

Examination for matriculation in the year 1843 / University of London.

Contributors

University of London.
Royal College of Physicians of London

Publication/Creation

London : R. & J.E. Taylor, 1843.

Persistent URL

<https://wellcomecollection.org/works/y2wwcyhg>

Provider

Royal College of Physicians

License and attribution

This material has been provided by This material has been provided by Royal College of Physicians, London. The original may be consulted at Royal College of Physicians, London. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

UNIVERSITY OF LONDON.

EXAMINATION

FOR

M A T R I C U L A T I O N

IN THE YEAR 1843.

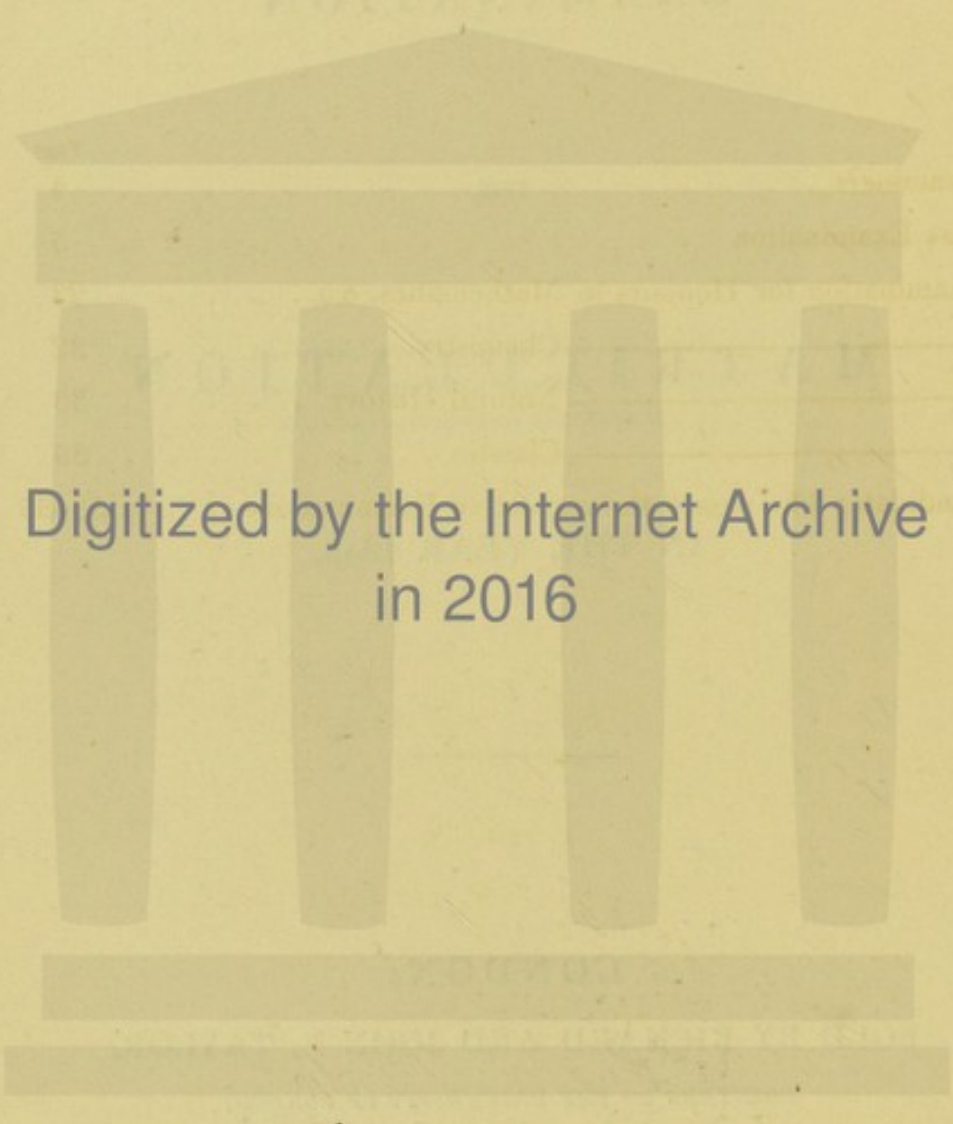
LONDON:

SOLD BY RICHARD AND JOHN E. TAYLOR,

PRINTERS TO THE UNIVERSITY OF LONDON,

RED LION COURT, FLEET STREET.

1843.



Digitized by the Internet Archive
in 2016

<https://archive.org/details/b28040284>

	Page
Examiners	4
Pass Examination	5
Examination for Honours in Mathematics, &c.. . . .	23
————— Chemistry	32
————— Natural History	33
————— Classics	35
Candidates who passed the respective Examinations . . .	53-55

EXAMINERS.

In Classics.

Rev. JOSEPH H. JERRARD, D.C.L.
T. B. BURCHAM, Esq. M.A.

In Mathematics and Natural Philosophy.

Rev. Professor HEAVISIDE, M.A.
GEORGE B. JERRARD, Esq., B.A.

In Chemistry.

Professor DANIELL, F.R.S.

In Botany.

Rev. Professor HENSLOW, M.A.

In Zoology.

Professor T. RYMER JONES.

PASS EXAMINATION.

MONDAY, July 3.—MORNING, 10 to 1.

ARITHMETIC AND ALGEBRA.

Examiner, Rev. Professor HEAVISIDE.

1. MULTIPLY 1756 by 304. Divide 43375 by 347. Explain the different steps of each operation.

2. Define a fraction. When is a vulgar fraction greater than unity? Find the value of the compound fraction

$$\frac{1}{2} \text{ of } \frac{2}{3} \text{ of } \frac{3}{4}.$$

3. Reduce the fractions $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{5}$, $\frac{7}{8}$, $\frac{9}{10}$, $\frac{11}{12}$, $\frac{13}{15}$, to equivalent fractions having a common denominator. Explain the rule you employ. Divide $\frac{1\frac{2}{4}\frac{1}{4}}$ by $\frac{1}{1\frac{1}{2}}$.

4. Add together $\frac{5}{8}$ of £1000 16s. 8d., $\frac{3}{4}$ of £2400 12s. 4d., $\frac{5}{7}$ of £3724 14s. 7d. What fraction of half a yard is 3 inches?

5. Represent as vulgar fractions 1.25, .0004. How does it affect the value of a decimal to annex ciphers (1) after the decimal places, (2) between the decimal places and the decimal point? Decimals may be multiplied and divided by 10, 100, 1000, &c., merely by shifting the decimal point; show this. Divide .000121 by 1.1.

6. Extract the square roots of (1) 119025, (2) 1.21, (3) 12.1.

7. Find the simple interest on £2475 12s. 4d. at $3\frac{1}{2}$ per cent. for five years.

8. Add $\frac{a-b}{2}$ to $\frac{a+b}{2}$.

Multiply $x^2 - 2ax + a^2$ by $(x+a)$.

Divide $x^2 - 7x + 12$ by $x - 3$, and

$(x-y)$ by $x^{\frac{1}{2}} - y^{\frac{1}{2}}$.

9. Define proportion. If four quantities be proportional, the product of the extremes is equal to the product of the means. What well-known rule in arithmetic is founded on this property? If $a : b :: c : d$, prove $a + b : a :: \overline{c + d} : c$.

10. Solve the following equations:—

1. $3x - 7 = 4x - 10$.

2. $\frac{x}{2} + \frac{x}{3} = 13 - \frac{x}{4}$.

3. $2x - 5 - \frac{x-3}{7} = x + 4$.

4. $\left. \begin{array}{l} 4x + 9y = 51 \\ 8x = 9 + 13y. \end{array} \right\}$

11. Two railroad trains start at the same time, one from London at the rate of 25 miles an hour, the other from Bristol at 30 miles an hour; the distance from London to Bristol is 120 miles; at what distance from Bristol will the trains meet?

MONDAY, July 3.—AFTERNOON, 3 to 6.

ENGLISH HISTORY.

Examiner, Rev. Dr. JERRARD.

1. What was Julius Cæsar's pretext for invading Britain? How were the natives regarded and treated by his successors? Do they appear to have made much progress in the Arts while subject to the power of the Romans? To what authors are we indebted for the knowledge which we possess of their manners, government and religion?

2. Under what circumstances did the Saxons first arrive in Britain? With what consequences to the original inhabitants were their conquests in this country attended? When were they converted to Christianity? What was the state of popular liberty among them towards the time of the Norman Conquest?

3. Give a short account of the Feudal system as it existed under the Anglo-Norman kings.

4. What were the most marked effects of the Crusades upon this country? What part was taken in them by the kings of England?

5. State briefly (with dates) the principal events which accelerated, and those which retarded, the progress of civil liberty in England, between the period of the granting of Magna Charta, and that of the Revolution in 1688; mentioning the chief provisions of the several Acts to which you refer.

6. What circumstances were favourable, and what unfavourable, to the spread and the establishment of the Reformed Religion in England?

7. What appear to have been the main causes of the early

subversion of the Commonwealth, and restoration of the Monarchy?

8. Give the names of the most remarkable men of genius who flourished in England from the commencement of the reign of Elizabeth to that of Charles II.; mentioning the departments of Literature, Science, or Art in which they severally excelled.

TUESDAY, July 4.—MORNING, 10 to 1.

GREEK CLASSIC AND HISTORY.

Examiner, Rev. Dr. JERRARD.

Translate :

XENOPHON*, HELLENICS.

(A.) Book I. Chap. 4. § 11.

Ἀλκιβιάδης δ' ἐκ τῆς Σάμου, ἔχων τὰ χρήματα, κατέπλευσεν ἐς Πάρον ναυσὶν εἴκοσιν. ἐκεῖθεν δ' ἀνήχθη εὐθὺς Γυθείου ἐπὶ κατασκοπῇ . . . ὅπως ἡ πόλις πρὸς αὐτὸν ἔχοι. Ἐπεὶ δὲ ἑώρα ἑαυτῷ εὖνουν οὖσαν, καὶ στρατηγὸν αὐτὸν ἡρημένους, καὶ ἰδίᾳ μεταπεμπομένους τοὺς ἐπιτηδείους, κατέπλευσεν ἐς τὸν Πειραιᾶ ἡμέρᾳ, ἣ Πλυνήρια ἦγεν ἡ πόλις, τοῦ ἔδους κατακεκαλυμμένου τῆς Ἀθηνᾶς· ὃ τινὲς οἰωνίζοντο ἀνεπιτήδειον εἶναι καὶ αὐτῷ καὶ τῇ πόλει. Ἀθηναίων γὰρ οὐδεὶς ἐν ταύτῃ τῇ ἡμέρᾳ οὐδενὸς σπουδαίου ἔργου τομήσαι ἂν ᾔψασθαι. Καταπλέοντος δ'

* Edit. Schneider.

