

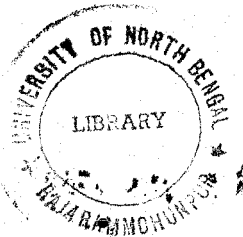
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APPENDICES

TO

The Report of the Post-Graduate
Re-organisation Committee

1924-1925



CALCUTTA UNIVERSITY PRESS

1925

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Appendix I

*Extracts from the Minutes of the Senate, dated the 27th
September, 1924.*

3. Mr. Pramathanath Banerjee moved :

(A) That in view of the fact that almost all the appointments to the teaching staff in the department of Post-Graduate Studies in Arts and Science expire on the 31st May, 1925, and in view of the immediate necessity for formulating a definite scheme for the stabilisation and development of Post-Graduate Studies in Calcutta the following Committee be appointed to enquire into the working of the Post-Graduate departments in the University and submit a report to the Senate at an early date :—

1. The Hon'ble Justice Sir William Ewart Greaves, Kt., M.A., Vice-Chancellor, *Chairman*.
2. E. F. Oaten, Esq., M.A., LL.B.
3. Sir Nitraton Sircar, Kt., M.A., M.D., LL.D., D.C.L.
4. Ferambachandra Maitra, Esq., M.A.
5. Girishchandra Bose, Esq., M.A., M.R.A.S.
6. Subodhchandra Mahalanobis, Esq., B.Sc., F.R.S.E.
7. Prof. P. Brühl, D.Sc., I.S.O., F.C.S., F.G.S.
8. Sir Praphullachandra Ray, Kt., C.I.E., Ph.D., D.Sc., F.C.S.
9. Jnanchandra Ghosh, Esq., M.A.
10. Jnanranjan Banerjee, Esq., M.A., B.L.
11. Bidhanchandra Ray, Esq., B.A., M.D., F.R.C.S., M.R.C.P., M.L.C.
12. Rev. W. S. Urquhart, M.A., D. Litt.
13. R. N. Gilchrist, Esq., M.A.
14. Abdulla-al-Mamun Suhrawardy, Esq., M.A., D.Litt., Ph.D., M.L.C.
15. Pramathanath Banerjee, Esq., M.A., B.L.
16. Prof. Pramathanath Banerjee, M.A., D.Sc., M.L.C.
17. Syamaprasad Mookerjee, Esq., M.A., B.L.

(B) That the Committee associate with itself the following Gentlemen :—

(a) Secretaries of the Post-Graduate Councils in Arts and Science when questions relating to the particular Council come up for discussion.

(b) The Chairman and two Members of each of the Higher Boards of Studies when questions relating to it will be considered.

(C) That the Committee shall enquire into and report to the Senate on the following and other relevant matters :—

(a) Whether retrenchment is possible in the Post-Graduate departments concerned. If so, in what directions ?

(b) Whether the pay and conditions of employment and service of the members of the teaching staff are satisfactory ?

And what specific recommendations may be made for improving the same.

(c) Whether the members of the teaching staff have been given proper facilities for carrying on research work.

(d) Whether the rules relating to the Provident Fund of the Teachers are satisfactory and, if not, on what lines the rules should be framed to afford the teachers greater security and larger amount of money in the Provident Fund either at the time of retirement or resignation.

(D) That the quorum for a meeting of the Committee be fixed at 9.

Khan Bahadur Maulvi Hedayet Hossain seconded the motion.

With the leave of the Senate, the names of the following gentlemen were added to the Committee and the quorum was fixed at 11 :—

Rai Bahadur Dr. Upendranath Brahmachari, M.A., M.D., Ph.D.

H. E. Stapleton, Esq., M.A., B.Sc.

Prof. D. R. Bhandarkar, M.A., Ph. D.

The motion of Mr. Pramathanath Banerjee as altered, was then put to the vote and carried.

APPENDIX II

Report of the Committee appointed to consider arrangements for Post-Graduate Teaching in the University of Calcutta, 1916.

We, the members of the Committee appointed by the Government of India to consider the question of Post-Graduate Studies in the Calcutta University and its constituent Colleges, have the honour to submit our report.

