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SECONDARY EDUCATION (SCOTLAND).

REPORT FOR THE YEAR 1895,

BY

HENRY CRAIK, Esq., C.B.,

ON THE

INSPECTION OF HIGHER CLASS SCHOOLS, AND THE EXAMINATION FOR LEAVING CERTIFICATES,

WITH

APPENDIX.

REPORT *for the year* 1895 *by* HENRY CRAIK, ESQ., C.B., on the Inspection of HIGHER CLASS SCHOOLS AND THE EXAMINATION FOR LEAVING CERTIFICATES.

MY LORDS,   August 1895.

I HAVE the honour to submit to your Lordships my fourth special report upon the Inspection of Higher Schools, and upon the Leaving Certificate Examination.

Owing to the passing of the Education and Local Taxation Account (Scotland) Act, 1892, funds are now available for the purposes of this inspection and examination, under section 2 (1) (*a*) of that Act, and it has thus far been possible, in all ordinary cases, to relieve the schools (except those under private management), and the candidates at the Leaving Certificate Examination, from the fees formerly exacted.

INSPECTION.

The higher schools inspected, under your Lordships' authority, are 73 in number, of which 30 are higher class public schools under the management of school boards, 24 are endowed schools, and the remainder are schools under private management—whether that of a governing body or a proprietor.

The method pursued in regard to the reports upon the various schools is the same as that followed in previous years ; and, on the whole, the results of the inspection continue to be satisfactory. The inspection of higher schools has undoubtedly put an end to much that was faulty in organisation and defective in method. The attention of school authorities has by its means been directed to cases which called imperatively for reform, and it has shown the difference between sound and specious work. The Inspectors have been encouraged to confer with the local authorities as to methods of instruction, to point out weaknesses, to show how defects might be removed, and to indicate the direction in which the curriculum might be most effectively developed. We have abundant evidence that such conferences have proved useful to managers and teachers, and the Inspectors have by means of them acquired new insight into the methods and aims of the schools.

Without giving any opinion as to the results of the grant for secondary education, as distributed under the schemes drawn up by the burgh and county committees, it is satisfactory to report additional cases in which, by means of this grant, the staff has been materially increased, the curriculum extended, and the educational opportunities made available for a wider circle of pupils.

While the reports show that, on the whole, there is improvement, it is only natural that in particular schools the efficiency varies from year to year. Sometimes this is due to temporary causes. Or it may happen that, after two or three visits to a school, an Inspector becomes aware of weak points that might at first not fully appear, and what is faulty in a school is apt to become more marked if very decided measures have not been taken to remove it. But, on the whole, the cases, of which instances were to be found in the earlier years of inspection,

where a school had become thoroughly inefficient by defects in methods
or by unwillingness to deal courageously with a system which required
radical reform, have practically disappeared. The annual inspection
has applied a stimulating criticism to all the schools, has given rise to a
healthy public opinion in regard to them, and has, in combination with
the Leaving Certificate Examination, made it almost impossible for a
school to maintain its place if it fails to keep in touch with the general
advance in efficiency.

While the inspection aims at encouraging good work, it is no part of
its object to make that work follow uniform lines. On the contrary, if a
school does sound work, it is better that the local authorities, under the
influence, as they must necessarily be, of local opinion, should regulate
its internal economy and should feel themselves free to vary the
curriculum according to local needs. An occasional hint or suggestion
has all the more effect if such hints are not too common and are given
only when their timeliness is indubitable. Experience is the best guide
in regard to this, and its necessity has been kept in view in the selection
of Inspectors. Our chief aim is to obtain the services of those who,
without being exclusively attached to special methods, have had
experience in scholastic affairs, whose qualifications as to knowledge
are well established, and who have the tact necessary to pronounce a
candid judgment on a school without unduly trenching on the functions
and responsibilities of managers and teachers. For this purpose it has
been thought best not to employ a small fixed staff, but to make selec-
tions from a larger number of men of proved qualifications, and, while
providing for a certain continuity of judgment by allowing the same
person to visit a school several times, yet to provide for criticism from a
fresh eye by altering the Inspector, in the case of each school, from time
to time.

On the other hand, no restraint is placed upon the Inspectors in the
exercise of a bold and even a condemnatory criticism. Such cases are
now comparatively rare, and it is so far satisfactory to know that, as a
rule, when a school has been adversely criticised in regard to one part of
its curriculum by the Inspector entrusted to report upon that branch,
his verdict has been confirmed by a similar criticism upon a different
part of the curriculum by a different Inspector. This proves that
deficiency is, in most cases, due not to a casual failure in one subject,
but rather to a general weakness throughout the school.

There are certain defects to which it may be well once more to call
special attention, as they can be remedied only by an improved public
opinion. The premises of these higher schools do not in all cases
compare favourably with those of the elementary schools, improved as
these have been of recent years. Undue economy often leads to an
insufficient staff; and it cannot be too clearly understood that a staff
which in point of numbers was adequate to requirements in the past
cannot be expected to cope with the variety and scope of a curriculum
widened to meet the needs of the present day. When, on the other
hand, ample and liberal provision has been made, it is discouraging to
find such efforts rendered useless by the habit of removing scholars at
an unduly early age. More than once I have had to allude to the
injury inflicted upon certain schools by irregular attendance, and in
some cases by the habit of allowing scholars to begin the summer
holiday before the close of the school session. This habit continues to
be a cause of great detriment to several schools. The Legislature has
made school attendance compulsory for all. In the case of the poorer
classes this is enforced by prosecution. It is difficult to maintain that a
rich parent, who for reasons of personal or domestic convenience removes

his child from school before the work of the school is completed, to the
injury of the boy himself, and to the disturbance of the whole school work,
is less guilty of failure to fulfil his obligations to his son and to society,
than the parent who, under the pressure frequently of poverty and
hardship, is obliged to answer the charge of defaulting before a court of
law. The system of day schools has in Scotland found more favour
with the well-to-do than it has in England. Whatever opinion
may be held on that system as compared with that of boarding
schools, which is preferred in England, it is beyond a doubt that
the weak point of the day school system is its liability to be subject
to private domestic arrangements, and that if it is to have a fair
chance, it can only be by each parent feeling that he has a duty to his
son and to the school, and that nothing but gross selfishness and care-
lessness can permit him to set that duty aside for the sake of personal
convenience. It is difficult for school managers to check this practice
as severely as it ought to be checked, and it is necessary to say that in
no instance does it require to be checked so imperatively as in the
wealthier quarters of some of the large cities, where there is perhaps
least of all an excuse for it.

Another hindrance to efficiency is referred to by some Inspectors with
increasing urgency. It is found that scholars who come to the secondary
schools from the State-aided schools are not always fitted by previous
education to take their places in the same class with those who have had
the advantage of being trained with a view to higher education. Their
presence in these higher schools ought certainly to be encouraged in
every way. The funds now available may afford opportunities for
sending such children to the higher schools at an earlier age.
But in any case the managers of the higher schools will find it
to their advantage to make some provision for giving them special
training when they are first drafted into the school. As a rule, such
children are of good capacity, and come to the school with earnest
purpose of profiting by it, and it is probable that a comparatively short
period in a preparatory class will enable them to take their places, with
mutual advantage, side by side with the scholars who have been in the
secondary school from an earlier age.

Complaints have been made that the county committees have in some
cases distributed the secondary education grant too widely, and have not
kept sufficiently in view the concentration of higher education in central
schools, for the benefit of which it is sometimes maintained that the
grant was primarily intended. Experience alone can show whether this
tendency has been carried too far, and doubtless the committees will be
prepared to modify their schemes in the light of such experience.
While concentration contributes both to economy and to efficiency, it
must not be forgotten that such higher education as is given in the
State-aided schools is all that is open to a large number of the children,
and that the inclusion of some such education in the curriculum is a
traditional feature of Scottish schools. Nor can it fairly be asserted, in
view of the very creditable appearance made by the State-aided schools
under the searching test of the Leaving Certificate Examination, that
these schools have failed to show that they can successfully overtake a
fair amount of secondary education.

LEAVING CERTIFICATE EXAMINATION.

The number of candidates presented for examination was 13,173, and
the number of separate papers worked by them was 39,966. Of these
19,338 papers represented 5,000 candidates from 68 higher class schools,

and the remainder (20,628 papers worked by 8,173 candidates) were taken by pupils from 202 higher departments of State-aided schools and by pupil-teachers.

The examination began on the 17th of June and continued till the 25th of June. The papers worked were sent up day by day to the Department and distributed amongst the revisers. The work of revising nearly 40,000 papers, deciding doubtful cases, tabulating the results, and carefully verifying the whole, is a very large one ; but I am glad to say that the results were known and ready for communication to the schools on the 17th of July. This will be admitted to be the very smallest time within which such a work could possibly be completed, and I must again bear tribute to the unflagging zeal and industry of the staff employed which enabled me to attain this result.

The work of issuing the certificates (about 17,300 in number) has now been completed.

I may again describe the method followed in the examination, which is as follows :—The general supervision, the settlement of the standard of marking, the revision of the work of the examiners, and the decision in regard to doubtful cases, is carried on for each subject, by one principal examiner, who, acting in conference with myself, is also responsible for drawing up the papers. For this work we have generally had the assistance, in each subject, of a professor in a Scottish University. I subsequently receive a report from each person who has taken part in the revision ; and from these reports, and my own obser-vation of the papers, many of which come before me personally, I am able to form a fairly accurate estimate of the general standard of work in the schools. Arrangements are made with the view of maintaining a correspondence between this examination and the standard of the Joint Examining Board of the Scottish Universities, who are empowered to accept the Leaving Certificates as a substitute for an entrance examina-tion.

The greatest care is taken to secure the integrity of the examination by the appointment of a supervising officer for each place of examina-tion, nominated by, and responsible to, the Department. That officer distributes the papers, for the custody of which he is responsible, and he is present throughout the whole of each examination. I regret to say that, in spite of these precautions, I have again to record several instances of indubitable copying. Although, of course, all benefit of the examination was refused to the candidates guilty of copying, this is not an adequate penalty for such an offence, which brings discredit not only on the candidates themselves, but on their school. I must again call the attention of school managers and teachers to the necessity of doing all in their power to mark their sense of such conduct.

Passing to the results of the examination, there has been a reduction in the number of passes obtained, when all the subjects are reckoned. This result is not surprising, when the large increase in the number of candidates is borne in mind ; and although it has been our object not only to maintain, but as far as possible to raise, the standard of the examination, the increased proportion of those who failed to satisfy the examiners is not due to any marked or undue raising of the standard this year. It is impossible to resist the conclusion, which is confirmed by the reports received from several of the revisers, that candidates are often sent in who have not reached anything like the required standard, and that some school managers and teachers have scarcely realised what that standard is. The decreased per-centage of passes does not apply to all subjects alike. In English there has been a considerable decrease in

the per-centage of passes, the presentations being 8,704, in place of 6,428 last year. In German, with no very material increase in presentations, there has been an increase in the per-centage of passes. In French, with 33 per cent. of increase in presentations, the per-centage of passes has fallen off by 17. The presentations in Greek increased from 768 to 865 : while the per-centage of passes has fallen from 65 to 54. In Latin, on the other hand, with an increased presentation, the per-centage of passes has risen from 48 to 56.

It is interesting to compare the results in each subject in the higher class schools and in the State-aided schools respectively. As might be expected, the presentations in English and Arithmetic are most numerous in the State-aided schools, and the pupils in these schools make a fair per-centage of passes ; in English 42, as compared with 60 in the higher schools, and in Arithmetic 54, as compared with 57. In Latin and Greek the numbers presented from the State-aided schools (563 and 168) are much smaller than those presented from the higher schools (1,227 and 697), and the per-centage of passes is also smaller (40 and 46 per cent., as compared with 63 and 55). In Mathematics the results present a similar scale of comparison ; 1,481 candidates from the State-aided schools making 51 per cent. of passes, while 2,144 candidates from the higher schools make 61 per cent. But in French and German the case is different. 2,132 candidates were presented in French from the State-aided schools, against 2,095 from the higher schools, and the per-centage of passes was 53 and 60 per cent. respectively ; while in German 788 candidates from the State-aided schools made 75 per cent. of passes, against 69 per cent. made by 1,181 candidates from the higher schools.

In regard to the work generally, it may fairly be said, comparing the reports received from all those who have taken part in the revision, that there are some features of improvement accompanying the very large increase in the number of candidates. The examination evidently commends itself to school authorities and teachers in Scotland, as is proved by the fact that all the higher class schools in Scotland, with a very small number of exceptions, present candidates for the certificate. In these circumstances it is only natural that the candidates should continue to rise to the standard, and that their industry should be stimulated by the desire to gain what is an object of ambition. I am glad to say that the hints which have been given as to defects in previous years have evidently received attention, and that general improvement is visible in what were formerly weak points.

I have again to repeat what has a very important practical bearing, and is confirmed by the almost uniform tenor of the reports which I have received, viz., that success or failure varies according to the schools rather than the individual candidates. The experience of all those taking part in the examination, and repeated year after year, is of great weight, and its uniform tendency is to prove that the efficiency of a school is the determining matter, and that the variety of individual capacity is comparatively small. This remark of course chiefly applies to the ordinary certificates of the higher and lower grades, and in a much less degree to the honours certificates, which imply individual excellence. In regard to the other grades we must keep in view the average state of efficiency, and the average standard which may fairly be attained. But the honours grade implies exceptional merit, and our object has been to confine this grade to those who have shown marked ability and acquirement.

It will readily be conceived that the fixing of all the standards is a matter of much anxious consideration, and that many circumstances must be kept in view. We must not aim at anything beyond the reach of schools of

fair efficiency, otherwise we would inevitably discourage much deserving effort. The first and principal end of the Leaving Certificate Examination is to fix a standard for scholars who have gone through a course of secondary education, fairly suitable for the country generally, and neither to discourage schools by asking too much nor to degrade the certificate by bringing it down to the level of inadequate work. It is necessary to keep in view the fact that the certificate is accepted by many important public authorities, and not least by the Universities of Scotland, and while we must keep in view the schools first of all, we must not disregard the requirements of these public bodies, towards whom we necessarily incur a grave responsibility. I think we may fairly claim that, while guiding our course chiefly by the circumstances of the schools, we have not failed in the responsibility which we owe to these bodies.

In the drawing up of the papers, I have had the assistance of gentlemen who, without question, stand in the very first rank of scholarship whether in England or in Scotland. Each paper was the subject of careful consultation, and we had also the advantage of suggestions from the Oxford and Cambridge Schools Examination Board.

The following are some of the special features of the examination in each subject :—

ENGLISH.

Presentations.	Passes.				Per-centage of Passes.
	Lower Grade.	Higher Grade.	Honours.	Total.	
8,704	3,120	1,068	58	4,246	49

There is no part of the examination which requires, or has engaged, closer attention than this. It is often supposed that the certificate in English should be more easily obtained, and that none of the difficulties can arise which are to be met with in the classical or in foreign languages. The number of candidates presented in this subject is much larger than in any other ; and it appears to be a commonly accepted view that any scholar who has remained at school for a short time after passing through the various standards, ought to be fully equal to the standard of the Leaving Certificate. It cannot be too clearly understood that this is not the case. A scholar of some intellectual energy and interest may doubtless acquire, while passing through the standards in an elementary school, and by means of his own reading, a good deal of the knowledge and mental training required for the Leaving Certificate. But this cannot be expected with the average scholar ; and it must be distinctly pointed out that the Leaving Certificate, even in the lower grade, not only implies something which properly belongs to secondary education and is marked off very clearly from the highest of the elementary standards, but that it necessarily demands a good deal of personal intelligence in the scholar, enabling him to select the questions most suitable for him, to treat them with a certain amount of judgment

and thought, and to express himself in language which shall be distinct and grammatical, and fairly exempt from the childishness which seems to cling to the pen at an age when a boy or girl would be ashamed to use it in ordinary conversation. These are gifts which are not universal, and are not very easily acquired ; but the Leaving Certificate would be of no value if its possession did not show that some progress had been made in these acquirements. That so many reach this standard proves that it is not too high ; but that the per-centage of passes is so low proves, at the same time, that there is a very general misunderstanding as to the standard required. It is comparatively easy to decide when a scholar has obtained sufficient grammatical knowledge and power of translation to be fit for presentation in a classical or foreign language : it is not so easy to tell whether he has learned to think, to understand accurately what he reads, and to choose correct methods of expression in explaining it. More depends here than perhaps in any subject on the power of the boy to do himself justice in the examination.

An examination in English may be based on certain prescribed books, or, as is now the case in the Leaving Certificate Examination, it may be entirely general. Much may be said for both systems, but I am not prepared to recommend your Lordships to make any change at present. To prescribe certain books would inevitably have the effect of restricting the curriculum of the schools to these books, and while the candidates might, under that system, be more successfully prepared, it would certainly cause the preparation to have more of the character of cram, and would check the free development of the schools, each on its own lines. It would also, I fear, give less of a stimulus to individual effort and thought—in itself a matter of great value. Your Lordships will, no doubt, keep carefully in view the evidence in favour of both systems which further experience of the examination may give ; but I cannot think that there would not be much reason for regret if it should eventually appear necessary to alter, even in regard to this one subject, the present system of the Leaving Certificate Examination, which leaves so much freedom to the schools.

Coming to the results of the present year, I cannot say that in the lower grade there is evidence of any general advance in the standard. The spelling and writing are reported as satisfactory by all those who took part in the revision of papers. The grammar is not more than fair. The questions on literature vary widely, but on the whole there is considerable evidence of independent reading, of individual interest in what has been read, and of a knowledge of the leading names in our literature as wide as could fairly be expected. The most faulty part of the examination was, as before, that which is the most trying test of individual thought, and of the power of grasping the real meaning of literary expression, viz., the paraphrase. This is a matter in which cram must count for very little : the pupils must have learned the slow and arduous process of tracing trains of thought, which are by their nature unfamiliar, in language which is also unfamiliar. The greatest care has been taken to select as examples passages which are fair tests, and the power of mastering these affords the best proof of the general value of the intellectual training which the pupils have received, and not merely the instruction imparted in this particular subject. In history, a fair knowledge of leading facts is shown—marred in many cases by reckless guessing, which ought to be rigidly discouraged ; but there is very little evidence that the candidates have learned anything of historical proportion, or have been accustomed to look at historical

facts in their larger results and consequences. The geography is in general faulty, and there is rarely evidence that this subject is taught in any methodical way, or presented to the pupils in such a manner as to make a vivid impression upon them.

In the higher and honours grades, the papers show a satisfactory advance, particularly in knowledge of literature and in treatment of historical questions. The paraphrase still leaves much to be desired, but there is a distinct effort to extract some meaning out of the passage set, even although, in its results, it is not complete or perfect. The essays, if they do not show literary ability, are at least sensible, sound, and clearly expressed in most cases. The standard in spelling and writing is distinctly high, grammar is satisfactory, but etymology does not seem to be a strong point in most of the schools. Here, as in the lower grade papers, history is better than geography.

LATIN.

Presentations.	Passes.				Per-centage of Passes.
	Lower Grade.	Higher Grade.	Honours.	Total.	
1,790	645	332	22	999	56

In Latin, the schools which chiefly excel are again those which have given the best proof of general efficiency. The lower grade paper was made somewhat easier than last year, and therefore a somewhat stricter standard of pass could be maintained. Many of the candidates were presented with insufficient preparation, and in some parts of the paper, particularly the translation from verse and the English to be turned into Latin prose, the general results were rather disappointing. It would appear that Latin verse is not very generally read in Scottish schools, and it would be a valuable intellectual training were the pupils exercised a little more in the translation at sight of passages not previously studied. In this respect, however, marked improvement is visible year by year, and in the opinion of some of the revisers, who have experience of such examinations elsewhere, the general standard compares favourably with that which is to be found in schools of a similar class outside of Scotland. The grammar is satisfactory, especially as regards knowledge of Latin verbs, and although the pupils in this grade have rarely much power of forming Latin sentences idiomatically, they show considerable acquaintance with a few of the more marked features of Latin idiom. In particular, they would seem to have been trained in the use of the subjunctive, although, in other respects, the Latin idiom has not perhaps received sufficient attention.

In the higher and honours grades the results are often good, and in some of the better schools distinctly high. The best schools presented some pupils who gave proof of promising scholarship, and in some cases the form was good, and some power of appreciating classical literature was not wanting. The knowledge of history was, in general, rather restricted.

GREEK.

Presentations.	Passes.				Per-centage of Passes.
	Lower Grade.	Higher Grade.	Honours.	Total.	
865	308	140	15	463	54

In Greek I had to report last year that while the lower grade can-didates showed an improvement, the higher and honours papers were not so satisfactory. This year the result is reversed. In the lower grade, candidates have often been presented who did not approach the standard required, and whose answers were often without any value whatever. The one feature, however, in which some advance is marked is the translation from English into Greek—a process which, more than any other part of the paper, gives proof of careful training.

In the higher and honours grades, on the other hand, there has been a very distinct improvement, and some of the papers reach a very remarkable standard of excellence. It is satisfactory to be able to record this, as it forms an important element in the controversy as to the value of the study of Greek, and as to its hold upon the interest of the scholars. In no part of the leaving certificate examination is there better proof of an intellectual training of a very high kind than is found in some of the best of the Greek papers of the honours grade which have been sent in. It is to be regretted that the knowledge of Homer seems to be rather less than might have been expected. This is no doubt due to the view that the study of Attic authors forms a safer foundation for Greek scholarship with young students.

FRENCH.

Presentations.	Passes.				Per-centage of Passes.
	Lower Grade.	Higher Grade.	Honours.	Total.	
4,227	1,889	423	80	2,392	57

The general result of the examination appears to show that the teaching of French in Scotland is making sure and steady, although slow progress. The standard is not yet what it ought to be ; but to raise the requirements of the examination with undue suddenness might discourage efforts which, in the course of time, may be successful. In the lower grade the general style and arrangement of the papers have improved. The candidates showed a fair acquaintance with the names

aud titles of the works of the leading French authors, and were able
to give a rational and connected account of the author whom they had
studied in class. The translations from French, however, were not good,
and the pupils seemed to be imperfectly trained in the practice of
translation at sight. The composition was so defective that it would
appear that few of the candidates had gone beyond the formation of
very simple sentences, and they could not attempt connected composi-
tion without violating simple rules of grammar. Question 9, which
called for the translation of some puzzling sentences in English, was
found to be a very good test, and the best pupils acquitted themselves
well in answering it. The commercial question was practically not
attempted.

In the higher grade the translations were fairly satisfactory in point
of accuracy, but were very deficient in taste and style. The composi-
tion was weak, and only about five per cent. of the papers were really
good in this respect. The grammar and etymology were satisfactory
and the literature was good and, in many cases, excellent. The com-
mercial part of the paper was an almost total failure.

GERMAN.

Presentations.	Passes.				Per-centage of Passes.
	Lower Grade.	Higher Grade.	Honours.	Total.	
1,969	990	356	55	1,401	71

Here again no marked advance or retrogression has to be recorded,
but the revisers note the very wide divergence between different schools.
On the whole, the impression is good. In the lower grade the candi-
dates show a sound knowledge of grammatical rules, but very limited
practice in applying them to composition. They have obtained a useful
smattering of the outlines of literature, and the pernicious habit of
random guessing is not so frequent as before.

In regard to the higher grade, the reviser remarks :—

" The only fault I have to find in connexion with the work of this grade is the
unsatisfactory way in which the questions regarding the formation of abstract
nouns from adjectives, and that of adjectives from nouns, are answered. As only
pretty common words had been selected for these formations, and questions of the
same kind have been repeatedly set in former years, it is hardly creditable to the
teachers that so little attention should still be given to these very important points.
On the other hand, I was greatly pleased to notice a distinct improvement in the
German composition of most candidates, especially in regard to the all-important
point of the collocation of words in the sentence. The piece for translation, it is
true, was carefully prepared so as to avoid too great difficulties of construction.
Still, it was by no means too easy, and allowed the candidates abundant scope for
displaying their facility in writing idiomatic German prose."

In the second (or honours grade) paper, the results were disappointing.

MATHEMATICS.

	Presented.	Passed.	Per-centage.
MATHEMATICS.			
Lower Grade - - - -	2,767	1,634	59
Higher Grade - - - -	760	401	53
Honours - - - -	98	41	42
ARITHMETIC ONLY.			
Lower Grade - - - -	7,061	3,800	54
Higher Grade - - - -	1,250	725	58

	Presented.	Passed with Distinction.	Total passes.	Per-centage.*
ADDITIONAL SUBJECTS.				
Geometrical Conics - -	124	18	60	48
Analytical Geometry - -	95	18	51	54
Higher Dynamics - - -	60	2	30	50
Elements of Dynamics - -	310	7	150	48

* No passes are reckoned in this per-centage unless the candidates have also obtained a certificate in mathematics.

The following are the remarks (based upon the reports of the various revisers) of the gentleman who took the chief part in this branch of the examination :—

" Taken as a whole the result of the examination in mathematics is satisfactory, and indicates careful teaching and persevering study. In some cases scholars were presented for examination in subjects which had been only partially studied, but, even where the more advanced parts of a paper were clearly beyond the reach of the candidates, an intelligent knowledge of the elementary parts was generally shown.

" HONOURS GRADE.

" *Geometry.*—The work was generally of high quality, the demonstrations full and clear, the figures much better than those of last year, and the arrangement neat and careful. Modern geometry seemed to have been thoroughly taught and well mastered. There was still, however, a tendency to deduce fundamental theorems from similar theorems of at least equal difficulty, instead of giving independent demonstrations. Some weakness was shown in particular problems.

" *Algebra.*—The general standard of the work is higher than that of last year, but careful statements were not so frequent in this subject as in the geometry, and several papers were marred by alterations and erasures due to hasty and ill-considered work. On the whole, however, the paper was thoroughly understood and well attacked. The questions on the binomial theorem, series, and imaginaries,

were well done. On the other hand the application of the binomial theorem to a practical case was very inaccurately worked, while in the treatment of graphic representation very few attempts were made to answer the plain question in a plain manner, though it was clear that the candidates were not ignorant of this part of the subject.

