(No. 9.)



1864.

TASMANIA.

COUNCIL OF EDUCATION.

TASMANIAN SCHOLARSHIPS, 1863.

Laid upon the Table by Mr. Colonial Treasurer, and ordered by the House to be printed, 29 June, 1864.



TASMANIAN COUNCIL OF EDUCATION.

TASMANIAN SCHOLARSHIPS—SEPTEMBER, 1863.

THE Council of Education have directed the publication of the name of the under-mentioned Candidate who has passed the Examination for a Tasmanian Scholarship to the satisfaction of the Examiners, and to whom such Scholarship has been awarded accordingly, under the terms of *The Tasmanian Council of Education and Scholarship Act*, 22 Victoria, No. 21 :---

WILLIAM KNIGHT, age 18, formerly of the Hutchins School, Hobart Town, Rev. J. R. Buckland, Head Master, now a private pupil of the Rev. R. D. Harris, M.A., and the Rev. A. Davenport, B.A.

The Report of the Examiners, the Examination Papers, and the Regulations for the Examination are annexed.

By Order of the Council,

MURRAY BURGESS, Secretary.

TASMANIAN SCHOLARSHIPS.

21st September, 1863.

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

THE Examiners appointed to conduct the Examination for the Tasmanian Scholarships have the honor to report as follows:---

One Candidate, William Knight, presented himself for the Examination.

The Examination extended over four days, occupying seven hours of each day.

Five Papers of two hours each were set in Classics, four of three hours each in Mathematics, and one of two hours in English, in French, and in Modern History.

The following is the result :---

Classics	Full Marks.	Candidate's Marks. 905
Mathematics	1500	778
English French Modern History	$250 \\ 250 \\ 250 \\ 250 \\ 50 \\ 50 \\ 50 $	$\left. \begin{array}{c} 97\\225\\66 \end{array} \right\}$. 388
	3750	2071
	· · · · ·	

The Candidate has thus obtained more than the total number of marks, 1650, fixed by the Council as essential to success: of which more than 900 have been obtained in Classics, and more than 750 in Mathematics.

The Reports of the Examiners in the several subjects are appended.

M. H. IRVING, M.A., W. P. WILSON, M.A., FREDERICK BUCK,

EXAMINATION FOR THE TASMANIAN SCHOLARSHIPS, 1863.

	No. of Marks attained by Can- didate.	Full Marks.
 (a.) Greek Composition	100 120 257 202 226	200 200 350 350 400
II. MATHEMATICS. (a) Arithmetic and Algebra	905	1500
 (a.) Arithmetic and Algebra (b.) Geometry and Trigonometry. (c.) Analytical Trigonometry, Analytical Geometry, and Differentia Calculus (d.) Natural Philosophy 	207 205 238 68	375 340 385 400
	778	1500
III. The English Language The French Language Modern History	97 225 66	250 250 250
	388	750
Total Marks attained	2071	3750

TABLE OF MARKS.

TASMANIAN COUNCIL OF EDUCATION.

EXAMINATION FOR THE TASMANIAN SCHOLARSHIPS.-SEPTEMBER, 1863.

Pure Mathematics.--I.

Professor Wilson.

THURSDAY, 17TH SEPTEMBER, 1863. 9 A.M. to NOON.

- 1. State fully the rule for simple subtraction. Justify the process called "borrowing ten." What is the true nature of the step called "paying it back again"? Why is it more convenient to add 1 to the next digit of the subtrahend than to subtract 1 from the next digit of the minuend?
- 2. Calculate the cost of 8735 articles at £11 13s. 9d. each.
- 3. State in order and illustrate by an example all the steps to be taken in reducing to a common denominator and in adding together vulgar fractions having different denominators, and explain the reason of every step.
- 4. Divide 1452.3 by 47 000 000.
- 5. Extract the square root of \$1.126049.
- 6. Find the value of $\frac{x-y}{1+xy}$ when $x = \frac{a+b}{1-ab}$ and $y = \frac{a-b}{1+ab}$ and reduce it to its simplest form.

7. Solve the equations—

$$\sqrt{x^{2} - 4x + 8} - \sqrt{x^{2} - 5x + 4} = 3x + 12$$

$$x^{2} + y^{2} + z^{2} = 12a^{2}$$

$$yz + xz + xy = 6a^{2}$$

$$x + y + \frac{a^{2}}{z} = \frac{3a}{2}$$

8. Define a Geometrical Progression and prove the formula for the sum of n terms of a series of quantities in Geometrical Progression.

Shew that when the common ratio is less than unity a limit exists to which the sum of n terms will approach as n increases, but which it will never exceed, and find an expression for this limit.

- 9. Find a geometrical series continued in infinitum such that each term shall be three times the sum of all that follow it.
- 10. Explain the distinction between the "Permutations" and the "Combinations" of different things, defining each of them. Assuming the expression for the number of different permutations of n things taken r together prove the expression for the number of different Combinations r together.
- 11. Write down the expansion of $(1+x)^n$ in a series of positive integral powers of x.

Find the general term of the expansion of $(1-x)^{-\frac{m}{n}}$ and express it in the simplest form which will allow its formation to be clearly seen.

- 12. Define a logarithm : find a multiplier for converting logarithms calculated to a base a into others calculated to a base b.
- 13. Find the present value of an annuity of $\pounds A$ a year for n years reckoning compound interest.

Classics.—I.

Professor Irving.

THURSDAY, 17TH SEPTEMBER, 1863. 1 P.M. to 3 P.M.

1. Translate into Attic Greek in the style of Thucydides-

Had the reinforcements from Thebes arrived at the expected hour this disaster would have been averted. But the heavy rain and dark night retarded their whole march, while the River Asopus was so much swollen as to be with difficulty fordable; so that before they reached the gates of Platæa their comrades within were either slain or captured. Which fate had befallen them the Thebans outside could not tell; but they immediately resolved to seize what they could find, persons as well as property, in the Platæan territory, in order that they might have something to exchange for such Thebans as were prisoners. Before this step could be executed, however, a herald came forth from the town to remonstrate with them upon their unholy proceeding in having so flagrantly violated the truce, and especially to warn them not to do any wrong without the walls. If they retired without inflicting further mischief, their prisoners within should be given up to them, if otherwise these prisoners would be slain immediately. A convention having been concluded and sworn to on this basis, the Thebans retired without any active measures.