It is desirable to commence with a precise statement of the scope of the enquiry entrusted to the Committee. This is best described in the following extract from the letter addressed by the Secretary to the Government of India to the Private Secretary to His Excellency the Rector of the University:—

“The Committee should review the existing facilities in the University of Calcutta for instruction beyond the Bachelorship degrees (Chapters XXXIII and the XXXVII of Calcutta University Regulations) and should make suggestions whereby the existing expenditure and available resources for such teaching may be put to the best use. The Committee should be asked to examine the points referred to it with special reference to the quality of the teaching given, the recommendations made by the Universities Commission, the economic employment of the resources of the University and the Colleges in men and money (including the grants now given by the Imperial Government), remuneration of the teachers and fees paid by the students, the relation of the University as a teaching body to its affiliated colleges and the maintenance of suitable relations between teachers and students in the University. The Committee should frame its recommendations merely with a view to the best expenditure of existing funds and it should understand that further grants for Post-Graduate Education cannot be expected in the near future.”

Short description of the arrangements made from time to time for higher teaching.

2. It is convenient, first of all, to give a short description of the arrangements made from time to time for the M.A. and M.Sc. courses.

There have been four distinct periods in the history of the higher teaching of Calcutta University—

(a) In the first regulations framed in 1858 provision was made for the institution of an examination for the degree of Master of Arts. It was contemplated that the degree of Bachelor of Arts

1858—1864. should ordinarily be taken at the end of four years from the date of Matriculation, and it was laid down specifically that the candidate should carry out the prescribed courses of study at a college affiliated to the University. The regulations, however, did not require a candidate for the M.A. degree to have studied in an affiliated institution since the date of graduation, as any graduate either of the University or any other university of India or of the United Kingdom was entitled to be admitted to the M.A. Examination on payment of the prescribed fee. It was also provided that if a candidate passed the B.A. Examination at the end of four years from Matriculation and the M.A. Examination a month later he was deemed to have taken honours; and the names of such candidates were to be published in order of merit in lists classified according to subjects. The names of all other successful candidates at the M.A. Examination were arranged in alphabetical order without specification of class or subject. During this period, 119 candidates passed the B.A. Examination; of these 19 appeared for the M.A. Examination, 9 of whom were successful, but none obtained honours.

(b) The University authorities speedily realised that it was impossible for even the best prepared candidates to qualify themselves for the M.A. Examination within four years of Matriculation. Arrangements were made, therefore, whereby those who had taken their B.A. degree within four years from Matriculation were deemed to have taken honours at the M.A. Examination, if they took the M.A. degree within one year (instead of one month, as before) from the time of graduation. This system continued in operation for 20 years from 1865 to 1884. During this period, 2,251

passed the B.A. Examination; of these 907 appeared at the M.A. Examination, of whom 554 were successful and 392 took honours.

(c) In 1885 a further alteration was introduced into the regulations. It was laid down that all successful candidates at the M.A. Examination should be arranged in order of merit, subject by subject, whatever the time that had elapsed between Matriculation and graduation or between graduation and admission to the M.A. Examination. This system continued in force for 24 years—from 1885 to 1908. During this period, 10,464 candidates took the B.A. degree and 60 took the B.Sc. degree (which was instituted in 1902 to secure proper recognition of those who studied scientific subjects). Of these 10,524 graduates, 4,180 appeared at the M.A. Examination, of whom 1,804 were successful.

1885—1908.

(d) In 1909 the new regulations framed under the Indian Universities Act of 1904 came into operation. Three changes of vital character were then made regarding the M.A. Examination.

1909—1915

(i) No one was to be permitted to proceed to the M.A. Examination in less than two years from graduation.

(ii) A candidate would be eligible for admission to the Examination in two years, provided that he had, since graduation, pursued a regular course of study during that time in an affiliated college or under University Lecturers; if he had not done so, he could appear at the examination only at the end of not less than three years from graduation.