αὐτοῦ, ὃ τε ἐκ τοῦ Πειραιῶς καὶ ὁ ἐκ τοῦ ἄστεος ὄχλος ἠθροίσθη πρὸς τὰς ναῦς, θαυμάζοντες, καὶ ἰδεῖν βουλόμενοι τὸν Ἀλκιβιάδην, λέγοντες οἱ μὲν, ὅτι ὡς κράτιστος εἴη τῶν πολιτῶν (καὶ μόνος ἀπελογήθη, ὡς οὐ δικαίως φύγοι). ἐπιβουλευθεὶς δὲ ὑπὸ τῶν ἑλαττον ἐκείνου δυναμένων, μοχθηρότερόν τε λεγόντων, καὶ πρὸς τὸ αὐτῶν ἴδιον κέρδος πολιτευόντων ἐκείνου ἀεὶ τό [τε] κοινὸν αὔξωντος, καὶ ἀπὸ τῶν αὐτοῦ, καὶ ἀπὸ τοῦ τῆς πόλεως δυνατοῦ. ἐθέλοντος δὲ τό τε κρίνεσθαι παραχρῆμα, τῆς αἰτίας ἄρτι γεγεννημένης, ὡς ἡσεβηκότος ἐς τὰ μυστήρια, ὑπερβαλλόμενοι οἱ ἐχθροὶ τὰ δοκοῦντα δίκαια εἶναι, ἀπόντα αὐτὸν ἐστερησαν τῆς πατρίδος. ἐν ᾧ χρόνῳ, ὑπὸ ἀμηχανίας δουλεύων, ἠναγκάσθη μὲν θεραπεύειν τοὺς ἐχθίστους, κινδυνεύων ἀεὶ παρ' ἐκάστην ἡμέραν ἀπολέσθαι· τοὺς δὲ οἰκειοτάτους, πολίτας τε καὶ ξυγγενεῖς, καὶ τὴν πόλιν ἅπασαν ὁρῶν ἐξαμαρτάνουσαν, οὐκ εἶχεν ὅπως ὠφελοῖν, φυγῇ ἀπειργόμενος.

(B.) Book I. Chap. 6. § 36.

Ταῦτα δὲ βουλομένους ποιεῖν, ἄνεμος καὶ χειμὼν αὐτοὺς διεκώλυσε, μέγας γενόμενος. τρόπαιον δὲ στήσαντες αὐτοῦ, ἠυλίζοντο. Τῷ δ' Ἐτεονίκῳ ὁ ὑπηρετικὸς κέλῃς πάντα ἐξήγγειλε τὰ περὶ τὴν ναυμαχίαν. ὁ δὲ αὐτὸν πάλιν ἐξέπεμψεν, εἰπὼν τοῖς ἐνοῦσι, σιωπῇ ἐκπλεῖν, καὶ μηδενὶ διαλέγεσθαι, παραχρῆμα δὲ αὐθις πλεῖν ἐς τὸ ἐαυτῶν στρατόπεδον ἐστεφανωμένους καὶ βοῶντας, ὅτι Καλλικρατίδας νενίκηκε ναυμαχῶν, καὶ ὅτι αἱ τῶν Ἀθηναίων νῆες ἀπολώλασιν ἅπασαι. Καὶ οἱ μὲν ταῦτ' ἐποιοῦν· αὐτὸς δ', ἐπειδὴ ἐκείνοι κατέπλεον, ἔθνε τὰ εὐαγγέλια, καὶ τοῖς στρατιώταις παρήγγειλε δειπνοποιεῖσθαι, καὶ τοῖς ἐμπόροις, τὰ χρήματα σιωπῇ ἐνθεμένους ἐς τὰ πλοῖα ἀποπλεῖν ἐς Χίον, (ἣν δὲ τὸ πνεῦμα οὖριον) καὶ τὰς τριήρεις τὴν ταχίστην. αὐτὸς δὲ τὸ πεζὸν ἀπῆγεν ἐς τὴν Μήθυμναν, τὸ στρατόπεδον ἐμπρήσας.

(C.) Book I. Chap. 7. § 34.

Τί τούτων οὐχ ἱκανῶς καὶ καλῶς ἔπραξαν; Οὐκοῦν δίκαιον, τὰ μὲν πρὸς τοὺς πολεμίους μὴ καλῶς πραχθέντα, τοὺς πρὸς τούτους ταχθέντας ὑπέχειν λόγον· τοὺς δὲ πρὸς τὴν ἀναίρεσιν, μὴ ποιήσαντας, ἃ οἱ στρατηγοὶ ἐκέλευσαν, διότι οὐκ ἀνείλοντο, κρίνεσθαι. Τοσοῦτον δ' ἔχω εἰπεῖν ὑπὲρ ἀμφοτέρων, ὅτι ὁ χει-

μὼν διεκώλυσε μηδὲν πράξαι, ὧν οἱ στρατηγοὶ παρεκελεύσαντο. τούτων δὲ μάρτυρες οἱ σωθέντες ἀπὸ τοῦ αὐτομάτου, ὧν εἰς τῶν ἡμετέρων στρατηγῶν ἐπὶ καταδύσης νεὼς σωθεῖς, ὃν κελεύουσι τῇ αὐτῇ ψήφῳ κρίνεσθαι, καὶ αὐτὸν τότε δεόμενον ἀναιρήσεως, ἥπερ τοὺς οὐ πράξαντας τὰ προσταχθέντα. Μὴ τοίνυν, ὦ ἄνδρες Ἀθηναῖοι, ἀντὶ μὲν τῆς νίκης καὶ τῆς εὐτυχίας, ὅμοια ποιήσητε τοῖς ἡττημένοις τε καὶ ἀτυχούσιν· ἀντὶ δὲ τῶν ἐκ Θεοῦ ἀναγκαίων ἀγνωμονεῖν δόξητε, προδοσίῳ καταγόντες ἀντὶ τῆς ἀδυναμίας, οὐχ ἱκανοὺς γενομένους διὰ τὸν χειμῶνα πράξαι τὰ προσταχθέντα· ἀλλὰ πολὺ δικαιότερον, στεφάνοις γεραίρειν τοὺς νικῶντας, ἢ θανάτῳ ζημιοῦν, πονηροῖς ἀνθρώποις πειθομένους.

1. Enumerate the extant works of Xenophon, mentioning the subjects on which they are respectively written. What is the general character of his style and merits as an historian? What was the nature of his philosophical opinions? What period of history is embraced by his Hellenics? Translate and comment upon the words with which that work commences, *Μετὰ δὲ ταῦτα, οὐ πολλαῖς ἡμέραις ὕστερον*.

2. Mention the origin, the date (B.C. and Olymp.) of the commencement and of the termination, the principal events and consequences of the Peloponnesian War. Describe the constitution of Athens, (in the time of Pericles) and that of Sparta.

3. Draw a map of Asia Minor, marking the boundaries of the provinces which lie along the sea-coast, and noting the situations of their principal towns. Give a sketch of the coasts of the Ægean Sea, and of the most remarkable of the islands in it, giving the modern as well as the ancient names, and illustrating, more particularly, the First Book of the Hellenics.

4. Explain any peculiarities of construction which occur in the extracts (A.) and (C.). What cases are used *absolutely* in Greek? Explain the nature and use of the Genitive Case and Optative Mood, showing how far in these points the Greek and Latin languages correspond with each other.

TUESDAY, July 4.—AFTERNOON, 3 to 6.

CHEMISTRY. NATURAL HISTORY.

CHEMISTRY.

Examiner, Professor DANIELL.

1. Account for the rise of water in a pump, and generally for the phænomena of *suction*.
2. What is the general distribution of heat in the atmosphere, and by what processes is it brought about?
3. What do you mean by a Chemical Element? Illustrate the meaning with reference to the atmosphere.
4. What are the principal distinctive characters of those bodies which are sometimes designated as supporters of combustion? Illustrate by examples.
5. State the principal laws of chemical combination, and illustrate them by examples.
6. What is the general composition of the products of Vegetation? How may their ultimate constitution be ascertained?

BOTANY.

Examiner, Rev. Prof. HENSLOW.

CHARACTERS OF THE PRINCIPAL NATURAL FAMILIES OF EUROPEAN PLANTS.

State the principal characters of the following Orders:—

1. Linaceæ.
2. Geraniaceæ.
3. Juncaceæ.

Compare the following Orders; showing by what characters they principally agree and disagree:—

4. Ranunculaceæ with Papaveraceæ.

5. Campanulaceæ with Lobeliaceæ.

Refer to their Natural Orders the plants possessing the following characters:—

6. *Flores* hermaphroditi, irregulares.

Calyx 5-partitus.

Corolla 5-petala, hypogyna.

Stamina 5, hypogyna, petalis alterna; filamentis subnullis; antheris adnatis, apice in appendicem membranaceam productis, duorum anticorum connectivis dorso in appendices intra calcar reconditas productis.

Ovarium uniloculare, placentis parietalibus tribus; ovulis plurimis, anatropis.

7. *Flores* hermaphroditi, regulares.

Perigonium corollinum superum, infundibuliforme, tubo elongato, limbo sexpartito.

Stamina 3, fauci perigonii inserta, filamentis filiformibus, antheris sagittatis basifixis.

Ovarium triloculare, ovulis plurimis in loculorum angulo centrali biseriatis, anatropis.

Stylus elongatus, stigmatibus tribus dilatatis, carnosus, cucullatis.

ZOOLOGY.

Examiner, Prof. T. RYMER JONES.

1. What are the four grand divisions under which Cuvier has classified the animal creation, and the distinctive characters peculiar to each?

2. How have the RADIATA of Cuvier been subdivided by subsequent zoologists?

3. What are the chief anatomical differences between the classes into which the VERTEBRATA have been separated?

4. Briefly describe the general structure of a Conchiferous Mollusk.

5. How do the shell and spines of an *Echinus* grow?

WEDNESDAY, July 5.—MORNING, 10 to 1.

MATHEMATICS.

Examiner, Mr. JERRARD.

1. What is meant by a straight line, and a right angle? Is it necessary to assume the proposition that all right angles are equal to one another?

2. In an isosceles triangle prove that the angles opposite the equal sides are equal.

3. Show how to bisect a given rectilineal angle.

4. The straight lines which join the extremities of two equal and parallel straight lines, towards the same parts, are also themselves equal and parallel.

5. If a parallelogram and a triangle be upon the same base and between the same parallels, the parallelogram is double the triangle.

6. Prove that the three interior angles of every triangle are equal to two right angles, and compare an interior angle of an equiangular pentagon with a right angle.

7. Upon a given straight line to describe a square.

8. In the figure belonging to Prop. 47, show that if the

lines parallel to the two sides of the triangle containing the right angle, and the line perpendicular to the side subtending the right angle be produced, they will meet in a point.

9. Solve the equations

$$(1.) \quad \frac{x+2}{11} - \frac{x-7}{4} = 1 + \frac{x-10}{2},$$

$$(2.) \quad \left. \begin{array}{l} 5x + 6y = 137 \\ 13x - 4y = 23 \end{array} \right\},$$

and find the sum of the series

$$a - \frac{a}{r} + \frac{a}{r^2} - \dots \text{ to } n \text{ terms.}$$

WEDNESDAY, July 5.—AFTERNOON, 3 to 6.

NATURAL PHILOSOPHY.

Examiners, Mr. JERRARD and Rev. Prof. HEAVISIDE.

1. If two forces act simultaneously on a point, how is their resultant represented in magnitude and direction? How must the forces act so that the resultant shall have (1) its least, (2) its greatest value? What is that greatest value?

2. In the single moveable pulley when the strings are all parallel, find the force that will support a given weight. Give instances of systems of pulleys arranged so as to afford a mechanical advantage.

3. Define the centre of gravity of a body, or a system of bodies. Does such a point always exist in a material body?

4. State the second law of motion. When are two motions said to be compounded? Illustrate the second law of motion by referring to experiments.

5. A heavy body falls from rest *in vacuo*: state the relations between the space described, the velocity acquired, and the time of motion. Compare the spaces through which a heavy body will fall in 3" and 5" respectively.