"*Trigonometry.*—This paper was not done well. The work sent up indicated not only partial and hurried study, but also reliance on mere formulæ. Instances may he found in the imperfect definitions of sine and cosine, the almost universal failure either to verify or work out correctly the given result in the question on heights and distances, and the unsuccessful attempts to bring to mind formulæ for the summation of series or the details of a quadrilateral.

"ADDITIONAL SUBJECTS.

"*Higher Dynamics.*—While the questions on centres of mass, friction, and the air pump were creditably answered, there was poor work on relative velocity, acceleration in circular motion, and fluid pressure. It would appear that many candidates had not mastered this subject so fully as to justify their attempt at the higher paper, and that they had not had sufficient practice in ordinary examples. The style of the work was generally fair.

"*Analytical Geometry.*—The work was as a whole satisfactory. Most of the candidates showed a sound perception of the elementary principles of the subject, and familiarity with the methods. The figures were in many cases wanting in neatness, and even when neat were often inaccurate. In some papers necessary proofs were omitted as well as the detailed work of examples, only the results being written down. For this, of course, little or no credit could be given.

"*Geometrical Conics.*—The paper was as a whole fairly done, the defects in many cases being due to the difficulty of drawing the required figures. Some candidates, however, had used models of the curves with satisfactory results.

"*Elements of Dynamics.*—A common fault consisted in writing out the answers to the bookwork questions at wholly unnecessary length. The candidates from the better schools gave excellent diagrams, but the diagrams given by many showed that they had no thorough knowledge of the apparatus which they tried to describe. There was also a good deal of inaccuracy in working out the arithmetical results.

"HIGHER GRADE.

"*Geometry.*—Considering the work as a whole the standard reached was fair. Very many candidates, who wrote out propositions in the sixth and eleventh books correctly, showed considerable weakness in the first and second books, more especially in the definitions.

"*Algebra.*—As a whole the work was satisfactory, and that sent in by some schools showed a high order of excellence. The questions on simplification, quadratics, the roots of quadratic surds, the theory of divisors, and the proof of an identity were well done by a large proportion of the candidates, while there were many excellent solutions of the problems. In the more advanced parts of the paper there was a distinct falling off in the nature of the answers except in the case of the better candidates. Many pupils seemed to have been too hastily taught variation and progressions, formulæ and proofs being often reproduced which were evidently not properly understood.

"*Arithmetic.*—The earlier questions were generally well done, and showed some improvement on the results of last year. The principles of compound interest and discount appeared to be understood, but few candidates were able to apply them properly to the questions asked. The question on the explanation and simplification of recurring decimals was not well answered.

"*Trigonometry.*—This paper was, on the whole, very well done. The chief faults were in connexion with the logarithmic work, the theory of which is in many cases very imperfectly understood. A common fault was to give the logarithm of a quantity as equal to the quantity. In some schools, however, this work was excellent both in accuracy and neatness. The geometrical proofs were generally well done.

"LOWER GRADE.

"*Geometry.*—The general character of the work was satisfactory, showing care and intelligence. The definitions, however, were often faulty, and in some cases

the question was misunderstood and a wrong proposition written out. This error occurred most frequently in Book II. Very few of the candidates seemed to understand what is meant by a locus. On the whole the style and writing show improvement as compared with former years.

"*Algebra.*—The results of the examination were as a rule satisfactory and show improvement on the work of previous years. The questions on simplification, fractions, the extraction of the square root and equations were well done. Most of the candidates tried the question on highest common factor, but many made the mistake of giving the last quotient instead of the last divisor as the answer, while others omitted to remove extraneous factors from the result. A common fault in simplification was to make $8 \times 0 = 8$.

"*Arithmetic.*—This subject is not only taken by candidates for a certificate in mathematics, but also by a considerable number of scholars who do not take mathematics. There are thus a very large number of candidates who have had little previous experience of such examinations. The work is as a whole satisfactory, and shows improvement in all points as compared with past years. A considerable number of candidates, however, though answering the early questions well, broke down altogether in the more advanced part of the paper, and showed that they were quite unfit to attempt an examination of this character. Among the more common mistakes may be mentioned failure to give the highest common factor of numbers whose prime factors had been correctly found, failure to reduce vulgar fractions to their lowest terms before performing arithmetical operations with them, and failure to notice when an answer was altogether absurd. A very common mistake was the unnecessary reduction of decimal fractions to vulgar fractions by which method the work was often greatly increased. The most frequently occurring error, however, was the omission to show the detailed work fully in spite of the clear warning on this point printed at the top of the paper.

" BOOK-KEEPING AND COMMERCIAL ARITHMETIC.

Candidates were examined from 50 schools with the following result :—

Presented.	Passed.	Per-centage.
516 -	- 307 -	- 59.

" *Book-keeping.*—Generally speaking, the majority of the candidates showed a fair knowledge of the principles of book-keeping by double entry, some of the papers being very good indeed. The definitions were as a rule well answered. The answers to the questions which followed were seldom complete, but were generally correct as far as they went. The cash-books framed by the candidates were somewhat disappointing. Very few showed acquaintance with the use of cash-books with columns for particular classes of entries which are now so much used, and so generally recommended by writers on book-keeping. A number of candidates made journal entries for the transactions without a cash-book. As a rule they showed a good knowledge of journalizing, but, as the use of a cash-book is indispensable in book-keeping, they cannot be held to have done the paper fully. The ledgers were generally better done, though not without mistakes, such as opening two accounts for one person or thing. It was also clear that in many cases the entries were made in the ledger direct from the transactions instead of being posted from the books framed by the candidates.

" *Commercial Arithmetic.*—In the addition exercise, the candidates acquitted themselves fairly. The questions on bills of parcels, fractions, interest and profits, were generally well done. In the question on the average rate of interest derived from two investments a large number of the candidates showed that they did not understand how to take into account the proportion of the two principal sums invested."

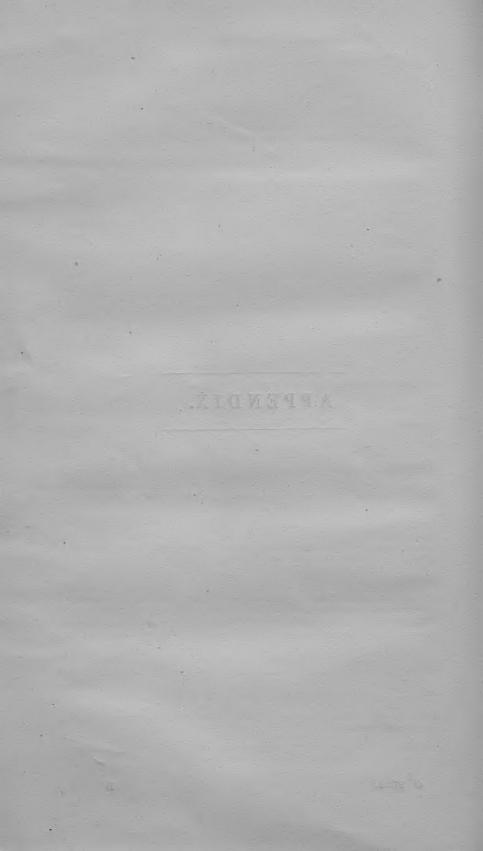<div align="right">I have the honour to be, &c.,
HENRY CRAIK.</div>

To the Right Honourable
*   The Lords of the Committee of Council*
*   on Education in Scotland.*

APPENDIX.

LEAVING CERTIFICATE AND INSPECTION OF HIGHER CLASS SCHOOLS.

The Examination for Leaving Certificates is held annually by the Scotch Education Department about the middle of June.

Candidates must be pupils of the school at which, or in connexion with which, they are examined, and must have been in regular attendance from January to the date of the examination. They may be presented in any grade of any subject. In no case does the result of examination in a paper taken in a previous year affect the examination.

(For further information see Circular 175.)

CIRCULARS TO CORRESPONDENTS OF SCHOOLS.

Leaving Certificate, 1895.   Circular 167.

Scotch Education Department,
Dover House, Whitehall, London, S.W.,
7th December 1894.

SIR,
     I AM directed to inform you that my Lords propose that the next examination for leaving certificates shall begin on Monday, the 17th of June.

     I am to enclose a "Note as to Mathematical Papers," in which certain slight alterations have been made, and also a "Note as to the Papers in English," and a Memorandum as to the Papers in Modern Languages.

     My Lords desire to remind you that only those candidates will be admitted to the examination for leaving certificates who have been in regular attendance at the school at which, or in connexion with which, they are examined, from January to the date of the examination.

                                        I have, &c.
                                        H. CRAIK.

NOTE AS TO MATHEMATICAL PAPERS.

Certificates in mathematics are awarded in three grades, lower, higher, and honours. Candidates may present themselves for examination in any grade, but those who fail to obtain the certificate for which they are examined will not be awarded a lower certificate.

Lower Grade Certificate.

To obtain a lower grade certificate in mathematics, a candidate must pass in each of the three following subjects,* but deficiency in any one paper may, to a certain extent, be compensated by excellence in others.

1. Arithmetic‡ (1½ hours), including practice, proportion, per-centage, square root, simple interest, vulgar and decimal fractions.

2. Algebra (1½ hours), including fractions, factors, square root, equations of the first degree, simultaneous equations of the first degree, easy quadratic equations, easy quadratic surds, problems leading to the above equations.

3. Geometry (2 hours). The subject matter of Euclid, Books I., II., and III., with easy deductions. Demonstrations other than Euclid's will be accepted if they assume no propositions which in Euclid's order are subsequent to the proposition under consideration.

Candidates for a lower grade certificate may also take the paper in elements of dynamics, success in which will be recorded on the certificate. *No certificate in dynamics will be awarded to any candidate who does not obtain a certificate in mathematics.*

The papers in geometrical conics, analytical geometry, and higher dynamics cannot be taken by candidates for a lower grade certificate.

Higher Grade Certificate.

To obtain a higher grade certificate a candidate must pass in each of the four following subjects,* but deficiency in any one paper may, to a certain extent, be compensated by excellence in others. The candidate may also take one or more of the additional subjects, success in which will be recorded on the certificate. (Only one additional subject should, as a rule, be taken at this stage.)

1. Arithmetic (1½ hours). The whole subject.

2. Algebra (1½ hours), as far as progressions, inclusive.

3. Geometry (2 hours). The subject matter of Euclid, Books I., II., III., IV., VI., and XI (Propositions 1–21), with deductions.

4. Trigonometry and logarithms† (1½ hours). Trigonometry as far as the solution of triangles, theory and use of logarithms.

Arithmetic Certificate.

Candidates may be examined in arithmetic‡ alone, either in the lower or higher grade.

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* Candidates for any grade must take all the papers belonging to that grade; *i.e.,* they may not take geometry and algebra of the lower grade and arithmetic of the higher, &c.

† The use of a book of mathematical tables is allowed, provided it contain no manuscript notes or printed matter other than such as refers to the use of the tables. Each candidate should be provided with a separate book.

‡ No candidate for a lower or higher grade certificate in mathematics will be excused examination in arithmetic on the ground of having already obtained a certificate in arithmetic.

Candidates who fail to obtain a certificate in mathematics may be awarded a certificate in arithmetic if they show sufficient proficiency in that subject.

Honours Certificate.

To obtain an honours certificate a candidate must pass with credit in each of the four following subjects, but deficiency in any one paper may, to a certain extent, be compensated by excellence in others.

1. Algebra ($1\frac{1}{2}$ hours) as far as permutations and combinations, the binomial theorem, the elementary theory of quadratic functions treated algebraically and graphically, the theory of complex numbers including graphical treatment.

2. Geometry (2 hours) including Euclid with deductions, and the following sections of modern geometry:—Line segments (signs of segments, relations among segments); transversals; properties of the centroid and orthocentre of a triangle and the circumscribed, inscribed, escribed, and nine-point circles; harmonic ranges and pencils; pole and polar; radical axis; similitude; inversion.

3. Trigonometry ($1\frac{1}{2}$ hours) as far as De Moivre's theorem, with its application to simple series.

4. At least one of the following additional subjects, geometrical conics, analytical geometry, higher dynamics.

Additional Subjects.

1. Elements of dynamics ($1\frac{1}{2}$ hours). Velocity, acceleration, the rectilineal motion of a uniformly accelerated particle, the laws of motion, the composition of forces, equilibrium, the centre of mass (gravity), common machines, work and energy, elementary hydrostatics.

2. Geometrical conics ($1\frac{1}{2}$ hours). The properties of the parabola, the elementary properties of central conics, the sections of the cone.

3. Analytical geometry ($1\frac{1}{2}$ hours). The straight line, transformation of co-ordinates, the circle.

4. Higher dynamics ($1\frac{1}{2}$ hours). The elements of dynamics, as above, treated with the help of trigonometry, Atwood's machine, parabolic motion of a projectile, composition of forces acting on a rigid body, uniform circular motion, impact, kinetic energy, centre of pressure, metacentre.

No candidate may take any of the additional subjects who is not a candidate for a certificate in mathematics, and no certificate of success in any of the additional subjects will be given unless the candidate obtain a certificate in mathematics.

Book-keeping and Commercial Arithmetic.

To obtain a certificate in book-keeping and commercial arithmetic a candidate must pass in each of the following papers:—

1. Book-keeping ($2\frac{1}{2}$ hours). Candidates will be required to answer easy questions on the principles and practice of book-keeping, to frame the books necessary to record a number of transactions of moderate difficulty, to adjust ledger accounts, and to frame balance sheets and profit and loss accounts.

Proper books will be provided.

2. Commercial arithmetic (2 hours). Arithmetic with special reference to discount, interest, exchange, foreign weights and measures,

and such questions as are likely to arise in ordinary commercial transactions. An exercise in addition, involving speed and accuracy, will be given.

December 1894.

NOTE AS TO PAPERS IN ENGLISH.

Various representations have from time to time been made in connexion with the subject of the examination in English, and these representations have been the subject of careful consideration iu the light of the experience of past years. My Lords attach great value to these suggestions made, as they are, by those whose means of judging are large ; and without intending to intimate any serious change in the methods of examination, they thiuk it will be useful to indicate the views which they themselves have adopted on certain points upon which these suggestions bear.

My Lords attach very great importance to this part of the examination, holding that mastery of our own language, and the power of lucid and easy composition, are amongst the most valuable elements in higher education.

It has been urged that the mental training involved in English grammar and analysis is of little value to those who have studied the principles of grammar through an inflected language. But many of the candidates in the leaving certificate examination have not had this opportunity. In their case the grammatical part of the English examination is important, and the subject forms too constant a feature in the curriculum of the schools to be ignored.

For all pupils, on the other hand, the exercise in paraphrasing is of great importance, not only as a mental discipline, but as training the pupil to grasp the real meaning of what he reads, and indirectly assisting him to acquire facility in composition.

The subject of the chronological study of English literature and of the degree to which it should be recognised in the examination, is one of great difficulty. It is unquestionable that, as it is not infrequently pursued, this study lends itself to superficial and demoralising cram-work, and my Lords regret to find evidence in the examination that this very largely prevails. They are unwilling either to ignore the subject altogether or to adopt the only remaining course of prescribing a special period or special authors for study. This last course would be opposed to the principle upon which the examination has hitherto been based, and my Lords fear that it might tend to introduce a monotony of curriculum which would be hurtful to the schools. Whether the arguments in its favour do not counterbalance these disadvantages is a matter on which they prefer to delay coming to a decision until they have some further experieuce. Iu auy case, in prescribing a certain period or certain authors it would be necessary to allow considerable breadth of option to the schools in selecting the work to be taken up.

They think that the following are points upon which the most competent judges would be in agreement, and they wish it to be understood that they will prevail in the conduct of the examination :—

    1st. The chief and most essential requiremeut in the examination will be a fair power of writing lucid and grammatical English, such as may prove the candidate to have had an adequate training in composition.

2nd. He will be expected to show such power of paraphrasing as may prove that he has been trained to read with care and thought, and to exercise his mental faculties in endeavouring to discover the meaning of a difficult passage.

3rd. He must also show a comprehension of grammatical principles, and a general acquaintance with the leading grammatical rules under some system in current use.

4th. In regard to English literature, my Lords think that candidates may be expected to have some acquaintance with the authorship and period of the leading masterpieces of our literature. This need involve no multiplicity of biographical or bibliographical detail, and they think it may be acquired with no undue burden of time or labour. But any answers which show that the study of English literature has been interpreted to mean the committing to memory of lists of authors, and their books,—and the answers of pupils so trained seldom fail by an occasional absurdity to give evidence of such training—will be treated with the utmost rigour, and will not be held to compensate in any way whatever for deficiency in the essential parts of the examination. On the other hand, such answers as show independent reading, careful and methodical instruction, or intelligent criticism, will be accorded full weight in adjudging marks in the case of the higher and honours grades. In the lower grade, my Lords cannot expect any such results, and they propose that this part of the subject shall form a comparatively unimportant element in assigning a certificate in that grade.

5th. With regard to history and geography, my Lords have little to add to the remarks which they have made in previous years. These subjects enter largely into the curriculum of many schools; they are required by many of the bodies by whom the leaving certificate is recognised; and my Lords are unwilling to do anything which would discourage the continuance of such instruction. They endeavour to give a wide option in the questions set, and to afford opportunity to all who have not entirely neglected the subjects to show a knowledge of them in some branch or other. More than this they have not demanded, and do not propose to demand, as a necessary condition of a pass; but more extensive knowledge will receive ample recognition.

December 1894.

MODERN LANGUAGES.

My Lords desire to recall the terms of the accompanying note as to the papers in modern languages issued in 1890.

They are aware of the great inconvenience that would be caused by any sudden or considerable change in the character of the papers, nor do they think that any such change is called for. But they think it right to state that the experience of recent years has shown that there is a strong tendency in some cases to prepare candidates to answer some of the literary questions by a course of instruction which can bring no educational benefit, and the superficiality of which is easily detected in the examination.

My Lords think it right to give full scope for proving special literary knowledge; but they must also warn school authorities that superficial answers based on such instruction as they have indicated will not be counted as of any value, and will not be held to compensate in any degree for failure in the essential point of competent grammatical knowledge.

    Scotch Education Department,
            December 1894.

NOTE AS TO PAPERS IN MODERN LANGUAGES.

With respect to the papers in modern foreign languages, my Lords have received representations as to the extended scope given to these papers at the last examination by the introduction of questions on philology and literature.

These subjects undoubtedly formed a new element in the examination; and, looking to this fact, my Lords did not feel themselves justified in making the successful answering of questions of this kind an indispensable condition of the issue of a certificate. As might perhaps have been expected, the results were not generally satisfactory so far as these subjects were concerned. But it must be distinctly understood that in no case was failure to obtain a certificate to be ascribed to a deficiency in this respect.

An objection, which my Lords do not consider to have any real foundation, has been raised to the wide range of questions in these subjects. It must be evident that this range is greatly in favour of a candidate. To prescribe special authors would introduce an element into the examination which my Lords are anxious to avoid. As an alternative to this, it is evidently most fair to the candidates to give a wide range of philological and literary questions, and to require that *only a few questions*, to the subject-matter of which any candidate may have given special attention, should be answered.

With regard to the general question of the introduction of such subjects, my Lords think that serious injury would be done to the study of modern languages were their philological and literary aspect to be entirely ignored. The position which this study is to occupy in school education is one on which opinions are at present widely divided, and the questions arising in regard to this and to the best practical means of attaining successful results have been the subject of careful consideration on the Continent, and might with great advantage occupy the attention of those amongst ourselves whose practical experience and educational authority is of weight. But if, besides giving conversational facility for practical purposes, it is intended to provide, through the medium of these languages, for certain pupils, the mental training which others obtain from classical studies, this end seems most likely to be attained not by limiting their range to translation and grammar, but by adding to these the intellectual interest to be derived from study of the structure of the language, and from an acquaintance with some phase of the literature.

My Lords propose to continue to set a certain number of questions of this character, but those set in the lower certificate examination will be very elementary. Those set for the higher certificate will be rather more advanced; but in neither of these will the successful answering of philological or literary questions be considered for the present as a

necessary condition of the issue of a certificate. In the case of honours, a wide choice of questions will be given, but a candidate will be expected to show that he has not neglected that aspect of the subject by which it may best become a means of intellectual training.

Leaving Certificate, 1895. Circular 168.

Scotch Education Department,
SIR, 7th December 1894.

I AM directed to inform you that my Lords are prepared next year, as in previous years, to admit to the examination for leaving certificates candidates from the higher departments of State-aided schools, if upon due inquiry these departments should appear to be of such a character as to warrant the benefits of the examination being extended to the scholars in attendance.

School boards and managers who may apply for the admission of scholars to the examination are requested to give information on the following points :—

(a.) The character and organisation of the higher department.
(b.) The qualifications of the teacher in charge of it.
(c.) Whether the higher department has been recognised by the county or burgh committee as a place for higher instruction.
(d.) The approximate number of pupils whom it is proposed to present at the examination and the subjects and stages in which they would be examined. It will not be necessary to give the names of the pupils.

The attention of school boards and managers is also requested to the following points :—

1. The examination will begin on Monday, the 17th June.
2. Only those candidates will be admitted to the examination who have been in regular attendance at the school at which, or in connexion with which, they are examined, from January to the date of the examination.
3. My Lords are unable to hold an examination at or in connexion with a school from which candidates are presented only in arithmetic and English of the lower grade. In such cases they think that the attention of the pupils should be confined in the first instance to the merit certificate (Article 29 of the Code). I am to point out that the standard of the Leaving Certificate Examination is much higher than any stage of a specific subject.

This rule will not preclude pupils of the school from being presented in arithmetic and English of the lower grade in cases where pupils are to be presented in other subjects, and where my Lords have agreed to hold an examination.

4. As other provision is made for testing the qualifications of pupil-teachers, my Lords are not prepared to admit candidates who have received higher education only as pupil-teachers to the examination.
5. No grant is attached to the leaving certificate.
6. In order that the arrangements for the examination, which are on a large scale, may be duly made, my Lords will be unable to consider any application for admission to the examination which is not received before the 1st April next. Application must be made in respect of those schools from which scholars were

admitted this year, as well as for those in connexion with which no examiuation has yet been held.

7. In the case of school boards which propose to present caudidates from two or more schools within the district of the school board, all the candidates must be examined together at one school, and it should be stated which of the schools will be most convenient for this purpose.

8. Where more than one supervising officer is required, it will be necessary to make a charge for the examination, but otherwise my Lords would hope to be able to conduct it without cost to the school authorities.

<div style="text-align:right">I have, &c.
H. CRAIK.</div>

Higher Class Schools.   Circular 172.
Inspection, 1895.

<div style="text-align:right">Scotch Education Department,
9th February 1895.</div>

SIR,

WITH a view to the completion of arrangements for the inspection of higher class schools this year, I am to request you to inform my Lords whether inspection is this year desired for the above-named school. Should inspection be desired one of each of the enclosed forms should be filled up and forwarded to the Department in due course.

All schools from which pupils are presented for leaving certificates must be inspected under the direction of my Lords, but it is not necessary that the inspection should take the form of a detailed written examination every year. In regard to this, their Lordships would be glad to learn the views of the managers.

<div style="text-align:right">I have, &c.
H. CRAIK.</div>

Higher Class Schools.   Circular 173.
Inspection under the Educational Endowments
(Scotland) Act, 1882.

<div style="text-align:right">Scotch Education Department,
9th February 1895.</div>

SIR,

WITH a view to the completion of arrangements for the inspection of higher class schools this year, I am directed by my Lords to inquire at what time it will be most convenient that the inspection of the above-uamed school should take place.

My Lords would be glad if you would, at your early convenience, fill up and forward to the Department one of each of the enclosed forms.

Where pupils are presented for leaving certificates, it is not necessary that the inspection should take the form of a detailed written examination every year. In regard to this, their Lordships would be glad to learn the views of the governing body.

<div style="text-align:right">I have, &c.
H. CRAIK.</div>

Leaving Certificate, 1895.   Circular 175.

I AM directed to remind you that the examination for leaving certificates will begin on Monday, the 17th June, and I am to give the following further particulars with respect to it.

About a month before the examination, my Lords will issue a form, on which they will ask for exact information as to the numbers to be examined in the various grades of each subject.

Candidates must be pupils of the school at which, or in connexion with which, they are examined, and must have been in regular attendance from January to the date of the examination. They may be presented in any grade of any subject. In no case does the result of examination in a paper taken in a previous year affect the examination.

The following subjects will be included in the examination:—English (including questions on Modern History and Geography), Latin, Greek, French, German, Mathematics (including Arithmetic), and Book-keeping with Commercial Arithmetic.

If the authorities of any school should desire to present pupils in Italian, early intimation should be sent to the Department.

Certificates of three grades,—lower, higher, and honours—will be given in each of these subjects except book-keeping and commercial arithmetic, where one grade of certificate only will be given.

For information as to the arrangement of the papers and the character of the questions in mathematics, I am to call your attention to the note as to mathematical papers. I am also to call your attention to the note as to papers in English and the memorandum as to papers in modern languages. Copies of these notes have already been sent to you.

As on previous occasions, the examination will be general and not in prescribed books. In the English papers, where this might operate unfairly, my Lords will endeavour to meet the difficulty by giving a considerable choice of questions in history, literature, and geography. Such an amount of knowledge as will enable a candidate to answer a sufficient number of the questions set in history and geography may be expected from every pupil, and candidates in the lower and higher grades will be required to satisfy the examiners that they possess a competent knowledge of at least one of these subjects. Candidates in the honours grade will be at liberty to answer any of the questions set in the First Paper (Higher Grade Paper) in history and geography, and the marks obtained will be allowed to count towards the number required to obtain a pass.