(iii) The course of study in each subject was thoroughly remodelled and widened in scope, better provision being made for more specialised study. This system had, in 1915, been in operation for seven years. During that period 6,026 candidates have taken the B.A. degree and 1,165 the B.Sc. degree. Of these 7,191 graduates, 2,158 appeared at the M.A. Examination and 407 at the M.Sc. Examination (which was instituted in 1909), 1,171 being successful in the M.A. and 226 in the M.Sc. Examinations.

3. It is instructive to compare during each of these periods the average number of new graduates each year, the average number of candidates for the M.A. Examination, and the average number of successful candidates in that examination.

Increase in number of students taking the M.A. and M.Sc. Examinations is in proportion to the increase in the number of graduates.

Period.	Average annual number of graduates.	Average annual number of graduates appearing at the M.A. Examination.	Percentage of figures in the preceding columns.	Percentage of successful candidates at the M.A. Examination.
A. (1858 to 1864) ...	17	3	18	47
B. (1865 to 1884) ...	113	45	40	60
C. (1885 to 1908) ...	438	174	39	44
D. (1909 to 1915) ...	1,027	366	36	54

From these figures it will be seen that, omitting that first seven years when the condition of things was more or less experimental, since 1865 for a period of half a century the proportion of graduates who have sought admission to the higher examination has remained very steady, varying only from 36 to 40 per cent. ; and the proportion of successful candidates at the M.A. Examination has remained almost equally steady, varying only between 44 and 60 per cent. It is therefore reasonable to deduce that the number of candidates for the M.A. and M.Sc. Examinations will continue to increase *pari passu* with that of the successful graduates, and should, therefore, under present conditions, increase even more rapidly in the near future.

4. Under such a system, by which until very recently the University has been content to leave the entire teaching of all its courses to the affiliated colleges, while keeping to itself the duties of examining students and prescribing course and curricula, there were two grave defects, in particular, which still remain to some extent in spite of such improvements as have been made in recent years:—

Defects of the system.

(a) There was a complete divorce of teaching from examination, which defect under existing conditions it has not been possible to remedy. The teachers are still expected to teach in accordance with the courses and curricula laid down by the several University Faculties and Boards of Studies of which they are not necessarily members; and the students had to submit, in many cases, to examination by those who were not their teachers. Indeed, at one time, the teachers were actually debarred by resolution of the Syndicate from setting papers on the ground that otherwise it would be a serious embarrassment to the teacher, who would have to keep secret the questions he had set as examiner, and as teacher would have to emphasise what he considered most useful or important; such a system, it was found, also demoralised the students who sedulously set themselves to secure and study the lecture notes of teachers who had been appointed examiners. In consequence, pupils and teachers alike tend to pay a slavish regard to the precise limits of a syllabus and of the particular books recommended.

(b) The higher branches of study were neglected or, more correctly, were rarely attempted. Few, if any, of the affiliated colleges were sufficiently staffed or equipped to prepare for the M.A. and M.Sc. courses in addition to their under-graduate work. It is a remarkable fact, first discovered while the Indian Universities Bill was before the Council in 1903, that no college (except one which is not now within the jurisdiction of the University), had ever been affiliated up to the M.A. standard. In practice, a college would submit candidates for the M.A. examination in a course in which there were on the staff one or more professors willing to assist the students in their spare time.

5. The Universities Commission were fully aware of the defects referred to above, and in paragraph 24 of their report recorded the following opinion:—“We think it expedient that *undergraduate* students should be left, in the main, to the colleges, but we suggest that the universities may justify their existence as teaching bodies by making further and better provision for advanced

Recommendation
of the Universities
Commission and sub-
sequent development.

courses of study. The University may appoint its own lecturers, and provide libraries and laboratories; it would also be proper that the University should see that residential quarters are provided for students from a distance. Colleges co-operating in such a scheme would, we assume, be willing to contribute, by means of scholarships or otherwise, to the maintenance of those students who take advantage of the university courses. In this way central schools of advanced study may in time be formed. One advantage of the plan is that it can be worked out gradually without the great initial expense which the creation of a *complete* professoriate would involve."