6. Explain the equal diffusion of the pressure of fluids, and show how it varies.

7. Explain the use and construction—(1) of the Barometer, (2) of the Forcing Pump.

8. Describe the nature of Sound. When a gun is fired at a distance, why do we see the flash before we hear the report?

9. State the laws of reflexion and refraction of a ray of light.

THURSDAY, July 6.—MORNING, 10 to 1.

ROMAN CLASSIC AND HISTORY.

Examiner, Mr. BURCHAM.

Translate into English:

LIVY*.

A. Book XXXI. Chap. vii.

Consul in campo Martio comitiis habitis, priusquam centurias in suffragium mitteret, concione advocata, 'Ignorare,' inquit, 'videmini mihi, Quirites, non, utrum bellum an pacem habeatis, vos consuli: (neque enim liberum id vobis permittit Philippus, qui terra marique ingens bellum molitur) sed utrum in Macedoniam legiones transportetis, an hostem in

* Edit. Ernesti.

Italiam accipiatis. Hoc quantum intersit, si nunquam ante alias, Punico certe proximo bello experti estis. Quis enim dubitat, quin, si Saguntinis obsessis fidemque nostram inplorantibus inpigre tulissemus opem, sicut patres nostri Mamerтинis tulerant, totum in Hispaniam aversuri bellum fuerimus, quod cunctando cum summa clade nostra in Italiam accepimus? Ne illud quidem dubium est, quin hunc ipsum Philippum, pactum jam per legatos literasque cum Hannibale in Italiam trajicere, misso cum classe Lævino, qui ultro ei bellum inferret, in Macedonia continuerimus. et quod tunc fecimus, quum hostem Hannibalem in Italia haberemus, id nunc, pulso Italia Hannibale, devictis Karthaginiensibus, cunctamur facere? Patiamur expugnandis Athenis, sicut Sagunto expugnando Hannibalem passi sumus, segnitiam nostram experiri regem. Non quinto inde mense, quemadmodum ab Sagunto Hannibal, sed quinto inde die, quam ab Corintho solverit naves, in Italiam perveniet. Ne æquaveritis Hannibali Philippum, ne Karthaginiensibus Macedonas; Pyrrho certe æquabitis: Pyrrho dico, quantum vel vir viro, vel gens genti præstat! Minima accessio semper Epirus regno Macedoniae fuit, et hodie est. Peloponnesum totam in ditione Philippus habet, Argosque ipsos, non vetere fama magis, quam morte Pyrrhi nobilitatos.

Explain the historical allusions in the above passage.

B. Chap. xvii.

Abydeni primo, tormentis per muros dispositis, non terra modo adeuntes aditu arcebant, sed navium quoque stationem infestam hosti faciebant. postea, quum et muri pars strata ruinis, et ad interiorem raptim obpositum murum cuniculis jam perventum esset, legatos ad regem de conditionibus tradendæ urbis miserunt. Paciscebantur autem, ut Rhodiam quadriremem cum sociis navalibus, Attalique præsidium emitti liceret; atque ipsis urbe excedere cum singulis vestimentis. Quibus quum Philippus nihil pacati, nisi omnia permittentibus, respondisset; adeo renunciata hæc legatio ab indignatione simul ac desperatione iram accendit, ut, ad Saguntinam rabiem

versi, matronas omnes in templo Dianæ, pueros ingenuos, virginesque, infantes etiam cum suis nutricibus, in gymnasium includi juberent: aurum et argentum in forum deferri, vestem pretiosam in naves Rhodiam Cyzicenamque, quæ in portu erant, congeri: sacerdotes victimasque adduci, et altaria in medio poni. ibi delecti primum, qui, ubi cæsam aciem suorum, pro diruto muro pignantem, vidissent, extemplo conjuges liberosque interficerent; aurum, argentum, vestemque, quæ in navibus esset, in mare dejicerent; tectis publicis privatisque, quamplurimis locis possent, ignes subjicerent; et, se facinus perpetraturos, præeuntibus execrabile carmen sacerdotibus, jurejurando adacti: tum militaris ætas jurare, neminem vivum, nisi victorem, acie excessurum. Hi, memores Deorum, adeo pertinaciter pugnaverunt, ut, quum nox prælium diremtura esset, rex prior, territus rabie eorum, pugna abstiterit. Principes, quibus atrocior pars facinoris delegata erat, quum paucos et confectos vulneribus ac lassitudine superesse prælio cernebant, luce prima sacerdotes cum infulis ad urbem dedendam Philippo mittunt.

Explain, “Transversis cuniculis hostium cuniculos excerpere.” What were the “testudines,” “vineæ,” “platei”?

C. Chap. xxvii.

Consul Sulpicius eo tempore inter Apolloniam ac Dyrrachium ad Apsum flumen habebat castra: quo arcessitum L. Apustium legatum cum parte copiarum ad depopulandos hostium fines mittit. Apustius, extrema Macedoniæ populatus, Corrago, et Gerrunio, et Orgesso castellis primo inpetu captis, ad Antipatriam in faucibus angustis sitam urbem, venit. ac primo evocatos principes ad colloquium, ut fidei Romanorum se committerent, perlicere est conatus: deinde, ubi, magnitudine ac mœnibus situque urbis freti, dicta adspernabantur, vi atque armis adortus, expugnavit; puberibusque interfectis, præda omni militibus concessa, diruit muros, atque urbem incendit. Hic metus Codrionem, satis validum et munitum oppidum, sine certamine ut dederetur Romanis, effecit. Præsidio ibi relicto, Ilion (nomen propter alteram in Asia urbem, quam oppidum, notius) vi capitur. Revertentem

legatum ad consulem cum satis magna præda, Athenagoras quidam regius præfectus in transitu fluminis a novissimo agmine adortus, postremos turbavit: ad quorum clamorem et trepidationem quum revector equo propere legatus signa convertisset, conjectisque in medium sarcinis aciem direxisset; non tulere inpetum Romanorum militum regii: multi ex iis occisi, plures capti. Legatus, incolumi exercitu reductor ad consulem, remittitur inde extemplo ad classem.

What was the ancient, and what is the modern name of Dyrrachium? Describe its geographical position.

1. Give a short account of Hannibal after the battle of Zama. Who were the parties engaged at the battle of Cynocephalæ, and what was its result? About what time were Macedonia and Greece reduced to Roman provinces?

2. "Cœptum bellum adversus Philippum decem ferme ante annis triennio prius depositum erat, quum Ætoli et belli et pacis fuissent causæ." What was the cause of the war here mentioned? How may the Ætolians be said to have been "et belli et pacis causæ"? Give the date of the commencement of the war.

3. "Ludi scenici—Jovis epulum ludorum causâ," c. 4. When and upon what occasion were dramatic entertainments first introduced at Rome? Why were they called "ludi scenici"? What were "versus Fescennini", and in what respects did the "saturæ" differ from them?

4. "Idibus Martiis, quo die tum consulatus inibatur," c. 6. Mention the different days on which the Consuls entered upon office, from its first establishment to B.C. 600. At what time were the consuls usually elected? What was enacted by the "Lex Calpurnia" in reference to them?

THURSDAY, July 6.—AFTERNOON, 3 to 6.

GRAMMATICAL STRUCTURE OF THE ENGLISH LANGUAGE.

Examiner, Mr. BURCHAM.

1. What purpose does the use of adjectives in a language serve? In what sense may surnames be considered adjectives? How are adjectives, which are not simple roots, formed in our language? Give instances of such as belong to the Saxon part of it, and of others which are of Greek or Latin origin. Why may adjectives be considered homogeneous with respect to verbs, and heterogeneous with respect to nouns?

2. Give reasons for believing that the definite article has arisen out of the demonstrative pronoun. What objections are there against considering the articles as distinct parts of speech?

3. What is meant by Strong Tenses and Strong Verbs as distinguished from Weak Tenses and Weak Verbs? To which portion of our language do the Strong Verbs belong? According to which of the two orders of verbs are derived words, and words imported from other languages, inflected?

4. How many true Tenses are there in our language? What is marked by the different syllables in *monebam*—*monebamus*; *amavisti*—*amavistis*? Point out the difference between the Greek, Latin and English languages in this respect. How do languages of greater or less antiquity differ in the expression of relations?

5. Dr. Johnson explains etymology—1. *The descent or derivation of a word from its original*; the deduction or forma-

tion from the radical word ; the analysis of compounds into primitives. 2. *The part of Grammar which delivers the inflections of Nouns and Verbs.* Show in what respects the above definition is defective. Mention the different branches into which the family of Indo-Germanic languages may be divided. To which does the English Language belong?

6. Distinguish between *accent* and *emphasis*. What is the rule with respect to accent, as regards radical and inflexional syllables? For what reason is *accent* often confounded with *quantity*?

7. In masculine and feminine terms when should the masculine term be employed even where the female is signified? Point out the difference of meaning in the following words: veracity, truth, riches, richness, quantity, number, justice, justness, negligence, neglect, conscience, consciousness, conscientiousness, polity, policy. Give instances in which any of these terms are incorrectly used for the others.

tion from the radical word, the analysis of compounds into
 primitives. 2. The part of Grammar which shows the
 sections of Nouns and Verbs. Show in what respects the
 above definition is defective. Mention the different families
 into which the family of Indo-Germanic languages may be
 divided. To which does the English language belong?

6. Distinguish between *active* and *passive*. What is the
 rule with respect to accent, as regards *active* and *passive*
 syllables? For what reason is accent often confounded with
 quantity?

7. In masculine and feminine nouns when should the mas-
 culine term be employed even where the female is signified?
 Point out the difference of meaning in the following words:
virtutes, *faculties*, *riches*, *riches*, *quantity*, *number*, *justice*,
justness, *equity*, *right*, *conscience*, *conscientiousness*, *con-*

EXAMINATION FOR HONOURS.

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF MATHEMATICS
1890-1891

EXAMINATION FOR HONORS

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF MATHEMATICS
1890-1891

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF MATHEMATICS
1890-1891

EXAMINATION FOR HONORS

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF MATHEMATICS
1890-1891

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF MATHEMATICS
1890-1891

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF MATHEMATICS
1890-1891

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF MATHEMATICS
1890-1891

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF MATHEMATICS
1890-1891

EXAMINATION FOR HONOURS.

MATHEMATICS

AND

NATURAL PHILOSOPHY.

TUESDAY, July 11.—MORNING, 10 to 1.

ARITHMETIC, ALGEBRA, GEOMETRY.

Examiner, Rev. Prof. HEAVISIDE.

1. A RATE of £150 13s. 4d. is to be raised on a district assessed at £4230 16s., what portion of the rate must be paid by a person assessed at £30?

2. Express $\frac{3}{7}$, $\frac{4}{9}$, $\frac{11}{12}$, $\frac{13}{14}$, $\frac{19}{21}$, $\frac{15}{24}$ by equivalent fractions having the least common denominator.

Express the difference between $\frac{1}{19}$ of £1 and $\frac{1}{20}$ of one guinea.

3. Find $\sqrt{17}$ to four places of decimals, and express *accurately* the last remainder you obtain. Show that your result represents the square root of 17 nearly.

4. What do fractional and negative indices represent in Algebra? Express $a^{-3} b^2 c^{-4}$ in a fractional form,—

(1.) with a numerator unity.

(2.) with a numerator c^4 .

Find the values of 2^{-8} , $(81)^{-4}$.

5. Express the product $(x+a)(x+b)(x+c)(x+d)$ by a result arranged according to powers of x . Hence obtain equivalent expressions for $(x+a)^4$ and $(x-a)^4$.

6. Find the number of combinations of (n) different things taken (r) and (r) at a time.

If $n=20$, show that the number of combinations taken six at a time is equal to the number taken fourteen at a time.