My Lords have noticed, with regret, that a large number of candidates are presented in a grade higher than their attainments warrant, and thus the number of failures is considerably increased. They are of opinion that candidates should not be presented in a grade higher than that in which they are likely to pass, and they fear that the issue of certificates, in certain cases, in a lower grade than that in which candidates are presented, has to some extent encouraged the practice. They will not at present withdraw this concession; but they desire to give notice that a certificate of a lower grade will, in such cases, be issued only to a very limited extent. Their Lordships will be unable to issue a lower grade certificate in any subject to candidates who take papers in the honours grade and fail to qualify for a certificate in the higher or honours grade. In mathematics a certificate will in no case be

awarded in a lower grade than that in which the candidate is pre-
sented.

In Latin, Greek, French, German, and English two papers will be
required in the honours grade.   In book-keeping and commercial
arithmetic, separate papers will be set, but a certificate will be granted to
those candidates only who pass in both branches.

The examination will take place simultaneously in each school,
beginning on Monday, June 17. The subjects will be taken in the
following order :—

Monday, June 17th -	10 a.m.	Arithmetic.
,, ,, ,, -	12 noon	Geometry.
,, ,, ,, -	3 p.m.	Algebra.
Tuesday, June 18th -	10 a.m.	English.
,, ,, ,, -	2 p.m.	English (2nd honours paper).
Wednesday, June 19th	10 a.m.	French.
,, ,, ,,	2 p.m.	French (2nd honours paper).
Thursday, June 20th	10 a.m.	Latin.
,, ,, ,,	2 p.m.	Latin (2nd honours paper).
Friday, June 21st -	10 a.m.	Greek or Book-keeping.
,, ,, ,, -	2 p.m.	Greek (2nd honours paper) or Commercial Arithmetic.
Monday, June 24th -	10 a.m.	Trigonometry and Loga-rithms.*
,, ,, ,, -	12 noon ·	Analytical Geometry.
,, ,, ,, -	2 p.m.	Dynamics.
,, ,, ,, -	4 p.m.	Geometrical Conics.
Tuesday, June 25th -	10 a.m.	German.
,, ,, ,, -	2 p.m.	German (2nd honours paper).

On each occasion, the papers for the lower grade, the higher grade,
and the honours grade certificate, in each subject, will be set simul-
taneously. The time allowed, except where otherwise stated, for each
paper in languages and English will be two hours and a half in the
lower grade, and three hours in the higher and honours grades. For
the time allowed for the various subjects in mathematics, you are
referred to the note as to mathematical papers.

The examination will be held at the school from which candidates
are presented, unless the authorities are informed to the contrary. A
suitable room or rooms must be provided, also pens, ink, scroll paper
(on which no notes of any sort should appear), and blotting paper.
Slates may not be used, nor pencils, except in the drawing of mathe-
matical figures. No scroll paper may be brought into the room by the
candidates themselves.

The books in which the answers are to be written will be supplied
by the Department, and will be forwarded to the head master a few days
before the examination.

Any candidate introducing any book or note of any kind into the
examination room, or detected in copying, will be instantly dismissed
and the case reported to the Department.

My Lords regret that in previous years there have been several cases
in which serious copying has been detected, and they desire to impress

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* The use of a book of mathematical tables is allowed, provided it contain no
manuscript notes or printed matter other than such as refers to the use of the tables.
Each candidate should be provided with a separate book.

upon school authorities the importance of doing all that is possible to prevent such dishonesty. Their Lordships feel bound to deal with the practice severely, and candidates should be warned, before the examination, that a certificate will not be issued, in any subject, to a candidate in whose papers, or in any one of them, indisputable evidence of copying is detected.

My Lords will appoint an officer to represent the Department at the examination. He will distribute the papers and supervise the examination. If, *in any subject,* all the candidates cannot be accommodated in one room, information must be sent to the Department *at least one month* before the examination, so that the necessary number of supervising officers may be appointed. Such supervision cannot be entrusted to anyone who does not represent the Department.

The selection of candidates from any school rests entirely with the authorities of that school, and, in regard to this, they must act on their own responsibility. At the same time, in order that this examination may form a satisfactory supplement to the inspection of the higher class schools, it is understood that, as a general rule, the pupils of the highest class, or of the highest class and that next to it, in such schools, should be presented. It is undesirable, if the examination is to serve as a test of the real merits of a school and the scope of its curriculum, that the candidates should be confined only to a few selected pupils. But, having indicated this view, my Lords do not desire to lay down any strict rule which might interfere with the discretion of the managers.

In the case of candidates who desire to qualify by this examination for exemption from examinations of the University of Oxford, or the University of Cambridge, it is essential that notice should previously be given to this Department, and a list of the names of such candidates must be furnished on a form for this purpose, which may be obtained on application to the Department. If, subsequently, candidates should determine not to proceed to either University, notice must be given *before* the 25th July. In the absence of such notice, the papers will be sent to the Schools' Examination Board, and the ordinary fee will fall to be paid to that Board.

In regard to their Lordships' Circular (No. 168) of the 7th December last, sent to State-aided schools, I am to explain that, while my Lords are unable to hold an examination at, or in connexion with, a school from which candidates are presented only in arithmetic and English of the lower grade, this rule will not preclude pupils of the school from being presented in these subjects only, in cases where my Lords have agreed to hold an examination.

<div style="text-align:right">I have, &c.
H. CRAIK.</div>

MEMORANDUM.

A large number of university and professional authorities have announced their readiness to accept the leaving certificate in lieu of such preliminary examinations as are held under their directions.

Amongst these we may name :—

The Lords of Council and Session (for the purposes of the Law Agents Act) ;

The War Office and the Civil Service Commissioners, for the Army Preliminary Examination ;

The University of Oxford ;

The University of Cambridge ;

The Joint Board of the Scottish Universities for the Preliminary
   Examination ;
The General Medical Council ;
The Royal College of Surgeons of Edinburgh ;
The Pharmaceutical Society of Great Britain ;
The Society of Solicitors before the Supreme Courts ;
The Institute of Accountants and Actuaries in Glasgow ;
The Society of Accountants in Edinburgh ; and
Girton College, Cambridge.

My Lords are informed that the leaving certificate of the Scotch
Education Department is accepted by the University of Oxford under
the following conditions :—
   (1.) No certificate shall be accepted unless the candidate has passed in
at least four subjects at one examination, three of which subjects shall be
Greek, Latin, and Elementary Mathematics.
   Subject to the conditions herein-after contained, a candidate shall be
deemed to have passed, who—
   (a) In elementary mathematics, has passed the lower grade standard
        of the Scotch Department, so as to satisfy the requirements of
        the Joint Board.
   (b) In Latin and Greek, has passed the higher grade standard,
        provided that he satisfies the requirements of the Joint Board
        separately in Prose, Translation, and Grammar in Latin, and
        also in Translation and Grammar in Greek.
   (c) In French and German, has passed the higher grade standard.
   (d) In English, has passed the higher grade standard.
   (2.) A candidate who passes, so as to satisfy the requirements of the
Joint Board, in higher mathematics (including analytical geometry,
geometrical conics, and dynamics, elementary or advanced), may count
this as equivalent to passing in elementary mathematics, and the required
fourth subject.
   A certificate in honour mathematics will be accepted as equivalent to
a certificate in higher grade mathematics.
   In case of a boy entering and failing to obtain an honour certificate
in mathematics, a certificate of higher grade mathematics of a previous
year will be accepted as equivalent to elementary mathematics.
   (3.) Any candidate who, having satisfied the above conditions, obtains
an honours certificate in Greek or Latin, or a higher grade certificate in
French or German, shall be considered to have passed an examination
equivalent to Responsions together with an Additional Subject, "pro-
" vided that the Awarding Examiners of the Board are satisfied that
" the work in Greek or in Latin would have entitled the candidate to
" distinction in the Examination of the Board, and that the work in
" French or in German would have entitled him to pass in that subject."
   (4.) The written work of any candidate who applies to have his
certificates accepted by the University shall be submitted to the Award-
ing Examiners of the Board, and no certificate shall be accepted unless
the Awarding Examiners certify that such work satisfies them in Greek
and in Latin and in elementary mathematics or its equivalent. [In the
required Fourth Subject, the decision of the Scotch Education Depart-
ment will be considered as final, so far as exemption from Responsions
(Stated Subjects) is concerned.]
   (5.) The certificates, if accepted, shall be endorsed by the Secretary
to the Delegacy.
   (6.) A fee of 5s. shall be paid by each candidate on applying to have
his certificates accepted.

Also, that the following recommendations have been approved by the Senate of the University of Cambridge :—

1. That the Highest Grade Schools Examination Syndicate be authorised to examine the papers of candidates to whom certificates have been awarded by the Scotch Education Department, and to report to the Vice-Chancellor upon their sufficiency.

2. That in the case of candidates whose certificates, granted by the Scotch Education Department, are endorsed by the Vice-Chancellor on the recommendation of the Highest Grade Schools Examination Syndicate, the higher grade classical papers of the Scotch Education Department be accepted as equivalent to the papers other than the paper on the Greek Gospel or its substitute, in Part I. of the Previous Examination.

3. That in the case of candidates whose certificates, granted by the Scotch Education Department, are endorsed by the Vice-Chancellor on the recommendation of the Highest Grade Schools Examination Syndicate, the higher grade mathematical papers of the Scotch Education Department be accepted as equivalent to the papers, other than the paper on Paley's Evidences or its substitute and the English essay, and that the higher grade English paper be accepted as equivalent to the English essay, in Part II. of the Previous Examination.

4. That candidates who hold a higher grade certificate in Latin and Greek, endorsed as above, be required to pass in the paper on the Greek Gospel or its substitute, in order to be excused from Part I. of the Previous Examination, and shall pay a fee of five shillings on admission to examination in such paper.

5. That candidates who hold a higher grade certificate in mathematics, obtained before the year 1896, and endorsed as above, be required to pass in the paper on Paley's Evidences or its substitute, in order to be excused from Part II. of the Previous Examination, and shall pay a fee of five shillings on admission to examination in such paper.

That candidates who hold a higher grade certificate in mathematics and English, gained after the year 1895, endorsed as above, be required to pass in the paper on Paley's Evidences or its substitute, in order to be excused from Part II. of the Previous Examination, and pay a fee of five shillings for examination in such paper.

That candidates who hold a higher grade certificate in mathematics (but not in English), gained after the year 1895, endorsed as above, be required to pass in the paper on Paley's Evidences or its substitute and in the English essay, in order to be excused from Part II. of the Previous Examination, and pay a fee of ten shillings for examination in such papers.

6. That in the case of candidates whose certificates, granted by the Scotch Education Department, are endorsed by the Vice-Chancellor on the recommendation of the highest grade schools examination syndicate, the higher grade papers of the Scotch Education Department in French, or in German, or in trigonometry and dynamics, be accepted as equivalent to the papers in the additional subjects in the Previous Examination.

7. That the certificates of any undergraduates who claim exemption from either part of the Previous Examination, or from the examination in the additional subjects, by virtue of the above regulations, be presented to the registrary in their first term of residence, and that a fee of 1l. for the registration of each certificate of exemption from examination in Part I. or in Part II., or in the additional subjects of the Previous Examination, be paid at the same time to the registrary.

No certificate not presented in a student's first term of residence shall
be valid without the express permission of the council.

8. (*a.*)—That the papers of candidates desiring to proceed to this
university, to whom certificates have been awarded by the Scotch
Education Department, be submitted to the Highest Grade Schools
Examination Syndicate.

(*b.*)—That a special fee of 5s. be charged for each candidate whose
papers are thus submitted.   This fee must be paid by the 5th August,
and the leaving certificates must be received by the Schools Exami-
nation Board for endorsement before the 25th August.

The leaving certificates of the Scotch Education Department are
accepted by the Joint Board of Examiners of the four Scottish
Universities of St. Andrews, Glasgow, Aberdeen, and Edinburgh, in
lieu of the preliminary examinations in arts and science and medicine
under the following conditions, viz. :—

I.—In lieu of the Arts and Science Preliminary Examination.

The higher and honours grade leaving certificates in Latin, Greek,
and Mathematics are accepted as exempting *pro tanto* from the Arts
and Science Preliminary Examination on the higher standard, and the
lower grade leaving certificates in those subjects as exempting *pro
tanto* from the same examination on the lower standard.   The higher
and honours grade leaving certificates in English and modern languages
are alone accepted as exempting from the Arts and Science Preliminary
Examination in those subjects.   The higher and honours grade certi-
ficates in mathematics are alone accepted as exempting from the
Science Preliminary Examination in that subject.

II.—In lieu of the Medical Preliminary Examination.

Higher and honours grade leaving certificates in all the subjects of
the Medical Preliminary Examination are accepted as exempting *pro
tanto* from that examination, but lower grade leaving certificates are
not accepted unless all the requisite subjects have been taken and
passed at the same time.

LEAVING CERTIFICATE, 1895.

EXAMINATION PAPERS.

ENGLISH.

LOWER GRADE.

Tuesday, 18th June, 10 A.M. *to* 12.30 P.M.

NINE *questions should be answered, and no more.* FIVE *of these must be in Section* I., TWO *in Section* II., ONE *in Section* III. *The remaining question may be taken from any Section. Questions* 1 *and* 2 *must be attempted.*

SECTION I.

1. Write out, and punctuate, the passage read for dictation.

2. Paraphrase the following lines, so as to bring out their full meaning :—

> Truths that the *learned* pursue with eager thought
> Are not important always as dear-bought,
> Proving at last, though told in pompous strains,
> A childish waste of philosophic pains ;
> But truths on which depends our main concern,
> *That* 'tis our shame and misery not to learn,
> Shine by the side of every path we tread,
> With such a lustre he that runs may read.
> 'Tis true that, if to trifle life away
> Down to the sunset of their latest day,
> Then *perish* on futurity's wide shore
> Like fleeting exhalations, found no more,
> Were all that Heaven required of human kind,
> And all the plan their destiny designed,
> *What* none could reverence all might justly blame,
> And man would breathe but for his Maker's shame ;
> But *Reason* heard, and Nature well perused,
> At once the dreaming mind is disabused.

3. (*a*) Give a *general* analysis of lines 5–8 in the above passage, so as to show exactly how the clauses are related to one another.

   (*b*) Parse the words italicised in the above passage.

4. Give (*a*) the plurals of *axis, ox, sheep, thief, belief ;* (*b*) the feminines of *earl, hero, executor, abbot ;* (*c*) the past participles of *eat, take, sit, burst, bid ;* (*d*) the exact difference in meaning between *I wrote* and *I have written, I was writing* and *I have been writing ;* (*e*) the various classes of pronouns, with the principal examples of each class.

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5. What part of speech is each of the following italicised words ?—
(*a*) I know I am in the *right ;* (*b*) We were wet *through ;* (*c*)
He asked *where* he was going.

Explain the phrases *methinks, if you please.*

Illustrate each of the following by a sentence :—The use of
enough (*a*) as an adjective, (*b*) as a noun, (*c*) as an adverb ; and
the use of *but* (*a*) as a preposition, (*b*) as a conjunction.

6. Convey the exact sense of the following passage in simpler language,
avoiding, as far as possible, the use of any words of classical
origin :—

Whoever was acquainted with him would probably be solicited
for small pecuniary contributions, which the frequency of the
request made in time considerable ; and he was for this reason
rapidly avoided by those who were become sufficiently familiar to
be acquainted with his necessities ; but his vagrant manner of
life and constant appearance at establishments of public resort,
invariably procured him a recurring succession of patrons, whose
generosity had not been exhausted by repeated requests ; so that
he was infrequently absolutely without resources, but possessed
in his direst exigencies this comfort, that he invariably imagined
himself sure of immediate relief.

7. Improve the following sentences, and give reasons for the alterations
you make :—
(*a*) Miss Robertson officiated at the piano with her customary
skill, but the want of string instruments for the
incidental music was much missed.
(*b*) I give all rumours on the subject, because it may not be
judicious to pass them by unnoticed, though I do so
with reserve.
(*c*) He seldom took up the Bible, which he frequently did,
without shedding tears.
(*d*) The public authorities ought to find work for those who
want work, or relief for those who cannot.

8. Write down a dozen or sixteen lines of any poem you know.

9. Give the authors, and approximate dates, of the following poems,
and write an account of any *one* of them :—*The Cottar's Saturday
Night, John Gilpin, Il Penseroso, Dora, The Traveller,
Duncan Gray, Hiawatha, The Lady of the Lake, We are Seven,
The Pied Piper of Hamelin.*

10. State about what time each of the following works was written, and
by whom.   Also describe *two* characters out of any *one* of these
works :—*The Canterbury Tales, The Faerie Queene, Julius
Cæsar, As You Like It, The Pilgrim's Progress.*

SECTION II.

*(In the answers under this Section attention must be paid to accuracy
and clearness of composition.   Mere lists of events and dates will
not be regarded as sufficient.)*

11. Write a connected account of the leading events in the reign of any
one of the following sovereigns :—William I. ; Edward III. ;
Henry V. ; Mary, Queen of Scots ; James II. ; Anne ;
William IV.

12. Describe, so as to show their importance, any *two* events in the following list:—The landing of Augustine in England—The cession of Lothian to the Scots—The Danish invasions—The Battle of Bouvines—The coming of the Friars—The Black Death and the Statute of Labourers—The Siege of Orleans—The Battle of Flodden—The Fall of Wolsey—Babington's Plot—The Hampton Court Conference—Tonnage and Poundage—The Solemn League and Covenant—The Conventicle and Five Mile Acts—The Battle of the Boyne—The South Sea Bubble—The East India Company—The Gordon Riots—The Abolition of Slavery—The Ballot Act.

13. What do you know of any *two* of the following?—The influence of the Norman Conquest—The origin of the Scottish War of Independence—The progress of the English Reformation from Henry VIII. to Elizabeth—The career of Oliver Cromwell—The effects upon the English Constitution of the Revolution of 1688—The two Jacobite risings in the Eighteenth Century—The origin of the American War of Independence—The Acts by which the Franchise has been extended during the Nineteenth Century.

SECTION III.

14. What are the chief mountain-systems of Great Britain? Where are the chief plains? Give the names of the rivers that drain them.

15. Contrast the east and the west coasts of Scotland.

16. Describe the course of the Rhine (*or* of the Danube); mention the *six* largest towns on its banks; and state in what the industry of each consists.

17. What are the chief cities on the Mediterranean? State what you know about *five* of them.

18. Write a brief account of the commerce of Cape Colony.

ENGLISH.

LOWER GRADE.

Tuesday, 18th June. 10.45 A.M.

Passage for Dictation.

He was proceeding in this strain, earnestly to dissuade me from the imprudence of casual charity, when a mendicant, who still had about him the remnants of tattered finery, implored our compassion. I could easily perceive that my friend's heart burnt to relieve him, but he seemed ashamed to reveal his weakness to me. While he thus hesitated between compassion and pride, I pretended to look another way, and he seized this opportunity of giving the poor petitioner a piece of silver, bidding him at the same time, in order that I should hear, go work for his bread, and not tease passengers with such impertinent falsehoods for the future.

C 2

ENGLISH.

HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

Tuesday, 18th June.   10 A.M. to 1 P.M.

Every Candidate should answer TEN *questions, and no more ; and every Candidate must take questions* 1 *and* 2, *and, in addition,* THREE *other questions in Section* I.

Higher Grade Candidates must take, also, TWO *questions in Section* II., *and* TWO *in Section* III.   *The remaining question may be taken from any Section.*

Honours Grade Candidates are not required to answer questions from Sections II. *and* III., *but may do so.   The full number of marks can be obtained in Section* I.

SECTION I.

1. Write an essay, about two pages long, on *one* of the following subjects :—
   - (*a*) Your experiences during the late severe frost.
   - (*b*) What trade or profession would you like to enter, and why ?

2. Convey the full meaning of the following sonnet in ordinary English prose :—

   ### *Milton on His Blindness.*

   When I consider how my light is spent
   Ere *half* my *days* in this dark world and wide,
   And that one talent which is death *to hide*
   Lodged with me useless, though my soul more bent
   To serve therewith my Maker, and present
   My true account, lest He, returning, chide ;
   " Doth God exact day labour, *light* denied ? "
   I fondly ask : but patience, soon replies : " God doth not need
   Either man's work or His own gifts.   *Who* best
   Bear His mild yoke, they serve Him best.   His state
   Is Kingly : thousands at His bidding speed,
   And post o'er land and ocean without rest ;
   They also serve who only stand and wait."

3. Parse the words italicised in the above sonnet.   Give a *general* analysis of the lines as far as *I fondly ask,* so as to show exactly how the clauses are related to one another.

4. Give the derivations (*a*) of *ten* words in the above sonnet, and (*b*) of *why, seldom, but.*

5. Convey the exact sense of the following passage in simpler language, avoiding, as far as possible, the use of any words of classical origin :—
   Whoever was acquainted with him would probably be solicited for small pecuniary contributions, which the frequency of the request made in time considerable ; and he was for this reason rapidly avoided by those who were become sufficiently familiar

to be acquainted with his necessities ; but his vagrant manner of life and constant appearance at establishments of public resort, invariably procured him a recurring succession of patrons, whose generosity had not been exhausted by repeated requests ; so that he was infrequently absolutely without resources, but possessed in his direst exigencies this comfort, that he invariably imagined himself sure of immediate relief.

(*Underline any non-Teutonic words in your version.*)

6. Improve the following sentences, and give reasons for the alterations you make :—
    (*a*) Miss Robertson officiated at the piano with her customary skill, but the want of string instruments for the incidental music was much missed.
    (*b*) I give all rumours on the subject, because it may not be judicious to pass them by unnoticed, though I do so with reserve.
    (*c*) He seldom took up the Bible, which he frequently did, without shedding tears.
    (*d*) The public authorities ought to find work for those who want work, or relief for those who cannot.

7. Classify the letters in the English alphabet according to the sounds they represent, and illustrate its main phonetic defects.

8. State at what periods, and in what ways, the English language has been influenced (*a*) by Latin, (*b*) by French.

9. Explain accurately, and illustrate by an example, the meaning of the following terms:—blank verse, euphemism, elegy, ballad, heroic couplet, cavalier poets, mixed metaphor, tautology, idyll.

10. In what works do the following characters appear:—Orlando, Shylock, Will Wimble, Ophelia, Colonel Newcome, Dr. Primrose, Cordelia, Bill Sikes. Describe, briefly, any *two* of these characters.

11. Name any *three* important works written or published—(*a*) between 1350 and 1400, (*b*) between 1550 and 1600, (*c*) between 1660 and 1688, (*d*) between 1750 and 1800. Describe fully any *one* of the twelve works you name.

SECTION II.

(*In the answers under this Section attention must be paid to accuracy and clearness of composition. Mere lists of events and dates will not be regarded as sufficient.*)

12. Describe the character of any *one* of the following sovereigns, and give a connected account of his or her reign:—William I.; Edward III.; Henry V.; Mary, Queen of Scots; James II.; Anne ; William IV.

12. Describe, so as to show their importance, any *four* events in the following list :—The landing of Augustine in England—The cession of Lothian to the Scots—The Danish invasions—The Battle of Bouvines—The coming of the Friars—The Black Death and the Statute of Labourers—The Siege of Orleans—The Battle of Flodden—The fall of Wolsey—Babington's Plot

—The Hampton Court Conference—Tonnage and Poundage—
The Solemn League and Covenant—The Conventicle and Five
Mile Acts—The Battle of the Boyne—The South Sea Bubble—
The East India Company—The Gordon Riots—The Abolition
of Slavery—The Ballot Act.

14. Give a detailed account of any *two* of the following :—The influence
of the Norman Conquest—The origin of the Scottish War of
Independence—The progress of the English Reformation from
Henry VIII. to Elizabeth—The career of Oliver Cromwell
—The effects upon the English Constitution of the Revolution
of 1688—The two Jacobite risings in the Eighteenth Century—
The origin of the American War of Independence—The Acts by
which the Franchise has been extended during the Nineteenth
Century.

15. Define, and state generally what you know about, the following :—
Free Trade and Protection, the Budget, the Privy Council, the
Court of Chancery, Direct Taxation, Imperial Federation.

SECTION III.

16. Explain, fully, the lines usually found on globes.

17. What countries border on the Baltic ?   What are the chief Baltic
ports, and in what does their trade consist ?

18. What countries in Europe are (*a*) best supplied with railways and
telegraphs, and (*b*) what are most poorly supplied ?   Give the
reasons in each case.

19. Write a short account of the build of South America, under the
heads of (*a*) plateaux, (*b*) mountain ranges, (*c*) plains.   State
what you know about the Amazon, and the Cassiquiare.

20. Write a short account of the geography of India ; and give the
names of the chief peoples, languages, and religions.

21. State what you know about the six chief trading cities of China.

ENGLISH.

HONOURS.—SECOND PAPER.

Tuesday, 18th June.   2 to 5 P.M.

About SIX *questions should be answered.   At least* FOUR *of these
must be taken from Section I.*

SECTION I.

1. Describe in detail Chaucer's portrait of *one* of the following Can-
terbury pilgrims :—Madame Eglantine, the Pardoner, the Clerk
of Oxford.   What tale does each tell ?—Write a full account of
one of these tales.

2. Explain the "double allegory" in *The Faerie Queene.* Give a full account of *one* canto of any of the Books. Write a short note on each of the following characters :—Sir Guyon, Archimago, Belphebe, Mercilla, Sir Caledore.

3. In what plays do the following characters appear? Horatio, Launcelot Gobbo, Macduff, Mark Antony, Gratiano, Menenius Agrippa, Bottom, Beatrice, Cordelia, Ophelia. Make a careful analysis of the characters of any *four* of these.

4. Describe briefly *three* of the best known English elegies, and *three* of the best known English satires, stating to whom or to what each work refers, and when it was written.

5. Give a short account of the leading writers during the English Reformation, and during the Scottish Reformation respectively.

6. Classify, and describe briefly, the literature that appeared in England during Milton's life; and illustrate your answer by reference to an example of each class.

7. Who were the principal eighteenth century essayists? Write a short life of *one*, and compare any *two* of them.

8. Compare the songs of Burns with those of any other poet. Quote, if you can, a verse or two from any of Burns' songs.

9. What is an Idyll? Mention, with their authors, some of the best known English Idylls, and describe any *two* of them.

Section II.