In consequence of this recommendation, the Universities Act of 1857 was amended by that of 1904, which enacted that the universities shall be, and shall be deemed to have been, incorporated for the purpose (among others) of making provision for the instruction of students with power to appoint university professors and lecturers, to hold and manage educational endowments, to erect, equip and maintain university libraries, laboratories and museums, to make regulations relating to the residence and conduct of students, and to do all acts, consistent with the Act, for the promotion of study and research. The regulations were then changed in conformity with this section of the Act to regularise the appointment and remuneration of the university staff.

For a time very little was done to carry out the recommendations of the Universities Commission. Lack of funds was the chief obstacle and the number of M.A. and M.Sc. candidates being comparatively small, there was little incentive for the University to undertake teaching responsibilities. In the course of time, however, it was noticed that a large number of M.A. and M.Sc. candidates came up for the examinations without adequate instruction, which was permitted under the regulations, and arrangements were made by the University authorities whereby some assistance was given to these and other students. This participation by the University in the teaching of graduates was rendered possible by the co-operation of certain college professors who undertook to deal with particular branches according to their special qualifications and the time at their disposal after the performance of their work in their colleges. We wish to record our sincerest appreciation of the efforts of these gentlemen, the majority of whom worked in an honorary capacity. A few of a colleges still continued to prepare candidates for the M.A. and M.Sc. Examinations, but, owing to the largely increased number of undergraduates, found themselves less and less able to cope with the M.A. and M.Sc. work.

7. In 1912 it was found essential to systematise the arrangements made by the University and fortunately what had become essential was also to some extent rendered possible through the generosity of the Government of India and of certain individuals. In September of that year the Government of India put the following sums at the disposal of the University—

<i>Non-recurring—</i>	Rs.
Examination halls and law hostels ...	3,00,000
Books and furniture for University library ...	1,00,000
TOTAL ...	4,00,000

<i>Recurring—</i>	
Professorship of Mental and Moral Science ...	12,000
" " Mathematics ...	12,000
• Additional grant to University Law College ...	10,000
Two University Readers ...	4,000
University Lecturers ...	15,000
Maintenance of a laboratory in connection with Mr. Palit's benefaction ...	12,000
TOTAL ...	65,000

From the sale proceeds of Sanskrit publications the University instituted the Carmichael Professorship of Ancient Indian History and Culture. The University, out of its current income, also maintained three other chairs—two for English Literature and one for Comparative Philology. Sir Taraknath Palit also made a generous gift of money and land to the extent of 15 lakhs of rupees, to which the University has since added four lakhs from its reserve fund towards the establishment of a University College of Science for the promotion of higher teaching in different branches of Physical and Natural Sciences. A little later Sir Rashbehary Ghose made a gift of 10 lakhs of rupees for the foundation of professorships and studentships in connection with the proposed University College of Science.

8. With the assistance referred to in the previous paragraph and the receipts from fees, etc., the University has been enabled to make the appointments summarised in an appendix to this report. It soon became evident that competent scholars would not accept whole-time appointments as university teachers, unless assured security of office for a

Organisation of a
University staff and
its necessity.

longer term than two years (the maximum term for which a lecturer could be appointed under Chapter XI). The University accordingly instituted certain assistant professorships under Section 3 of Chapter IX of the regulations for various terms ranging from three to ten years. The following table gives the number of students in the University classes in each subject during the current session :—

Subject.	5th-year Class.	6th-year Class.	TOTAL.
English	254	153	407
Philosophy	127	90	217
History	111	77	188
Economics	74	41	115
Pure Mathematics	220	74	294
Sanskrit	14	9	23
Arabic	1	4	5
Persian	4	3	7
Pali	1	1	2
	806	452	1,258

9. In 1908, the Presidency College obtained affiliation in English, Mixed Mathematics, History and Economics; and subsequently in Physics, Chemistry, Botany and Physiology. The Scottish Churches College also is affiliated in Philosophy. No other college in Calcutta is affiliated in any subject for M.A. or M.Sc. teaching. The staffs of these two colleges are given in the appendix to this report. The numbers in each subject in these colleges are as follows :—

Presidency College.