2. Translate into Greek Iambics-

It little profits that an idle king By this still hearth amid these barren crags Matched with an aged wife I mete and dole Unequal laws unto a savage race That hoard and eat and sleep and know not me ! I cannot rest from travel; I will drink Life to the lees; all times I have enjoyed Greatly, have suffered greatly, both with those That loved me and alone : by land, and when Through scudding drift the stormy Hyades Vext the dim sea: I am become a name ! For roaming ever with a hungry heart Much have I seen and known.

Classics,-V.

Professor Irving.

THURSDAY, 17TH SEPTEMBER, 1863. 3.30 P.M. to 5.30 P.M.

1. Translate and explain fully the following-

- (a). 'Ανδροφάγοι έσθητα φορέουσι τη Σκυθική δμοίην γλώσσαν δε ιδίην.
- (b). ως άρα άνθρωποισι αί λίην ισχυραί τιμωρίαι πρός θεών επίφθονοι γίνονται.
- (c). πέμψαντες κήρυκα οἱ ἔφοροι καὶ σκυτάλην εἶπον τοῦ κήρυκος μὴ λείπεσθαι,
 εἰ δὲ μὴ πόλεμον αὐτῷ Σπαρτιάτας προσαγορεύειν.
- (d). την γούν Αττικήν έκ του έπι πλείστον άστασίαστον ούσαν ώκουν οί αύτοι άεί.
- (e). οῦτος σ' ὑδώσει τὴν τρίγωνον ἐς χθόνα οῦ δὴ την μακρὰν ἀποικίαν
 - [']Ιοί, πέπρωταί σοί τε και τέκνοις κτίσαι.
- (f). μήδε κρεισσόνων θεών έρως άφυκτον όμμα προσδράκοι με.
- 2. Discuss the meaning and the etymology of τριετηρίς, όφρύη, φθινόπωρον, ἐναγής, ἀνεψιός, ἀνακωχή, προυσελεῖν, δρακοντόμαλλος, τέρμα, χερμάδιον, δεξίτερος, κουρότερος.
- 3. Translate and explain fully the following-

(a). Cum publicani familias maximas quas in saltibus habent, quas in agris, quas in portubus atque custodiis magno periculo se habere arbitrentur.

(b). Lectisternium Cære ubi sortes attenuatæ sunt, imperatum : et Genio hostiæ majores cæsæ quinque. Hæc procurata ex Libris Sibyllinis levaverant religione animos.

- (c). Cum in hanc sententiam pedibus omnes issent.
- (d). Multa Dircæum levat aura cycnum.
- (e). Tua sectus orbis nomina ducet.
- (f). Loricam consertam hamis auroque trilicem.
- 4. Discuss the meaning and the etymology of nundinari, reciprocare, jumentum, provincia, polliceri, immolatus, callere, auspex, lymphatus, retrorsum, janua, immanis.
- 5. Translate and explain clearly the principle of the construction in the following phrases :— $\pi\lambda\epsilon\iota\nu$ $\epsilon\pi'$ o'\kov — $\pi a\nu$ y\u00e0 μ v $\pi b\theta o \mu o \nu$ — $\tau\epsilon\chi\nu\eta$ δ' $\mu\alpha\gamma\kappa\eta\varsigma$ $\mu\alpha\kappa\rho\psi$ — juxta effusi ac si insulis cultorum egentibus prædarentur — cur valle permutem Sabina divitias operosiores — integer vitæ scelerisque purus — nostræque injuria cædis.
- 6. In words common to Greek and Latin certain regular letter-changes are observed. Indicate the principal of these, with examples.
- 7. Where are the following places, and for what event in history are they known :--Ægospotami, Actium, Aquæ Sextiæ, Mycale, Numantia, Philippi, Pylos, Saguntum? Give dates, approximately at least.
- 8. Describe briefly the physical conformation of Northern Greece, with a rough outline map to illustrate your description and its political divisions.
- 9. Mention the principal classical Historians whose works are extant, the period at which they wrote, and the period of which they treated.
- 10. What were the chief magistrates of the Roman Republic at the time of the Second Punic War? their duties? their tenure of office? and the qualifications for office?
- 11. Give the date and a brief account of each of the following :--The Legislation of Solon, the decemviral Legislation, the Tyranny of the Thirty, the Asiatic victories of Alexander, the career of Tiberius Gracchus, the first invasion of Italy by Pyrrhus.
- 12. Give a brief account, with dates, of these persons—Themistocles, Epaminondas, Pisistratus, Cato the Censor, Regulus, Manlius Capitolinus.

Pure Mathematics.—II.

Professor Wilson.

FRIDAY, 18TH SEPTEMBER, 1863. 9 A.M. to NOON.

- 1. Shew how to describe a square which shall be equal to a given rectilineal figure.
- 2. Shew that if from a point without a circle two straight lines are drawn one of which cuts the circle and the other touches it the rectangle contained by the whole line which cuts the circle and the part of it without the circle is equal to the square on the line which touches the circle.
- 3. Shew that in any right-angled triangle any rectilineal figure described on the side subtending the right angle is equal to the two similar rectilineal figures similarly described on the sides containing the right angle.
- 4. Shew that if two straight lines are perpendicular to the same plane they are parallel to one another.
- 5. Define the following terms :—A Parabola; the focus of a parabola; the directrix of a parabola; the axis of a parabola; the vertex of a parabola. Shew that the tangent to a parabola at any point makes equal angles with the focal distance of that point and the axis of the parabola.
- 6. Shew that the perpendicular from the focus of a parabola on the tangent at any point is a mean proportional between the focal distance of that point and the focal distance of the vertex.
- 7. An ellipse and an hyperbola have the same foci; shew that the tangents to them at their points of intersection will be at right angles to one another.
- 8. Shew that the perpendiculars drawn from the foci on the tangent to an ellipse meet it in the circumference of the circle described on the axis major as diameter.
- 9. Prove the formula for sin (A-B) in terms of the sines and cosines of A and B.
- 10. If a, b, c are the sides of a triangle and A the angle opposite to a find an expression for $\cos A$ in terms of a, b, and c and deduce an expression for $\sin A$.
- 11. Find an expression for the area of a polygon of n sides incribed in a circle whose radius is given and deduce an expression for the area of the circle.
- 12. Two sides of a triangle are 113.47 and 159.75 and the included angle is 57° 24'; find the other angles and the third side.