Optional Questions.

10. Translate the following into Modern English :—

Ða undergeat se papa, þe on þam timan þæt apostolice setl gesæt, hú se eadiga Gregorius on halgum mægnum ðeonde wæs, and he ða hine of ðære munuclican drohtnunge genám, and him to gefylstan *gesette*, on diaconháde geendebyrdne. Ða gelámp hit, æt sumum sæle, swa swa gýt for oft deð, þæt Englisce cýpmenn brohton heora ware to Romana-byrig, and Gregorius eode be ðære stræt to ðam Engliscum mannum, heora ðing sceawigende. Ða geseah he betwux ðam warum cýpecnihtas *gesette*, þa wæron hwites *lichaman* and fægeres andwlitan menn, and æðellice gefexode. Gregorious ða beheold þæra enapena wlite, and *befrán* of hwilcere þeode dí gebrohte wæron. Ða sæde him man þæt hí of Englalande wæron, and þæt ðære ðeode mennisc swa wlitig wære. Eft ða Gregorius befrán, hwæðer þæs landes folc Cristen wære ðe hæðen? Him man sæde, þæt hí hæðene wæron. Gregorious ða of innewcardre heortan langsume siccetunge teah, and cwæð, Wálawá, þæt swa fægeres híwes menn sindon ðam sweartan deofle underðeodde. Eft hé axode, hú ðære ðeode nama wære, þe hí of-comon? Him wæs geandwyrd, þæt hí Angle genemnode wæron. Ða cwæð he, Rihtlice hí sind Angle *gehátene*, forðan ðe hí engla wlite habbað, and swilcum gedafenað þæt hí on heofonum engla geferan beon.

11. Parse the words italicised in the above passage.

Decline in Anglo-Saxon :—this old woman, *and* a long night.

Give the infinitive, the third pers. sing. past iudicative, and the past participle of the Anglo-Saxon verbs for the following :— to teach, to kill, to come, to choose, to take.

12. Trace the history of *ten* of the following words in their derivation, and in their change of application or meaning :—consider, affection, franchise, examine, prevent, gossip, abandon, brave, animosity, cattle, conceit, nice, pester, officious, painful, insolent, generous, book, volume, wit.

13. What do you know of the writings of Cynewulf, aud of Layamon ? Give a short account of The Song of Brunanburh.

14. How do dialects arise in a language ?

Show how certain circumstances hasten, and how others modify and retard, the growth of dialects. Illustrate your answer by reference to the past development and the present usage of our English speech.

LATIN.

LOWER GRADE.

Thursday, 20th June.   10 A.M. to 12.30 P.M.

Candidates should in all cases attempt Question 4.

1. Translate into English :—

Fabius tells his men where to go for wood.

(*a*) Paucis citra millibus liguatores ei cum praesidio occurrunt, qui ut lictores praegredi viderunt Fabiumque esse consulem accepere, laeti atque alacres diis populoque Romano grates agunt, quod cum sibi imperatorem misissent : circumfusi deinde cum consulem salutarent, quaerit Fabius quo pergerent, respondentibusque lignatum se ire, " Ain' tandem," inquit, "num castra vallata non habetis ? "   Ad hoc quum subclamatum esset, duplici quidem vallo et fossa, tamen in ingenti metu esse : " Habetis igitur " inquit " adfatim lignorum, redite et vellite vallum."

How Tullia drove over her father's body.

(*b*)   Hinc cruor et caedes : infirmaque vincitur aetas.
          Sceptra gener socero rapta Superbus habet.
      Ipse sub Exquiliis, ubi erat sua regia, caesus
          Concidit in dura sanguinolentus humo.
      Filia, carpento (*chariot*) patrios initura penates,
          Ibat per medias alta feroxque vias.
      Corpus ut adspexit, lacrimis auriga profusis
          Restitit.   Hunc tali corripit illa sono :
      Vadis ? an exspectas pretium pietatis amarum ?
          Duc, inquam, invitas ipsa per ora rotas.

2. (*a*) Give the (1) meaning, (2) gender, (3) ablative singular, and (4) genitive plural, of the following nouns :—*vultus, pecus, mus, genus, cardo, vellus, currus, abies, finis, cadaver.*

(*b*) Parse the following words, and give the 1st person present indicative active, and other principal parts, of the verbs from which they come :—*fixisti, caperes, fias, soluturus, foderem, scindantur, solitus sum, pacti sunt, quereris, cecidero, moriere, morerere.*

(*c*) Distinguish between *uter, uterque, utrimque*—*quocumque, quacumque, quicumque*—*viginti, viciens*—*nonus, novies, nonagensimus, nongentensimus, nonagiens*—*alter, alius, alias, alibi* — *idem, idem*—*mălus, mālus* — *ædes* (singular), *aedes* (plural)—*gratia, gratiae.*

(*d*) Put the proper quantities over each of the syllables in the following words :—*cavere, veni, venio, cogo, currus, placeo, placo, tenebrae.*

3. Translate into Latin :—
   (*a*) I will please you if I can.
   (*b*) He asked me where I was going.
   (*c*) He promised his son to take him with him into the country.
   (*d*) After hearing him speak I felt sure that he would be despised by the people.
   (*e*) He stayed six months with me at Athens.

4. Translate into Latin prose :—
   This morning early, about three o'clock, some of our maids, who had been working late over-night, rushed in to tell us that the city was on fire. So I arose, and went to the window : but thinking the fire to be far off, went to bed again, and slept for three or four hours. About seven o'clock I got up and looked out. By-and-by Jane came to say she had heard that over 300 houses had been burnt. So I went down to the water-side, and got a boat. Everybody was removing their goods, or flinging them into the river. Poor people stayed in their houses till the fire touched them : even the poor pigeons were loath to leave their houses, and hovered about till, with wings burnt, they fell down dead.

5. Give the names of six important battles in Roman history, stating, in each case, the date, the locality, the opposing forces, the generals on both sides, and the general result.

LATIN.

Thursday, 20th June.   10 A.M. to 1 P.M.

Candidates will not receive a certificate unless they reach the necessary standard both in Latin Prose Composition and in Translation.

1. Translate into English :—

    (*a*) Tum sic exspirans Accam, ex aequalibus unam,
           Alloquitur, fida ante alias quae sola Camillae,
           Quicum partiri curas ; atque haec ita fatur :
           " Hactenus, Acca soror, potui : nunc vulnus acerbum
           Conficit, et tenebris nigrescunt omnia circum.
           Effuge et haec Turno mandata novissima perfer :
           Succedat pugnae Troianosque arceat urbe.
           Iamque vale." Simul his dictis linquebat habenas,
           Ad terram non sponte fluens. Tum frigida toto
           Paulatim exsolvit se corpore, lentaque colla
           Et captum leto posuit caput, arma relinquens,
           Vitaque cum gemitu fugit indignata sub umbras.

    (*b*) Pro dii immortales ! quem ego hominem accuso ? quem legibus ac iudiciali iure persequor ? de quo vos sententiam per tabellam feretis ? Dicunt legati Melitenses publice, spoliatum templum esse Iunonis ; nihil istum in religiosissimo fano reliquisse, quem in locum classes hostium sacpe accesserint, ubi piratae fere quotannis hiemare soleant ; quod neque praedo violaverit ante, neque umquam hostis attigerit, id ab uno isto sic spoliatum esse ut nihil omniuo sit relictum. Hic nunc aut iste reus, aut ego accusator, aut hoc iudicium appellabitur ? criminibus enim coarguitur aut suspicionibus in iudicium vocatur ? Dii ablati, fana vexata, nudatae urbes reperiuntur : earum autem rerum nullam sibi iste neque infitiandi rationem neque defendendi facultatem reliquit.

2. Translate into Latin :—

    He was a man of such wisdom and goodness that he was universally beloved. He usually invited his poor neighbours to dine with him, and made them sit at the same table with himself ; and if any of them were sick, he would send meat warm to them from his own table. But for common beggars (*mendicus*), if any came to him when he was in the country, he would ask such as were capable of working, why they went about so idly ? If they answered it was because they could find no work, he often sent them to some field to gather stones ; and after they had worked some hours, he paid them liberally for their pains. This being done, he caused them to be carried to places where the highways needed mending.

3. Translate into Latin :—

    (*a*) We ought to have prevented the Gauls from leaving their camp.
    (*b*) He told us to use our swords without flinching, but not to advance till the signal was given.

(c) We bitterly repented of disobeying this order; it is certain that, had we obeyed it, we should not have been defeated.

(d) Construct sentences exhibiting the following words used with their proper constructions : — *oportet, suadeo, dignus, gratulor, careo, coram.*

4. What were the Agrarian Laws; what were the evils which led to them; and how was it proposed at various periods to remedy those evils?

LATIN.

Honours. Second Paper.

Thursday, 20th June. 2 p.m. to 5 p.m.

1. Translate into Latin prose :—

During the progress of this uneventful campaign, Marlborough had no opportunity of showing what he could do as a leader in battle; but his administrative ability and his mastery of detail made a deep impression on all who came in contact with him. The Prince of Vaudemont thus sketched his character: "Kirk has fire, Lawes thought, Mackay skill, and Colchester bravery; but there is something inexpressible in the Earl of Marlborough. All their virtues seem united in his person." "I have lost," he added emphatically, "my wonted skill in physiognomy, if any subject of Your Majesty can ever attain such a height of military glory as that to which this combination of sublime perfection must raise him."

2. Translate into English :—

(a) Quo minus in nostris ponaris, amice, libellis,
  Nominis efficitur conditione tui.
Ast ego non alium prius hoc dignarer honore;
  Est aliquis nostrum si modo carmen honor.
Lex pedis officio fortunaque nominis obstat;
  Quaque meos adeas, est via nulla, modos.
Nam pudet in geminos ita nomen scindere versus,
  Desinat ut prior hoc, incipiatque minor :
Et pudeat, si te, qua syllaba parte moratur,
  Arctius appellem, Tuticanumque vocem.
Nec potes in versum Tuticani more venire,
  Fiat ut e longa syllaba prima brevis.

(b) Discedo Alcaeus puncto illius : ille meo quis?
Quis, nisi Callimachus? Si plus adposcere visus,
Fit Mimnermus, et optivo cognomine crescit.
Multa fero ut placem genus irritabile vatum,
Quum scribo et supplex populi suffragia capto :
Idem, finitis studiis et mente recepta,
Obturem patulas impune legentibus aures.

Ridentur, mala qui componunt carmina; verum
Gaudent scribentes, et se venerantur, et ultro,
Si taceas, laudant, quidquid scripsere, beati.
At qui legitimum cupiet fecisse poema,
Cum tabulis animum censoris sumet honesti.

(c) Moverunt senatum et legationes socium nominis Latini,
quae et censores et priores consules fatigaverunt, tandem in
senatum introductae. Summa querelarum erat, *Cives suos
Romae censos plerosque Romam commigrasse. Quod si per-
mittatur, perpaucis lustris futurum, ut deserta oppida, deserti
agri, nullum militem dare possent.* Genera autem fraudis duo
mutandae viritim civitatis inducta erant. Lex sociis ac nominis
Latini, qui stirpem ex sese domi relinquerent, dabat, ut cives
Romani fierent. Ea lege male utendo, alii sociis, alii populo
Romano iniuriam faciebant. Nam et, ne stirpem domi relin-
querent, liberos suos quibusquibus Romanis in eam conditionem,
ut manumitterentur, mancipio dabant, libertinique cives essent:
et quibus stirpes deesset, quam relinquerent, ut cives Romani
fiebant. Postea, his quoque imaginibus iuris spretis, promiscue
sine lege, sine stirpe, in civitatem Romanam per migrationem et
censum transibant. *Haec ne postea fierent*, petebant legati, *et
ut redire in civitates iuberent socios: deinde ut lege caverent,
ne quis quem civitatis mutandae causa suum faceret, neve
alienaret: et, si quis ita civis Romanus factus esset, civis
ne esset.* Haec impetrata ab senatu.

3. Translate the following, explaining and illustrating, by examples,
all peculiarities of meaning, expression, or construction :—

    (*a*)   At tu dictis, Albane, maneres.

    (*b*)   Vir Troiane, quibus caelo te laudibus aequem?
             Iustitiaene prius mirer, belline laborum?

    (*c*)   Nec veni, nisi fata locum sedemque dedissent.

    (*d*) Litteras quas me sibi misisse diceret recitavit homo.

    (*e*)   Phaselus ille, quem videtis, hospites,
             Ait fuisse navium celerrimus.

    (*f*) Nemo id auctoritatis aderat.

    (*g*)   Cur valle permutem Sabina
                Divitias operosiores?

    (*h*) Non modo ad expeditiones sed vix ad quietas stationes
        sufficiebant.

    (*i*)   Uxorem quare locupletem ducere nolo
             Quaeritis? uxori nubere nolo meae.

    (*k*)   Nec duplici squama lorica fidelis et auro.

4. Give the laws for constructing the following verses, and exhibit a
specimen of each, divided into the proper feet :—

        (*a*) Dactylic Hexameter ;
        (*b*)   „   Pentameter ;
        (*c*) The Alcaic Stanza.

5. Answer *one* (not both) of the following questions:—

    (*a*) Write a short Latin essay contrasting the character of the Greeks and Romans.

    (*b*) Translate into Latin Elegiac verse:—

> Strange the world about me lies,
>   Never yet familiar grown—
> Still disturbs me with surprise,
>   Haunts me like a face unknown.
>
> In this house with starry dome,
>   Floored with gemlike plains and seas,
> Shall I never feel at home,
>   Never wholly be at ease?
>
> So, between the starry dome,
>   And the floor of plains and seas,
> I have never felt at home,
>   Never wholly been at ease.

6. Answer *one* (not both) of the following:—

    (*a*) Explain and discuss the following :—" The Constitution " of the Roman Commonwealth exhibited all the " various political functions and organisations more " fully than any other state of ancient and modern " times."

    (*b*) How far can you trace in Latin poetry the sentiment of the love of the beauties of Nature.

GREEK.

LOWER GRADE.

Friday, 21st June. 10 A.M. to 12.30 P.M.

I. Translate :—

Τότε μὲν οὖν ὁ Κροῖσος οὕτω τοῦ Σόλωνος κατεφρόνησεν· ἐπεὶ δὲ ὑπὸ Κύρου ἐκρατήθη μάχῃ καὶ τὴν πόλιν ἀπώλεσε καὶ ζῶν ἁλοὺς αὐτὸς ἔμελλεν ἐν πυρᾷ[1] καταπίμπρασθαι θεωμένων Περσῶν ἁπάντων καὶ Κύρου παρόντος, μεγαλῇ τῇ φωνῇ φθεγξάμενος ἀνεβόησε τρίς, Ὦ Σόλων. θαυμάσας οὖν ὁ Κῦρος ἔπεμψε τοὺς ἐρησομένους, ὅστις ἀνθρώπων ἢ θεῶν οὗτός ἐστιν ὁ Σόλων. καὶ ὁ Κροῖσος οὐδὲν ἀποκρυψάμενος εἶπεν ὅτι " τῶν παρ' Ἕλλησι σοφῶν εἷς οὗτος ἦν ὁ ἀνήρ, ὃν ἐγὼ μετεπεμψάμην οὐκ ἀκοῦσαί τι βουλόμενος οὐδὲ μαθεῖν ὧν ἐνδεὴς[2] αὐτὸς ἦν, ἀλλ' ὡς δή μοι θεατὴς γένοιτο καὶ μάρτυς τῆς εὐδαιμονίας ἐκείνης ἣν ἀποβαλεῖν[3] ἄρα μεῖζον ἦν κακὸν ἢ λαβεῖν ἀγαθόν. καὶ οὗτος ἐκ τῶν τότε τὰς νῦν συμφορὰς τεκμαιρόμενος[4] ἐκέλευε τὸ τέλος τοῦ βίου σκοπεῖν καὶ μὴ μάτην ὑβρίζειν." ταῦτα δὲ ὁ Κῦρος ἀκούσας οὐ μόνον ἀφῆκε τὸν Κροῖσον, ἀλλὰ καὶ τιμῶν ἐφ' ὅσον ἔζη διετέλει.

    [1] πυρά, " funeral pyre."

    [2] ἐνδεής, " deficient."

    [3] ἀποβαλεῖν, " to lose."

    [4] τεκμαιρόμενος, " conjecturing," " inferring."

Parse fully ἀπώλεσε, ἐρησομένους, ἀφῆκε, διετέλει.

II. Translate into Greek :—

    (1.) They said that they should never again see their country or their kindred (συγγενής).

    (2.) Do not do to others what you yourself do not wish to suffer.

    (3.) The king bids (κελεύω) you give up (παραδίδωμι) your arms as vanquished.

    (4.) Fear the gods, honour your parents (γονεύς), respect (αἰσχύνομαι) your friends, obey the laws.

    (5.) We fear that if they go away we shall be put to death.

    (6.) Tell me whether you think it more noble to fight or to fly.

III. (a.) Give the genit. sing. and dat. plur. of υἱός, γραῦς, ὄναρ, ἀκριβής, ἐλάττων, and the nom. sing. fem. of μέλας, πονηρός, ἁπλοῦς, ἑκών, ὀξύς.

    Parse κέρασι, κάρᾳ, γάλακτος, θριξί, ὄρνιθα, δόξῃ, βορρᾶ, ἠχοῦς, μείζους, ἡδέα, ἱππέων, θᾶττον, ῥᾷστα, ἥντινα, ἕ.

  (b.) Give the degrees of comparison of ἐγγύς, πέρα, σαφῶς, εὖ, ταχέως.

    Form :—

        (a.) The 3rd sing. 2nd. aor. opt. act. of γιγνώσκω, τρέχω.

        (b.) The 2nd aor. inf. act. of ἀποδιδράσκω, ἐσθίω.

        (c.) The 2nd sing. pluperf. indic. of κάθημαι, οἶδα.

        (d.) The 2nd sing. 2nd aor. imperat. act. of ἐκβαίνω, δίδωμι.

        (e.) The 3rd plur. imperf. ind. act. of εἶμι, ἐῶ.

    Parse the following words, giving in each case the chief tenses of the verb :—τέθναθι, φασί, γεγῶσα, ἦρξω, κέκλαυμαι, πιεῖν, ἔρρωσο, ἀπέδωκαν, ἐπιλαμβάνου, ἀπεκρίνω.

    Give the futures, aorists, and perfects in use of the verbs φθάνω, πετάννυμι, ὀφλισκάνω, ἕλκω, δάκνω.

  (c.) Express in Greek—" Owing to this," " by day and by night," " to go homewards," " after the battle," " through all his life."

    What is the meaning of the preposition in the following compounds :—μεταλαμβάνω, ἀποδίδωμι, κατάγω, παραβαίνω, μετανοῶ ?

GREEK.

Higher Grade and First Paper for Honours Grade.

Friday, 21st June.   10 a.m. to 1 p.m.

(Candidates will not receive a Certificate unless they reach the necessary Standard both in Grammar and Translation.)

I. Translate :—

Xenophon defends himself against the charge of self-seeking.

Μετὰ τοῦτον ἄλλος ἀνέστη ὁμοίως καὶ ἄλλος. ἐκ δὲ τούτου Ξενοφῶν ἔλεξεν ὧδε· ᾿Αλλὰ πάντα μὲν ἄρα ἄνθρωπον ὄντα προςδοκᾶν δεῖ, ὁπότε γε καὶ ἐγὼ ὑφ' ὑμῶν αἰτίας ἔχω, ἐν ᾧ πλείστην προθυμίαν ἐμαυτῷ γε δοκῶ

συνειδέναι περὶ ὑμᾶς παρεσχημένος. ἀπετραπόμην μέν γε ἤδη οἴκαδε
ὡρμημένος, οὐ μὰ τὸν Δία οὗτοι πυνθανόμενος ὑμᾶς εὖ πράττειν, ἀλλὰ
μᾶλλον ἀκούων ἐν ἀπόροις εἶναι, ὡς ὠφελήσων εἴ τι δυναίμην. ἐπεὶ δὲ ἦλθον,
Σεύθου τουτουὶ πολλοὺς ἀγγέλους πρὸς ἐμὲ πέμποντος καὶ πολλὰ ὑπισχνουμένου
μοι, εἰ πείσαιμι ὑμᾶς πρὸς αὐτὸν ἐλθεῖν, τοῦτο μὲν οὐκ ἐπεχείρησα ποιεῖν,
ὡς αὐτοὶ ὑμεῖς ἐπίστασθε· ἦγον δὲ ὅθεν ᾠόμην τάχιστ᾽ ἂν ὑμᾶς εἰς τὴν
Ἀσίαν διαβῆναι. ταῦτα γὰρ καὶ βέλτιστα ἐνόμιζον ὑμῖν εἶναι καὶ ὑμᾶς
ᾔδειν βουλομένους. τί οὖν ἐγὼ ἐνταῦθα ἠδίκησα ἀγαγὼν ὑμᾶς ἔνθα πᾶσιν
ὑμῖν ἐδόκει; ἐπεί γε μὴν ψεύδεσθαι ἤρξατο Σεύθης περὶ τοῦ μισθοῦ, εἰ μὲν
ἐπαινῶ αὐτόν, δικαίως ἄν με καὶ αἰτιῷσθε καὶ μισοῖτε· εἰ δὲ πρόσθεν αὐτῷ
πάντων μάλιστα φίλος ὢν νῦν πάντων διαφορώτατός εἰμι, πῶς ἂν ἔτι
δικαίως, ὑμᾶς αἱρούμενος ἀντὶ Σεύθου, ὑφ᾽ ὑμῶν αἰτίαν ἔχοιμι περὶ ὧν πρὸς
τοῦτον διαφέρομαι;

II. Translate *one* of the following passages :—

    (*a*.) Τὸν δ᾽ ἄρ᾽ ὑπόδρα ἰδὼν προσέφη κορυθαίολος Ἕκτωρ·
        Γλαῦκε, τίη δὲ σὺ τοῖος ἐὼν ὑπέροπλον ἔειπες;
        ὦ πόποι, ἦ τ᾽ ἐφάμην σε περὶ φρένας ἔμμεναι ἄλλων,
        τῶν ὅσσοι Λυκίην ἐριβώλακα ναιετάουσιν·
        νῦν δέ σευ ὠνοσάμην πάγχυ φρένας, οἷον ἔειπες,
        ὅς τέ με φῂς Αἴαντα πελώριον οὐχ ὑπομεῖναι.
        οὔ τοι ἐγὼν ἔρριγα μάχην οὐδὲ κτύπον ἵππων·
        ἀλλ᾽ αἰεί τε Διὸς κρείσσων νόος αἰγιόχοιο,
        ὅς τε καὶ ἄλκιμον ἄνδρα φοβεῖ, καὶ ἀφείλετο νίκην
        ῥηϊδίως, ὁτὲ δ᾽ αὐτὸς ἐποτρύνει μαχέσασθαι.
        ἀλλ᾽ ἄγε δεῦρο, πέπον, παρ᾽ ἔμ᾽ ἵστασο καὶ ἴδε ἔργον·
        ἠὲ πανημέριος κακὸς ἔσσομαι, ὡς ἀγορεύεις,
        ἦ τινα καὶ Δαναῶν, ἀλκῆς μάλα περ μεμαῶτα
        σχήσω ἀμυνέμεναι περὶ Πατρόκλοιο θανόντος.

    (*b*.) Ἐπεὶ δ᾽ ἀγῶνα καὶ σὺ τόνδ᾽ ἠγωνίσω,
        ἄκου᾽· ἅμιλλαν γὰρ σὺ προὔθηκας λόγων.
        οὐδὲν τυράννου δυσμενέστερον πόλει,
        ὅπου τὸ μὲν πρώτιστον οὐκ εἰσὶν νόμοι
        κοινοί, κρατεῖ δ᾽ εἷς τὸν νόμον κεκτημένος
        αὐτὸς παρ᾽ αὑτῷ, καὶ τόδ᾽ οὐκέτ᾽ ἔστ᾽ ἴσον.
        γεγραμμένων δὲ τῶν νόμων ὅ τ᾽ ἀσθενὴς
        ὁ πλούσιός τε τὴν δίκην ἴσην ἔχει,
        ἔστιν δ᾽ ἐνισπεῖν τοῖσιν ἀσθενεστέροις
        τὸν εὐτυχοῦντα ταῦθ᾽, ὅταν κλύῃ κακῶς,
        νικᾷ δ᾽ ὁ μείων τὸν μέγαν δίκαι᾽ ἔχων.
        τοὐλεύθερον δ᾽ ἐκεῖνο· " τίς θέλει πόλει
        χρηστόν τι βούλευμ᾽ ἐς μέσον φέρειν ἔχων " ;
        καὶ ταῦθ᾽ ὁ χρῄζων λαμπρός ἐσθ᾽, ὁ μὴ θέλων
        σιγᾷ. τί τούτων ἔστ᾽ ἰσαίτερον πόλει;

III. Translate into Greek :—
    (1.) He was prepared to pay (ἀποτίνειν) a large sum of money
        if the judges condemned him.
    (2.) He gave the order that no one should quit the place
        (τάξις) where he was posted, on pain of death.

αὐτοὶ ἀμείνους γένωνται ἡνίοχοι, τότ' ἐκπίπτουσιν. οὐκ ἔστι ταῦτ' οὔτ'
ἐν ἡνιοχείᾳ οὔτ ἐν ἄλλῳ ἔργῳ οὐδενί. ἢ δοκεῖ σοι; ΚΑΛ. οὐκ ἔμοιγε.
ΣΩ. Ἀληθεῖς ἄρα, ὡς ἔοικεν, οἱ ἔμπροσθεν λόγοι ἦσαν, ὅτι οὐδένα ἡμεῖς
ἴσμεν ἄνδρα ἀγαθὸν γεγονότα τὰ πολιτικὰ ἐν τῇδε τῇ πόλει. σὺ δὲ
ὡμολόγεις τῶν γε νῦν οὐδένα, τῶν μέντοι ἔμπροσθεν, καὶ προείλου τούτους
τοὺς ἄνδρας. οὗτοι δὲ ἀνεφάνησαν ἐξ ἴσου τοῖς νῦν ὄντες, ὥστε, εἰ οὗτοι
ῥήτορες ἦσαν, οὔτε τῇ ἀληθινῇ ῥητορικῇ ἐχρῶντο—οὐ γὰρ ἂν ἐξέπεσον—
οὔτε τῇ κολακικῇ. ΚΑΛ. Ἀλλὰ μέντοι, ὦ Σώκρατες, οὐ μή ποτε τις τῶν
νῦν ἔργα τοιαῦτα ἐργάσηται, οἷα τούτων ὃς βούλει εἴργασται.