Subject.	5th-year Class.	6th-year Class.	TOTAL.
English	42	34	76
History	18	20	38
Economics	36	27	63
Philosophy	11	15	26
Mathematics	20	34	54
Physics	18	18	36
Chemistry	7	7	14
Geology	2	2	4
Physiology	5	3	8
Botany	6	1	7
	165	161	326

Scottish Churches College.

Subject.	5th-year Class.	6th-year Class.	TOTAL.
Philosophy	18	5	23

10. From the information given above it can be seen that neither an individual college nor even a group of colleges working in co-operation could have provided for the needs of some 1,600 graduates. It is also worthy of mention that in some of the subjects, such as Pure Mathematics, Comparative Philology, Pali, Persian, and Arabic, for which provision is made by the University, no arrangements exist in any affiliated institution. We are therefore agreed that the appointment of a full-time University staff was essential. Without it, the number of private students receiving no instruction and subject to no control whatever would have reached at least a thousand, with disastrous consequences to themselves and to the cause of higher education.

11. According to the terms of our reference, we are concerned chiefly with the latter defect referred to in paragraph 4 of this report and the consequent necessity of recommending better facilities for higher studies, but we hope that our proposals will result also in a closer connection between examination, the arrangement of courses and curricula, and the work of teaching, so far at least as the higher courses are concerned. In view of the probable institution of the new Universities at Dacca and Patna we would prefer to leave as they are such arrangements as may exist outside Calcutta, and therefore have confined our attention as far as possible to the urgent needs of Calcutta and its students. We have also refrained from making proposals which would entail additional expenditure at the present time when funds are not readily available. It is our desire therefore to make recommendations whereby the best possible instruction may be given to all students in Calcutta who are capable of deriving benefit therefrom by the utilization of the combined resources of the University and its colleges. We also hope that our proposed scheme may be capable of expansion in the future as soon as funds are forthcoming.

12. It is highly desirable that there should be no spirit of rivalry between the University and its colleges, and that all the teachers should be imbued solely with the desire of furthering higher education. We are of the opinion, however, that such harmful rivalry and

The control of higher teaching should be placed under the University.

competition do exist, and result in a lack of co-operation. We have no desire to impute any blame to either the University or the affiliated colleges; both have done their best under very difficult and trying circumstances to provide such instruction as was possible. But it is plain that the lack of a central organization whereby the University and its colleges could be brought into contact with each other has rendered concerted action between them almost impossible. We have therefore considered and rejected certain suggestions which, though attractive in some ways, seem to us inadvisable for the reasons given in the course of this report. It is impossible to return to the old system by which certain colleges had each its separate organisation for the higher teaching. It is again impossible to suggest arrangements whereby these colleges could institute a form of inter-collegiate lectures which would meet present requirements. Nor has the University sufficient funds to institute a separate and complete organization, nor would it be advisable for it to do so for reasons given in the next paragraph. Nor, finally, would it be feasible except in connection with certain sciences to sort out the prescribed subjects between the University and the colleges as, in addition to the difficulty of carrying out such an arrangement, it is advisable that the students and teachers of one subject should be in intimate contact with those engaged in another. We recommend, therefore, that the affiliation of colleges in Calcutta for M.A. and M.Sc. work should cease and that the organization of post-graduate instruction of all kinds be considered to be the duty of the University.

13. While recommending that the control of higher teaching shall be vested in the University, we do not desire to suggest that the staffs of the colleges should confine their attention to undergraduate work. Indeed, we would go so far as to say that the association of the colleges not only in the actual teaching but also in the work of our organizing the higher teaching of the University is an essential factor of scheme, and that we have tried to reconcile the legitimate claims of the colleges with the concentration of higher teaching under the control of the University. In coming to this conclusion we have been influenced by many vital considerations.

The necessity of associating the colleges with the higher teaching of the University.

(a) In paragraph 26 of their report the Universities Commission recorded the following opinion:—

Necessity of increasing the scope of the college professor.