Classics.-II.

Professor Irving.

THURSDAY, 17TH SEPTEMBER, 1863. 1 P.M. to 3 P.M.

1. Translate into Latin Prose-

My Lords, it was but the other day that they^{*} submitted their necks to the axe! but their honour was unwounded. Their enemies the persons who sentenced them to death were lawyers full of subtlety; they were enemies full of malice; yet lawyers full of subtlety and enemies full of malice as they were, they did not dare to reproach them with having supported the wealthy, the great and powerful, and of having oppressed the weak and feeble in any of their judgments, or of having perverted justice in any one instance whatever through favour, through interest or cabal.

* The members of the Parliament of Paris.

My Lords, if you must fall may you so fall! but if you stand, and stand I trust you will, together with the fortunes of this ancient monarchy, together with the ancient laws and liberties of this great and illustrious kingdom—may you stand as unimpeached in honour as in power: may you stand not as a substitute for virtue, but as an ornament for virtue, as a security for virtue: may you stand long, and long stand the terror of tyrants : may you stand the refuge of afflicted nations : may you stand a sacred temple for the perpetual residence of an inviolable Justice!

2. Translate into Latin Elegiacs-

The world's great age begins anew, The golden years return : The earth doth like a snake renew Her winter weeds outworn. Heaven smiles, and faiths and empires gleam Like wrecks of a dissolving dream.

A brighter Hellas rears its mountains From waves serener far;

A new Peneus rolls its fountains Against the morning star ; Where fairer Tempes bloom there sleep

Young Cyclads on a sunnier deep :

A loftier Argo cleaves the main Fraught with a later prize; Another Orpheus sings again And loves and weeps and dies;

A new Ulysses leaves once more Calypso for his native shore.

2. Translate into Latin Hexameters-

Or

Then forth they all out of their baskets drew Great store of flowers, the honour of the field, That to the sense did fragrant odours yield; All which upon those goodly birds they threw And all the waves did strew, That like old Peneus' waters they did seem, When down along by pleasant Tempe's shore Scattered with flowers thro' Thessaly they stream, And they appear through lilies plenteous store Like a bride's chamber floor. Two of these nymphs meanwhile two garlands bound Of freshest flowers which in that mead they found, The which presenting all in trim array, Their snowy foreheads therewithal they crowned : Whilst one did sing this lay Prepared against that day, Against their bridal day which was not long : Sweet Thames, run softly, till I end my song.

Mistory of Burope in the Seventeenth Century.

Professor Irving.

FRIDAY, 18TH SEPTEMBER, 1863. 3.30 P.M to 5.30 P.M.

- 1. Give a brief account with dates of the Thirty Years' War.
- 2. Draw an outline map of England marking the places important in the military history of the Great Rebellion; and state what event occurred at each place you insert with the date of its occurrence.
- 3. Give a brief account and the dates of the following events :--Pride's Purge, the Revocation of the Edict of Nantes, the Massacre of Glencoe, the Hampton Court Conference.

4. Give a sketch of the Act of Settlement.

- 5. Narrate the progress of events in England from the execution of Stafford in 1681 to the death of Charles II.
- 6. What claim had the Lady Arabella Stuart to the throne of England? Construct a table shewing exactly her relationship to James I.
- 7. What were the foreign relations of England during the Commonwealth?
- 8. Give some account with dates of the following persons:-Christina of Sweden, Colbert, De Witt, John Sobieski, Richelieu, Wallenstein.
- 9. Also of Buckingham (the Lord Admiral), Coke, Monk, Raleigh, Sancroft, Shaftesbury.
- 10. Mention the population, the national debt, the revenue and other points bearing on the condition of England in the latter part of the seventeenth century.

Pure Mathematics.—III.

Professor Wilson.

SATURDAY, 19TH SEPTEMBER, 1863. 9 A.M. to Noon.

- 1. Explain what is meant by the notation $\sin^{-1}x$; write down the general value of $\sin^{-1} \cdot 5$; show that $\sin^{-1}x + \sin^{-1}y = \sin^{-1}(x\sqrt{1-y^2} + y\sqrt{1-x^2})$
- 2. Shew that $\frac{\sin \theta}{\theta}$ approaches unity as its limit when θ is diminished without limit.
- 3. State Demoivre's theorem generally and prove it in the case of a positive integral index.
- 4. Investigate the expansion of $\tan^{-1}x$ in a series of positive integral powers of x: hence deduce a series for calculating the value of π .
- 5. Find an expression for the length of the perpendicular drawn from a point whose co-ordinates are given upon a line whose equation is given.

Ex: from the point a, b on the line $\frac{x}{a} + \frac{y}{b} = 1$

6. State the conditions which must be satisfied in order that the general equation of the second degree may represent a circle, the axes being rectangular.

Shew that

$$x^{2} + y^{2} + \frac{A + RA'}{1 + R}x + \frac{B + RB'}{1 + R}y + \frac{C + RC'}{1 + R} = 0$$

is the general equation of all circles which pass through the intersection of the circles

 $\begin{array}{l} x^2+y^2+Ax+By+C=0 \quad \text{and} \\ x^2+y^2+A'x+B'y+C'=0 \end{array}$

Shew that all their centers lie in a straight line and find its equation.