Write a note on the sentence beginning οὔκουν οἵ γε ἀγαθοὶ
ἡνίοχοι, and on οὐ μή ποτε τις . . . ἐργάσηται.

(2.) Καὶ τὰ μὲν παρ' ἐμοῦ πάνθ' οὕτως ἐστὶν ἀληθῆ καὶ φαίνεται·
τούτῳ δὲ μὴ παρασχομένῳ τούτους μάρτυρας, ἢν ἂν δήπου λόγος οὐδείς, ἀλλ'
ἡλωκέναι παραχρῆμα ὑπῆρχε σιωπῇ. συμπόται δ' ὄντες τούτου καὶ πολλῶν
τοιούτων ἔργων κοινωνοὶ εἰκότως τὰ ψευδῆ μεμαρτυρήκασιν. ἀλλὰ νὴ Δία
οὐκ εἰσὶ τοιοῦτοι. ἀλλ' ἴσασιν ὑμῶν, ὡς ἐγὼ νομίζω, πολλοὶ καὶ τὸν
Διότιμον καὶ τὸν Ἀρχεβιάδην καὶ τὸν Χαιρέτιμον, οἳ μέθ' ἡμέραν μὲν
ἐσκυθρωπάκασι καὶ λακωνίζειν φασὶ καὶ τρίβωνας ἔχουσι, ἐπειδὰν δὲ
συλλεγῶσι καὶ μετ' ἀλλήλων γένωνται, κακῶν καὶ αἰσχρῶν οὐδὲν ἐλλείπουσι·
καὶ ταῦτα τὰ λαμπρὰ καὶ νεανικά ἐστιν αὐτῶν " οὐ γὰρ ἡμεῖς μαρτυρήσομεν
ἀλλήλοις; οὐ γὰρ ταῦθ' ἑταίρων ἐστὶ καὶ φίλων; τί δὲ καὶ δεινόν ἐστίν
ὧν παρέξεται κατὰ σοῦ; τυπτόμενόν φασί τινες ὁρᾶν; ἡμεῖς δὲ μηδ'
ἧφθαι τὸ παράπαν μαρτυρήσομεν. ἐκδεδύσθαι θοἱμάτιον; τοῦτ' ἐκείνους
πρότερον πεποιηκέναι ἡμεῖς μαρτυρήσομεν. τὸ χεῖλος ἐρράφθαι; τὴν
κεφαλὴν δέ γ' ἡμεῖς ἢ ἕτερόν τι κατεαγέναι φήσομεν." ἀλλὰ καὶ μάρτυρας
ἰατροὺς παρέχομαι. ταῦτ' οὐκ ἔστιν, ὦ ἄνδρες δικασταί, παρὰ τούτοις.
ἡ δ' ἀπ' αὐτῶν ἑτοιμότης, οὐδ' ἂν εἰπεῖν μά τοὺς θεοὺς δυναίμην ὅση καὶ
οἷα πρὸς τὸ ποιεῖν ὁτιοῦν ὑπάρχει.

II. For Greek Prose :—

Happy men ! they are beyond the reach of calumny and
reverses. There is only one sad reflection ; they can serve their
country no more. How high was the value of their lives ! they
knew it and bartered them for renown. We, in this war unjustly
waged against us, shall be exposed to fewer dangers, but more
privations. In the endurance of these, our manliness will be
put severely to the proof, and virtues which have not been
called forth in fifty years, virtues which our enemies seem to
have forgotten that we possess, must again come into action, as
if under the eyes of a Themistocles and an Aristides. We have
all done much ; but we have all done less than we can do, ought
to do, and will do.

III. Translate, with short notes on the syntax :—

(1.) φεῦ φεῦ, τὸ μὴ τὰ πράγματ' ἀνθρώποις ἔχειν
    φωνήν, ἵν' ἦσαν μηδὲν οἱ δεινοὶ λόγοι.

(2.) γέροντα δ' ὀρθοῦν φλαῦρον ὃς νέος πέσῃ.

(3.) ἔζη ὑπὸ πολλῆς ἐπιμελείας ὅπως ὡς ἐλάχιστα μὲν ὄψοιτο ἐλάχιστα
    δ' ἀκούσοιτο.

D

(4.) ὅπως ἔσεσθε ἄνδρες ἄξιοι τῆς ἐλευθερίας ἧς κέκτησθε.

(5.) δίδασκέ με ὡς μὴ εἰδότ' αὐτὸν μηδέν.

(6.) ἔφη δ', ἐπειδὴ οὗ ἐκβῆναι τὴν ψυχήν, πορεύεσθαι.

IV. Answer *one* of the following questions :—

    (1.) What were the chief bonds of union between the Greek states ?

    (2.) Describe the constitution of Athens under Solon.

    (3.) Give an account of the life and work of Epaminondas.

FRENCH.

LOWER GRADE.

Wednesday, 19th June. 10 A.M. to 12.30 P.M.

Candidates must, in all cases, answer Questions 1, 2, 3, 4 (*Section* 1), *and should attempt four questions* (NOT MORE) *from the other sections.*

SECTION I.

1. Translate into English :—

    (*a*) Cependant, l'aspect qu'offrait la grande foire, qui venait de s'ouvrir à Tours, excita d'abord en lui une sorte d'admiration. Elle attirait un nombre considérable de commerçants étrangers. Leurs boutiques, ornées de drapeaux, étaient pleines de *bateleurs*, dont les tours attiraient les curieux. On y voyait les tapissiers d'Arras, les drapiers de Sédan, les confituriers de Verdun, confisant au miel pour les bourgeois, au sucre pour les gentilshommes. On y rencontrait également des Italiens *vendant* les belles armes de Milan, et des Allemands les mauvaises armures de leur pays; les libraires avec leurs manuscrits enrichis de miniatures, recouverts de velours, de pierreries, et dont un seul pouvait coûter mille livres.

                                        SOUVESTRE.

            Bateleur, juggler.

    Why does *vendant* not agree with *Italiens?*

    (*b*) Il est nuit. La cabane est pauvre, mais bien close.

       Le logis est plein d'ombre, et l'on sent quelque chose

       Qui rayonne à travers ce *crépuscule* obscur.

       Des filets de pêcheur sont accrochés au mur.

       Au fond, dans l'*encoignure* où quelque humble *vaisselle*

       Aux planches d'un *bahut* vaguement étincelle,

       On distingue un grand lit aux longs rideaux tombants.

       Tout près un matelas s'étend sur *de* vieux bancs.

       Et cinq petits enfants, nid d'âmes, y sommeillent.

       La haute cheminée où quelques flammes veillent

       Rougit le plafond sombre, et le front sur le lit,

       Une femme à genoux prie, et songe et pâlit.

       C'est la mère. Elle est seule. Et dehors, blanc d'écume,

       Au ciel, aux vents, aux rocs, à la nuit, à la brume,

       Le sinistre océan jette son noir sanglot.

                              VICTOR HUGO.

Crépuscule, twilight.; *vaisselle,* plates and dishes; *encoignure,* corner ; *bahut,* chest.

Account for the spelling of *de.*

2. Give the present and past participles of *savoir, moudre, mourir, avoir, vivre ;* the 3rd pers. sing. pres. indic. of *bouillir, haïr, aller, vouloir ;* the 3rd pers. plur. future of *voir, pouvoir, faire, aller ;* and, in full, the pres. subj. of *être.* Give the English in every case.

3. (*a*) Give the adverbs corresponding to *bon, petit, doux, franc, constant, vrai.*

   (*b*) Ce beau berger grec est le meilleur chanteur de son pays. Change *berger* into the feminine, and make the corresponding alterations in the sentence.

4. Translate into French :—

   While the war continued without any decisive success on either side, a calamity happened in London which threw the people into great consternation. Fire, breaking out in a baker's house near the bridge, spread itself on all sides with such rapidity, that no efforts could extinguish it till it laid in ashes a considerable part of the city. The inhabitants, without being able to provide effectually for their relief, were reduced to be spectators of their own ruin, and were pursued from street to street by the flames which unexpectedly gathered round them. Three days and nights did the fire advance ; and it was only by *blowing up* houses that it was at last extinguished. The king and duke *used their utmost endeavours* to stop the progress of the flames, but all their industry was unsuccessful. About four hundred streets and thirteen thousand houses were reduced to ashes. The causes of the calamity were evident. The narrow streets of London, the houses built entirely of wood, the dry season, and a violent cast wind which blew : these were so many circumstances, which rendered it easy to assign the reason of the destruction that ensued. But the people were not satisfied with this account.

   HUME.

   To blow up, faire sauter ; *to use one's utmost endeavours,* faire tout son possible.

SECTION II.

5. When do you use *qui, que, quel, lequel* and *dont ?* Frame sentences to illustrate your answer.

6. Explain why the disjunctive and not the conjunctive pronouns are used in the following sentences :—*Eux* seuls sont entrés. *Moi,* faire cela ! *Vous* et *lui,* vous viendrez demain.
   Translate :—He is the best boy in the class. She is the best girl in the class. Give rules to explain your construction.

7. Parse each of the following words, as a substantive and as a verb, giving the meaning in each case :—lit, sort, mort, bois. aimant, rive.

8. Translate into French :—

> I shall call on you as soon as I have done.   I gave it to him but he has not returned it to me.   Has he returned home ? Which box have you there?   The box in which I found the pens.

9. Translate into English :—

> (a) La noblesse, jalouse de sa liberté, vend souvent ses suffrages, et rarement ses affections.   A peine ont-ils élu un roi qu'ils craignent son ambition, et lui opposent leurs cabales. Les grands qu'il a faits, et qu'il ne peut défaire, deviennent souvent ses ennemis au lieu de rester ses créatures.
>
> <div align="right">VOLTAIRE.</div>

> (b) Un vrai ami est une chose si avantageuse, même pour les grands seigneurs, afin qu'il dise du bien d'eux et qu'il les soutienne en leur absence même, qu'ils doivent tout faire pour en avoir un.   Mais qu'ils choisissent bien ; car, s'ils font tous leurs efforts pour un sot, cela leur sera inutile, quelque bien qu'il dise d'eux.
>
> <div align="right">PASCAL.</div>

> (c) Les idées mélancoliques ont beaucoup de charmes, tant qu'on n'a pas été soi-même profondément malheureux, mais quand la douleur, dans toute son âpreté, s'est emparée de l'âme, on n'entend plus, sans tressaillir, de certains mots qui jadis n'excitaient en nous que des rêveries plus ou moins douces.
>
> <div align="right">MME. DE STAEL.</div>

SECTION III.

10. Translate :—

> (a) A bill to amend and extend the law relating to factories and workshops was introduced into the House of Commons.

> (b) On 1st March, the river traffic was entirely suspended at Glasgow on account of the ice.   Early in the morning, nine of the harbour passenger-steamers were carried away from their moorings.

11. Translate :—

> (a) All the bees in the neighbourhood resort to a bed of mignonette, opposite to the window, and pay me for the honey they get out of it by a hum, which, though rather monotonous, is as agreeable to my ear as the whistling of my linnets.   All the sounds that nature utters are delightful, at least, in this country.
>
> <div align="right">COWPER.</div>

> (b) I got up late this morning and had no time for my breakfast. My books were not to be found, I do not know where I put them.   I shall lose all my marks.   My mother says it serves me right.

SECTION IV.

12. Give a short account of any French book you have read during the year, and of its author.

13. Say what you know of *one* of the following :—Molière, Mme. de Sévigné, Pascal, Rousseau, Voltaire, Victor Hugo ; and give some account of *one* work written by the author you choose.

14. Translate :—A bank-manager ; enclosed please find price-list ; power of attorney ; joint partners ; to find a market for produce ; prices rule higher ; the market is much depressed ; we subjoin refereuces ; we give you, as a trial, the following order.

15. A firm of French ship-owners requires a foreign correspondent. In offering your services state that you can undertake English, German and French correspondence. Say how you acquired the last two languages, and give references.

FRENCH.

HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

Wednesday, 19th June. 10 A.M. to 1 P.M.

Candidates must, in all cases, answer the whole of Questions 1 and 2, Section I.; and should attempt six questions (NOT MORE) from the other sections. Candidates answering questions from Sections III. and IV. must not answer Section V.

SECTION I.

1. Translate :—

    (a) Dans ce jardin croissaient le pommier, le pêcher,
    La ronce ; on écartait les branches pour marcher ;
    Des transparences d'eau frémissaient sous les saules
    On voyait des blancheurs qui semblaient des épaules,
    Comme si quelque nymphe eût été là ; les nids
    Murmuraient l'hymne obscur de ceux qui sont bénis ;
    Les voix qu'on entendait étaient calmes et douces ;
    Les sources chuchotaient doucement dans les mousses,
    A tout ce qui gazouille, à tout ce qui se tait,
    Le remucment confus des feuilles s'ajoutait ;
    Le paradis, ce chant de la lumière gaie,
    Que le ciel chante, en bas la terre le *bégaie ;*
    En été, quand l'azur rayonne, ô pur jardin !
                                    VICTOR HUGO.

    * *bégayer*=to stammer.

    Qu'un stoïque aux yeux secs vole embrasser la mort,
    Moi je pleure et j'espère. Au noir souffle du nord
        Je plie et relève ma tête.
    S'il est des jours amers, il en est de si doux !
    Hélas ! quel miel jamais n'a laissé de dégoûts ?
        Quelle mer n'a point de tempêtes ?
                                    ANDRÉ CHÉNIER.

(b) Ce fut alors que l'on entendit ce second cri plus faible
que le premier, qui avait été suivi d'un long gémissement.

Le bourreau, qui s'était soulevé, retomba renversé sur son lit.
Quant au moine, sans retirer le poignard de la plaie, il courut
à la fenêtre, l'ouvrit, sauta sur les fleurs d'un petit jardin, se
glissa dans l'écurie, prit sa mule, sortit par une porte de derrière,
courut jusqu'au prochain bouquet de bois, y jeta sa robe de
moine, tira de sa valise un habit complet de cavalier, s'en revêtit,
gagna à pied la première poste, prit un cheval et continua à
franc étrier son chemin vers Paris.

<div align="right">DUMAS.</div>

2. Translate into French :—

As a rule, the natives hereabouts are remarkably good-look-
ing. One hardly observes an ill-favoured face—many have
countenances of the highest refinement and gentleness of ex-
pression ; whilst some of the children of from eight to twelve
are positively beautiful. But the mothers do not like to see
them too openly admired. For this reason they often introduce
into their dress some common article as a foil and counter-charm
to the " evil-eye," just as they will occasionally plant one ugly,
rough, wooden post among the handsome stone pillars of a
house-front, and hang an old shoe round the neck of the most
comely cow in a herd.

<div align="right">EDWIN ARNOLD.</div>

SECTION II.

3. Give in full the imperfect indicative of *s'entr'égorger ;* the past
   indefinite of *se faire mal ;* the future indicative of *s'asseoir.*

4. (a) Give examples of the subjunctive mood being used in French,
   where the infinitive or indicative in used in English.
   (b) Account for the different agreement of the participles in the
   following :—*Elle s'est senti frapper ; puis elle s'est sentie
   mourir.*

5. (a) Under what circumstances do *vingt* and *cent* take an "*s*" ?
   (b) Give the cardinal numerals from 69–91.

6. When is the "*s*" of *tous* clearly sounded ? Give one or two
   examples.

7. Give the French for :—

> Mind what you are about.
> Never mind me, Sir.
> Kindly mind my horse for a minute.
> Mind you do what I tell you.
> I have a good mind to give you a box on the ear.
> I made up my mind.

SECTION III.

PHILOLOGY.

8. Write in modern French, preserving as far as possible the cognate
   words :—

> Cume Golias vers David apruçad, David curut encontre e si
> se hastad. Une pierre de la ú il l'out reposte sachad, mist la en
> la funde é entur la turnad ; jetad la pierre, a dreit mes l'asenad,

hurtad al frunt e jesqu' al cervel esfundrad.   Del colp chancelad
li gluz, e vers terre s' abaissad.   David salt al espee Golie, nient
ne targad, de s'espée même le chief li colpad.   Cume co virent
li Philistien que morz fud lur campiun, turnerent a fuie.

Quatre Livres des Rois.

9. (*a*) Enumerate the different forms in which the nominative
   singular of the first personal pronoun is found in old French.

   (*b*) Explain and comment on the forms: *mialdre, pesme, es, cist,
   iceo, averai, estet, chantet, tuert, fazet, occirre* (or *ocire*).

10. (*a*) Mention any peculiarities of Norman French.   What works
    were written in that dialect ?

    (*b*) Put into old French : The horse is strong.   I have the horses.
    Also the imperfect (in full) of *être.*

11. Give the etymological history of *même, on, plusieurs, naître,
    ne . . . pas, ne . . . . rien, oui, rez* (*de chaussée*), *comme, dimanche,
    dorénavant, lierre, méchant.*

SECTION IV.

LITERATURE.

12. Give in French, an account of any striking scene taken from a play
    of Molière.

13. Give some account of the historical works of *either* Montesquieu *or*
    Voltaire.

14. Give some account of the Hôtel de Rambouillet, and its influence
    on French Literature.

15. What do you know about French rhyming ?   Explain what is
    meant by the terms *masculine, feminine,* and *rich* rhymes.

16. What do you know about the " Pléiade " ? and what effect did
    the writers who bore this title seek to produce on the French
    language ?

SECTION V.

COMMERCIAL FRENCH.

17. Translate :—

    Sugar remains quiet, there being little inquiry.
    Wheat opened dull, and then declined all day with few
    reactions.
    The book-keeper—the manager—the traveller—the cashier.

18. Translate :—

    New York, 10th March, 1895.
    Messrs. Bontout & Co., Paris.
Gentlemen,
    We are in receipt of your favour of the 20th ultimo.
    We regret very much to state that our market is quite over-
stocked, and that we have plenty of goods on hand at present,
and are unable to say when we shall be able to dispose of them.

If we can come to an arrangement, as soon as ever trade begins
to brighten, we shall be happy to avail ourselves of your kind
proposals concerning the speculation in question.
     Thanking you for your kindness in writing,
                    We remain,
                         Gentlemen,
                              Very respectfully yours,
                                   GORDON & HOLT.

19. Translate :—

                                   Lisbonne, ce 2 mai 1895.
               M. John Davies, à Londres.
Monsieur,
       Je vous serai obligé d'assurer contre tous risques de mer et
pour 250 liv. st., la valeur de 25 sacs de coton-laine marqués
A. I, Nos 1 à 25 (10 liv. st. chacun), chargés à C pour mon
compte à bord du brick le *Capitaine,* capitaine José da Cruz, à
destination de Lisbonne, et de me débiter des frais que cela vous
occasionnera.   Ce brick devait partir le 15 du mois dernier.
J'espère qu'il vous sera possible de passer cette assurance à
3 ou 4 %; cependant, je n'entends pas vous limiter quant à la
prime.
       Recevez mes salutations distinguées,
                                   ALEX. COURIS.

FRENCH.

HONOURS.—SECOND PAPER.

Wednesday, 19th June. 2 P.M. to 5 P.M.

Candidates must, in all cases, answer Questions 1 *and* 2, *and
should attempt at least four* (AND NOT MORE THAN SIX) *of the remaining
questions.*

SECTION I.

1. Translate :—

       (*a*) Those who can put the best countenance upon the outrages
of this nature which are offered them are not without their
secret anguish.   I have often observed a passage in Socrates'
behaviour at his death, in a light wherein none of the critics
have considered it.   That excellent man, entertaining his friends,
a little before he drank the bowl of poison, with a discourse on
the immortality of the soul, at his entering upon it, says that he
does not believe that even the most comic genius can censure
him for talking upon such a subject at such a time.   This
passage, I think, evidently glances upon Aristophanes, who writ
a comedy on purpose to ridicule the discourses of that divine
philosopher.   It has been observed by many writers, that
Socrates was so little moved at this piece of buffoonery, that he
was several times present at its being acted upon the stage, and
never expressed the least resentment at it.
                                   ADDISON.

(*b*) I met your friend a week ago. I shall meet him again in a fortnight.

(*c*) I have a better opinion of him than of her.

(*d*) One must do the best one can for oneself.

(*e*) You ought to have told me that an hour ago.

(*f*) Come, tell me. What is it all about ?

(*g*) Which of these two pupils is right ? Neither. They are both wrong.

(*h*) It has just struck eleven o'clock. He can't be long now.

SECTION II.

2. Translate into English :—

(*a*) A quoi faire nous allons nous gendarmant par ces efforts de la Science ?   Regardons à terre : les pauvres gents que nous y voyons espandus, la tête penchante après leur besogne, qui ne sçavent ny Aristote ny Caton, ny exemple ny précepte, de ceulx là tire nature touts les jours des effets de constance et de patience plus purs et plus roides que ne sont ceulx que nous estudions si curieusement en l'eschole : combien en veoy je ordinairement qui mescoignaissent la pauvreté ! combien qui désirent la mort, ou qui la passent sans alarme et sans affliction !
MONTAIGNE.

(*b*) La nuit se passa de part et d'autre en préparatifs pour la bataille du lendemain. Tout le monde se disait qu'elle devait être décisive. Jamais dans les temps modernes un aussi grand nombre d'hommes n'avaient été réunis sur un même champ de bataille.   Près de trois cent cinquante mille soldats se préparaient à s'entr'égorger sur la vaste plaine du Marchfeld.   Dès l'aube des milliers de spectateurs couronnaient les édifices de Vienne, à un peu plus d'une lieue du théâtre de l'action, attendant avec anxiété l'issue du combat qui allait décider de leur sort.
P. LANFREY.

(*c*) De quel éclat brillaient dans la bataille
Ces habits bleus par la victoire usés !
La Liberté mêlait à la mitraille
Des fers rompus et des sceptres brisés.
Les nations, reines par nos conquêtes,
Ceignaient de fleurs le front de nos soldats,
Heureux celui qui mourut dans ces fêtes !
Dieu, mes enfants, vous donne un beau trépas !
BÉRANGER.

SECTION III.

PHILOLOGY.

3. Give examples of Latin masculine nouns which have become feminine in French, and account for the change in gender.

4. Which of the four conjugations are sometimes called "conjugaisons mortes," and why ?

5. Account for the different gender in " un garde national," " une garde française ;" " un garde-côte," " une garde-malade."

6. Give the derivation of *singe, chef, gui, semaine, veiller, soudaine, être, jeu, grenouille, gueux.*

7. Give, with examples, the three rules subject to which popular French words have been derived from Latin.

Section IV.

Literature.

(*Not more than* THREE *questions to be answered in this Section.*)

8. What do you know about the University of Paris during the Middle Ages?

9. Write, in French, a short Essay on the respective excellence of English and French poetry.

10. State what you know of *one* of the following works:—"Emile," "L'Avocat Patelin," "La Satire Ménippée," "Hernani," "Le Diable Boiteux," "Le Roman de la Rose."

11. What do you know of the writings of *either* Pascal *or* Sainte-Beuve?

12. "On ne voyait à Paris que *Français espagnolisés.*" Comment on this, and state to what period it refers.

13. " Qu'en un lieu, qu'en un jour, un seul fait accompli
    Tienne jusqu'à la fin le théâtre rempli."
Comment on these famous lines. What do you know of their author?

Section V.

Composition.

13. Write an Essay in French on *one* of the following subjects :—
    (1) Duelling.
    (2) National characteristics.
    (3) French comedy.
    (4) " L'ignorance de l'avenir est un bienfait pour l'homme."
    (5) The unemployed.

GERMAN.

Lower Grade.

Tuesday, 25th June.   10 A.M. to 12.30 P.M.

To secure full marks, the whole of this Paper should be answered.
Additional marks will be given for fair writing in the German character.

Section I.

1. Translate into English :—

Die Wache des Sommerpalastes bei Peking fand eines Tages einen ermordeten Mann im Felde liegen. Zwei Brüder, die von dem Orte zu entfliehen suchten, wurden ergriffen; und jeder von ihnen behauptete, daß er selbst die That begangen habe. Die Leiche zeigte aber nur eine

Wunde, und nur Einer konnte daher der Mörder sein. Die Sache wurde vor den Kaiser gebracht. „Wer sind die Burschen?" fragte er. Man sagte ihm, sie seien die einzigen Kinder einer armen Witwe. „Beiden das Leben zu schenken," sprach er, „würde den Mord unbestraft lassen; und beide zu hängen, wo nur Einer schuldig sein kann, wäre grausam. Man bringe die Mutter herbei, ihr Wort soll entscheiden (decide); sie muß ihre Söhne am besten kennen." Die unglückliche Frau wurde herbeigeholt und mit dem Willen des Kaisers bekannt gemacht. Sie war zum Tode erschrocken. In eine Flut von Thränen ausbrechend, rief sie endlich: „Wenn ich denn das Urteil sprechen soll, so laßt den Älteren leben!" Der Kaiser wunderte sich, daß sie den Jüngeren opferte (to sacrifice), der gewöhnlich den Müttern am teuersten ist. Auf seine Frage antwortete sie: „Der, welchen ich rette, ist nicht mein eigener Sohn, sondern ein Stiefsohn; auf dem Totenbette habe ich seinem Vater versprochen, ihn als mein eigenes Kind zu betrachten. Bis jetzt habe ich mein Wort gehalten,—soll ich nun, von mütterlicher Liebe getrieben, es brechen, um den eigenen Sohn vom Tode zu retten? Was es meinem Herzen kostet . . . ." Sie konnte vor Thränen nicht weiter reden, und sank schmerzerfüllt zu Boden. Tief bewegt von dem Kummer des armen Weibes, schenkte der Kaiser den beiden Jünglingen das Leben.