“Our plan (*i.e.*, the appointment of a university staff) has been met with an objection which demands careful consideration. If students are drawn from their own colleges to a central school, it is said that teachers in colleges will be limited to the routine of the under-graduate classes and that their teaching will suffer in consequence. We sympathise entirely with the teachers who have placed their view of the matter before us; but we may point out that if the scheme we recommend restricts the opportunities of a college teacher in one direction, *it may also open a wider field in another.* In working a central school of science or philosophy, or literature, the University will naturally endeavour to utilise, as far as possible, the services of the best teachers in its own colleges. If a professor has to part with some of his students when they begin their advanced work, he may cherish the hope of being appointed to deliver a course of University lectures, or in some other way to take part in the work of the central school. We do not forget that the staff of a college is usually not more than equal to the work imposed upon it; but means may perhaps be found to relieve a professor of part of his ordinary college duty, if he is required to give some portion of his time to advanced work elsewhere.”

We would draw attention in particular to the words which we have italicised. It is our desire in making our recommendations that the scope of the experienced and capable college professor shall be increased and that his influence shall be brought to bear on a larger number of graduates than at present. It is a grave weakness in the present system that the scholarship and the influence of the best college professors are limited to those few M.A. or M.Sc. students who attend their own college, and still more so that the scholarship and influence of all professors of colleges which are not affiliated for this form of instruction are often lost altogether. Not only is it right that competent college professors should be associated as intimately as possible with the higher work, but the elimination of these men from such work would have a most unwholesome influence on the undergraduate teaching, for it is by doing original work himself and by co-operation with the advanced students that a teacher s

encouraged to keep abreast of modern developments and maintain a high standard of scholarship. The way to influence students most powerfully is to advance in scholarship, and therefore to hand over the undergraduate work to men who have no part or lot with the higher work would be disastrous to the best interests of the University and its students.

- (b) It is equally essential that those engaged in the

Association of those engaged in the higher teaching with undergraduate work is most advisable.

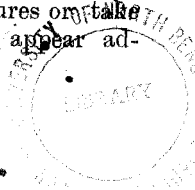
higher work should have an intimate connection with the lives and the work of the undergraduates. We would again express our meaning in the words of the London University report:—“It is essential that the higher work of the University should be closely associated with the undergraduate work.....No one suggests that research shall be divorced from teaching, but for various reasons proposals are made for organising the higher and more advanced work of the University separately from the undergraduate work in a way which must tend in this direction. We agree with the view expressed in the report of the Professorial Board of University College that ‘any hard and fast line between undergraduate and post-graduate work must be artificial, must be to the disadvantage of the undergraduate, and must tend to diminish the supply of students who undertake postgraduate and research work.’ Even in those cases where it is necessary to provide for research departments which, because of their specialised work, are unsuited for the admission of undergraduates, they will be stronger and more effective if they are in close proximity to departments where undergraduate work is done. Teaching will, of course, predominate in the early work, and research will predominate in the advanced work; but it is in the best interests of the University that the most distinguished of its professors should take part in the teaching of the undergraduates from the beginning of their university career. It is only by coming into contact with the junior students that a teacher can direct their minds to his own methods, and hence obtain the double advantage of selecting the best men for

research and getting the best work out of them."

We agree with this opinion and would like to see all those engaged in M.A. and M.Sc. work taking also some part in the undergraduate instruction, at least in its higher stages. Unfortunately, the conditions that prevail here are somewhat different from those obtaining in London and render the realisation of such an ideal impracticable at present. As we have stated above, it is extremely difficult for an affiliated college, however well-staffed and equipped, to undertake the M.A. or M.Sc. instruction, even in a few subjects, in addition to the undergraduate courses; and it is almost as difficult for a group of colleges acting together to provide the necessary facilities. We therefore feel that the appointment of a whole-time and salaried university staff is necessary. We should be glad if arrangements could be made whereby members of that staff were brought into contact with the more advanced undergraduates of the colleges, but refrain from making any recommendation, as the discussion of undergraduate instruction is beyond our terms of reference. It is all the more essential, therefore, that under the present constitution, the whole-time university staff should be associated intimately in their work with certain number of college professors also engaged in undergraduate teaching. It has been brought to our notice that in the past certain college professors have been appointed permanently to the university staff. There is no objection to such a practice, if not carried to excess. We would only point out that the presence of such professors on the university staff will not prevent the divorce of post-graduate from undergraduate work, for it is not past experience of undergraduate work but present contact with junior students that can effect that intimate and desirable connection between the various grades of teaching. In making provision for the higher studies, therefore, the University would be well advised not to deplete to any serious extent the ranks of the college staffs, but rather to associate them from time to time with the instruction of the M.A. and the M.Sc. students, by inviting them to deliver courses of lectures or to take such a part in the higher work as may appear advisable to the Council proposed below.

