charme empoisonneur;
De l'absolu pouvoir vous ignorez l'ivresse,
Et des lâches flatteurs la voix enchanteresse.
Bientôt ils vous diront que les plus saintes lois,
Maîtresses du vil peuple, obéissent aux rois;
Qu'un roi n'a d'autre frein que sa volonté même;
Qu'il doit immoler tout à sa grandeur suprême;
Qu'aux larmes, au travail le peuple est condamné,
Et d'un sceptre de fer veut être gouverné;
Que, s'il n'est opprimé, tôt ou tard il opprime:
Ainsi de piége en piége, et d'abîme en abîme,
Corrompant de vos mœurs l'aimable pureté,
Ils vous feront enfin haïr la vérité,
Vous peindront la vertu sous une affreuse image.
Hélas! ils ont des rois égaré le plus sage.
    Promettez sur ce livre et devant ces témoins,
Que Dieu fera toujours le premier de vos soins;
Que, sévère aux méchants, et des bons le refuge,
Entre le pauvre et vous, vous prendrez Dieu pour juge;
Vous souvenant, mon fils, que, caché sous ce lin,
Comme eux vous fûtes pauvre, et comme eux orphelin.

6. Retranslate the following from your Racine—(a) Heaven be blest for it! (b) For them he opened a way through the waters of the seas. (c) He forbad them any fellowship with any other god. (d) Farewell, we shall see one another again. (e) The lily grows sheltered from the north wind. (f) Die at least like a king if you must die.

7. Give the English of—Amas, bandeau, bûcher, fange, jadis, rejeton, sanglot, souillé, terrassé, volage; and the French for—An abyss, to bedew, buried, the cloud, to dazzle, to deck, the gall, to quench one's thirst, to shudder, this straying.

8. Give the meaning and the full derivation, and illustrate the formation of—Aujourd'hui, échapper, écrire, encore, métier, oser, prêtre, piège, songer, soudain.

Modern History.

Two hours.

Hallam—Constitutional History, A.D. 1673–1685.

1. "The commons in impeaching Lord Danby went a long way towards establishing the principle that no minister can shelter himself behind the throne by pleading obedience to the orders of his sovereign."

Detail fully and precisely the circumstances which led to the impeachment. Contrast the modern and the earlier view of the position of a minister of state.

2. "The bold measure of the Exclusion Bill, too bold indeed for the spirit of the country, and the rock on which English liberty was nearly shipwrecked."

Explain fully. Discuss the constitutional aspects of the proposal, and state the various forms it took.

3. "These two dissensions which the suits of Skinner and Shirley engendered."

State the facts, and discuss the points at issue between the two Houses.

4. State the four different theories as to the original possessors of the Elective Franchise. Give Hallam's examination of their several probabilities.

5. Explain the following extracts from Hallam—

(1.) Many of these honours were sold by both the princes.

(2.) The attachment of these northern parts to Popery seems as likely a cause as any other.

(3.) There had been some doubts whether the Court of Common Pleas could issue this writ.

(4.) A bill for the regulation of printing failed in 1661 from the Commons' jealousy of the Peers.

(5.) After gaining Luxemburg and Strasburg by this connivance, or rather co-operation.

(6.) This was the fatal error of the House of Commons which met in 1680.

6. Who were the following persons—Barillon, College, Coleman, Filmer, Keeling, Jenkes, Overton, Withens? What is their connection with the constitutional history of England?

TASMANIAN COUNCIL OF EDUCATION.

Hobart Town, 17th April, 1873.

EXAMINATION FOR TASMANIAN SCHOLARSHIPS, 1874.

THE Council of Education have directed the publication of the following Regulations and Scheme of Examination for the Tasmanian Scholarships for the year 1874.

By Order of the Council,

GEORGE RICHARDSON, *Secretary.*

REGULATIONS FOR THE TASMANIAN SCHOLARSHIPS.

Every Candidate for a Scholarship must, by the provisions of the Act, be above the age of sixteen and under the age of twenty years. He must also have been resident in the Colony for the period of five years next before the time of his examination, and have taken the Degree of Associate of Arts.

By the 14th Section of the Act, the examination for Tasmanian Scholarships must comprise the following subjects :—

1. Classics—Translations from Greek and Latin authors into English, Greek and Latin composition, Ancient History, Philology.
2. Mathematics—Arithmetic, Algebra, Euclid, Plane Trigonometry.
3. Natural Philosophy—Elementary Statics, Dynamics, and Hydrostatics.
4. Modern History—The History of England.
5. The grammatical structure of the English Language, and French or German, at the option of the Candidate.

Every Scholar shall forward to the Secretary of the Council a certificate from the proper authority, testifying to his having become a Member of some University of the United Kingdom; and until such certificate be received by the Secretary to the Council, or by their accredited Agent in Great Britain, the Council will not authorise the payment of the annual value of the Scholarship : provided always, that this condition shall not apply in any case where it has been proved to the satisfaction of the Council that the Scholar has been prevented by sickness or other sufficient cause from entering himself on the books of an University.