2. Translate into German :—

William now sat (*say*, sat now) firmly on his throne. But he was not happy, for he had much grief in his own house. His eldest son, Robert, had remained in Normandy (die Normandie), and governed there in his father's name. Proud of (auf) his power, he would not do what the King told him, and took up arms (*say*, the arms) against him. What can be more dreadful than a war between father and son? William led an army across (*say*, over) the sea, and tried to take his son's castle. In one of the battles which followed, the prince fought with a knight, and wounded him in (an) the arm. But when he found that it was his father, he fell down on his knees and begged for (um) pardon. The King did not live long after this. In his war with the King of France, he took a French town, and when it was burning, he rode through the streets. Suddenly his horse fell, and threw him on the stones covered with hot cinders. Seriously (ernstlich) injured, he was carried to Rouen, and died in a monastery (Kloster, n.) not far from the city.

Section II.

3. Add the definite article to, and give the genitive singular and nominative plural of, the German words for *any ten* of these :— ape, cousin, prince, thief, place, body, army, country, bear, forest, pain, part, bee, pear, goose, hat.

4. Decline, in singular and plural, the German for *the same man, great storm, this street ;* also the interrogative pronoun (who? what?).

5. Write out, in German—1, 7, 12, 16, 23, 35, 68, 74, 101, 329 ; the 11th, 21st, 102nd; $\frac{1}{2}$, $\frac{1}{3}$; on the 3rd of January 1895.

6. Write out —
   - (*a*) the present and imperfect indicative active of ſeßen, ſollen;
   - (*b*) the perfect indicative and imperfect subjunctive active of geßen;
   - (*c*) the present indicative passive of ßören.

7. Give the third singular present, imperfect and perfect indicative, of laſſen, leſen, tßun, deuſen, wiſſen, dürſen, mögen; and the second singular imperfect subjunctive and imperative of neßmen, eſſen, ſennen, treten, ſeßneiden, ſpreeßen.

Section III.

8. Write out the German names of the months, and the days of the week.

9. Enumerate the prepositions which govern either a dative or an accusative; and show, by three examples, when the one or the other case must be used.

10. Give a general rule (*a*) as to when the order of subject and verb is inverted in German; and (*b*) as to when the verb is placed at the end of the clause. Give an example for each case.

11. Mention the titles of five German plays, by at least three different writers; giving the author's name for each, and stating, in a few words, what you know of the plot of one of them.

12. State by whom the following poems were written :—Der Sänger, der Handſeßuß, der Kaiſer und der Abt, die Lorelei, der gute Kamerad, die Bürgſeßaſt, der Erlſönig; and, if possible, write out one verse of some poem you know.

GERMAN.

Higher Grade and First Paper for Honours Grade.

Tuesday, 25th June. 10 A.M. to 1 P.M.

To secure full marks, the passages from, and into, German should be translated. Eight (and eight only) of the remaining questions (not less than four to be chosen from Section II., and not less than two from Section III.) should be answered. If more are answered, only the first eight will be counted.

Additional marks will be given for fair writing in the German character.

Section I.

1. Translate into English :—

   (*a*) Am andern Tage gab es kurzen Abſeßied zwiſeßen Eltern und Kindern, wie das Bauernart iſt. Aber ernſt und tiefempfunden war das Lebewoßl dennoeß; denn jedes daeßte der ungewiſſen Zukunft und der Not des Augenblicks. Der Fußrmann hatte ſeßon dreimal zum Aufbrueß gemaßnt, ſeßon dreimal ſein Glа zum Abſeßied geleert, da beſtieg das

junge Ehepaar endlich seinen Leiterwagen. Es war kein lustiger Reisetag.
Ein durchdringender Sommerregen rauschte in Strömen herab. Selbst
der dichtbelaubte Buchenwald konnte keinen rechten Schutz mehr geben ;
die Pfade waren schlüpfrig, und die zahlreichen Bergwasser wuchsen
zusehends, jede Rinne füllte sich zu einem neuen Bach. Darum war es
kein Wunder, daß der Fuhrmann Pferd und Wagen auf den holprigen
Holzwegen kaum vorwärts bringen konnte. Er hatte sich aber auch
wider den Regen so tief in eine wollene Decke gewickelt, daß der Schimmel
so ziemlich seinen eigenen Gedanken nachgehen konnte, und nur wenn der
Wagen gegen einen Stein oder eine Wurzel stieß, als ob alle Räder
brechen müßten, rief der Fuhrmann dem Pferde hintendrein eine Ver=
mahnung zu ; den Kopf ließ er aber doch in der Decke. Über den
hinteren Teil des Wagens war ein Linnentuch gespannt, darunter saßen
die jungen Eheleute. Es war gar nicht unbehaglich, sich in der Ecke
unter der Leinwand aufs Stroh zu kauern und der Musik des ringsum
durch die Blätter niederrauschenden Regens zu lauschen, während selten
ein Tröpfchen durch das Tuch hereindrang. Da pflogen die Leutchen
nun das traulichste Gespräch, woben goldene Träume, wie's für eine
Hochzeitreise sich schickt, und wenn sie auch in einem Leiterwagen gemacht
wird. Nur selten durchzuckte es den jungen Ehemann, wenn er des
einzigen Kronthalers in seiner Tasche gedachte ; aber schon im nächsten
Augenblick war er wieder unermeßlich reich. Ja, der Stadtpfeifer war
ein Kind, eins von den Kindern, von denen geschrieben steht, daß wir nicht
ins Himmelreich kommen sollen, wenn wir nicht werden wie ihrer Eines.

W. H. Riehl.

(b)   Der dunkle Wald umrauscht den Wiesengrund,
        Gar düster liegt der graue Berg dahinter,
        Das dürre Laub, der Windhauch giebt es kund,
        Geschritten kommt allmählich schon der Winter.

        Die Sonne ging, umhüllt von Wolken dicht,
        Unfreundlich, ohne Scheideblick, von hinnen ;
        Und die Natur verstummt, im Dämmerlicht
        Schwermütig ihrem Tode nachzusinnen.

        Dort, wo die Eiche rauscht am Bergesfuß,
        Wo bang vorüber klagt des Baches Welle,
        Dort winket, wie aus alter Zeit ein Gruß,
        Die längst verlass'ne, stille Waldkapelle.

        Wo sind sie, deren Lied aus deinem Schooß,
        O Kirchlein, einst zu Gott emporgeflogen,
        Vergessend all ihr trübes Erdenloos?—
        Wo sind sie?—Ihrem Liede nachgezogen!

Nicolaus Lenau.

2. Translate into German :—

To judge from the veracious accounts of native writers,
curious things seem to happen in the New World. Two sons
of an American farmer were strolling in the woods, when they
heard a noise behind a tree. Looking up, they saw the claws

of a bear just beginning to climb up the tree on the other side. They were terrified at the sight, for they were unarmed, and doubted not that, if the beast became aware of them, it would get down and attack them. Suddenly a happy thought struck the elder brother. Silently approaching the tree, he seized the front claws of the bear, and pulled so tightly that the latter could not move. At the same time he shouted to his brother to run home and fetch the axe. When he had waited a long time, and was nearly exhausted, he at last saw his brother coming. "What have you been doing so long, John?" he asked. "Oh," replied the other, "I was so hungry that I thought it best first to eat a piece of ham." "Very well," said Tom, "catch hold of his claws, I can manage the axe better." Having changed places with the brother, he added, "Now hold tight; I'll just run home and refresh myself, and when I come back I'll kill the bear."

Section II.—Grammar.

3. Give the nominative and genitive singular, and nominative plural, with the definite article, of the German for *any ten* of the following words:—jewel, ancestor, gain, damage, figure, heir, legacy, building, loaf, county, ray, peasant, spark, sting, slipper, companion.

4. Distinguish between: — Rachen—Rachen; sinnig—sinnlich; achtbar—achtsam; Schreiber — Schriftsteller; die Kost—die Kosten; ererben—erwerben; verschönern — beschönigen; sich verstehen auf etwas — sich verstehen zu etwas.

5. What is meant by "mixed declension." Illustrate your definition by five examples.

6. Give the third singular present and perfect indicative active of bedürfen, ausersehen, ablesen, mißverstehen, marschieren; and second singular imperfect subjunctive and imperative of sich begeben, verderben, zertreten, auslassen, gestehen.

7. Mention five weak verbs which modify their vowel in the imperfect and past participle; and five strong verbs which conjugate according to the scheme e, a, e.

8. Explain the difference in the use of the absolute superlative and the relative superlative. Also distinguish between meistens—am meisten; wenigstens—am wenigsten; höchstens—am höchsten.

9. Illustrate, by sentences, the different translation of the English "when" by German wann, wenn, and als.

Section III.—Philology and Word-Formation.

10. Certain past participles (such as gehört) have double meanings, according to whether they belong to the one or the other of two different verbs. Give six examples, with the meanings.

11. Form abstract nouns (with their meanings) from *any ten* of these:— gewissenhaft, bitter, naß, behende, heiß, hell, feige, eitel, scharf, halb, spröde, schlicht, schlecht, geruchlos.

12. Form adjectives (with their meanings) from *any ten* of these :—
    Unmut, Schwermut, Neid, Bube, Mädchen, Stadt, Gott, Abgott,
    Begierde, Schlaf, Name, Fehler, Flecken, Teil.

13. Under what circumstances does English *s* correspond to German ſ,
    and under what to ſch? Give five examples for each case; also
    five instances of words in which English *sh* corresponds to
    German ſch.

14. Give the German, or English, *etymological* equivalents of *any ten*
    of *each* of the following two sets of words (adding, in each case,
    the exact meaning of the German word):—

    (*a*) bleak, head, truly, bean, beam, crow, crafty, hide, quick,
    hail, hoarse, hoard, knuckle, to brook, to lead.

    (*b*) glühen, Rute, Mücke, kleben, niesen, Nüster, biegsam, Harke,
    warten, klein, Brett, tüchtig, falb, mürbe, fürſtlich.

SECTION IV.—LITERATURE AND COMMERCIAL CORRESPONDENCE.

15. Give some account of two of these writers :—Wolfram von Eschenbach,
    Gottfried von Straßburg, Hartmann von Aue.

16. Characterise Luther's importance from a purely literary point of
    view.

17. Name six great writers of the 18th century, in their chronological
    order, and mention two works of each.

18. Mention *five* of the leading novelists of the present day, and give
    the titles of two works of each of them.

19. Assign *any twelve* of the following works to their respective authors,
    characterising them in a single word (drama, epic, &c.) :—Wilhelm
    Meiſter, der Geiſterſeher, Leier und Schwert, Miß Sara Sampſon,
    Ritter Toggenburg, die Räuber, Schilflieder, Siebenkäs, die Journaliſten,
    eine ägyptiſche Königstochter, Lohengrin, Zwein, die Ahnen, die Ahnfrau,
    Sturm und Drang, der wilde Jäger, der Trompeter von Säkkingen,
    Herzog Ernſt von Schwaben.

20. Write, in German, to a firm of shipbrokers, asking them to take you
    in as an apprentice, and giving particulars as to your education
    and personal circumstances.

21. Write, from the office of a provision merchant, to his agent abroad,
    complaining strongly, yet courteously, of the quality of some of
    the goods received.

22. Translate into German :—I hasten to acknowledge receipt of your
    favour of the 21st inst., duly received by us this morning,—we
    shall gladly seize the first opportunity to make use of your kind
    offer of service,—in the meantime we will endeavour to ascertain
    whether there is any demand in this country for the kind of
    articles you recommend to our notice,—please to favour us with
    further particulars as to the terms on which you would be dis-
    posed to supply the chief articles mentioned in your list,—before
    we take any further steps in this matter, we should, however,
    be glad to know whether or not our firm is the only one at this
    place with whom you have entered into communication on this
    subject.

GERMAN.

HONOURS.—SECOND PAPER.

Tuesday, 25th June.   2 P.M. to 5 P.M.

To secure full marks, the passages from, and into, German should be translated. Eight (and eight only) of the remaining questions (not less than five to be chosen from Section II.) should be answered. If more are answered, only the first eight will be counted.

Additional marks will be given for fair writing in the German character.

SECTION I.

1. Translate into English :—

(a) Da war nun mein Meer, mein vielgeliebtes Meer, das ich stets vor Freude weinend begrüßte, wenn der Traumgott mich an sein Gestade brachte und es vor mir ausbreitete in seiner Herrlichkeit. Da kamen sie herangerollt, die schönen, grünen Wogen mit den weißen, sich überstürzenden Kämmen; der Gischt der Brandung trieb hinauf bis an meine Füße; und wenn sie wieder zurückrollten, donnerte es dumpf hinter ihnen her zwischen den Millionen aneinander knirschender Kiesel. Über mir an den Kreidefelsen hin, zogen ein paar Möwen trägen Fluges, und draußen auf der Höhe blinkten die Segel einiger Fischerboote, die von der See hereinkamen nach schwerer nächtlicher Arbeit. Wie hatte ich mich gefreut, daß alles, was ich so lang' entbehrt, endlich einmal wiederzusehen, und jetzt, als ich es sah, ließ es mich beinahe kalt.

F. Spielhagen.

(b) Nie hat sich Otto größer gezeigt als damals. Bei der allgemeinen Bestürzung bewahrte er unerschütterliche Ruhe; obwohl wenige vom Heere ihm treu blieben, schaltete er mit einer Sicherheit, als ob ihm nirgends Hindernisse im Wege ständen. Hier gerade erprobte er sich als ein wahrer König, dem die Majestät und Hoheit, wie sie ihm ange= boren, durch kein widriges Geschick geraubt werden kann. Ein mächtiger Graf drohte zu jener Zeit, auch er werde den König verlassen, wenn er ihm nicht die Einkünfte einer reichen Abtei unweit Heidelberg ver= leihen wolle. „Es steht geschrieben," antwortete ihm Otto, „ihr sollt das Heiligtum nicht den Hunden vorwerfen. Willst du mich aber wie die anderen verlassen, so thue es je eher je lieber!" Da errötete der Graf und warf sich dem König zu Füßen.

W. von Giesebrecht.

(c) Aber unten im Thal, wo die Blume sich nährt von der Quelle,
    Streckt das Dörfchen vergnügt über die Wiese sich aus.
Still ist's hier; kaum rauscht von fern die geschäftige Mühle,
    Und vom Berge herab knarrt das gefesselte Rad.
Lieblich tönt die gehämmerte Sens' und die Stimme des Landmanns,
    Der am Pfluge dem Stier, lenkend, die Schritte gebeut;
Lieblich der Mutter Gesang, die im Grase sitzt mit dem Söhnlein,
    Das die Sonne des Mais schmeichelt in lächelnden Schlaf.

Aber drüben am See, wo die Ulme das alternde Hofthor
　　Übergrünt, und den Zaun wilder Holunder umblüht,
Da empfängt mich das Haus und des Gartens heimliches Dunkel,
　　Wo mit den Pflanzen mich einst liebend mein Vater erzog,
　　Wo ich froh wie das Eichhorn spielt' auf den lispelnden Ästen,
　　Oder ins duftende Heu träumend die Stirne verbarg.

<div align="right">J. C. F. Hölderlin.</div>

2. Translate into German :—

　　a. I got up and walked slowly to the village. All was hushed
into quiet; a slight smoke was here and there to be seen; stray
cattle were grazing on the outskirts; strangers on horseback
seemed to be busily engaged in preparations of some kind or
other; and the wretched peasants were seen huddled together
in groups, uncertain of the fate that awaited them. As for me,
the loss which I had already sustained made me indifferent to
any other misfortunes. I had made up my mind to find my
relations dead, to see the total ruin of our house, and to know
that I was a solitary outcast on the face of the earth, without a
wife, without a home, without parents, without a friend. But
no; imagination had worked up the picture too highly; for one
of the first persons I met on entering our village was my poor
mother, who, when she saw me, recollecting all the trouble she
had been at to secure my happiness, fell on my neck, and shed
a torrent of tears.

<div align="right">JAMES MORIER, *Hajji Baba of Ispahan.*</div>

　b. (1) If you did not care to do what I told you, why did you
　　　　not tell me so at once?

　　(2) There is no denying that the matter looks suspicious.

　　(3) That is carrying the joke too far.

　　(4) She ought to have written ere this.

　　(5) He has not succeeded in convincing me.

　　(6) Both of them were out of town.

　　(7) Necessity has no law.

　　(8) All is well that ends well.

SECTION II.—PHILOLOGY AND SYNTAX.

3. Form short sentences to show the metaphorical meaning and the
construction of six of the following participles used adjectively
(or adverbially) :—bewandert, gewogen, erhaben, bestürzt, versessen,
einverstanden, verstohlen, untersetzt, bemittelt, aufgeräumt.

4. Form, by means of prefixes (not prepositions), derivative verbs
(with their meanings) from *any twelve* of these :—Acker, Witwe,
blind, Stein, neu, stark, Wasser, Recht, Erde, Rätsel, Seite, Rauch,
Luft, Wurzel, ganz, fertig.

5. Give the meaning, and explain the formation, of *any twelve* of
these :—nimmermehr, Sündflut, leserlich, allmählich, Argwohn, nebst,
meinerseits, weiland, lebendig, unterdessen, launenhaft, lange, ordentlich,
allerlei, jeweilen, ein zu lesendes Buch.

6. Give the meanings of, and, if possible, German synonyms (words of the same meaning) for *any twelve* of these:—Zumutung, Geiß, markten, einheimsen, beschirmen, erheblich, züchtig, Tatze, ruchbar, Kleinod, Dreifaltigkeit, Imme, Inbrunst, mißlich, Lindwurm, Innung, gleißnerisch, sich erdreisten.

7. Give the German for the following sets of words (each set to be formed from the same radical word):—to lie, a lie, liar, mendacious;—to create, creator, creation, creature;—oration, orator, oratorical, eloquence;—to talk (babble), the talk, talker, talkative;—to ride, a ride, rider, cavalier, chivalry, cavalry;—thief, theft, thievish, thievishness;—to serve, servant, service, serviceable, official;—neighbour, neighbouring, neighbourly, neighbourhood.

8. Give the meaning of *any ten* of the following reflexive verbs, and state with what case or preposition they are construed:—sich fügen, sich annehmen, sich erwehren, sich verpflichten, sich verlieben, sich beladen, sich verwundern, sich bekümmern, sich verstehen, sich bemeistern, sich unterziehen, sich erbarmen, sich verlassen, sich vorbereiten, sich sehnen.

9. Give two distinct German words, with the definite article, for each of *any ten* of the following English homonyms (words of more than one distinct meaning):—ear, watch, bed, meal, spring, page, mate, mole, date, lead, bow, beam, bill, seal, bark.

SECTION III.—LITERATURE.

10. State what you know of two of these writers:—Heinrich von Veldeke, Konrad von Würzburg, Neidhart von Rauental.

11. Specify the schools or literary groups to which the following writers belong, and mention one work of each:—Paul Fleming, Bodmer, Bürger, Gottsched, Voß, Gellert, Schwab, Chamisso, Mörike.

12. Name some of the prominent writers of fables; and mention the chief works relating to the animal epic.

13. Characterise Klopstock's literary activity.

14. Name six of the leading writers of sacred poetry, and give some indication as to the nature of their chief works.

15. State what you know of the lyric and dramatic poetry of the present day.

ARITHMETIC.

Lower Grade.

Monday, 17th June.   10 a.m. to 11.30 a.m.

Candidates are not expected to attempt every question.
All answers sent in should be written out neatly and legibly.
To obtain full marks, *all the steps of the work must be shown,* and such explanation added as is required to indicate the methods adopted.
No marks can be given for results without work.

1. Find the price of 3175 articles at £4 6s. 10¼d. each.

2. How many parcels, each weighing 5 lb. 7 oz., can be made up from goods weighing 6 cwts. 2 qrs. 27 lb. 13 oz. ?

3. The area of Scotland is 29785 square miles, and the average number of inhabitants in each square mile is 139.   Find the whole population.

4. Resolve 1560, 2574, and 2925 into their prime factors, and hence write down their highest common factor.

5. Simplify—

$$(1) \quad \frac{18}{27} + \frac{24}{32} - \frac{55}{60}.$$

$$(2) \quad \frac{4\frac{1}{3} + 3\frac{1}{4}}{4\frac{1}{3} - 3\frac{1}{4}} \div \frac{4\frac{1}{3} \times 3\frac{1}{4}}{4\frac{1}{3} \div 3\frac{1}{4}}.$$

6. Simplify—

$$(1) \quad \frac{14 \cdot 44 \times \cdot 0133}{\cdot 0057 \times 1 \cdot 805}.$$

(2) ·325 of £1 3s. 4d. — ·0013 of 2s. 6d. — ·031 of 2s. 7d.

7. Express 41 yards 9 inches as (1) a vulgar, (2) a decimal fraction of a furlong.

8. One bookseller allows his customers 2d. in the shilling discount, and, in addition, 5 per cent. on the remaining price ; another simply allows 20 per cent. on the published price of the books. Find which terms are the best for the customer by considering the case when the published price of the books is £6.

9. A man bought 23 baskets of fruit at 4s. 6d. each.   Five baskets proved to be bad and were thrown away.   Find at what price per basket he must sell the others so as to get back his original outlay and also make a profit of one guinea on the whole transaction.

10. A debtor, who owes £15040, pays £7238.   How much in the pound does he pay ?

11. Find the sum which, along with simple interest at four per cent. per annum, will amount to £92 16s. in four years.

12. A path, 4½ *feet* wide, is made round a lawn 12 *yards* long and 5 *yards* wide.   How many square yards are there in the surface covered by the path ?

ALGEBRA.

LOWER GRADE.

Monday, 17th June.   3 P.M. to 4.30 P.M.

Candidates are not expected to attempt every question.
All answers sent in should be written out fully and carefully.
All the steps of the work must be shown, and any explanation which may be necessary should be added.
All writing and figures should be legible and well arranged.
Attention to these points will secure additional marks.

1. If $a=7$, $b=1$, $c=-1$, find the values of—

   (1) $\frac{1}{2}\{a-3(b+2c)\}-\frac{2}{3}\left\{\frac{a-b}{4}-3(b-2c)\right\}$;

   (2) $(a+b)(a+c)+(b+c)(b+a)+(c+a)(c+b)$.

2. Simplify the expressions—
   (1) $(x+2y)^2-(x+2y)(x-2y)+(x-2y)^2$;
   (2) $(x+1)(x-1)(x^2+x+1)(x^2-x+1)$.

3. (1) Find the highest common factor of $x^4-3x^3+2x^2-x-1$ and $x^4+x^3-2x^2+3x-1$.
   (2) Find the lowest common multiple of x^2+x-2, x^2-3x+2, and x^3+x^2-4x-4.

4. Simplify the expressions—

   (1) $\cfrac{1}{1+\cfrac{1}{1+\cfrac{1}{x}}}$;

   (2) $\dfrac{a^2+2ab+b^2}{a^2+ab+b^2}\times\dfrac{a^2-ab+b^2}{a^2-2ab+b^2}\times\dfrac{a^3-b^3}{a^3+b^3}$.

5. Resolve into factors—
   (1) $4x^2-4xy-15y^2$;
   (2) $(a+2b-3c)^2-(a-2b+3c)^2$.

6. Extract the square root of
   $4x^6-12x^4+28x^3+9x^2-42x+49$.

7. Solve the equations—
   (1) $\dfrac{2+3x}{3+2x}-\dfrac{1-3x}{3-2x}=\dfrac{8x-5}{9-4x^2}$;
   (2) $\dfrac{1+x}{1+2x}-\dfrac{1-x}{1-2x}=\dfrac{4}{15}$.

8. A pedestrian sets out on a journey at the rate of a miles an hour. A horseman, starting b hours later and riding at the rate of c miles an hour, overtakes the pedestrian in d hours. Express d in terms of a, b, and c.

9. Solve the equations—
   (1) $14x+13y-109=7y-6x+9=0$;
   (2) $(b-a)x+(a+b)y=a^2+b^2$,
       $(a+b)x-(a-b)y=2ab+b^2-a^2$.

10. A smuggler had a quantity of brandy which he expected to sell for £9 18s. When he had sold 10 gallons a revenue officer seized one-third of the remainder. He then sold the rest, but his whole receipts only came to £8 2s. Find how many gallons he had at first, and the price per gallon.

11. What is an identity? How does it differ from an equation? Prove the following identity—

$$(x+y+z)\left\{x(y+z-x)+y(z+x-y)+z(x+y-z)\right\} =(y+z-x)(z+x-y)(x+y-z)+8xyz.$$

12. Simplify—

$$\left(\frac{1+\sqrt{2}}{2+\sqrt{3}}\right)^2+\left(\frac{1-\sqrt{2}}{2-\sqrt{3}}\right)^2.$$

GEOMETRY.

LOWER GRADE.

Monday, 17th June.   12 noon to 2 P.M.

Candidates are not expected to attempt every question. All ordinary symbols and contractions are allowed.

Care should be taken to omit no steps of the proofs, and to indicate the previous propositions, etc., on which they depend.

Figures should be accurately drawn, writing legible, and the different steps neatly arranged.

It is not necessary to write out the general enunciations of propositions but the particular enunciations should be given.

Attention to these points will secure additional marks.

1. Define an angle, a triangle, an acute angled triangle, a rectangle.

2. If two sides and the contained angle of one triangle be equal respectively to two sides and the contained angle of another triangle, the two triangles shall be equal in every respect.
    ABC is a triangle having the angle ABC equal to the angle ACB, D and E are points in CA and BA, both produced beyond A, such that $CD=BE$. Show that $BD=CE$.

3. Any two sides of a triangle are together greater than the third side.
    D is any point in the base BC of the triangle ABC, prove that $BC+2AD> AB+AC$.