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- (c) We would also suggest that the University should not be restricted in the matter of appointments to the members of its own staff or to those of the colleges, but should if advisable appoint from time to time as lecturers men who are recognised authorities in a subject which is included in the university courses. Such

Association of the general public with the higher work of the University.

action should result not only in widening the horizon of the students, but also in interesting members of the general public in the affairs of the university by giving them an actual share in its responsibilities.

- (d) We also attach considerable importance to the necessity of providing a variety of treatment in the instruction offered to graduates, and of affording opportunities of specialisation on the part of the teachers; and this is all the more necessary owing to the very great

Variety of treatment essential.

latitude allowed to students in the choice of subjects. Students engaged in the higher courses should draw inspiration and knowledge from a number of teachers and thus learn to study their subject from many points of view. It is also impossible for one or two teachers, however learned and experienced, to traverse the whole field to their subject. We have therefore recommended a system by which a student will be brought into contact with a number of teachers each with his own point of view and his own special subject, and a teacher will not be excepted, as now, to diffuse his energy but, so far as the higher teaching is concerned, will confine his attention to making himself master of some portion of his work.

- (e) It is one of the defects of an affiliating university that the teachers and students are confined too much to the limits of their own particular college and have far too little inter-course with those working elsewhere. We realise only too well that all students of a university

Necessity of inter-course between students and teachers.

should be able to work "in intimate and constant association with their fellow students not only of the same but of different faculties, and also in close contact with their teachers." It is therefore essential that at some stage of their academic career, teachers and students of all the colleges of Calcutta, engaged in many and widely differing courses of study, should be brought into association one with

another and be encouraged to take their place in the common life of a university. Every possible effort should be made to foster the idea that Calcutta University as a teaching university is made up of the sum of its colleges and of its own teaching staff. All the teachers, whether university professors engaged principally in the work of research or college lecturers whose work is mainly with the junior undergraduates are alike doing the work of the university. We trust that our proposals, however, limited in scope, may result in a stronger union between the scattered fragments which to-day compose the university and in a closer sympathy between those working to different standards and in different institutions.

Recommendations
for the provision of
staff for the higher
teaching.

14. For these reasons, therefore, we recommend that the teachers for this work should be recruited in the following ways :—

- (a) Teachers appointed and paid by the University.
- (b) Teachers whose services have, on the application of the University been lent by the Local or Imperial Government or by a private institution, and who, during the time they continue to work under the University will be university officers precisely in the same way as those under (a). It should also be possible for the University to make arrangements whereby these officers will be able to deliver lectures to B.A. honours students of the colleges with whom they were previously connected, provided that this were possible without detriment to their University work.
- (c) Professors of colleges, whose high attainments specially qualify them for post-graduate instruction and who are willing for a remuneration decided on by the University to undertake to deliver a course of lectures on special subjects in the University.
- (d) Persons engaged in other than educational work, who are prepared for a remuneration decided on by the University to deal with special subjects in which they are authorities.