7. Find the Arithmetic, Geometric, and Harmonic means between (a) and (b) . Show that these means are in continued proportion.

8. Solve the following equations:—

$$(1.) \quad \frac{10}{x} - \frac{14 - 2x}{x^2} = \frac{22}{9}$$

$$(2.) \quad \left. \begin{array}{l} x - y = 4 \\ xy = 165 \end{array} \right\}$$

$$(3.) \quad x^3 - a^3 = 0.$$

9. The opposite angles of any quadrilateral figure inscribed in a circle are equal to two right angles.

10. Inscribe a regular equilateral and equiangular pentagon in a given circle.

11. Show how to describe a rectilineal figure, similar to one and equal to another rectilineal figure.

TUESDAY, July 11.—AFTERNOON, 3 to 6.

PLANE AND SPHERICAL TRIGONOMETRY—
CONIC SECTIONS.

Examiner, Mr. JERRARD.

1. Define the sine and cosine of an angle. Explain the meaning of the signs + and – when applied to lines, and trace the change of the tangent's sign through the four quadrants.

2. Prove that

$$\sin (A - B) = \sin A \cos B - \cos A \sin B.$$

Find $\sin 18^\circ$, $\cos 18^\circ$, $\sin 15^\circ$, $\cos 15^\circ$, and thence deduce $\sin 3^\circ$.

3. In any plane triangle given two sides with their included angle, to find the other two angles and the third side.

4. In a spherical triangle the sines of the angles are as the sines of the opposite sides.

5. Investigate the expression for the cosine of an angle of a spherical triangle,

$$\cos C = \frac{\cos c - \cos a \cos b}{\sin a \sin b};$$

also show how the preceding proposition may be derived from it.

6. What is meant by the equation to a line? Find the equation to a straight line referred to rectangular axes. Discuss the meaning of the constants which enter into it; and draw the straight line of which the equation is

$$3y + 2x = 1.$$

7. Find the equation to the normal at any point of the

parabola, and show that the subnormal is equal to half the latus rectum.

8. In the ellipse the sum of the squares of any two semi-conjugate diameters is equal to the sum of the squares of the semiaxes.

9. Find the polar equation to the hyperbola, the centre being the pole.

10. If any chord of a hyperbola be produced to meet the asymptotes, the parts of it intercepted between the curve and the asymptotes will be equal.

WEDNESDAY, July 12.—MORNING, 10 to 1.

STATICS AND DYNAMICS.

Examiner, Rev. Prof. HEAVISIDE.

1. A horizontal prism or cylinder of uniform density will produce the same effect by its weight as if it were collected at its middle point.

2. A cord $P A Q$ passes round a point A , and is drawn in different directions by two forces P and Q ; find the pressure on the point A .

Example. $P = 30\text{lbs}$, $Q = 40\text{lbs}$, $P A Q$ a right angle.

3. What is the *centre* of a system of parallel forces? Find the resultant and centre of any number of parallel forces acting on a rigid body. Is there a *centre* in every such system?

4. Find the position in which a common balance loaded

with unequal weights will rest. What are the requisites of a good balance?

5. When a body is placed on a horizontal plane, it will stand or fall, according as the vertical line drawn from its centre of gravity falls within or without the base.

6. How is velocity estimated (1) when it is uniform, (2) when it is variable? What is uniform force? how is it measured?

If (f) be a uniform force urging a body from rest through a space (s) in a time (t), prove $s = \frac{1}{2}ft^2$.

7. Find the horizontal range and time of flight of a projectile at the earth's surface, neglecting the atmospheric resistance.

A body is projected at an angle of 45° with a velocity of 1600 feet in a second, find its height above the horizontal plane passing through the point of projection after 3".

8. A heavy body P draws another Q over a fixed pulley; show that the accelerating force is as $\frac{P - Q}{P + Q}$.

If P be 8oz. and Q 6oz., find the space described by each from rest in 3".

9. When is the impact of two bodies said to be *direct*? when are bodies said to be *elastic*?

A body (m) moving with a velocity (v) *meets* another body (m^1) moving with a velocity (v^1) in direct impact.

Find the velocities after impact, (1) when the bodies are inelastic, (2) when the modulus of elasticity = e .

WEDNESDAY, July 12.—AFTERNOON, 3 to 6.

HYDROSTATICS AND OPTICS.

Examiner, MR. JERRARD.

1. Find the pressure on a plane surface immersed in a fluid.
2. What is meant by an equilibrium of stability, of indifference, and of instability? Show that the positions of stable and unstable equilibrium in a floating body recur alternately.
3. Show how the specific gravity of bodies may be ascertained by means of Nicholson's hydrometer.
4. The elastic force of air at a given temperature varies inversely as the space it occupies.
5. Explain the construction of the low-pressure steam-engine.
6. Give some account of the two principal theories which have been formed on the nature and propagation of light. State the velocity of light, and the manner in which it was first discovered.
7. If δ and δ' be the distances of the foci of incident and reflected rays from the surface of a spherical reflector the radius of which is r , show that

$$\frac{1}{\delta} + \frac{1}{\delta'} = \frac{2}{r},$$

the direction of incidence being nearly perpendicular to the surface.

8. When a ray of light passes nearly perpendicularly through a thin prism the total deviation is constant, and bears an invariable ratio to the angle of the prism.

9. Describe the Newtonian telescope, and show how to determine its magnifying power.

THURSDAY, July 13.—MORNING, 10 to 1.

GENERAL QUESTIONS.

Examiner, Rev. Prof. HEAVISIDE.

1. If twelve men working ten hours a day can dig a trench half a mile long, two yards wide, and three yards deep in fifteen days, how long will it take thirty men working twelve hours a day to dig a trench one mile long, three yards deep and four yards wide?

2. Divide 1.44 by .000012, and prove the rule for the division of decimals when the number of decimal places in the dividend is less than the number in the divisor.

3. Find the amount of £165 10s. in four years at 5 per cent compound interest, the interest being payable yearly.

4. Find a point within a triangle equidistant from each of its angles. Is this always possible?

5. A B C D E is a regular equilateral and equiangular pentagon, join A C, A D, C E. Prove

(1) C E is parallel to A B,

(2) the angle A is trisected.

6. Expand $\{a^2 - x^2\}^{-2}$ to six terms by the Binomial Theorem; write down the 15th and the (p)th terms respectively.

7. Find all the positive and integral values of (x) and (y) that satisfy the equations $13x + 19y = 2000$.

8. Where must the fulcrum of a uniform lever twelve inches long be placed so that 50lbs. at one end shall balance 70lbs. at the other? Solve this—

(1) when the lever is without weight,

(2) when it weighs one pound.

9. $P \cdot P$'s velocity = $W \cdot W$'s velocity. Prove this pro-

position when it holds good on that system of pulleys where the same string passes round all the pulleys.

10. A body at the earth's surface is projected perpendicularly upwards with a velocity of 64 feet in a second; at what time will it ascend through 48 feet*?

Explain also the meaning of the double answer.

THURSDAY, July 13.—AFTERNOON, 3 to 6.

GENERAL QUESTIONS.

Examiner, Mr. JERRARD.

1. Show by means of their equations that the perpendiculars from the three angles of any plane triangle on the opposite sides meet in a point.

2. Find the equation to the ellipse referred to the system of oblique axes formed by any pair of conjugate diameters.

3. Investigate an expression for the area of any quadrilateral, and show how to derive from it the well-known expression for a quadrilateral inscribed in a circle.

4. State Napier's rule of the *Circular Parts*; and apply it to solve the triangle of which the hypotenuse and a side are given.

5. Describe the double-barrelled air-pump, and find the density of the air in the receiver after any number of turns of the wheel.

* Take the measure of the force of gravity as 32 feet.

6. Explain the Hydraulic Ram.
7. Each ray of solar light consists of an infinite number of rays of simple light, differing from each other in colour and refrangibility.
8. Explain the formation of the rainbow. Why is the *tertiary* bow seldom visible?

CHEMISTRY.

Examiner, Professor DANIELL.

FRIDAY, July 14.—MORNING, 10 to 1.

1. By what force does a salt become dissolved in water? By what force is its solution opposed and limited? In what proportions may the solution take place? and how may its crystallization be effected?

2. In taking the specific gravity of a gas, why is it necessary to examine the barometer and thermometer?

3. What is the correct volume of 98 cubic inches of a gas observed when the height of the barometer is 29.64 inches? What is the correct volume of 98 cubic inches of a gas observed when the thermometer indicates a temperature of 70° Fahr.?

4. Explain the doctrine of latent heat with reference to water in its three physical states.

5. What is the general constitution of a salt? In what particulars do the salts of the hydro-acids differ from and resemble the salts of the oxy-acids?

6. Describe by symbols the changes which occur in the formation of protoxide of nitrogen from nitrate of ammonia.

NATURAL HISTORY.

FRIDAY, July 14.—AFTERNOON, 3 to 6.

BOTANY.

Examiner, Rev. Prof. HENSLOW.

State the principal characters of the following Orders:

1. Celastraceæ.
2. Tiliaceæ.
3. Thymelaceæ.
4. Iridaceæ.
5. Hydrocharaceæ.

Point out the chief resemblances and differences between the following Orders:—

6. Convolvulaceæ and Cuscutaceæ.
7. Orobanchaceæ and Scrophulariaceæ.
8. Melanthaceæ and Liliaceæ.

Refer to their Natural Orders, plants possessing the following characters:

9. *Flores* hermaphroditi, regulares.
Calyx pentasepalus, persistens; sepalis imbricatis.
Corolla pentapetala, hypogyna; petalis æstivatione imbricato-convolutis.
Stamina plurima, polyadelphia.
Ovarium sessile, e marginibus carpidorum introflexis quinqueloculare: ovulis plurimis, anatropis.
10. *Flores* hermaphroditi, regulares.
Calyx pentaphyllus, intus coloratus; foliolis liberis,

deciduis, imo toro urceolari et ovario adnato insertis.

Corolla petalis plurimis liberis, toro extus pluriseriatim insertis, superioribus sensim minoribus.

Stamina plurima, libera, toro multiseriatim inserta.

Ovarium multiloculare; ovulis plurimis, anatropis: dissepimentorum parietibus insertis.

11. *Flores* hermaphroditi, regulares.

Perigonium hexaphyllum, regulare; foliolis tribus interioribus petaloideis caducis, exterioribus persistentibus.

Stamina 6, hypogyna.

Ovaria 6 vel plurima, unilocularia, indehiscentia, uniovulata.

ZOOLOGY.

Examiner, Prof. T. RYMER JONES.

1. Describe the construction of an Ascidian Mollusk, more especially as relates to its respiration, circulation and mode of procuring food.

2. Narrate succinctly the progress of the development of the Chick *in ovo*.

3. Describe the minute structure and mode of growth of the compound grinding tooth of a herbivorous quadruped.

4. What changes take place in the constitution of the respiratory and circulatory organs of the Tadpole during its conversion into the perfect Batrachian?

CLASSICS.

TUESDAY, July 18.—MORNING, 10 to 1.

ENGLISH PROSE COMPOSITION.

Examiner, Rev. Dr. JERRARD.

SUBJECT.

The character of Socrates. His doctrine and manner of teaching. The conduct of his countrymen towards him.

TUESDAY, July 18.—AFTERNOON, 3 to 6.

LATIN.

Examiner, Mr. BURCHAM.