7. Define the tangent to a curve : find the equation to the tangent to an ellipse at any point.

Ex: At the extremity of the Latus Rectum.

- 8. What are the asymptotes of an hyperbola? find the equation to the hyperbola referred to the asymptotes.
- 9. Shew that if a cylinder be cut by a plane the section will be an ellipse.
- 10. Explain what is meant by the terms function, explicit function, increment, differential coefficient. Give a geometrical illustration of the meaning of a differential coefficient when the variables are the abscissa and ordinate of a point in a curve.
- 11. Investigate from the definition the differential coefficients of x^n and sin x.

12. Differentiate $a + bx^n$, $(a + bx^n)^p$, $\frac{1}{\sqrt{1+x^2}}$, $\tan x$, $\sin^{-1}x$, ε^{ax} , log $(x + \sqrt{1-x^2})$, log $\sin x$.

Classics.-III.

Professor Irving.

SATURDAY, 19TH SEPTEMBER, 1863. 1 to 3 p.m.

(Append to your translations a brief note whenever a word, a construction or an allusion seems to you to require one.)

1. Translate—

Δυνατωτέρας δὲ γιγνομένης τῆς Ἑλλάδος καὶ τῶν χρημάτων τὴν κτῆσιν ἔτι μᾶλλον ῆ πρότερον ποιουμένης τὰ πολλὰ τυραννίδες ἐν ταῖς πόλεσι καθίσταντο, τῶν προσόδων μειζόνων γιγνομένων πρότερον δὲ ῆσαν ἐπὶ ῥητοῖς γέρασι πατρικαὶ βασιλεῖαι ναυτικά τε ἐξηρτύετο ἡ Ἑλλὰς καὶ τῆς θαλάσσης μᾶλλον ἀντείχοντο. πρῶτοι δὲ Κορίνθιοι λέγονται ἐγγύτατα τοῦ νῦν τρόπου μεταχειρίσαι τὰ περὶ τὰς ναῦς καὶ τριήρεις πρῶτον ἐν Κορίνθιο τῆς Ἑλλάδος ἐνναυπηγηθῆναι. φαίνεται δὲ καὶ Σαμίοις ᾿Αμεινοκλῆς Κορίνθιος ναυπηγός ναῦς ποιήσας τέσσαρας. ἔτη δ᾽ ἐστὶ μάλιστα τριακόσια ἐς τὴν τελευτὴν τοῦδε τοῦ πολέμου ὅτε ᾿Αμεινοκλῆς Σαμίοις ἦλθε. ναυμαχία τε παλαιτάτη ῶν ἴσμεν γίγνεται Κορινθίων πρὸς Κερκυραίους. ἔτη δὲ μάλιστα καὶ ταύτῃ ἑξήκοντα καὶ διακόσιά ἐστι μέχρι τοῦ αὐτοῦ χρόνου.

- 2. Mention and explain the principal terms used in Thucydides with reference to seafaring and naval battles.
- 3. Translate-

Οί δὲ δὴ Πέρσαι τὸν πρότερον ἑωυτῶν γενόμενον στίβον, τοῦτον φυλάσσοντες ἤϊσαν καὶ οὕτω μόγις εὖρον τὸν πόρον. Οἶα δὲ νυκτός τε ἀπικόμενοι, καὶ λελυμένης τῆς γεφύρης ἐντυχόντες, ἐς πᾶσαν ἀρρωδίην ἀπίκατο μή σφεας οἱ Ἰωνες ἑωσι ἀπολελοιπότες. ᠂Ήν δὲ περὶ Δαρείον ἀνὴρ Αἰγύπτιος, φωνέων μέγιστον ἀνθρώπων τοῦτον δὴ τὸν ἀνδρα καταστάντα ἐπὶ τοῦ χείλεος τοῦ "Ιστρου, ἐκέλευε Δαρείος καλέειν Ίστιαίον Μιλήσιον. ὁ μὲν δὴ ἐποίεε ταῦτα· Ἱστιαίος δὲ, ἐπακούσας τῷ πρώτψ κελεύσματι, τάς τε νέας ἀπάσας παρείχε διαπορθμεύειν τὴν στρατιὴν, καὶ τὴν γέφυραν ἔζευξε. Πέρσαι μὲν ῶν οὕτω ἐκφεύγουσι· Σκύθαι δὲ διζήμενοι, καὶ τὸ δεύτερον ἡμαρτον τῶν Περσέων· καὶ τοῦτο μὲν, ὡς ἐόντας Ἰωνας ἐλευθέρους, κακίστους τε καὶ ἀνανδροτάτους κρίνουσι είναι ἁπάντων ἀνθρώπων· τοῦτο δὲ, ὡς δούλων Ἰώνων τὸν λόγον ποιεύμενοι, ἀυδράποδα φιλοδέσποτά φασι είναι, καὶ ἄδρηστα μάλιστα. ταῦτα μὲν δὴ Σκύθησι ἐς Ἰωνας ἀπέρριπται.

- 4. Sketch briefly the relations of the Ionian cities in Asia Minor to the Persian Monarchy from the fall of Crœsus to the burning of Sardis.
- 5. Give a brief account from Herodotus of the country the habits and the origin of the Scythians.
- 6. Translate—

⁶Ως έφατ', 'Ατρείδης δὲ παρώχετο γηθόσυνος κῆρ. ⁶Ηλθε δ' ἐπ' Αἰάντεσσι κιὼν ἀνὰ οὐλαμὸν ἀνδρῶν Τὼ δὲ κορυσσέσθην, ἅμα δὲ νέφος εἰπετο πεζῶν. ⁶Ως δ' ὅτ' ἀπὸ σκοπιῆς εἶδεν νέφος αἰπόλος ἀνὴρ ⁷Ερχόμενον κατὰ πόντον ὑπὸ Ζεφύροιο ἰωῆς. Τῷ δέ τ' ἄνευθεν ἐόντι μελάντερον, ἀὑτε πίσσα, Φαίνετ' ἰὸν κατὰ πόντον, ἄγει δέ τε λαίλαπα πολλήν ⁶Ρίγησέν τε ἰδὼν, ὑπό τε σπέος ἤλασε μῆλα. Τοῖαι ἅμ' Αἰάντεσσι διοτρεφέων αἰζηῶν Δήϊον ἐς πόλεμον πυκιναὶ κίνυντο φάλαγγες Κυάνεαι, σάκεσίν τε καὶ ἔγχεσι πεφρικυῖαι.