4. The opposite sides and angles of a parallelogram are equal.

5. Describe a parallelogram that shall be equal to a given triangle, and have one of its angles equal to a given angle.

6. If a straight line be bisected and produced to any point, the sum of the squares on the whole line thus produced, and on the part of it produced, shall be double the sum of the squares on half the line bisected, and on the line made up of the half and the part produced.
    A straight line AB, 20 inches long, is produced to C, and the sum of the squares on AC and BC is 778 square inches; find the position of C.

7. $ABCD$, $CEFG$ are squares about the diagonal ACF of a square $AHFL$. Show that the quadrilateral $AEFG$ is equal to the rectangle BF. Hence, or otherwise, show that the rectangle $AF \cdot CF$ is double the rectangle $AH \cdot BH$.

8. Prove that the angle in a semicircle is a right angle.
   Find the locus of the mid-points of all the chords of a circle that pass through a fixed point outside the circle.

9. If a triangle have a given base and a given vertical angle show that the vertex will lie on a circular arc.
   Hence construct a triangle, having given the base, the vertical angle, and the foot of the perpendicular from the vertex.

10. If from a point without a circle two straight lines be drawn, of which one cuts the circle and the other meets it, and if the rectangle contained by the secant and its external segment be equal to the square on the line which meets the circle, that line shall be a tangent to the circle.
    Two circles intersect in A and B. From C, a point in AB produced, CPQ is drawn meeting one of the circles in P and Q, and CT is drawn touching the other circle in T; show that CT will also be a tangent to the circle described through the points P, Q, and T.

ARITHMETIC.

HIGHER GRADE.

Monday, 17th June.   10 A.M. to 11.30 A.M.

Candidates are not expected to attempt every question.

All answers sent in should be written out neatly and legibly.

To obtain full marks, *all the steps of the work must be shown*, and such explanation added as is required to indicate the methods adopted.

No MARKS can be given for results without work.

1. Find the value of a lakh of rupees (100000) in francs, if a rupee be worth $1s.$ $1d.$, while £1 is worth 25 francs 26 centimes.

2. Simplify—

   (1) $$\dfrac{\dfrac{1}{7} + \dfrac{2}{7 \times 8}}{\dfrac{1}{6} + \dfrac{2}{6 \times 7} + \dfrac{3}{6 \times 7 \times 8}} \div \dfrac{5\frac{2}{3} \text{ of } 3\frac{14}{17}}{2\frac{3}{4} \text{ of } 5\frac{10}{11}};$$

   (2) $$\dfrac{2 \cdot 105 \times 3 \cdot \dot{5}}{\cdot 0\dot{4} \times 4 \cdot 2\dot{5}} .$$

3. A rate of £1497 $17s.$ is to be raised from property of which the rental is £49584. How much is this in the pound?

4. The length, breadth, and thickness of a rectangular block of stone are proportional to 4, $2\frac{1}{3}$, $1\frac{1}{2}$; the volume is 24192 cubic inches. Find the dimensions.

5. By selling potatoes at $16s.$ $11\frac{1}{2}d.$ a sack, a dealer lost $7\frac{1}{2}$ per cent.; at what price should he have sold in order to have gained $12\frac{1}{2}$ per cent.

6. State and explain the rule for reducing a circulating decimal to a vulgar fraction.

Simplify $\cdot 3\dot{5}\dot{1} \times 1\cdot 7\dot{0}7692\dot{3}$.

7. A and B set out at the same time from two places $3\frac{1}{2}$ miles apart and walk towards each other. The lengths of their steps are as 15 to 14, but while A takes 10 steps B takes 11 ; find which will reach the mid-point first, and how many yards off the other will then be.

8. A man saves £40 each year, and invests it at the end of the year at 4 per cent. compound interest; find the amount of his savings, correct to the nearest penny, at the end of the fourth year.

9. A cubic foot of water weighs 1000 ounces, and a gallon weighs 10 lb. Find in inches, correct in 2 decimal places, the depth of a cylindrical vessel which contains $2\frac{1}{2}$ gallons, and whose internal diameter is 10 inches, assuming that the area of a circle is $3\cdot 1416$ times the square on its radius.

10. Distinguish between true discount and banker's discount, and show that the true discount on a sum of money due some time hence at a given rate per cent. is the interest on the present worth of the sum.

If a sum of money be 19 times the true discount on it for a given time at a given rate, and if the interest on the same sum for the same time at the same rate be £2 3s. $4\frac{1}{2}d.$, find the sum.

ALGEBRA.

HIGHER GRADE.

Monday, 17th June. 3 P.M. to 4.30 P.M.

Candidates are not expected to attempt every question.
All answers sent in should be written out fully and carefully.
All the steps of the work must be shown, and any explanation which may be necessary should be added.
All writing and figures should be legible and neatly arranged.
Attention to these points will secure additional marks.

1. Simplify the expressions—

(1) $\dfrac{1}{\frac{2}{3-x}-x} - \dfrac{2}{\frac{3}{4-x}-x} + \dfrac{1}{\frac{6}{5-x}-x}$;

(2) $\left\{ x + \dfrac{(9x-8y)y^2}{x^2-9y^2} \right\} \div \left\{ x-y + \dfrac{7y^2}{x+3y} \right\}$

2. If $x^2+px+40$ and x^2-x-20 have a common factor, find the possible values of p.

3. Solve the equations—

(1) $\dfrac{x+8}{2x+9} - \dfrac{x-1}{3x-8} = \dfrac{1}{6}$;

$$(2) \begin{cases} 3 - \dfrac{7 + \dfrac{2x}{y}}{5} = 5 - \dfrac{5x + 9}{3y}, \\ y - \dfrac{4 + 15y}{6x - 2} = \dfrac{2xy - 13\frac{3}{8}}{2x + 5}. \end{cases}$$

4. If $p^2 = q^2 N + 1$, show that $(2p^2 - 1)^2 = (2pq)^2 N + 1$.

5. Extract the square root of—

    (1) $a^2 + b^2 + 3ab + 2(a + b)\sqrt{ab}$;

    (2) $103 - 20\sqrt{21}$.

6. Define ratio.

    If $\dfrac{a^3 + b^3 + c^3}{a^2 + b^2 + c^2} = \dfrac{a^2 + b^2 + c^2}{a + b + c}$, show that each of these fractions is equal to—

$$\frac{a(b^2 + c^2) + b(c^2 + a^2) + c(a^2 + b^2)}{2(bc + ca + ab)}.$$

7. Solve the equations—

    (1) $x = \sqrt{a^2 + x\sqrt{b^2 + x^2}} - a$;

    (2) $\dfrac{x}{5 + x} + \dfrac{7}{6 - 4x} = \dfrac{11x}{11x - 8}$;

    (3) $x^2 + y^2 + x + y = 3xy = 18$.

8. A journey of $399\frac{1}{2}$ miles is performed by a train in a certain time; if the average speed were reduced $4\frac{1}{2}$ miles an hour, the journey would take 54 minutes longer. Find the time taken in each case.

9. If A vary as B, when C is constant, and as C, when B is constant, then A will vary as BC when both B and C vary.

    If x vary directly as the cube of y and inversely as the square of z, and if $x = 1$ when $y = \frac{3}{2}$ and $z = \frac{2}{3}$; find z when $x = 3$ and $y = 18$.

10. Obtain an expression for the sum of n terms of an arithmetic progression of which a is the first term, and b the common difference.

    If s_1 be the sum of the first n terms of an arithmetic series, s_2 the sum of the next n terms, and so on, show that—

$$s_1 + s_4 = s_2 + s_3.$$

11. Define the harmonic mean of two quantities, and prove that it is less than the arithmetic mean.

    Find the 9th, 10th, and 11th terms of a harmonic progression of which 1 is the first term and 2 the sixth.

GEOMETRY.

HIGHER GRADE.

Monday, 17th June. 12 noon to 2 P.M.

Candidates are not expected to attempt every question.

All ordinary symbols and contractions are allowed.

Care should be taken to omit no steps of the proofs, and to indicate the previous propositions, &c. on which they depend.

Figures should be accurately drawn, writing legible, and the different steps neatly arranged.

Attention to these points will secure additional marks.

1. Define a point, a line, a straight line, a surface, a plane surface.

   Show that Euclid's definition of a plane surface affords a practical test by which we may find whether a given surface be plane or not.

   Give an instance of a surface on which, though not plane, straight lines may be drawn.

2. The opposite sides and angles of a parallelogram are equal, and either diagonal bisects the parallelogram.

   AC and DF are two straight lines bisected in B and E. Parallel straight lines AP, BQ, CR meet another set of parallels DP, EQ, FR, in P, Q, R. Show that PQR is a straight line and that it is bisected in Q.

3. In every triangle the square on the side subtending an acute angle is less than the sum of the squares on the sides containing that angle by twice the rectangle contained by either of these sides and the part of it intercepted between the perpendicular from the opposite vertex and the acute angle.

   H is the point of intersection of the altitudes AD, BE, CF in the triangle ABC, prove that—

   $$\tfrac{1}{2}(BC^2 + CA^2 + AB^2) = \pm AH \cdot AD \pm BH \cdot BE \pm CH \cdot CF,$$

   showing in what cases the various signs are to be taken.

4. The opposite angles of a quadrilateral inscribed in a circle are supplementary.

   Two circles intersect at A and B, P is any point on one of the circles, double chords PAQ, PBR are drawn through P, and PT is the tangent at P; show that PT is parallel to QR.

5. Inscribe a regular polygon of 15 sides in a given circle.

   On a given base describe a triangle whose angles are 36°, 60°, and 84°.

6. ABC is an equilateral triangle, points P, Q are taken on the sides AB, CA so that $AP = CQ$, and BQ meets CP in L. Show that L lies on a circle which touches AB and AC.

7. If a straight line cut two sides of a triangle proportionally, it shall be parallel to the third side.

   AB and CD are parallel tangents to a circle meeting it at B and D, AC touches the circle at E, AD and BC intersect in F. Show that EF is parallel to AB.

8. The plane angles which contain any solid angle are together less than four right angles.

Show that only three kinds of pyramids can be constructed whose bases are regular polygons and whose slant sides are equilateral triangles.

9. D, E, F are the mid-points of the sides of a triangle, X, Y, Z the feet of the altitudes. Show that the straight lines drawn perpendicular to DX, EY, FZ from their mid-points are concurrent in a point; and prove that this point is the centre of a circle which passes through D, E, X, and Y.

ELEMENTARY TRIGONOMETRY AND LOGARITHMS.

HIGHER GRADE.

Monday, 24th June.   10 A.M. to 11.30 A.M.

Candidates are not expected to attempt every question. Ordinary contractions may be used.

All answers sent in should be written out fully and carefully, showing all steps of the work.

Figures should be accurately drawn, and writing should be legible and neatly arranged.

Attention to these points will secure additional marks.

1. Define a radian (the unit of circular measure of angles) and show how to express it in degrees.

A person can distinguish an object that subtends half a minute at his eye; how many yards off can he see a halfpenny whose diameter is one inch?

2. Write out a table giving the sines, cosines, tangents, cotangents, secants and cosecants of the angles, $0°$, $30°$, $45°$, $60°$, and $90°$.

3. Find all the values of θ between -2π and $+2\pi$ which respectively satisfy the equations
   (1) $2\cos^2\theta + \sin\theta = 2$;
   (2) $\sin^2\theta + \sec^2\theta = 2\frac{1}{2}$.

4. Give geometrical proofs of the formulæ
   (1) $\cos(A-B) = \cos A\cos B + \sin A\sin B$,
   (2) $\cos A + \cos B = 2\cos\frac{1}{2}(A+B)\cos\frac{1}{2}(A-B)$.

5. Prove that
   (1) $\sin 2A = 2\sin A\cos A$,
   (2) $\cos 2A = \cos^2 A - \sin^2 A$,
   (3) $\dfrac{\sin 2A + \sin A}{1 + \cos 2A + \cos A} = \dfrac{\sin 2A - \sin A}{1 + \cos 2A - \cos A}$.

6. Express the area of a triangle in terms of one side and two angles.

The angles of a triangle are $45°$, $60°$, $75°$, and the longest side is 10 feet, find its area.

7. Prove that $\log ab = \log a + \log b$.

   Employ a table of logarithms to find

$$\text{(1)} \quad \frac{4316 \times 5294}{(3172)^2}, \quad \text{(2)} \quad \sqrt[4]{\cdot 51634}.$$

8. Show that in any triangle

$$\tan\frac{A-B}{2} = \frac{a-b}{a+b}\cot\frac{C}{2},$$

   and state the use of this formula in the solution of triangles.

9. A straight path CDB leads to B, the top of a hill, on the summit of which is a vertical flagstaff AB, which subtends angles of $35°$ and $60°$ at points C and D in the path. If BD be 30 and CD 95 feet, find the angle which the direction of the path makes with the horizontal plane.

ALGEBRA.

Honours Grade.

Monday, 17th June. 3 p.m. to 4.30 p.m.

Candidates are not expected to answer every question, but all the work sent up should be fully and carefully written out. Additional marks will be given for neatness and good style.

1. Prove that if a quadratic expression $ax^2 + 2hx + b$ has the same value for more than two values of x, it has the same value for all values of x; and find that value.

   Hence show, without multiplying out, that the expression

$$3\,(x-7)\,(x-4) - 5\,(x-4)\,(x-9) + 2\,(x-9)\,(x-7)$$

   has always the same numerical value.

2. Define a quadratic surd, and prove that no real quadratic surd can be equal to a rational quantity together with another quadratic surd.

   Simplify

$$\frac{\sqrt3-\sqrt2}{1+\sqrt2+\sqrt3+\sqrt6} + \frac{\sqrt6-\sqrt3}{1+\sqrt3+3\sqrt2+\sqrt6} - \frac{\sqrt6-\sqrt2}{1+\sqrt2+2\sqrt3+\sqrt6}.$$

3. Solve the equations—

   (i) $(x-1)\,(x-2)\,(x-3) = (4-1)\,(4-2)\,(4-3)$;
   (ii) $\sqrt{x} + \sqrt{y} = 7$,
   $x\sqrt{x} + y\sqrt{y} = 91$.

4. Four numbers are in arithmetical progression, and the first, second, and fourth are in geometrical progression. Prove that they are in the ratio of the numbers $1 : 2 : 3 : 4$.

5. Find the sum of the squares of the first n natural numbers.

   Show that the sum of the squares of the first n odd numbers is

$$[(2n-1)\,2n\,(2n+1).$$

6

6. Prove the formula giving the number of selections of r things that can be made from n things, all different.

   If this number be called $_nC_r$, prove (from first principles if you can) that

   $$_nC_r = _{n-1}C_{r-1} + _{n-1}C_r.$$

7. Assuming the binomial theorem for a positive integral index, prove it for a positive fractional index.

   Apply it to find the cube root of 128 to five places of decimals.

8. Show how the variation in value of the quadratic expression $ax^2 + 2hx + b$ may be graphically represented, and state how, in your diagram, the peculiarities of the three cases when $h^2 - ab$ is respectively positive, zero, and negative are exhibited.

9. Find two unequal quantities such that each is the square of the other; and prove that their sum is -1, and their product unity.

   If they be t, u, prove that

   $$(x + yt + zu)\ (x + yu + zt) = x^2 + y^2 + z^2 - yz - zx - xy.$$

GEOMETRY.

HONOURS GRADE.

Monday, 17th June.   12 noon to 2 P.M.

Candidates are not expected to attempt every question.

All ordinary symbols and contractions are allowed.

Care should be taken to omit no steps of the proofs, figures should be accurately drawn, writing should be legible and work neatly arranged.

Attention to these points will secure additional marks.

1. If $ABCD$ be a cyclic quadrilateral, O any point on the circumscribing circle, OP, OQ perpendiculars to any two opposite sides, and OE the diameter of the circle, prove that
   $$OA \cdot OB \cdot OC \cdot OD = OP \cdot OQ \cdot OE.$$

2. Prove that the locus of the third vertex of a triangle of fixed shape, one of whose vertices is fixed, while a second moves along a fixed straight line, is a straight line.

   Hence show how to construct an equilateral triangle, one of whose vertices is fixed and the other two lie respectively on two fixed straight lines.

3. Prove that parallel planes cut all straight lines that meet them proportionally.

   Hence prove that a cube can be cut by a plane so that the section shall be a regular hexagon, and that the plane is perpendicular to a diagonal.

4. If a transversal meet the sides of a triangle BC, CA, AB in P, Q, R, respectively, prove that

   $$BP \cdot CQ \cdot AR + PC \cdot QA \cdot RB = 0.$$

   $ABCD$ is a parallelogram, X, Y are points on AB, CD such that XY is parallel to BC, and Z, W are points on BC, AD such that WZ is parallel to AB, prove that WX, ZY intersect on the diagonal BD, and WY, ZX on AC.

5. Prove that the three perpendiculars from the vertices of a triangle on the opposite sides meet in a point.

A point O is taken within a triangle ABC, and the lines AO, BO, CO cut the opposite sides in P, Q, R; if the rectangles $AO \cdot OP$, $BO \cdot OQ$, $CO \cdot OR$ be equal, show that O is the orthocentre.

6. Prove that any straight line, drawn from a given point to cut a given circle, is divided harmonically by the circle, and the polar of the point.

Hence show, assuming the harmonic properties of a complete quadrilateral, how to draw the polar of a given point with respect to a given circle by means of the ruler alone.

7. Define the radical axis of two circles, and show how to find its position. Prove that the square on the tangent, drawn to the one circle from a point on the other, is proportional to the distance of that point from the radical axis.

8. Define a centre of similitude of two circles. How many are there? Show that the line joining the points of contact of any circle that touches two fixed circles will pass through one of two fixed points, and distinguish the cases.

9. If the base of a triangle, and its circumscribing circle be fixed, prove that the centres of the inscribed and the three escribed circles lie on two fixed circles that pass through the extremities of the base, and cut each other orthogonally.

TRIGONOMETRY AND LOGARITHMS.

HONOURS GRADE.

Monday, 24th June. 10 A.M. to 11.30 A.M.

Candidates need not attempt to answer all the questions, but all the work shown up should be carefully written, and no steps of the proofs should be omitted.

The necessary figures should be accurately drawn.

Attention to these points will secure additional marks.

1. Define completely the sine and the cosine of an angle; and trace, by means of two curves, their variation in value as θ changes from $-\pi$ to π.

2. Prove geometrically that

$$\tan\tfrac{1}{2}A = \frac{1-\cos A}{\sin A};$$

and assuming the values of the sine and cosine of 30° and of 45°, show that

$$\tan 7\tfrac{1}{2}° = (\sqrt{3}-\sqrt{2})\,(\sqrt{2}-1).$$

3. Show that in any triangle

(i) $\tan A = \dfrac{a\sin B}{c-a\cos B}$;

(ii) $\sin A + \sin B - \sin C = 4\sin\tfrac{1}{2}A \sin\tfrac{1}{2}B\cos\tfrac{1}{2}C.$

4. Prove that the area of a triangle is equal to $\frac{1}{2}bc \sin A$; and show that the area of a cyclic quadrilateral whose sides are a, b, c, d is equal to

$$\sqrt{(s-a)\,(s-b)\,(s-c)(s-d)}, \text{ where } 2s = a + b + c + d.$$

5. If $\qquad \cos A + \cos B + \cos C = 0,$
   and $\qquad \sin A + \sin B + \sin C = 0,$
   show that $\qquad \cos(A-B) = \cos(B-C) = \cos(C-A) = -\frac{1}{2},$
   and $\qquad \sin(A-B) = \sin(B-C) = \sin(C-A) = \pm \dfrac{\sqrt{3}}{2}.$

6. Show that the distance of the centre of the 9-points circle from the angle A of the triangle ABC is $\frac{1}{2}\sqrt{b^2 + c^2 - a^2 + R^2}$.

7. The elevation of a mountain's top from a point on the sea level is $10°$; at another point in the vertical plane containing the peak and the first point, at a horizontal distance from this point of 5000 yards, and 400 feet above the sea the angle of elevation of the peak is $20°$; show that the height of the mountain, expressed in feet, is $15000 \sin 20° - 400 \cos 20°$; and work this out by the aid of tables to within one inch.

8. If $\cos\theta + \sqrt{-1} \sin\theta = z$, express $\cos n\theta$ in terms of z, and show that
   $$2^{2n-1} \cos^{2n}\theta = \cos 2n\theta + 2n\cos(2n-2)\theta +$$
   $$\frac{2n(2n-1)}{1 \cdot 2} \cos (2n-4)\theta + \ldots,$$
   carefully writing down the last term.

9. Sum the series:
   $$\sin x + \sin 3x + \ldots + \sin(2n-1)x,$$
   and deduce the sum of the numerical series
   $$1 + 3 + 5 + \ldots + 2n - 1.$$

   Prove that

   $$\tan^{-1}\tfrac{1}{2} + \tan^{-1}\frac{1}{2 \cdot 2^2} + \tan^{-1} \frac{1}{2 \cdot 3^2} + \tan^{-1}\frac{1}{2 \cdot 4^2} + \ldots \text{ to } n \text{ terms}$$

   is equal to $\tan^{-1} \dfrac{n}{n+1}$.

ELEMENTS OF DYNAMICS.

ADDITIONAL MATHEMATICAL SUBJECT.

Monday, 24th June.   2 P.M. to 3.30 P.M.

Candidates need not attempt to answer all the questions. All the work should be written out fully and carefully, giving all the steps of the proofs and the detailed work of the calculations. Additional marks will be given for neatness, good style, and carefully-drawn figures.

1. Define velocity and acceleration.
   A railway engine moving with uniform acceleration is found to have a velocity of 20 miles an hour. One minute afterwards its velocity is found to be 25 miles an hour. Find the average speed and the acceleration during the interval, and express them in terms of feet and seconds.

2. A body falls from rest. Prove the equations
$$v=gt, \; s=\tfrac{1}{2}gt^2$$
without employing previous formulæ and explain the meaning of each letter employed.

A falling body that started from rest passes two points in a ·vertical line 80 feet apart at an interval of one second. Find how far it had fallen before reaching the first point, assuming $g=32$ feet per second per second.

3. Enunciate the proposition known as the parallelogram of forces. Three forces acting at a point are in equilibrium. One force is given in magnitude and direction, and the directions of the other two forces are given. Show how to find their magnitudes.

A mass of 9 lbs. hangs by a string 13 inches long, and is drawn 5 inches from the vertical by a horizontal string. Find the tensions of both strings.

4. Define centre of inertia (gravity), and find the centre of inertia of a uniform plane triangle.

ABC is a triangle and P is any point. Show that the resultant of the forces represented by PA, PB, PC must pass through the centre of inertia of ABC.

5. A mass rests on a smooth inclined plane, being supported by a force acting up the plane. Find the ratio of this force to the weight of the mass.

Show that if the supporting force were inclined to the plane it would require to be increased in magnitude.

6. A railway train weighing 200 tons is driven at a speed of 15 miles an hour against a resistance equal to a force of 25 lbs. weight per ton. Find the work done by the engine in 5 minutes and the horse-power exerted.

7. Show how the specific gravity of a substance heavier than water may be obtained.

The specific gravity of a body is $10\tfrac{1}{4}$, its weight in water is 2 lbs. 5 oz. Find its weight in air.

8. Describe the force-pump.

It is required to raise water 100 feet from the surface of a reservoir by means of a force-pump, which is placed 20 feet above the surface of the water. If the area of a section of the piston be $12\tfrac{4}{5}$ square inches, apply the principle of work to find the force along the piston rod required to work the pump (1) during the up-stroke, (2) during the down-stroke, assuming that a cubic foot of water weighs $62\tfrac{1}{2}$ lbs.

GEOMETRICAL CONICS.

Additional Mathematical Subject.

Higher Grade and Honours.

Monday, 24th June.   4 p.m. to 5.30 p.m.

Candidates need not attempt to answer all the questions, but all work sent in should be full and careful, and no steps of the proofs or explanations of the constructions should be omitted.   Figures should be accurately drawn.   Attention to these points will secure additional marks.   All ordinary symbols and contractions are allowed.

1. Define a conic section, and show how the definition enables you to distinguish between the three classes of conics.

   Explain mechanical methods of describing a parabola and an ellipse.

2. If P be any point of a parabola, S the focus, and Z the point where the tangent at P meets the directrix, prove that PSZ is a right angle.

   If A be the vertex, and the tangents at A and P intersect in Y, and YQ be the perpendicular from Y on SZ, show that $YQ = SA$.

3. OP, OQ are tangents to a parabola, and OBV is drawn parallel to the axis meeting the parabola in B and PQ in V, prove that $PV = VQ$ and $OB = BV$.

   OP, OQ are met by another tangent in R and S, and the diameters through R and S meet PQ in K and L; show that PQ is equal to twice KL.

4. The rectangles contained by the respective pairs of segments of two intersecting chords of a parabola are proportional to the parameters of the diameters which bisect the chords.

5. Give a construction for finding where a given straight line parallel to the axis cuts a conic whose focus, directrix, and eccentricity are given.

   If this line meet the directrix in M and the conic in Q, Q, and if V be the mid-point of QQ', show that MV is of constant length.

6. If AA' be the transverse axis of a central conic, and PN be the ordinate drawn to AA' from a point P on the curve, prove from the elementary definition that PN^2 bears a constant ratio to $AN . NA'$.

7. Show that the feet of the perpendiculars drawn from the foci of an ellipse to any tangent lie on a fixed circle.

8. AB is a fixed straight line, and on AB as chord any circular arc APB is described.   If the arc AP be one-third of APB, show that the locus of P is a hyperbola whose focus is A; and find its vertices.

ANALYTICAL GEOMETRY.

ADDITIONAL MATHEMATICAL SUBJECT.

HIGHER GRADE AND HONOURS.

Monday, 24th June.   12 noon to 1.30 P.M.

Candidates need not attempt to answer all the questions, but all the work should be very carefully written, and no steps of the proofs should be omitted. The answers should be accompanied by carefully drawn figures. Attention to these points will secure additional marks.

Except in Questions 1 and 5, the co-ordinate axes may be assumed to be rectangular.

1. Explain fully what is meant by saying that x and y are the coordinates of a point P.

    Find the coordinates of the points of trisection of the line which joins the points $(9, 6)$, $(3, 12)$.