The Council will order to be paid by the Secretary, or an accredited agent in Great Britain, quarterly, to the said Scholar, the amount of his Scholarship for the quarter, upon the receipt by their Secretary, or by such accredited agent, of a testimonial from the authorities of the College or University to which he may belong, stating that he is conducting himself diligently and steadily.

In the event of any Tasmanian Scholar not being able to produce such a testimonial for any three months, he shall forfeit the amount to which he would be otherwise entitled for the said three months; and should he fail to do so for twelve months, his Scholarship shall be declared vacant, and he shall have no claim for moneys accruing therefrom: provided always, that this Rule shall not apply to Scholars when they have been incapacitated by illness from attending to their College or University duties.

For the further encouragement of Tasmanian Scholars to prosecute their studies diligently in the University to which they belong, the Council of Education will cause to be published in the Government *Gazette* the names of such as may have obtained Prizes, Scholarships, or Exhibitions, or whose names may have appeared in the " Honour List," together with the description or class of Honour which may have been awarded to them.

SCHEME of Examination for the TASMANIAN SCHOLARSHIPS *for the Year* 1874.

I.—CLASSICS.

GREEK.—Thucydides, *Book II.*; Herodotus, *Book II.*; Homer's Odyssey, *Book VI.*; Æschylus, *Prometheus Vinctus.*

LATIN.—Virgil, *Eclogues;* Terence, *Phormio;* Livy, *Book I.*; Cicero, *Pro Lege Manilia.*

Papers will be set for translation from English into Greek and Latin Prose, and from English Verse into Greek and Latin Verse.

ANCIENT HISTORY.—Questions will be given upon the historical and geographical allusions contained in the above-named Greek and Latin Books, and in the philology of the Greek and Latin languages. Candidates will also be examined in the last three Books of Smith's History of Greece and Liddell's History of Rome respectively.

II.—MATHEMATICS.

Arithmetic; Algebra, except Theory of Equations; Euclid, *Books I. to VI. inclusive, and XI. to the 21st Proposition inclusive;* Plane Trigonometry, including Logarithms; Conic Sections, treated both geometrically and analytically; and Simple Differentiations.

III.—NATURAL PHILOSOPHY.

Elementary Statics, Dynamics, and Hydrostatics, as treated in Goodwin's Course of Mathematics.

IV.—MODERN HISTORY.

Hallam's Constitutional History of England, *Chapters XII. and XIII.*

V.—MODERN LANGUAGES.

The grammatical structure of the English Language, and French or German. Candidates may submit themselves for examination in either French or German, at their option.

FRENCH.—Passages will be given from Racine, *Athalie,* for translation into English, with questions on the parsing; also a passage from some other French author for translation into English, and from some English author into French.

GERMAN.—Passages will be given from Schiller's *Maria Stuart,* with questions on the parsing, and the historical and geographical allusions; also a passage from some other German author for translation into English, and from an English author into German.

NOTE.—*The following values have been affixed to the several subjects of examination:*—

1. Classics - - - - - - - 1500 *Marks.*
2. Mathematics and Natural Philosophy - - - 1500 „
3. Modern History - - - - - - 250 „
4. Modern Languages—
   (a.) English - - - - - 250 ⎫
   (b.) French or German - - - - 250 ⎬ 500 „
   ⎭

TOTAL - - - - - - 3750 *Marks.*

It shall be essential to success that a Candidate gain at least 1650 Marks; of which either 900 shall have been gained in Classics or 750 in Mathematics.

BOOKS RECOMMENDED.

History of England, Hallam's Constitutional History, 3 vols., cr. 8ᵛᵒ, 18s., Murray.
——— Greece, Student's, Smith, W., 7s. 6d., Murray.
——— Rome, Student's, Smith, W., 7s. 6d., Murray.
Arithmetic, Colenso, J. W., 4s. 6d., Longman.
Algebra, Colenso, J. W., Parts I. and II., p. 1, 4s. 6d., p. 2, 6s., Longman.
———, Wood, J., edited by Lund, 15th Ed., 12s. 6d., Longman.
Trigonometry, Hall, T. G., 7s. 6d., Fellowes.
———, Todhunter, J., 5s., Macmillan.
Conic Sections, Analytical, Treatise on Conic Sections, Todhunter, J., 10s. 6d., Macmillan.
———, Geometrical, Goodwin, H., Course of Mathematics, 15s., Deighton, Bell, and Co.
Differential Calculus, Todhunter, J., 10s. 6d., Macmillan.
Elementary Statics, Dynamics, and Hydrostatics, (Goodwin's Course of Mathematics), see above.
Mathematical Tables, 3s., Chambers.
Student's History of the English Language, Marsh, G. P., 7s. 6d., Murray.