7. Point out in the scansion of the preceding extract any peculiarities, or any liberties which would not be permitted in Attic prosody.

8. Translate-

μόνον δη πρόσθεν ἄλλον ἐν πόνοις δαμέντ' ἀδαμαντοδέτοις Τιτάνα λύμαις εἰσιδόμαν θεὸν "Ατλαν, ὅς αἰὲν ὑπέροχον σθένος κραταιὸν γᾶς οὐράνιόν τε πόλον νώτοις ὀχῶν στενάζει. βοῷ δὲ πόντιος κλύδων ξυμπίτνων, στένει βυθὸς, κελαινὸς "Αϊδος δ' ὑποβρέμει μυχὸς γᾶς, παγαί θ' ἁγυορύτων ποταμῶν στένουσιν ἄλγος οἰκτρόν.

9. Give a brief account of the origin of the Greek Chorus; and of the part a Chorus takes in the action of a Greek Tragedy.

10. Translate---

γυνή γὰρ ἄνδρ' ἕκαστον αἰώνος στερεῖ, δίθηκτον ἐν σφαγαῖσι βάψασα ξίφος τοιάδ' ἐπ' ἐχθροὺς τοὺς ἐμοὺς ἔλθοι Κύπρις. μίαν δὲ παίδων ἵμερος θέλξει τὸ μὴ κτεῖναι σύνευνον, ἀλλ' ἀπαμβλυνθήσεται γνώμην· δυοῖν δέ θάτερον βουλήσεται, κλύειν ἄναλκις μᾶλλον ἡ μιαιφόνος· αὕτη κατ' "Αργος βασιλικὸν τέξει γένος. μακροῦ λόγου δεῖ ταῦτ' ἐπεξελθεῖν τορῶς. σπορᾶς γε μὴν ἐκ τῆσδε φύσεται θρασὺς τόξοισι κλεινὸς, ὅς πόνων ἐκ τῶνδ' ἐμὲ λύσει. τοιόνδε χρησμὸν ἡ παλαιγενὴς μήτηρ ἐμοὶ διῆλθε Τιτανὶς Θέμις· ὅπως δὲ χὤπη, ταῦτα δεῖ μακροῦ χρόνου εἰπεῖν, σύ τ' οὐδὲν ἐκμαθοῦσα κερδανεῖς.

The English Language.

Professor Irving.

SATURDAY, 19TH SEPTEMBER, 1863. 3.30 P.M. '0 5.30 P.M.

- 1. Numerals are sometimes classed as Adjectives, sometimes accounted a distinct Part of Speech. Shew from the fundamental notion of an Adjective, that the latter is the correct view of Cardinal, not of Ordinal Numerals.
- 2. The word 'But' is employed in several senses in English. Point these out, with examples, and give the derivation of the word.
- 3. Give the derivation of 'If.' These two forms of expression—'If it be so, comment is useless.' 'If this is so, comment is useless'—are both correct. Can you draw any distinction between the meanings of them ?
- 4. Explain what is meant in Grammar by the term 'Conversion.' Shew that the process is a very common one in English, point out its inconveniences, and state the cause which leads to its employment.
- 5. Contrast the Anglo-Saxon and the Latin words in English, (1) as to number, (2) as to frequency of use, (3) as to relative importance.
- 6. Trace back as far as you can the etymology of the following words:-Beef, Mutton, Chivalry, Musket, Alms, Ma'am, Pigny, Scorch, Lord.
- S. Mention any instances you remember in which we have in English both a derivative from a Latin root, and the Anglo-Saxon root which corresponds to it according to Grimm's law.
- 9. What is meant by phonetic spelling? Discuss the question of adopting it.
- 10. Give approximately the date, and some account of the writings of Layamon, Chaucer, More, Addison. What was the state of the language when they wrote?
- 11. From what works, by what authors, and of what date are the following taken :---
 - (1.) I can call spirits from the vasty deep.
 - (2.) How happy could I be with either Were t'other dear charmer away.
 - (3.) Love rules the court, the camp, the grove.
 - (4.) Britannia needs no bulwarks, No towers along the steep.
 - (5.) Lives of great men all remind us We may make our lives sublime.
 - (6.) Full many a flower is born to blush unseen And waste its fragrance on the desert air,

Matural Philosophy.

Professor Wilson.

MONDAY, 21st SEPTEMBER, 1863. 9 A.M. to Noon.

1. State the Parallelogram of Forces and assuming its truth as regards the direction of the resultant prove it for the magnitude.

The directions of two forces P and Q which act at a point are inclined to one another at an angle θ ; find an expression for the magnitude of the resultant and the angle at which its direction is inclined to that of the force P.

- 2. Two unequal forces whose lines of action are parallel act in opposite directions at different points of a rigid body, determine the magnitude and line of action of their resultant. From this determine the magnitude and line of action of the resultant of two parallel forces which act in the same direction.
- 3. Explain what is meant by the center of parallel forces: seeing that the efficiency of a force is not altered by transferring it to any point in its own line of action explain in what the center of parallel forces differs from any other point in the line of action of the resultant: shew that there can only be one such point: what is its connection with the center of gravity?
 - Write down the expressions for the co-ordinates of the center of gravity of any number of particles m_1, m_2 &c. at points $x_1 y_1 z_1, x_2 y_2 z_2$ &c.
- 4. Assuming the position of the center of gravity of a triangular lamina, find the center of gravity of a triangular pyramid and deduce that of a cone.
- 5. From a uniform cylinder a cylindrical portion of the same length and half its diameter is removed in such a manner that the smaller cylindrical surface passes through the axis of the larger; find the inclination to the horizon of the steepest rough inclined plane on which it will rest in equilibrium with its axis horizontal.
- 6. Find the relation between the power and the resistance on the screw, neglecting friction: conduct your investigation so as to shew how all the conditions of equilibrium of the screw considered as a rigid body are satisfied.
- 7. A body whose mass is m moving with the velocity v meets with a constant resistance P which destroys the velocity in a distance s; find the relation between these quantities.