2. Obtain the equation of the straight line which joins the points (x_1, y_1), (x_2, y_2).

    $x = a$, $x = a'$, $y = b$, $y = b'$, are the equations to four lines. Find the equations of the two lines joining their points of intersection, and the coordinates of the point where these two lines intersect.

3. Prove that the equation

$$x \cos \alpha + y \sin \alpha = p$$

    represents a straight line, and determine the meanings of α and p.

    Find the equations to the bisectors of the angles between the lines whose equations are

$$6x + 5y = 7,$$
$$5x + 6y = 4.$$

4. Obtain an expression for the area of the triangle whose vertices are (x_1, y_1), (x_2, y_2), (x_3, y_3).

    In the expression $X (y_2 - y_3) + x_2 (y_3 - Y) + x_3 (Y - y_2)$ I substitute for X and Y firstly $\frac{1}{3} (x_1 + 2x_2)$, $\frac{1}{3} (y_1 + 2y_2)$; and secondly $\frac{1}{3} (x_2 + 2x_1)$ $\frac{1}{3} (y_2 + 2y_1)$. On adding the results, I obtain $x_1 (y_2 - y_3) + x_2 (y_3 - y_1) + x_3 (y_1 - y_2)$. Explain this result *geometrically*.

5. Obtain formulae for transforming an equation from a system of rectangular axes to a system of oblique axes in which the origin and the axis of x are the same as before.

    Transform $y^2 = 4ax$, (the axes being rectangular,) to a system in which the origin and the axis of x remain the same, but the angle between the new axes is $60°$.

6. Obtain the equation to a circle whose centre is (p, q) and whose radius is r.

    Draw the circle $x^2 + y^2 + x - 5y = 6$, and find the coordinates of its centre and the lengths of the intercepts which it makes on the axes.

7. What is the condition that two circles may cut orthogonally?

    Find the equation to a circle with centre (a, b) which cuts the circle $x^2 + y^2 + ax + by = 0$ orthogonally.

HIGHER DYNAMICS.

ADDITIONAL MATHEMATICAL SUBJECT.

HIGHER GRADE AND HONOURS.

Monday, 24th June. 2 P.M. to 3.30 P.M.

Candidates need not attempt to answer all the questions. All the steps of the proofs should be given, and any explanations which may be necessary should be added. Additional marks will be given for neatness, good style, and careful figures.

1. Explain how a force may be completely represented by a straight line, and state "The Parallelogram of Forces."

   Four forces are completely represented by the straight lines AB, AC, BD, CD; show that their resultant is represented by a line equal to $2AD$, and find where this lines cuts BC.

2. When the centres of mass of a body, and of a given part of it, are known, how can the centre of mass of the remainder be found?

   From the corner of a uniform thin square whose side is 20 inches, a rectangle 12 by 10 inches is removed: find the distance of the centre of mass of the remainder from each of the uncut sides.

3. Define the " coefficient of friction " between two bodies in contact.

   A body rests on an inclined plane of angle α, the coefficient of friction being μ. It is found that a force P will just pull the body up the plane, and that a force Q will just prevent it from sliding down, P and Q acting in each case parallel to the steepest line in the plane. Find the weight of the body, and prove that

$$\mu = \frac{P - Q}{P + Q} \tan\alpha.$$

4. Define the terms " component " and " resultant "; and prove that (1) the sum of the components in any direction of two forces in a plane is equal to the component of their resultant in the same direction, and (2) the sum of the moments of two forces in a plane about any point in that plane is equal to the moment of their resultant about the same point.

5. What is meant by " relative velocity?" If a body P have a velocity represented by the line AB, and a body Q a velocity represented by the line BC, find the velocity of P relative to Q.

   A train is travelling at the rate of 45 miles per hour, and a bullet, fired through and at right angles to the window of a compartment 6 feet 8 inches wide, is seen to pass out 4 inches from the point exactly opposite the first hole. Calculate (1) the actual velocity of the bullet, (2) its apparent velocity as observed by a person in the carriage.

6. Enunciate the second and third laws of motion.

   From a gun of length 40 feet 4 inches and mass 60 tons, a shot of mass half a ton is discharged with a muzzle velocity of 1200 feet per second. If the gun's recoil is unchecked till the shot has left, find the gun's velocity as the shot leaves, and assuming the acceleration of the shot constant find it, and the time spent in the passage through the gun.

7. Prove, by any method, that the acceleration towards the centre when a body is describing a circle of radius r with velocity v is equal to $\dfrac{v^2}{r}$.

A mass of 14 pounds is moving on a smooth horizontal table inside a smooth hoop of $3\frac{1}{2}$ feet radius, completing one revolution per second. Find the pressure on the hoop, in pounds, assuming that $\pi = \dfrac{22}{7}$, and $g = 32$ feet per second per second.

8. Distinguish between " whole pressure " and " resultant pressure."

A hollow light cone, with a small hole at the vertex, rests full of liquid with its base on a horizontal plane. Find the resultant pressure of the liquid on the base of the cone, and that of the base of the cone on the plane. Explain the difference in your results.

9. Describe the action of some simple form of air pump, and state on what its rapidity depends.

The barometer gauge of an air pump stands at 768 m.m. to begin with : after three strokes it is lowered to 324 m.m. : what will it be reduced to after three more strokes ?

BOOK-KEEPING.

Friday, 21st June. 10 A.M. to 12.30 P.M.

Candidates are only required to answer two parts of Question 1 and one part of Question 2.

1. Define briefly the following terms :—

    (1) Bill of Exchange.   (4) Invoice.
    (2) Assets.   (5) Letter of Credit.
    (3) Capital.   (6) To take Stock.

2. (1) What are the principal objects to be aimed at in keeping books ?

    (2) What advantages has the double-entry system over the single-entry system ?

    (3) Give two forms of a trial balance sheet, and state the reasons for making one.

3. The following is the Balance Sheet of Henry Fleming, Corn Merchant, Glasgow, at 1st January, 1895 :—

ASSETS.

	£	s.	d.
Premises	1,500	0	0
Goods	3,200	15	0
C. Jamieson	33	10	0
Jn. Kerr & Co.	76	2	6
Lane & Nimmo	123	10	0
Bills receivable	225	0	0
Clydesdale Bank	190	15	6
Cash	25	7	0
	£5,375	0	0

<div align="center">LIABILITIES.</div>

		£	s.	d.
Capital	- - - - -	4,893	10	0
A. Marshall	- - - -	216	10	0
Stuart & Nisbet	- - - -	155	0	0
Bills payable	- - - -	110	0	0
		£5,375	0	0

Open ledger accounts for these balances. It is unnecessary to make any journal entries for them. They may be entered in the ledger as if carried down from the previous year.

The following are Henry Fleming's transactions for January, 1895 :—

			£	s.	d.
January	4.	Discounted bill receivable due 4th April next -	100	0	0
,,	,,	Discount thereon - - - -	1	5	0
,,	,,	Proceeds lodged in Bank - - -	98	15	0
,,	,,	Bill payable due to-day, met - - -	65	0	0
,,	,,	Cheque drawn to pay same - - -	65	0	0
,,	7.	Goods purchased - - - -	296	5	0
,,	,,	Cheque drawn to pay same - - -	296	5	0
,,	,,	Paid freights (in cash) - - -	7	7	6
,,	,,	,, A. Marshall - - -	193	18	0
,,	,,	Discount allowed by him - - -	22	12	0
,,	,,	Cheque drawn to pay him - - -	193	18	0
,,	8.	Goods sold - - - -	572	6	6
,,	,,	Cash received for same lodged in Bank -	572	6	6
,,	12.	Bill receivable, due by John Kerr & Co., to-day, sent to Bank for collection - -	75	0	0
,,	,,	Proceeds credited by Bank - -	75	0	0
,,	16.	Received from Lane & Nimmo - -	117	6	6
,,	,,	Discount allowed them - - -	6	3	6
,,	,,	Lodged in Bank - - - -	117	6	6
,,	,,	Bill credited on 12th, returned through the Bank dishonoured - - - -	75	0	0
,,	,,	Bank charges on same - - -	0	15	6
,,	,,	Cheque drawn to repay the Bank -	75	15	6
,,	21.	Paid cost of addition to premises - -	100	0	0
,,	,,	Cheque drawn to pay same - -	100	0	0
,,	25.	Drawn by Henry Fleming - -	25	0	0
,,	,,	Cheque drawn for same - - -	25	0	0
,,	26.	C. Jamieson, who has become bankrupt, pays 10s. per £, composition received (in cash) -	16	15	0
,,	31.	Paid wages (in cash) - - -	22	5	0
,,	,,	Paid taxes (in cash) - - -	8	1	3

In actual practice the above entries would probably be entered in a cash book with special columns for the *Bank* and *Discount* entries. It is desired that such a cash book be framed, and the entries for recording the above transactions made therein and posted therefrom direct to the ledger accounts.

After posting the above entries, frame journal entries for the following :—

Write off the loss on C. Jamieson's account.

Write 5 per cent. off premises for depreciation.

[If the Candidate has not been taught to use a columnar cash book, he may make such cash book and journal entries as he finds necessary to record the transactions, and post same to ledger accounts. He would, however, find the work shortened by working the question as recommended.]

Then frame a profit and loss account, and, after carrying the balance thereon to the debit or credit of Henry Fleming's capital account, frame a balance-sheet.

The goods on hand at 31st January are valued at 3,096l. 19s.

COMMERCIAL ARITHMETIC—First Paper.

Friday, 21st June. 2 P.M. to 2.30 P.M.

This paper will be taken up at the end of *half an hour*, when the other paper will be given out.

The sums are not to be copied out.

Add the *columns* placing the answers in the spaces provided. More importance will be attached to accuracy than to quickness.

Fill this in first { *Name of School* _____

Name of Pupil _____

£	s.	d.	tons	cwts.	qrs.	lb.	oz.	miles	fur.	poles	yds.	ft.	in.
641,235	6	4	13	13	3	21	14	141	3	16	4	2	8
313,721	10	10	41	15	0	17	8	216	7	25	2	1	5
28,156	9	9	2	10	1	10	11	3	6	35	3	2	10
534,785	14	11	21	4	2	16	8	31	5	26	2	0	9
190,876	8	6	—	14	0	18	13	322	4	17	5	2	6
828,739	19	7	4	2	3	5	12	51	2	33	4	1	4
245,624	14	8	81	18	2	10	10	—	6	24	1	0	8
313,977	18	10	—	13	3	16	9	412	4	16	3	2	11
82,493	7	9	12	4	1	20	10	94	0	38	4	1	7
737,926	16	5	—	16	0	13	4	—	5	26	0	2	9
158,591	15	11	32	10	3	14	10	10	6	16	1	1	11
827,197	12	8	1	12	1	26	8	37	2	19	3	2	8
238,946	13	3	42	5	0	8	11	263	7	36	4	0	6
442,839	19	7	—	19	3	27	15	41	5	14	1	2	0
190,164	11	9	24	0	0	5	10	813	4	20	2	1	10
324,635	8	0	9	16	2	16	4	31	7	29	1	2	9
71,296	10	6	31	3	1	20	12	428	2	9	5	0	7
428,003	2	10	2	0	0	17	5	341	6	37	0	2	5
18,795	0	9	21	16	2	14	3	12	4	28	4	2	10
630,682	15	8	13	4	3	18	15	4	3	6	3	0	2
913,326	9	2	8	15	1	9	9	544	5	32	3	1	11

COMMERCIAL ARITHMETIC—Second Paper.

Friday, 21st June.   2.30 p.m. to 4 p.m.

Candidates are not expected to attempt every question.

All answers sent in should be written out fully and carefully.   *To obtain full marks, all the steps of the work must be shown,* and any explanations which may be necessary should be added.   All the writing and figures should be legible and neatly arranged.

No marks can be given for results without work.

1. Make out a bill for :—
   - 47 lb. 4 oz. of tea at 1s. 10d. per lb.,
   - 38 lb. 8 oz. of sugar at $2\frac{1}{2}d.$ per lb.,
   - 18 yds. 18 in. of linen at $8\frac{1}{2}d.$ per yd.,
   - 282 boxes of matches at $2\frac{1}{2}d.$ per dozen,

   deducting 5 per cent for ready-money payment.

2. The average weight of the crew of an eight-oared boat, including the coxswain, is 10 stone 12 lb., but, excluding the coxswain, it is 11 stone 2 lb. ; find the weight of the coxswain.

3. A boy spends ·125 of his money in one shop and ·875 of the rest in another.   If he has $10\frac{1}{2}d.$ left, how much had he at first ?

4. (1) Find the value of ·21875 of £2 10s.
   (2) Reduce 15 cwt. 3 qrs. 20 lb. to the decimal of 10 tons, correct to 3 decimal places.

5. A man invests £840 in the $2\frac{3}{4}$ per cents. at 99, and £1470 in the 4 per cents. at 126; find the average rate of interest per cent. which he obtains.

6. A manufacturer combines 3 gallons of a mixture which contains 15 per cent. of water with 2 gallons of one containing 10 per cent. of water, and adds one gallon of water.   Find the percentage of water in the resulting mixture.

7. Explain how to express a given sum of money at sight as a decimal of £1, taking as examples 13s. $5\frac{1}{4}d.$ and 1s. $0\frac{1}{4}d.$, and writing down each as a decimal true to 3 decimal places.

8. What is the least exact number of years for which a sum of money must remain at 10 per cent. compound interest in order that the resulting amount may be more than double the original sum.
   Find, to the nearest penny, the amount to which £1000 would increase in that number of years.

9. A company whose head office is in Edinburgh carries on trade in Mexico, and the profits remitted in one year amount to 182441 dollars.   The capital of the company is £250000 ordinary stock, and it has also £100000 of preference stock.   If the rate of exchange for a dollar be 23·45 pence, find to the nearest pound how much of the profits remain after paying a dividend of 4 per cent. on the preference and 5 per cent. on the ordinary stock.

LEAVING CERTIFICATE, 1895.

THE EXAMINATION WAS HELD AT 211 CENTRES.

RESULTS of EXAMINATION for LEAVING CERTIFICATES held by the SCOTCH EDUCATION DEPARTMENT from the 17th to the 25th of June (inclusive).

I.—HIGHER CLASS SCHOOLS.

Number of Schools from which Candidates were presented for Examination.	Total Number of Candidates.	Number of Papers taken.
68	5,000	19,338

II.—STATE-AIDED SCHOOLS.

Number of Schools from which Candidates were presented for Examination.*	Total Number of Candidates.	Number of Papers taken.
202	8,173	20,628

* Excluding Schools from which Pupil-teachers only were presented.

I.—LIST of HIGHER CLASS SCHOOLS at which the EXAMINATION was held.

Aberdeen Girls' High School.
Aberdeen Grammar School.
Aberdeen, Robert Gordon's College.
Anstruther, Waid Academy.
Arbroath High School.
Ayr Academy.
Beith, Spier's School.
Brechin High School.
Callander, M'Laren High School.
Crieff, Morrison's Academy.
Cupar, Bell Baxter School.
Dollar Institution.
Dumfries Academy.
Dundee High School.
Dunfermline High School.
Edinburgh Academy.

Edinburgh, Daniel Stewart's College.
Edinburgh, Fettes College.
Edinburgh, George Heriot's Hospital School.
Edinburgh, George Watson's Boys' College.
Edinburgh, George Watson's Ladies' College.
Edinburgh Institution.
Edinburgh, Ladies' College.
Edinburgh, Merchiston Castle School.
Edinburgh, Royal High School.
Edinburgh, St. George's High School for Girls.
Elgin Academy.
Falkirk High School.
Forfar Academy.
Fraserburgh Academy.

Galashiels Academy.

Galashiels, Gala High School.

Glasgow Academy.

Glasgow, Allan Glen's School.

Glasgow High School.

Glasgow, Hutchesons' Boys' Grammar School.

Glasgow, Hutchesons' Girls' Grammar School.

Glasgow, Kelvinside Academy.

Glasgow, St. Aloysius' College.

Greenock Academy.

Haddington, Knox Institute.

Hamilton Academy.

Inverness College.

Inverness, Craigneish Ladies School.

Inverness, New Glenmoriston College.

Inverness Royal Academy.

Irvine Royal Academy.

Kelso High School.

Kirkcaldy High School.

Kirkcudbright Academy.

Linlithgow Academy.

Montrose Academy.

Musselburgh, Windsor Park School.

Nairn, Rose's Academical Institution.

Newton Stewart, Ewart High School (Boys).

Newton Stewart, Ewart High School (Girls).

North Berwick High School.

Paisley Grammar School and Academy.

Peebles, Burgh and County High School.

Perth Academy.

Perth, Sharp's Institution.

Polmont, Blairlodge School.

St. Andrews, Madras College.

Stirling High School.

Stonehaven, Mackie Academy.

Stranraer High School.

Tain Royal Academy.

Tayport Victoria College.

II.—LIST of STATE-AIDED SCHOOLS from which CANDIDATES were PRESENTED for EXAMINATION.

Aberdeen, Ferryhill Public School.

Aberdeen, Practising Church School.

Aberlour Public School.

Abernethy and Kincardine, Abernethy Public School.

Airdrie Academy Public School.

Alloa Academy Public School.

Alloa Sunnyside Public School.

Alva, Park Place Public School.

Alvah Public School.

Alyth Public School.

Annan Academy Public School.

Ardrossan Academy.

Avondale, Crosshill Public School.

Banchory Ternan Central Public School.

Banff (Burgh) Public School.

Bathgate Academy.

Beith Academy Public School.

Bellie, Fochabers, Milne's Institution.

Biggar, South Public School.

Blairgowrie Public School.

Bonhill, Alexandria North Public School.

Borgue Public School.

Bothwell, Uddingston Public School.

Botriphnie Public School.

Boyndie Public School.

Broughty Ferry, Grove Academy Public School.

Burntisland (Burgh) Public School.

Cambuslang, Kirkhill Public School.

Cambuslang Public School.

Cambuslang, West Coats Public School.

Campbeltown (Burgh) Grammar Public School.

Carluke, Market Place Public School.

Cathcart, Queen's Park Public School.

Closeburn, Wallace Hall Academy.

Clyne Public School.

Coupar Angus Public School.

Cromarty Public School.

Cromdale, Grantown Public School.

Cromdale Public School.

Dalkeith (Burgh) Public School.

Dalziel, Merry Street Public School.

Dingwall Academy Public School.

Dornoch Public School.

Douglas Public School.

Dryfesdale Public School.

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Duffus, Burghead Public School.

Duffus, Hopeman Public School.

Duffus Public School.

Duirinish, Dunvegan Public School.

Dull, Aberfeldy Public School.

Dumbarton (Burgh) Academy Public School.

Dundee, Harris Academy Public School.

Dundee, Liff Road Public School.

Dundee, Morgan Academy Public School.

Dunoon Grammar Public School.

Durness, Durine Public School.

Edinburgh, Abbey Hill Public School.

Edinburgh, Canonmills Public School.

Edinburgh, Dalry Public School.

Edinburgh, Dean Public School.

Edinburgh, Gorgie Public School.

Edinburgh, James Gillespie's School.

Edinburgh, Leith Walk Public School.

Edinburgh, London Street Public School.

Edinburgh, Normal and Model Free Church School.

Edinburgh, Normal Practising Church School.

Edinburgh, North Merchiston Public School.

Edinburgh, Regent Road Public School.

Edinburgh, Roseburn Public School.

Edinburgh, St. Bernard's Public School.

Edinburgh, St. George's Local Church School.

Edinburgh, St. James' Episcopal School.

Edinburgh, St. Leonard's Public School.

Edinburgh, Sciennes Public School.

Edinburgh, South Bridge Public School.

Edinburgh, Stockbridge Public School.

Edinburgh, Torphichen Street Public School.

Edinburgh, Warrender Park Public School.

Elgin (Burgh) Girls' Public School.

Elgin (Burgh) West End Public School.

Enzie Public School.

Fearn Hill of Fearn Public School.

Ferry-Port-on-Craig Public School.

Fetteresso and Rickarton, Stonehaven Public School.

Fordoun Public School.

Fordyce, Portsoy Female Industrial School.

Fordyce, Portsoy Public School.

Fordyce Public School.

Forres (Burgh) Public School.

Fraserburgh Public School.

Galston Public School.

Gamrie, Bracoden Public School.

Gamrie, Macduff Public School.

Girvan Burgh Public School.

Glasgow, City Public School.

Glasgow, Garnethill Public School.

Glasgow, John Street Public School.

Glasgow, Kent Road Public School.

Glasgow, Our Lady and St. Francis Roman Catholic School.

Glasgow, St. Mungo's Academy Roman Catholic School.

Glasgow, Whitehill Public School.

Glasgow, Woodside Public School.

Glenrinnes Public School.

Golspie Public School.

Govan, Albert Road Public School.

Govan, Bellahouston Academy Public School.

Govan, Fairfield Public School.

Govan, Govanhill Public School.

Govan, Hamilton Crescent Public School.

Govan, Hillhead Public School.

Greenock (Burgh), Belville Place Public School.

Greenock (Burgh), Highlanders' Academy Public School.

Greenock (Burgh), Holmscroft Public School.

Hamilton (Burgh), St. John's Grammar School.

Hamilton, (Landward), Low Waters Public School.

Hamilton (Landward), Motherwell Public School.

Huntly, Gordon Public School.

Inveravon, Glenlivet Public School.

Inveravon Public School.

Inverness (Burgh), High Public School.

Keiss Public School.

Keith Public School.

Kelton, Castle Douglas Public School.

Kilbrandon and Kilcbattan, Easdale Public School.

Kilbride Lamlash Public School.

Kildalton, Port Ellen Public School.

Kildonan, Helmsdale Public School.

Killarrow and Kilmeny, Bowmore Public School.

Kilmalcolm Public School.

Kilmallie, Fort William Public School.

Kilmarnock (Burgh) Academy Public School.

Kilninian and Kilmore, Tobermory Public School.

Kilsyth (Burgh) Academy Public School.

Kingussie Public School.

Kininmonth Public School.

Kinloch Rannoch Public School.

Kirkmichael, Tomintoul Public School.

Kirkwall (Burgh) Public School.

Kirriemuir Webster's Seminary Public School.

Knockando Public School.

Laggan, Gergask Public School.

Lanark Grammar Public School.

Largs Public School.

Larkhall Academy Public School.

Lasswade Public School.

Leith, Craighall Road Public School.

Lenzie Academy Public School.

Lerwick, Anderson Educational Institute Public School.

Leslie Public School.

Lismore and Appin, Baligarve Public School.

Lochalsh, Plockton Public School.

Lochbroom, Ullapool Public School.

Lochgilphead, Ardrishaig Public School.

Lochgilphead Public School.

Markinch Public School.

Marnoch, Aberchirder Public School.

Maryhill, Eastpark Public School.

Maybole, Ladyland Public School.

Mortlach Public School.

Musselburgh Grammar Public School.

Neilston, Grahamston Public School.

New Deer Public School.

Newhills, Buxburn Public School.

New Kilpatrick Public School.

Oban High Public School.

Old Cumnock Public School.

Old Kilpatrick, Clydebank Public School.

Old Kilpatrick, Duntocher Public School.

Old Moukland Coatbridge Public School.

Old Monkland, Gartsherrie Church School.

Olrig, Castletown Public School.

Ordiquhill Public School.

Paisley, Neilson Educational Institution.

Penicuik Public School.

Peterhead (Burgh) Academy Public School.

Port Glasgow, Jean Street Public School.

Portree Public School.

Prestonkirk, East Linton Public School

Prestonpans Public School.

Rathven, Buckie Public School.

Rathven, Findochty Public School.

Rathven Public School.

Rayne North Public School.

Renfrew (Burgh) Blythswood Testimonial Public School.

Rosemarkie, Fortrose Academy Public School.

Rosskeen, Invergordon Public School.

Rothesay (Burgh) Academy Public School.

Rothiemay Public School.

Row, Helensburgh, Hermitage Public School.

Rutherglen, Stouelaw Public School.

Scoonie Leven Public School.

Stornoway, Nicolson Public School.

Strichen Public School.

Stromness Public School.

Tarbert Public School.

Thurso, Miller Institution Public School.

Tranent Public School.

Tulliallan and Kincardine Public School.

Urquhart and Glenmoristou, Glen Urquhart Public School.

Wemyss, Buckhaven Higher Grade Public School.

Wick (Burgh) Pulteneytown Academy Public School.

Ytban Wells Public School.

TABLE showing Subjects in which Candidates were presented, and
Results of the Examination.

Subject.	Total Number presented.	Passed in different Grades.			Total Passes.
		Lower.	Higher.	Honours.	
English - - - -	8,704	3,120	1,068	58	4,246
Latin - - - -	1,790	645	332	22	999
Greek - - - -	865	308	140	15	463
French - - -	4,227	1,889	423	80	2,392
German - - -	1,969	990	356	55	1,401
Mathematics* (including Arithmetic).	3,625	1,634	401	41	2,076
Arithmetic only - -	8,311	3,800	725	—	4,525
		Passed.	Passed with Distinction.		
Geometrical Conics - -	124	42	18		60‡
Analytical Geometry - -	95	33	18		51‡
Elements of Dynamics - -	310	143	7		150‡
Higher Dynamics - -	60	28	2		30‡
Book-keeping and Commercial Arithmetic.†	516				307

* To 934 candidates who have failed to pass in mathematics, but have passed in
arithmetic, certificates will be issued in that subject only, as follows :—
           251 in the Higher Grade.
           683 ,,   Lower   ,,
† Candidates are not passed in grades.
‡ No passes are reckoned unless the candidates have also obtained a certificate in
mathematics.

	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.
Number of candidates -	972	2,066	2,528	3,120	5,175	7,148	9,833	13,173
,, schools -	29	41	43	50	115	152	212	270
,, papers taken -	4,300	9,200	11,300	13,192	18,691	24,240	30,906	39,966

H. CRAIK,
        Secretary.

Scotch Education Department,
  Dover House, Whitehall,
    17th July 1895.