Translate into Latin Prose :

Appius Claudius, the famous censor, the greatest of his countrymen in the works of peace, and no mean soldier in time of need, was now in the thirtieth year after his censor-

ship, in extreme old age, and had been for many years blind. But his active mind triumphed over age and infirmity; and although he no longer took part in public business, yet he was ready in his own house to give answers to those who consulted him on points of law, and his name was fresh in all men's minds, though his person was not seen in the forum. The old man heard that the senate was listening to the proposals of Cineas, and was likely to accept the king's terms of peace. He immediately desired to be carried to the senate-house, and was borne in a litter by his slaves through the forum. When it was known that Appius Claudius was coming, his sons and sons-in-law went out to the steps of the senate-house to receive him, and he was by them led in to his place. The whole senate kept the deepest silence as the old man arose to speak.

Re-translate into Latin Prose :

A person far advanced in years, whose appearance denoted severe distress, threw himself into the forum; his garb was squalid, and the figure of his person still more shocking, pale and emaciated to the last degree; besides, a long beard and hair had given his countenance a savage appearance: wretched as was the plight in which he appeared, he was known notwithstanding; several declared, that he had been centurion in the army, and filled with compassion for him, mentioned publicly many other distinctions, which he had obtained in the service; he himself exhibited scars on his breast, as testimonies of his honourable behaviour in several actions. To those who inquired the cause of that wretched condition, both of his person and apparel, (a crowd meantime having assembled round him, which resembled, in some degree, an assembly of the people,) he answered, that, "while he served in the army during the Sabine war, having not only lost the produce of his farm by the depredations of the enemy, but his house being burnt, all his goods plundered, his cattle driven off, and a tax being imposed at a time so distressing to him, he was obliged to run in debt: that this debt, aggravated by usury, had consumed, first, his farm, which he had inherited from

his father and grandfather; then, the remainder of his substance; and, lastly, like a pestilence, had reached his person; that he had been dragged by a creditor, not into servitude, but into a house of correction, or rather a place of execution." He then showed his back disfigured with the marks of fresh stripes: on this sight, after such a relation, a great uproar arose; and the tumult was no longer confined to the forum, but spread through every part of the city: those who were then in confinement, and those who had been released from it, forced their way into the public street, and implored the protection of their fellow-citizens: there was no spot which did not afford a voluntary associate to add to the insurrection; from all quarters they ran in bodies, through every street, with great clamour, into the forum.

WEDNESDAY, July 19.—MORNING, 10 to 1.

GREEK.

Examiner, Rev. Dr. JERRARD.

Translate :

(A.) HERODOTUS*, Book II. p. 430.

Μετὰ δὲ τοῦτον, βασιλεῦσαι τὸν ἱρέα τοῦ Ἡφαίστου, τῷ οὐνομα εἶναι Σεθών· τὸν ἐν ἀλογίῃσι ἔχειν παραχρησάμενον τῶν μαχίμων Αἰγυπτίων, ὥς οὐδὲν δεησόμενον αὐτῶν· ἄλλα τε δὴ ἄτιμα ποιεῦντα ἐς αὐτοὺς, καὶ σφέας ἀπελίσθαι τὰς ἀρούρας, τοῖσι ἐπὶ τῶν προτέρων βασιλῆων δεδοσθαι ἐξαιρέτους ἐκάστω

* Edit. Schweighaeuser.

δυώδεκα ἀρούρας. μετὰ δὲ, ἐπ' Αἴγυπτον ἐλαύνειν στρατὸν μέγαν Σαναχάριβον βασιλέα Ἀραβίων τε καὶ Ἀσσυρίων. οὐκ ὄν δὴ ἐθέλειν τοὺς μαχίμους τῶν Αἰγυπτίων βοηθέειν· τὸν δὲ ἰρέα ἐς ἀπορίην ἀπειλημένον, ἐσελθόντα ἐς τὸ μέγαρον, πρὸς τῷγαλμα ἀποδύρεσθαι οἷα κινδυνεύει παθέειν. ὀλοφυρόμενον δ' ἄρα μιν ἐπελθεῖν ὕπνον, καὶ οἱ δόξαι ἐν τῇ ὄψι, ἐπιστάντα τὸν θεὸν θαρσύνειν, ὥς οὐδὲν πείσεται ἄχαρι ἀντιάζων τὸν Ἀραβίων στρατὸν· αὐτὸς γάρ οἱ πέμψειν τιμωροὺς.

* * * * *

ἘΣ ΜΕΝ τοσόνδε τοῦ λόγου Αἰγύπτιοί τε καὶ οἱ ἰρέες ἔλεγον, ἀποδεικνύντες, ἀπὸ τοῦ πρώτου βασιλέως, ἐς τοῦ Ἡφαίστου τὸν ἰρέα τοῦτον τὸν τελευταῖον βασιλεύσαντα, μίην τε καὶ τεσσαράκοντα καὶ τριηκοσίας ἀνθρώπων γενεὰς γενομένας, καὶ ἐν ταύτησι ἀρχιρέας καὶ βασιλέας ἑκατέρους τοσοῦτους γενομένους. καὶ τοι τριηκόσiai μὲν ἀνδρῶν γενεαὶ δυνέεται μύρια ἕτεα· γενεαὶ γὰρ τρεῖς ἀνδρῶν, ἑκατὸν ἕτεά ἐστι. μιῆς δὲ καὶ τεσσαράκοντα ἔτι τῶν ἐπιλοίπων γενεῶν, αἱ ἐπῆσαν τῇσι τριηκοσίῃσι, ἔστι τεσσαράκοντα καὶ τριηκόσια καὶ χίλια ἕτεα. οὕτω ἐν μυρίοισι τε ἔτεσι καὶ χιλίοισι, καὶ πρὸς, τριηκοσίοισι τε καὶ τεσσαράκοντα, ἔλεγον θεὸν ἀνθρωποειδέα οὐδένα γενέσθαι· οὐ μὲν τοι οὐδὲ πρότερον, οὐδὲ ὕστερον ἐν τοῖσι ὑπολοίποισι Αἰγύπτου βασιλεύσι γενομένοις, ἔλεγον τοιοῦτον οὐδέν. Ἐν τοίνυν τούτῳ τῷ χρόνῳ τετράκις ἔλεγον ἐξ ἡθέων τὸν ἥλιον ἀνατεῖλαι· ἔνθα τε νῦν καταδύεται, ἐνθεῦτεν δις ἐπαντεῖλαι· καὶ ἔνθεν νῦν ἀνατέλλει, ἐνθαῦτα δις καταδύναι.

(B.) THUCYDIDES†, Book I. p. 5.

Δοκεῖ δέ μοι, οὐδὲ τοῦνομα τοῦτο ξύμπασά πω εἶχεν, ἀλλὰ τὰ μὲν πρὸ Ἑλλήνων τοῦ Δευκαλίωνος καὶ πάνυ οὐδὲ εἶναι ἢ ἐπὶ κλησὶς αὕτη, κατὰ ἔθνη δὲ ἄλλα τε καὶ τὸ Πελασγικὸν ἐπὶ πλεῖστον ἀφ' ἑαυτῶν τὴν ἐπωνυμίαν παρέχεσθαι, Ἑλλήνων δὲ καὶ τῶν παίδων αὐτοῦ ἐν τῇ Φθιώτιδι ἰσχυσάντων, καὶ ἐπαγομένων αὐτοὺς ἐπ' ὠφελείᾳ ἐς τὰς ἄλλας πόλεις, καθ' ἑκάστους μὲν ἤδη τῇ ὁμιλίᾳ μᾶλλον καλεῖσθαι Ἑλλήνας, οὐ μέντοι πολλοῦ γε χρόνου ἡδύνατο καὶ ἅπασιν ἐκνικῆσαι. τεκμηριοῖ δὲ μάλιστα Ὅμηρος· πολλῷ γὰρ ὕστερον ἔτι καὶ τῶν Τρωϊκῶν

† Edit. Arnold.

γενόμενος, οὐδαμοῦ τοὺς ξύμπαντας ὠνόμασεν, οὐδ' ἄλλους ἢ τοὺς μετ' Ἀχιλλέως ἐκ τῆς Φθιώτιδος, οἵπερ καὶ πρῶτοι Ἕλληνες ἦσαν, Δαναοὺς δὲ ἐν τοῖς ἔπεσι καὶ Ἀργεῖους καὶ Ἀχαιοὺς ἀνακαλεῖ. οὐ μὴν οὐδὲ βαρβάρους εἶρηκε, διὰ τὸ μηδὲ Ἕλληνάς πω, ὡς ἐμοὶ δοκεῖ, ἀντίπαλον ἐς ἐν ὄνομα ἀποκεκρίσθαι. οἱ δ' οὖν ὡς ἕκαστοι Ἕλληνες κατὰ πόλεις τε, ὅσοι ἀλλήλων ξυνίεσαν, καὶ ξύμπαντες ὕστερον κληθέντες, οὐδὲν πρὸ τῶν Τρωϊκῶν δι' ἀσθένειαν καὶ ἀμιξίαν ἀλλήλων ἀθρόοι ἔπραξαν. ἀλλὰ καὶ ταύτην τὴν στρατείαν θαλάσση ἤδη πλείω χρώμενοι ξυνῆλθον.

(C.) PLATO*, CRITON, p. 393.

ΣΩ. Οὐκοῦν ἐκ τῶν ὁμολογουμένων τοῦτο σκεπτέον, πότερον δίκαιον ἐμὲ ἐνθένδε πειρᾶσθαι ἐξιέναι μὴ ἀφιέντων Ἀθηναίων ἢ οὐ δίκαιον· καὶ ἐὰν μὲν φαίνεται δίκαιον, πειρώμεθα, εἰ δὲ μή, ἐώμεν. ἄς δὲ σὺ λέγεις τὰς σκέψεις περὶ τε χρημάτων ἀναλώσεως καὶ δόξης καὶ παίδων τροφῆς, μὴ ὡς ἀληθῶς ταῦτα, ὦ Κρίτων, σκέμματα ἢ τῶν ῥαδίως ἀποκτινύντων καὶ ἀναβιωσκομένων γ' ἄν, εἰ οἰοί τε ἦσαν, οὐδενὶ ξὺν νῶ, τούτων τῶν πολλῶν. ἡμῖν δ', ἐπειδὴ ὁ λόγος οὕτως αἰρεῖ, μὴ οὐδὲν ἄλλο σκεπτέον ἢ ἡ ὅ περ νῦν δὴ ἐλέγομεν, πότερον δίκαια πράξομεν καὶ χρήματα τελούντες τούτοις τοῖς ἐμὲ ἐνθένδε ἐξάξουσιν καὶ χάριτας, καὶ αὐτοὶ ἐξάγοντές τε καὶ ἐξαγόμενοι, ἢ τῇ ἀληθείᾳ ἀδικήσομεν ταῦτα πάντα ποιούντες· καὶ φαινώμεθα ἄδिका αὐτὰ ἐργαζόμενοι, μὴ οὐ δέη ὑπολογίζεσθαι οὗτ' εἰ ἀποθνήσκειν δεῖ παραμένοντας καὶ ἡσυχίαν ἄγοντας, οὔτε ἄλλο ὅτιοῦν πάσχειν πρὸ τοῦ ἀδικεῖν.

(D.) DEMOSTHENES†, OLYNTHIAC I. p. 15.