Example : The hammer of a pile driving machine weighing five hundred weight falls through 25 feet on to the top of a pile which it drives three inches into the ground; supposing the resistance of the ground uniform find the pressure between the hammer and the top of the pile, neglecting any effects of elasticity in either of them.

- 8. A body is projected with velocity V in a direction inclined at an angle θ to the horizon; find its co-ordinates after t seconds Hence find the value of θ that the range on a horizontal plane may be the greatest possible.
- 9. A clock whose pendulum beats seconds at the surface of the earth is removed to the top of a mountain 4500 feet high; find the daily gain or loss, neglecting any effects resulting from the attraction of the mountain or the change of temperature.
- 10. Find the resultant pressure of a fluid on the surface of a solid partially immersed in it. In the case of a solid partially immersed in water which is exposed to the atmosphere what modification must be made in your result so as to express accurately the resultant pressure of the water on the solid? How far is this necessary when the solid is wholly immersed? How far does it affect the conditions that a body may float in water?

Ex: A cone of wood whose specific gravity is 729 floats in water with its vertex downwards and axis vertical; calculate the depth to which it will sink.

11. State the laws and write down the formulæ connecting the pressure, density, volume and temperature of permanent gases, and describe experiments by which they are proved.

Explain fully the laws connecting pressure density and temperature in the case of vapours ist in contact with the liquids producing them, and 2nd not in contact with those liquids. What is the dew point?

12. Shew how to find the specific gravity of a solid in small fragments which is lighter than water, describing every step of the process and giving all the requisite equations. Construct an example in illustration of your description.

Classics.—IV.

Professor Irving.

MONDAY, 21st SEPTEMBER, 1863. 1 P.M. to 3 P.M.

(Append to your translations a brief note whenever a word, a construction, or an allusion seems to require it.)

1. Translate—

Age vero, ceteris in rebus qualis sit temperantia, considerate. Unde illam tantam celeritatatem, et tam incredibilem cursum inventum putatis? Non enim illum eximia vis remigum, aut ars inaudita quædam gubernandi, aut venti aliqui novi, tam celeriter in ultimas terras pertulerunt; sed eæ res, quæ ceteros remorari solent, non retardarunt: non avaritia ab instituto cursu ad prædam aliquam devocavit, non libido ad voluptatem, non amœnitas ad delectationem, non nobilitas urbis ad cognitionem, non denique labor ipse ad quietem. Prostremo signa, et tabulas, ceteraque ornamenta Græcorum oppidorum, quæ ceteri tollenda esse arbitrantur, ea sibi ille ne visenda quidem existimavit. Itaque omnes quidem, nunc in his locis Cn. Pompeium, sicut aliquem non ex hac urbe missum, sed de cœlo delapsum, intuentur : nunc denique incipiunt credere, fuisse homines Romanos hac quando abstinentia : quod jam nationibus exteris incredibile ac falso memoriæ proditum videbatur. Nunc imperii vestri splendor illis gentibus lucet : nunc intelligunt, non sine causa majores suos tum, cum hac temperantia magistratus habebamus, servire populo Romano, quam imperare aliis, maluisse.

2. Sketch very briefly with dates the career of Cn. Pompeius.

3. Translate—

'Tres ferme horas pugnatum est, et ubique atrociter. Circa consulem tamen acrior infestiorque pugna est. Eum et robora virorum sequebantur, et ipse, quacunque in parte premi ac laborare senserat suos, impigre ferebat opem : insignemque armis et hostes summa vi petebant et tuebantur cives, donec Insuber eques (Ducario nomen erat) facie quoque noscitans 'Consul en' inquit 'hic est' popularibus suis, 'qui legiones nostras cecidit, agrosque et urbem est depopulatus. Jam ego hanc victimam Manibus peremptorum fœde civium dabo :' subditisque calcaribus equo per confertissimam hostium turbam impetum facit; obtruncatoque prius armigero, qui se infesto venienti obviam objecerat, consulem lancea transfixit; spoliare cupientem triarii objectis scutis arcuere. Magnæ partis fuga inde primum cœpit: et jam nec lacus nec montes obstabant pavori. Per omnia arta præruptaque velut cæci evadunt; armaque et viri super alium alii præcipitantur.

- 4. Describe the constitution of the Roman Legion.
- 5. Translate—

Portus ab accessu ventorum immotus, et ingens Ipse; sed horrificis juxta tonat Ætna ruinis, Interdumque atram prorumpit ad æthera nubem, Turbine fumantem piceo et candente favilla; Attollitque globos flammarum, et sidera lambit : Interdum scopulos avulsaque viscera montis Erigit eructans, liquefactaque saxa sub auras Cum gemitu glomerat, fundoque exæstuat imo. Fama est, Enceladi semiustum fulmine corpus Urgeri mole hac, ingentemque insuper Ætnam Impositam ruptis flammam exspirare caminis; Et fessum quoties mutet latus, intremere omnem Murmure Trinacriam, et cælum subtexere fumo.

6. Physical disturbances are attributed in Classical Mythology to the Titans Qu this.

7. Translate—

Quam pæne furvæ regna Proserpinæ Et judicantem vidimus Æacum, Sedesque discretas piorum, et Æoliis fidibus querentem Sappho puellis de popularibus, Et te sonantem plenius aureo, Alcæe, plectro dura navis,

Dura fugæ mala, dura belli!

Quote instances of

Utrumque sacro digna silentio Mirantur Umbræ dicere; sed magis Pugnas et exactos tyrannos Densum humeris bibit aure vulgus. Quid mirum, ubi illis carminibus stupens Demittit atras bellua centiceps Aures et intorti capillis Eumenidum recreantur angues?

8. Horace says-

Græcia capta ferum victorem cepit et artes Intulit agresti Latio.

Briefly show the truth of this as regards the language the literature and the habits of life of the Romans of the later Republic.

9. Translate-

Persicos odi, puer, apparatus, Displicent nexæ philyra coronæ; Mitte sectari, rosa quo locorum Sera moretur. Simplici myrto nihil allabores Sedulus curo: neque te ministrum Dedecet myrtus, neque me sub arcta Vite bibentem.

10. What are the following lines:-the Longer Sapphic, the first Asclepiad, the Longer Archilochian? Quote an example of each.

French.

Frederick Buck.

MONDAY, 21st SEPTEMBER, 3.30 P.M. to 5.30 P.M.

1. Translate the following passage :---

Pendant ce combat, suivant la coutume, toutes les femmes priaient Dieu en attendant l'événement. Nous écoutions attentivement le bruit du canon et son éloignement nous faisait juger de la position de l'armée: bientôt je l'entendis gronder plus vivement et se rapprocher de plus en plus. La peur me saisit; je me mis à courir sans rien attendre; je traversai la Sèvre, à Mallièvre; puis, entrant dans une chaumière, je me fis habiller en paysanne de la tête aux pieds, choisissant de préférence les haillons les plus déchirés; ensuite j'allai rejoindre ma mère et les habitants de la Boulaye, qui me suivaient plus tranquillement et que je retrouvai hors de Mallièvre; nous prîmes la route des Herbiers.....Le lendemain nous allâmes aux Herbiers, et l'on me décida à quitter mon singulier costume. Ma mère fut très-malade de toute cette crise. Elle avait sur elle-même beaucoup d'empire; dans le moment du danger, elle conservait du sang-froid; mais après, elle payait par beaucoup de souffrances la violence qu'elle s'était faite.

2. Define the use of the Imperfect, Preterit Definite, and Preterit Indefinite Tenses of the French Verb (j'étais, je fus, j'ai été.) Of the two latter Tenses, state which one may be substituted for the other.

3. Translate into English-

Argante. Non, j'aime mieux plaider.

Scapin. Hé! Monsieur, de quoi parlez-vous là, et à quoi vous résolvez-vous? Jetez les yeux sur les détours de la justice; voyez combien d'appels et de degrés de jurisdiction, combien de procédures embarrassantes, combien d'animaux ravissants par les griffes desquels il vous faudra passer; sergents, procureurs, avocats, greffiers, substituts, rapporteurs, juges, et leurs clercs. Il n'y a pas un de tous ces gens-là qui, pour la moindre chose, ne soit capable de donner un soufflet au meilleur droit du monde. Un sergent baillera de faux exploits, sur quoi vous serez condamné sans que vous le sachiez. Votre procureur s'entendra avec votre partie, et vous vendra à beaux deniers comptants. Votre avocat, gagné de même, ne se trouvera point lorsqu'on plaidera votre cause, on dira des raisons qui ne feront que battre la campagne, et n'iront point au fait. Le greffier délivrera par contumace des sentences et arrêts contre vous. Le clerc du rapporteur soustraira des pièces, ou le rapporteur même ne dira pas ce qu'il a vu. Et quand, par les plus grandes précautions du monde, vous aurez paré tout cela, vous serez ébalii que vos juges auront été sollicités contre vous.....

4. Give the corresponding English and French Idioms of the following :---

Il n'y a pas de quoi.

A qui en avez-vous?

His late father was a military man.

I am no judge of painting.

Ce sera mon pis aller, je ne saurais guère y perdre.

I locked the door, but did not bolt it.

How old do you really think him?

Rousseau made himself conspicuous by a fantastical dress.

Balance fairly the advantages on both sides.

Y voyez-vous encore?

5. Translate-

Il y a moins de gens qu'on ne le croit généralement qui regardent couler l'eau. Tel passe une heure accoudée sur le parapet d'un pont qui contemple un pécheur à la ligne, ou des chevaux qui halent un bateau, ou des blanchisseuses qui chantent.

Mais être couché, enfoncé dans la grande herbe en fleur, sous des saules au feuillage bleuâtre, suivre de l'œil une rivière ou un ruisseau, regarder les joncs qu'elle entraîne, les vertes demoiselles qui s'arrêtent sur les fleurs roses du jonc-fleuri, ou sur les petites anémones blanches qui fleurissent sur un large tapis de verdure, verdure qui semble les cheveux verts de quelque néréide, et ne voir que cela, écouter le frôlement de leurs siles de gaze, et le murmure de l'eau contre les rives, et le bruit d'une houffée de vent dans les feuilles du saule, et n'entendre que cela, et oublier tonte autre chose, et se sentir le cœur rempli d'une joie indicible, sentir son âme fleurir et s'épanouir au soleil; ne ressentir aucun désir et point d'autre crainte que celle de voir un gros nuage blanc qui s'enroule à l'horizon monter au ciel et cacher un instant le soleil : voilà ce que j'appelle regarder couler l'eau, voilà qui est non pas un plaisir, mais un bonheur que je compte entre les plus grands qu'il m'ait été donné de goûter dans ma vie.

6. Account for the irregularity of the verb "aller," je vais, j'irai, &c. and state the difference between the following :---

N'avez-vous pas vu votre ami? N'avez-vous point vu votre ami? C'est à vous à parlèr.

C'est à vous de parler

Consommer du bois. Consumer du bois.