Τί οὖν, τις ἂν εἴποι, ταῦτα λέγεις ἡμῖν νῦν; ἵνα γνῶτε ὦ ἄνδρες Ἀθηναῖοι καὶ αἰσθησθε ἀμφότερα, καὶ τὸ προῖεσθαι καθ' ἕκαστον αἰεὶ τι τῶν πραγμάτων ὡς ἀλυσιτελές, καὶ τὴν φιλοπραγμοσύνην ἣ χρηταὶ καὶ συζῇ Φίλιππος, ὑφ' ἧς οὐκ ἔστιν ὅπως ἀγαπήσας τοῖς πεπραγμένοις ἡσυχίαν σχήσει. εἰ δ' ὁ μὲν ὡς αἰεὶ τι μεῖζον τῶν ὑπαρχόντων δεῖ πράττειν ἐγνωκώς

* Edit. Stallbaum.

† Edit. Bekker.

ἔσται, ὑμεῖς δὲ ὥς οὐδενὸς ἀντιληπτέον ἐρρώμένως τῶν πραγμάτων, σκοπεῖσθε εἰς τί ποτ' ἐλπίς ταῦτα τελευτῆσαι. πρὸς θεῶν, τίς οὕτως εὐήθης ἐστὶν ὑμῶν ὅστις ἀγνοεῖ τὸν ἐκεῖθεν πόλεμον δεῦρο ἤξοντα, ἂν ἀμελήσωμεν; ἀλλὰ μὴν εἰ τοῦτο γενήσεται, δέδοικα ὧ ἄνδρες Ἀθηναῖοι μὴ τὸν αὐτὸν τρόπον, ὥσπερ οἱ δανειζόμενοι ῥαδίως ἐπὶ τοῖς μεγάλοις τόκοις μικρὸν εὐπορήσαντες χρόνον ὕστερον καὶ τῶν ἀρχαίων ἀπέστησαν, οὕτω καὶ ἡμεῖς, ἂν ἐπὶ πολλῷ φανώμεν ἐρραθυμηκότες καὶ ἅπαντα πρὸς ἡδονὴν ζητοῦντες, πολλὰ καὶ χαλεπὰ ὧν οὐκ ἠβουλόμεθα ὕστερον εἰς ἀνάγκην ἔλθωμεν ποιεῖν, καὶ κινδυνεύσωμεν περὶ τῶν ἐν αὐτῇ τῇ χώρᾳ.

1. (A.) τὸν δὲ ἱρέα . . . τιμωρούς. Translate this passage into Latin, explaining accurately the differences, which present themselves, between the Greek and the Latin constructions. How do you show the fabulousness of the Egyptian chronology, as given by Herodotus? Do the supernatural events narrated in the last sentence (*ἐνθα τε νῦν καταδύεται, κ.τ.λ.*) appear to have been, in *any* degree, founded on fact?

2. Give the substance of Thucydides's view of the early history of Greece, with the most probable dates. Produce any quotations from Homer illustrative of the extract (B).

3. What part had Macedonia taken in the affairs of Greece before the time of Demosthenes? How do you account for the slightness of the resistance offered by Sparta to the progress of the arms of Philip?

4. State and explain the principal *legal* expressions which occur in the Olynthiacs and Philippics.

WEDNESDAY, July 19.—AFTERNOON, 3 to 6.

GREEK.

Examiner, Mr. BURCHAM.

Translate :

(A.) HOMER*, ILIAD, Book V., ver. 711-732.

Τοὺς δ' ὥς οὖν ἐνόησε θεὰ λευκώλενος Ἥρη
 Ἀργείους ὀλέκοντας ἐνὶ κρατερῇ ὑσμίνῃ,
 αὐτίκ' Ἀθηναίην ἔπεα πτερόεντα προσηύδα·
 ὦ πόποι, αἰγιόχοιο Διὸς τέκος, Ἀτρυτώνη,
 ἦ ῥ' ἄλιον τὸν μῦθον ὑπέστημεν Μενελάῳ
 Ἴλιον ἐκπέρσαντ' εὐτείχεον ἀπονέεσθαι,
 εἰ οὔτω μαίνεσθαι ἐάσομεν οὔλον Ἄρηα.
 ἀλλ' ἄγε δὴ καὶ νῶϊ μεδώμεθα θούριδος ἀλκῆς·
 ὣς ἔφατ'· οὐδ' ἀπίθησε θεὰ γλαυκῶπις Ἀθήνη.
 ἦ μὲν ἐποιοχόμενη χρυσάμπυκας ἔντυεν ἵππους
 Ἥρη, πρέσβα θεά, θυγάτηρ μέγαλοιο Κρόνιοιο·
 Ἥβη δ' ἀμφ' ὀχέεσσι θοῶς βάλε καμπύλα κύκλα,
 χάλκεα, ὀκτάκνημα, σιδηρέῃ ἄξονι ἀμφίς.
 τῶν ἦτοι χρυσέῃ ἵτις ἄφθιτος, αὐτὰρ ὑπερθεν
 χάλκε' ἐπίσσωτρα, προσαρηρότα, θαῦμα ἰδέσθαι·
 πλήμναι δ' ἀργύρου εἰσὶ περίδρομοι ἀμφοτέρωθεν·
 δίφρος δὲ χρυσεόισι καὶ ἀργυρέοισιν ἱμάσιν
 ἐντέταται· δοιαί δὲ περίδρομοι ἄντυγές εἰσιν.
 τοῦ δ' ἐξ ἀργύρεος ῥυμὸς πέλεν· αὐτὰρ ἐπ' ἄκρῳ
 δῆσε χρύσειον καλὸν ζυγὸν ἐν δὲ λέπαδνα
 κάλ' ἔβαλε, χρύσει'· ὑπὸ δὲ ζυγὸν ἤγαγεν Ἥρη
 ἵππους ὠκύποδας μεμαυῖ ἔριδος καὶ αὐτῆς.

* Edit. Spitzner.

(B.) ÆSCHYLUS*, PROMETHEUS, v. 880—908.

Ἵπὸ μ' αὖ σφάκελος καὶ φρενοπληγεῖς
 Μανίαι θάλπουσ', οἷστρου δ' ἄρδεις
 Χρίει μ' ἄπυρος·
 Κραδία δὲ φόβῳ φρένα λακτίζει.
 Τροχοδινεῖται δ' ὄμμαθ' ἐλίγδην,
 Ἐξω δὲ δρόμου φέρομαι, λύσσης
 Πνεύματι μάργῳ, γλώσσης ἀκρατῆς·
 Θολεροὶ δὲ λόγοι παίουσ' εἰκῇ
 Στυγνῆς πρὸς κύμασιν ἄτης.

ΧΟΡΟΣ.

Ἦ σοφὸς, ἦ σοφὸς [ἦν],
 Ὃς πρῶτος [ἐν γνώμῃ] τόδ' ἐβάστασε
 Καὶ γλώσσα διεμυθολόγησεν,
 Ὡς τὸ κηδεῦσαι καθ' ἑαυτὸν ἀριστεύει μακρῷ·
 Καὶ μήτε τῶν πλούτῳ διαθρυπτομένων,
 Μήτε τῶν γέννα μεγαλυνομένων
 ὄντα χερνήταν ἐραστεῦσαι γάμων.
 Μήποτε μήποτε μ' ἀντ.
 ὦ Μοῖραι λεχέων Διὸς
 Εὐνάτειραν ἴδοισθε πέλουσαν·
 Μηδὲ πλασθείην γαμέτα τινὶ τῶν ἐξ οὐρανοῦ.
 Ταρβῶ γὰρ ἀστεργάνορα παρθενίαν
 Εἰσορῶσ' Ἰοῦς γάμῳ δαπτομέναν
 Δυσπλάνοις Ἡρας ἀλατείαις πόνων.
 Ἐμοὶ δ' ὅτι μὲν ὀμαλὸς ὁ γάμος ἐπωδ.
 Ἀφοβος, οὐ δέδια μηδὲ κρεισσόνων
 Θεῶν ἔρως ἄφυκτον ὄμμα προσδέρκοιτό με.
 Ἀπόλεμος ὅδε γ' ὁ πόλεμος, ἄπορα πόριμος·
 Οὐδ' ἔχω τίς ἂν γενοίμαν.
 Τὰν Διὸς γὰρ οὐχ ὀρώ μῆτιν ὅπα φύγοιμ' ἄν.

(C.) SOPHOCLES†, ANTIGONE, v. 985—1019.

Γνώσει, τέχνης σημεία τῆς ἐμῆς κλύων.
 εἰς γὰρ παλαιὸν θᾶκον ὀρνιθοσκόπον
 ἵζων, ἵν' ἦν μοι παντὸς οἰωνοῦ λιμήν,

* Edit. Wellauer.

† Edit. Herm.

ἀγνώτ' ἀκούω φθόγγον ὀρνίθων, κακῶ
 κλάζοντας οἷστρω καὶ βεβαρβαρωμένῳ·
 καὶ σπῶντας ἐν χηλαῖσιν ἀλλήλους φοναῖς
 ἔγνων· πτερῶν γὰρ ῥοῖβδος οὐκ ἄσημος ἦν·
 εὐθύς δὲ δείσας, ἐμπύρων ἐγευόμην
 βωμοῖσι παμφλέκτοισιν· ἐκ δὲ θυμάτων
 "Ἡφαιστος οὐκ ἔλαμπεν, ἀλλ' ἐπὶ σποδῶ
 μυδῶσα κηκὶς μηρίων ἐτήκετο,
 καῖτυφε, κἀνέπτυε· καὶ μετάρσιοι
 χολαὶ διεσπείροντο, καὶ καταρῥυεῖς
 μηροὶ καλυπτῆς ἐξέκειντο πιμελῆς.
 τοιαῦτα παιδὸς τοῦδ' ἐμάνθανον πάρα
 φθίνοντ' ἀσήμεν ὀργίων μαντεύματα.
 ἐμοὶ γὰρ οὗτος ἡγεμών, ἄλλοις δ' ἐγώ.
 καὶ ταῦτα τῆς σῆς ἐκ φρενὸς νοσεῖ πόλις.
 βωμοὶ γὰρ ἡμῖν ἐσχάrai τε παντελεῖς
 πλήρεις ὑπ' οἰωνῶν τε καὶ κυνῶν βορᾶς
 τοῦ δυσμόρου πεπτῶτος Οἰδίπου γόνου.
 κατ' οὐδέχονται θυστάδας λιτὰς ἔτι
 θεοὶ παρ' ἡμῶν, οὐδὲ μηρίων φλόγα,
 οἷδ' ὄρνις εὐσήμους ἀπορῥοιβδεῖ βοάς,
 ἀνδροφθόρου βεβρώτες αἵματος λίπος.

(D.) EURIPIDES*, MEDEA, v. 579—615.

- ΜΗ. ἡ πολλὰ πολλοῖς εἰμὶ διάφορος βροτῶν·
 ἐμοὶ γὰρ, ὅστις ἄδικος ὢν, σοφὸς λέγειν
 πέφυκε, πλείστην ζημίαν ὀφλισκάνει.
 γλώσση γὰρ αὐχῶν τᾶδικ' εὖ περιστελεῖν,
 τολμᾷ πανουργεῖν, ἔστι δ' οὐκ ἄγαν σοφός.
 ὥς καὶ σὺ μὴ νῦν εἰς ἔμ' εὐσχήμων γένη,
 λέγειν τε δεινός· ἐν γὰρ ἐκτενεί σ' ἔπος·
 χρῆν σ', εἴπερ ἦσθα μὴ κακός, πείσαντ' ἐμὲ
 γαμεῖν γάμον τόνδ', ἀλλὰ μὴ σιγῇ φίλων.
 ΙΑ. καλῶς γ' ἂν οὖν τῷδ' ἐξυπηρέτης λόγῳ.
 εἰ σοὶ γάμον κατεῖπον, ἥτις οὐδὲ νῦν
 τολμᾶς μεθεῖναι καρδίας μέγαν χόλον.

* Edit. Porson.

- MH. οὐ τοῦτό σ' εἶχεν, ἀλλὰ βάρβαρον λέχος
πρὸς γῆρας οὐκ εὐδοξον ἐξέβαινέ σοι.
- IA. εὖ νυν τόδ' ἴσθι, μὴ γυναικὸς οὔνεκα
γῆμαί με λέκτρα βασιλέως ἂ νῦν ἔχω·
ἀλλ', ὥσπερ εἶπον καὶ πάρος, σῶσαι θέλων
σέ, καὶ τέκνοισι τοῖς ἐμοῖς ὁμοσπόρους
φῦσαι τυράννους παῖδας, ἔρυμα δώμασι.
- MH. μή μοι γένοιτο λυπρὸς εὐδαίμων βίος,
μηδ' ὄλβος, ὅστις τὴν ἐμὴν κνίζει φρένα.
- IA. οἷσθ' ὥς μετεύξει καὶ σοφωτέρα φανεῖ;
τὰ χρηστὰ μή σοι λυπρὰ φαιnéσθω ποτὲ,
μηδ' εὐτυχούσα δυστυχῆς εἶναι δόκει.
- MH. ὕβριζ', ἐπειδὴ σοὶ μὲν ἔστ' ἀποστροφή,
ἐγὼ δ' ἔρημος τήνδε φευξοῦμαι χθόαν.
- IA. αὐτὴ τάδ' εἴλου· μηδέν' ἄλλον αἰτιῶ.
- MH. τί δρῶσα; μων γαμούσα, καὶ προδοῦσά σε;
- IA. ἀρὰς τυράννοις ἀνοσίους ἀρωμένη.
- MH. καὶ σοῖς ἀραία γ' οὔσα τυγχάνω δόμοις.
- IA. ὥς οὐ κρινοῦμαι τῶνδ' ἐμοὶ τὰ πλείονα.
ἀλλ' εἴ τι βούλει παισὶν ἢ στυγερῇ, φυγῆς
προσωφέλημα, χρημάτων ἐμῶν λαβεῖν,
λέγ' ὥς ἔτοιμος ἀφθόνῳ δοῦναι χερὶ,
ξένοις τε πέμπειν ξύμβολ', οἱ δρᾶσουσί σ' εὖ.
καὶ ταῦτα μὴ θέλουσα μωρανεῖς, γύναι,
λήξασα δ' ὀργῆς κερδανεῖς ἀμείνονα.

1. Mention the titles of the different poems that have been ascribed to Homer. What are the reasons given by Thucydides for believing the accounts of the Trojan expedition to have been much exaggerated? What does the expression *ῥαψωδεῖν* signify? Who were the *ῥαψωδοί*, and what other names did they bear?

2. Why is the Prometheus supposed to be one of the last productions of Æschylus? Of what trilogy did it form a portion? Which is the earliest of the extant plays of Sophocles, and about what time was it brought out? Give an analysis of the Antigone. What seems to have been its general object?

3. Into what feet of an Iambic Senarius can Anapæsts and Dactyls be admitted? What are Dawes's rules by which the quantity of a vowel preceding $\beta\lambda$, $\beta\rho$, $\gamma\lambda$, &c. is determined? Show by instances the inaccuracy of them.

4. Explain the construction of the particles $\iotaνα$, $\acute{\omega}\varsigma$, $\delta\pi\omega\varsigma$, $\delta\phi\rho\alpha$, followed by the indicative mood. By what moods and tenses and with what difference of meaning are the particles $\text{o}\acute{\upsilon}\ \mu\eta$ followed? Show the difference of construction between $\chi\rho\eta$ and $\delta\epsilon\acute{\iota}$.

THURSDAY, July 20.—MORNING, 10 to 1.

LATIN.

Examiner, Mr. BURCHAM.

Translate into English :

(A.) LIVY*, Book XXI. chap. 3.

In Hasdrubalis locum haud dubia res fuit, quin prærogativam militarem, qua extemplo juvenis Hannibal in prætorium delatus, imperatorque ingenti omnium clamore atque adsensu adpellatus erat, favor etiam plebis sequeretur. Hunc vixdum puberem Hasdrubal literis ad se arcessierat : actaque res etiam in senatu fuerat, Barcinis nitentibus, ut adsuesceret militiæ Hannibal, atque in paternas succederet opes. Hanno, alterius factionis princeps, 'Et æquum postulare videtur,' inquit, 'Hasdrubal; et ego tamen non censeo, quod petit, tribuen-

* Edit. Ernesti.

dum.' Quum admiratione tam ancipitis sententiæ in se omnes convertisset, 'Florem ætatis,' inquit, 'Hasdrubal, quem ipse patri Hannibalis fruendum præbuit, justo jure eum a filio repeti censet; nos tamen minime decet, juventutem nostram pro militari rudimento adsuefacere libidini prætorum. An hoc timemus, ne Hamilcaris filius nimis sero imperia inmodica et regni paterni speciem videat? et, cujus regis genero hereditarii sint relictus exercitus nostri, ejus filio parum mature serviamus? Ego, istum juvenem domi tenendum, sub legibus, sed magistratibus docendum vivere æquo jure cum ceteris, censeo: ne quandoque parvus hic ignis incendium ingens exsuscitet.'

(B.) CICERO*, DE SENECTUTE, chap. 15.

Venio nunc ad voluptates agricolarum, quibus ego incredibiliter delector: quæ nec ulla impediuntur senectute et mihi ad sapientis vitam proxime videntur accedere. Habent enim rationem cum terra, quæ nunquam recusat imperium, nec unquam sine usura reddit, quod accepit, sed alias minore, plerumque majore cum fœnore. Quamquam me quidem non fructus modo, sed etiam ipsius terræ vis ac natura delectat. Quæ, quum gremio mollito ac subacto sparsum semen excepit, primum id occæcatum cohibet:—ex quo occatio, quæ hoc efficit, nominata est:—deinde tepefactum vapore et compressu suo diffindit et elicit herbescentem ex eo viriditatem: quæ nixa fibris stirpium sensim adolescit culmoque erecta geniculato vaginis jam quasi pubescens includitur; e quibus quum emersit, fundit frugem spici ordine structam, et contra avium minorum morsus munitur vallo aristarum. Quid ego vitium ortus, satus, incrementa commemorem? Satiari delectatione non possum, ut meæ senectutis requietem oblectamentumque noscatis. Omitto enim vim ipsam omnium, quæ generantur e terra; quæ ex fici tantulo grano aut ex acino vinaceo aut ex ceterarum frugum ac stirpium minutissimis seminibus tantos truncos ramosque procreat. Malleoli, plantæ, sarmenta, viviradices, propagines nonne ea efficiunt, ut quemvis cum admiratione delectent? Vitis quidem, quæ natura ca-

* Edit. Orellii.

duca est, et nisi fulta sit, fertur ad terram, eadem, ut se erigat, claviculis suis quasi manibus, quidquid est nacta, complectitur: quam serpentem multiplici lapsu et erratico ferro amputans coërcet ars agricolarum, ne silvescat sarmentis et in omnes partes nimia fundatur.

(C.) TACITUS*, ANNALS, Book I. chap. 65.

Nox per diversa inquires; cum barbari festis epulis, læto cantu aut truci sonore subjecta vallium ac resultantes saltus complerent; apud Romanos invalidi ignes, interruptæ voces, atque ipsi passim adjacerent vallo, oberrarent tentoriis, insomnes magis quam pervigiles: ducemque terruit dira quies: nam Quinctilium Varum, sanguine oblitum et paludibus emersum, cernere et audire visus est, velut vocantem, non tamen obsecutus, et manum intendentis repulisse. Cœpta luce, missæ in latera legiones, metu an contumacia, locum deseruere; capto propere campo, humentia ultra. Neque tamen Arminius, quamquam libero incursu, statim prorupit: sed, ut hæseræ cœno fossisque impedimenta, turbati circum milites, incertus signorum ordo, utque tali in tempore, sibi quisque properus et lentæ adversum imperia aures, inrumpere Germanos jubet, clamitans, "En Varus, et eodem iterum fato victæ legiones!" Simul hæc, et cum delectis scindit agmen, equisque maxime vulnera ingerit: illi sanguine suo et lubrico paludum lapsantes, excussis rectoribus, disjicere obvios, proterere jacentes. Plurimus circa aquilas labor, quæ neque adversum ferri ingruentia tela, neque figi limosa humo poterant. Cæcina, dum sustentat aciem, suffosso equo delapsus, circumveniebatur, ni prima legio sese opposuisset: juvit hostium aviditas, omissa cæde, prædam sectantium: enisæque legiones, vesperscente die, in aperta et solida. Neque is miseriarum finis: struendum vallum, petendus agger: amissa magna ex parte, per quæ egeritur humus, aut exciditur cespes; non tentoria manipulis, non fomenta sauciis: infectos cœno aut cruore cibos dividentes, funestas tenebras, et tot hominum millibus unum jam reliquum diem lamentabantur.

* Edit. Ernesti.

1. Mention the principal events recorded in the twenty-first book of Livy. With what limitation is the expression, 'hunc vixdum puberem,' in extract (A.) to be received? "Cum hoc Hadsrubale fœdus renovaverat populus Romanus, ut finis utriusque imperii esset amnis Iberus." What do you understand by the words 'finis utriusque imperii'? What is the character given by Livy of Hannibal (Book XXI. chap. 4.)?

2. What is the exact meaning of the word 'prærogativa'? In what sense is it used in the following sentences?—"Comitiorum militarium prærogativam urbana comitia sequuntur." "Supplicatio est prærogativa triumphi." "Adjecerunt equitum prærogativæ auctoritatem consules, quam forti fidelique duorum præcipue legatorum opera usi essent, commemorantes."

3. Illustrate the following passages from the *De Amicitia* and the *De Senectute*:—"Suasor legis Cinciae fuit." "Cum ego quidem, V et LX annos natus, Legem Voconiam voce magna et bonis lateribus suasissem." "Meministis quam popularis lex de sacerdotiis C. Licinii Crassi videbatur; cooptatio enim collegiorum ad populi beneficium transferebatur." "Hæc enim ipsa sunt honorabilia, quæ videntur levia atque communia, salutari, appeti, decedi, assurgere, deduci, reduci, consuli."

4. What are the principal changes in the Roman government mentioned by Tacitus (*Ann.*, lib. i. cap. 1.)? Give the date of each. What was the extent of the Roman empire under Augustus? Give a list of the twelve Cæsars in order. What was the eastern boundary of the Roman empire in the time of Augustus? By whom was it afterwards extended?

THURSDAY, July 20.—AFTERNOON, 3 to 6.

LATIN.

Examiner, Rev. Dr. JERRARD.

Translate :

(A.) VIRGIL*, ECLOGUE IV. 1—25.