7. Translate into French—

Herodotus tells us that King Cambyses, who was a little deranged in his head, saw in a dream his brother Smerdis sitting on the throne of Cyrus and touching the firmament with his head. Cambyses believed in dreams, and hastened to despatch to Suza a confidential man, to rid him of this dangerous brother. Soon after, Cambyses himself died. Now there was in Persia a sensible man, who took it into his head to pass himself off for the defunct Smerdis, and he succeeded in this all the more easily since, Cambyses being dead, the man who had assassinated the heir presumptive took good care not to own it, having no longer a "responsible editor." It must be confessed that this man, if he planned the imposture himself, was a great man in his way. Unfortunately he had no ears, the late King Cambyses having had them cut off for some peccadillo or other. One of the Sultanas proved the thing, and repeated it to people who were too proud to obey a king without ears (désoreillé). After a reign of a few months, the pretended Smerdis was slain in his palace. His tragic end was forgotten, people only remembered that he had been for some time master of a vast empire, possessor of the treasures of Cyrus; and the moral they derived from this adventure was, that an impostor may be successful if he has ears.

8. Give a short outline of the origin and progress of the French language. Which were the, two principal branches of it previous to the 13th century?

EXAMINATION for the Tasmanian Scholarships, --September, 1863.

Thursday, 17th September.	Friday, 18th September.	Saturday, 19th September.	Monday, 21st September.
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9 A.M.—Noon.	9 а.м.—Noon.	9 a.m.—Noon.	9 A.MNOON.
MATHEMATICS, I.	MATHEMATICS, II.	MATHEMATICS, III.	MATHEMATICS, IV.
ARITHMETIC AND ALGEBRA.	GEOMETRY AND TRIGONOMETRY.	Analytical Trigonometry, Analytical Geometry, and Differential Calculus.	STATICS, DYNAMICS, AND HYDROSTATICS.
1 р.м.—3 р.м.	1 р.м.—3 р.м.	1 р.м.—З р.м.	1 р.м.—3 р.м.
CLASSICS, I.	CLASSICS, II.	CLASSICS, III.	CLASSICS, IV.
GREEK COMPOSITION.	LATIN COMPOSITION.	GREEK AUTHORS.	LATIN AUTHORS.
3·30 р.м.—5·30 р.м.	3·30 р.м.—5·30 р.м.	3·30 р.м.—5·30 р.м.	3·30 р.м.—5·30 р.м.
ULASSICS, Y.	MODERN HISTORY.	English Language.	FRENCH LANGUAGE.

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TIME TABLE.

DIRECTIONS TO CANDIDATES.

I. Look carefully at the annexed Time Table, in which the hours are fixed for the subjects of Examination on each day, and always be at your seat in the Examination Room five minutes before the time.

II. When the Questions are given you, read them over carefully, and mark those which you think you can answer best; and do them first. If, after that, you still have time to spare, try some of the others.

III. Before you begin to write your answers, insert in the blank spaces at the top of your paper,---

- 1. The motto by which you are known in the Examination.
- 2. The subject in which the questions are set which you are about to answer.
- 3. The number of the question. Not more than one question is to be answered on each sheet.

IV. In writing your answers—Write only on the ruled side of the paper.

V. As soon as notice is given, (which will be five minutes before the end of the time), finish your papers, and see that they are numbered rightly, and in their proper order.

VI. You are not to leave the Room until the Examination is closed, except by special permission of the Examiners.

N.B.—Candidates are strictly forbidden to communicate with one another during the Examination. Any Candidate taking an unfair advantage will be dismissed from the Examination.

TASMANIAN COUNCIL OF EDUCATION.

Hobart Town, 8th March, 1862.

EXAMINATION FOR TASMANIAN SCHOLARSHIPS, 1863.

THE Council of Education have directed the publication of the following Scheme of Examination for the Tasmanian Scholarships for the Year 1863.

The Regulations in regard to these Scholarships, together with a List of Subjects and Books which have been adopted by the Council of Education, are subjoined for general information.

By Order of the Council,

MURRAY BURGESS, Secretary.

SCHEME of the Examination for the TASMANIAN SCHOLARSHIPS for the Year 1863.

I.—CLASSICS.

GREEK.—Thucydides, Book I.; Herodotus, Book IV.; Homer's Iliad, Book IV.; Æschylus, Prometheus Vinctus.

LATIN.-Virgil, Æneid, Books II. and III.; Horace, Odes; Livy XXI and XXII.; 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 on 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 Smith's History of Greece and Liddell's History of Rome.

II.—MATHEMATICS.

Arithmetic; Algebra, except Theory of Equations; Euclid, Books I. to VI. inclusive, and XI. to 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.

History of Europe during the seventeenth century.

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 Madame de la Rochejaquelin's Memoirs of the Vendean War and Molière Les Fourberies de Scapin for translation into English, with questions on the parsing and the historical and geographical allusions; 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 Revolt of the Netherlands, or Wallenstein, 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 :-

v						•		
1. Classics	-	-	-	-	-	-	1500 Marks.	
2. Mathematic	cs and Ne	atural I	Philosop	hy	-	-	1500 "	
3. Modern Hi	story	-	- `	-	-	-	250 ,,	
4. Modern La	nguages-	-		•				
(a.) Engl	lish	-	-	•	- 5	250 🧎	500 "	
(b.) Fren	ch or Ge	rman	-	-		250 §		
								•
7	CTAL	-	- '		-	-	37 50 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.

and Co.

Differential Calculus, Todhunter, J., 10s. 6d., Macmillan. Elementary Statics, Dynamics, and Hydrostatics, (Goodwin's Course of Mathematics), see above.

Madame de la Rochejaquelin's Memoirs of the Vendean War, 2 vols., Dentu's Edition. Paris, 1861.

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.

- Mathematics—Arithmetic, Algebra, Euclid, Plane Trigonometry.
 Natural Philosophy—Elementary Statics, Dynamics, and Hydrostatics.
 Modern History—The History of England.
 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 should be a provided to the certification of the Council to the certification of the Council to the certificate the payment of the annual value of the Scholarship: provided always, that this condition should be the certificate the 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.

> JAMES, BARNARD. GOVERNMENT PRINTER, TASMANIA.