Sicelides Musæ, paullo majora canamus ;
 Non omnis arbusta juvant humilesque myricæ ;
 Si canimus silvas, silvæ sint Consule dignæ.
 Ultima Cumæi venit jam carminis ætas ;
 Magnus ab integro sæclorum nascitur ordo.
 Jam redit et Virgo ; redeunt Saturnia regna ;
 Jam nova progenies cœlo demittitur alto.
 Tu modo nascenti puero, quo ferrea primum
 Desinet, ac toto surget gens aurea mundo,
 Casta, fave, Lucina : tuus jam regnat Apollo.
 Teque adeo decus hoc ævi, te Consule, inibit,
 Pollio ; et incipient magni procedere menses.
 Te duce, si qua manent, sceleris vestigia nostri
 Inrita perpetua solvent formidine terras.
 Ille deum vitam adci piet, divisque videbit
 Permixtos heroas, et ipse videbitur illis ;
 Pacatumque reget patriis virtutibus orbem.
 At tibi prima, puer, nullo munuscula cultu,
 Errantis ederas passim cum baccare, tellus,
 Mixtaque ridenti colocasia fundet acantho.
 Ipsæ lacte domum referent distenta capellæ
 Ubra ; nec magnos metuent armenta leones.
 Ipsa tibi blandos fundent cunabula flores.
 Occidet et serpens, et fallax herba veneni
 Occidet ; Assyrium vulgo nascetur amomum.

* Edit. Heyne.

l. 48—51.

Adgredere o magnos (aderit jam tempus) honores,
 Cara deum suboles, magnum Jovis incrementum!
 Adspice convexo nutantem pondere mundum;
 Terrasque tractusque maris cœlumque profundum.

(B.) VIRGIL*, GEORGICS, Book I. 481—492.

Proluit insano contorquens vertice silvas
 Fluviorum rex Eridanus, camposque per omnis
 Cum stabulis armenta tulit. Nec tempore eodem
 Tristibus aut extis fibræ adparere minaces,
 Aut puteis manare cruor cessavit; et altæ
 Per noctem resonare, lupis ululantibus, urbes.
 Non alias cœlo ceciderunt plura sereno
 Fulgura; nec diri toties arsere cometæ.
 Ergo inter sese paribus concurrere telis
 Romanas acies iterum videre Philippi;
 Nec fuit indignum superis, bis sanguine nostro
 Emathiam et latos Hæmi pinguescere campos.

(C.) HORACE†, ODES, Book III. 25—44.

O quisquis volet impias
 Cædes et rabiem tollere civicam,
 Si quæret Pater Urbium
 Subscribi statuis, indomitam audeat
 Refrænare licentiam,
 Clarus postgenitis, quatenus, heu nefas,
 Virtutem incolumem odimus,
 Sublatam ex oculis quærimus invidi.
 Quid tristes querimoniæ,
 Si non supplicio culpa reciditur?
 Quid leges, sine moribus
 Vanæ, proficiunt, si neque fervidis
 Pars inclusa caloribus
 Mundi, nec Boreæ finitimum latus,
 Duratæque solo nives,
 Mercatorem abigunt? horrida callidi

* Edit. Heyne.

† Edit. Doering.

Vincunt æquora navitæ?
 Magnum pauperies opprobrium jubet
 Quidvis et facere et pati,
 Virtutisque viam deserit arduæ?

(D.) HORACE, SATIRES, Book II. 19—44.

Quî partum? Non in caro nidore voluptas
 Summa, sed in te ipso est. Tu pulmentaria quære
 Sudando; pinguem vitiis albumque neque ostrea
 Nec scarus, aut poterit peregrina juvare lagois.
 Vix tamen eripiam, posito pavone, velis quin
 Hoc potius, quam gallina tergere palatum,
 Corruptus vanis rerum; quia veneat auro
 Rara avis, et picta pandat spectacula cauda:
 Tanquam ad rem attineat quidquam. Num vesceris ista,
 Quam laudas, pluma? cocto num adest honor idem?
 Carne tamen, quamvis distat nihil, hac magis illa!
 Imparibus formis deceptum te patet. Esto!
 Unde datum sentis, lupus hic Tiberinus, an alto
 Captus hiet? pontesne inter jactatus; an amnis
 Ostia sub Tusci? Laudas, insane, trilibrem
 Mullum, in singula quem minuas pulmenta necesse est.
 Ducit te species, video; quo pertinet ergo
 Proceros odisse lupos? Quia scilicet illis
 Majorem natura modum dedit, his breve pondus.
 Jejunos raro stomachus vulgaria temnit.
 Porrectum magno magnum spectare catino
 Vellem, ait Harpyiis gula digna rapacibus. At vos
 Præsentes, Austri, coquite horum obsonia! Quamquam
 Putet aper rhombusque recens, mala copia quando
 Ægrum sollicitat stomachum, quum rapula plenus
 Atque acidus mavult inulas.

1. . . . Ego vectigalia magna
 Divitiasque habeo tribus amplas regibus. Ergo
 Quod superest, non est, melius quo insumere possis?
 Cur eget indignus quisquam te divite? quare
 Tempia ruunt antiqua Deum?

Translate this. Prove from other passages, and account for, the immense wealth possessed by certain individuals at Rome in the time of Horace. Show also how excessive was the luxury which prevailed among the rich. Was there any legal provision for the poor? Do many of the inhabitants appear to have been in a state of want? "*Templa ruunt.*" Sallust tells us that the temples built by the ancient Romans were noble, the private dwellings, humble. Was the converse of this true in the age of Augustus? Support your opinion by quotations.

2. (C.) "*Indomitam audeat refrænare licentiam.*" "*Quid leges sine moribus?*" To whom does Horace seem to refer? Give quotations, illustrative of this extract, from other parts of his works.

3. Illustrate the extract (A.), and the 4th Eclogue generally, by quotations from Pope and other poets—and the extract (B.), by quotations from Shakspeare and other authors. How would you solve the historical difficulty in (B.)?

4. Give the etymology of *ærumna*, *armentum*, *aruspex*, *auriga*, *bustum*, *calamitas*, *Camœnæ*, *foedus*, *locuples*, *urbs*—and point out the difference between *seges* and *messis*—*arista*, *spica*, *palea* and *culmus*.

PASS EXAMINATION.

First Division.

BAGEHOT, WALTER	Bristol and University Colleges.
BAILEY, JAMES HENRY.....	Highbury College.
BARNES, PHILIP EDWARD	Private tuition.
BARRY, ALFRED	King's College.
BAYNES, THOMAS SPENCER	Baptist College, Bristol.
BENTLEY, ROBERT.....	Private tuition.
BRINTON, WILLIAM	Private tuition.
BUCK, SHEPHERD RAY	Private tuition.
BULBECK, WILLIAM ANTHONY ...	St. Gregory's, Downside.
BURGON, JOSEPH	University College.
CAMMACK, ALFRED	Horncastle Grammar School.
CAMMACK, THOMAS ARMSTRONG .	Horncastle Grammar School.
CLARK, ROBERT	Private tuition.
CONNERY, JOHN AUGUSTINE.....	St. Peter's, Prior Park.
CUFFE, LUCIAN WILLIAM.....	St. Gregory's, Downside.
DARBISHIRE, ROBERT DUKINFIELD,	Manchester (New).
DAVIES, HENRY.....	Private tuition.
DAY, JOHN CHAS. FRED. SIGISMUND,	St. Gregory's, Downside.
FILLITER, WILLIAM	University College.
FYNES, HENRY JAMES	St. Gregory's, Downside.
GALLWEY, AUGUSTUS	Stonyhurst College.
GAMMAN, ANDREW	Spring Hill College.
GARVEY, RICHARD	Highbury College.
GIBSON, JOHN REEVE	University College.
GOODMAN, WILLIAM.....	Stepney College.
GREEN, JAMES CHARLES	Stepney College.
GUYER, JOHN GRIFFIN.....	University College.
HALL, RICHARD	Stepney College.
HUNTER, WILLIAM ADAMS.....	Royal Belfast Acad. Institution.
HUTTON, RICHARD HOLT.....	University College.
KEANE, DENIS	Carlow College.
KEHOE, ANTHONY	Carlow College.
KIMBER, THOMAS	University College.
KITSON, JOHN	University College.
KNOWLES, WILLIAM DUNCAN	Spring Hill College.
LAMBERT, GEORGE	Stonyhurst College.
LITTLETON, THOMAS	Private tuition.
M'CANN, JOHN	Stonyhurst College.
MACDONNELL, JOHN RANDAL.....	University College.
MACVOY, ARTHUR	St. Mary's, Oscott.
M'LAREN, ALEXANDER.....	Stepney College.
MATTHEW, JOSEPH FARMER	University College.

MEASON, ADAM LAING.....	Stonyhurst College.
MINSHALL, JOHN	Spring Hill College.
MYLIUS, JOHN FREDERICK	Stonyhurst College.
NICHOLSON, GEORGE.....	Highbury College.
OLDFIELD, HENRY AMBROSE	Private tuition.
O'REILLY, MYLES WILL. PATRICK.	St. Cuthbert's, Ushaw.
O'SULLIVAN, WILLIAM HAMILTON,	St. Gregory's, Downside.
PAYNE, ARTHUR JAMES	King's College.
PRATT, HODGSON	University College.
PRITCHARD, GEORGE SHAW.....	King's College.
PULSFORD, WILLIAM.....	Stepney College.
ROBERTS, WILLIAM	Highbury College.
SELBY, THOMAS.....	Stonyhurst College.
SPROTT, WALTER	King's College.
TELFORD, THOMAS JOSEPH	St. Mary's, Oscott.
WATSON, WILLIAM	University College.
WEYMOUTH, RICHARD FRANCIS ...	University College.
WILLIS, JOHN.....	Highbury College.

Second Division.

BAINES, JOHN PETER AUGUSTINE..	St. Peter's, Prior Park.
BILTON, JOSEPH.....	St. Mary's, Oscott.
BRAMWELL, CHARLES CRIGHTON .	Sheffield Proprietary Gram. School.
BURTT, THOMAS	University College.
CADBY, PHILIP	Stepney College.
COOMBS, ADDISON	University College.
CRISP, HENRY	King's College.
DANIEL, WILLIAM THOMAS.....	Carlow College.
DAY, WILLIAM HANKES	Yarmouth Prop ^y Gram. School.
DRURY, JAMES SAMUEL	Christ's Hospital.
DUNN, JOHN	King's College.
EVANS, JOHN OWEN	Private tuition.
JACKSON, WILLIAM	Private tuition.
KINSELLA, WILLIAM.....	Carlow College.
LADD, FREDERICK FOREMAN	University College.
LAIDMAN, CHARLES JOHN	King's College.
LAWRENCE, HENRY	Stepney College.
POLAND, FREDERICK WILLIAM ...	King's College.
SNOW, JOHN ELLIOT.....	Private tuition.
TOMKINS, FREDERICK	University College.

EXAMINATION FOR HONOURS.

The names are arranged in the order of proficiency.

MATHEMATICS AND NATURAL PHILOSOPHY.

DUNN, JOHN (*Exhibition*) King's College.
 { BAGEHOT, WALTER Bristol & University Colleges.
 { HUTTON, RICHARD HOLT University College.

CHEMISTRY.

DAVIES, HENRY . . (*Prize of Books*) . . Private Tuition.
 { BRINTON, WILLIAM Private Tuition.
 { GAMMAN, ANDREW Spring Hill College.

ZOOLOGY.

DAY, WILLIAM HANKES Yarmouth Prop^y Gr. School.

CLASSICS.

BARRY, ALFRED (*Exhibition*) King's College.
 O'REILLY, MYLES WILLIAM PATRICK, St. Cuthbert's, Ushaw.
 { BAGEHOT, WALTER Bristol & University Colleges.
 { HUTTON, RICHARD HOLT University College.
 PRATT, HODGSON University College.

PRINTED BY R. AND J. E. TAYLOR,
PRINTERS TO THE UNIVERSITY OF LONDON,
RED LION COURT, FLEET STREET.