15. We attach very great importance to the necessity of constituting a suitable organising body for the carrying out of this work, in which all connected with the higher teaching whether as temporary or permanent officers,

R: The organization of
the higher teaching.

will take a part. Without such an organization, the scheme which we propose cannot even be initiated, much less carried out. It is not only necessary to provide the means by which the best teaching capacity available in Calcutta will be recruited, but also to ensure a proper control over the teaching arrangements. Teacher will have to be appointed in accordance with the requirements of each session and the scale of remuneration for temporary officers will have to be decided. Time-tables will need careful consideration, and we would also suggest that syllabuses for each course of lectures should be drawn up by the lecturer before the course begins. Arrangements for the proper attendance of lecturers and students will also be imperative. There will further be a mass of administrative detail which, if it is not in proper hands and under satisfactory control, will render the best of teaching ineffective. The existing Governing Body for post-graduate studies has been constituted solely for the organization of the University classes and has no connection with the work of colleges; moreover, it has not been possible as yet to associate more than a very small number of the teachers with that body. The administrative work has devolved mainly upon the Vice-Chancellor and the Registrar, whose time and energy are already fully occupied with departments of University's work other than post-graduate teaching.

16. We therefore recommend that a Council of Post-graduate Teaching in Arts be constituted, which will include every teacher appointed by the University to carry on post-graduate instruction, *i. e.*, all those mentioned in classes (a), (b), (c), (d) above, will have, *ex-officio*, a seat on the Council. The Council will contain also a limited number of additional members not exceeding six to be appointed annually by the Senate; these should be men competent to take a useful part in discussions relating to post-graduate studies. The Council will elect its own president from year to year. For the first year, we recommend that the Council consist of all those who at the time of the formation of the Council are engaged either under the University or in an affiliated Calcutta college in post-graduate work, with the additional members elected by the Senate. The Council will draw up its own procedure for the conduct of its business.

17. We also recommend that an Executive Committee of the Council be constituted which will consist of two representatives of each of the following branches of study—English, History, Economics, Philosophy, Pure Mathematics,

Sanskritic languages and Semitic languages. The teaching staff of each branch will elect their representatives, and the Senate will appoint annually three members to the Executive Committee from their nominees on the Council. The president of the Council shall be the president of the Executive Committee. There shall be a secretary to the Council and to the Committee who should receive a remuneration decided upon by the Council and approved by the Senate.

18. We feel the necessity of associating all those engaged in the higher teaching with the general organization of the University. This is impossible under present condition. The Senate is by statute limited to a hundred members, and must be constituted into the five faculties of Arts, Science, Law, Medicine and Engineering. Every important college affiliated to the University also ex-

pects naturally to be represented on the Senate. The consequence is that only a small proportion of those engaged into higher teaching can find a seat on the Senate, a result which causes a not unnatural disappointment to those who are inevitably excluded. Our proposal that all who are taking part in the higher teaching shall be members of the Council of Post-graduate Teaching in Arts should remedy this defect to some extent. We feel, however, that it is necessary to go further in the matter. The present Boards of Studies consist very largely either of those who are teachers only of undergraduates or of men who are taking no active part of any kind in teaching. The arrangement of the post-graduate courses and curricula and the publication of prescribed or recommended books can only be done satisfactorily by those who are actually teaching and have the necessary knowledge and experience of the work concerned. It is also desirable that those with whom the responsibility lies should have abundant opportunity of discussing among themselves and of making the best arrangements for the development of the study in which they are interested. We recommend, therefore, the creation of Boards of Higher Studies for each of the subjects in which post-graduate teaching is imparted in Calcutta. The Board in each subject will consist of all the instructors in that subject and also of such others (not exceeding three in number) as may be appointed thereto by the members of the Council from amongst themselves. With these additional members on each Board, the several subjects would not be regarded as separate compartments of knowledge to be developed without regard to each other. The organization

of studies as a whole would thereby contemplate a definite object and common method of progress. Each Board may also be authorised to co-opt not more than two members from amongst those engaged in post-graduate teaching in the subject concerned outside Calcutta. Each Board will elect its own Chairman. The resolutions of each Board will be subject to confirmation by the Council.

R: We are of the opinion also that the work of teaching should be connected closely with that of examination. In awarding an M.A. degree, attention should be paid not only to the examination record of each candidate, but also to his work during the whole of his course. It is also necessary that there should grow up an examination tradition in regard to the length of a paper, the type of questions, and the methods required from the examinees, which will give the student some confidence in the system and will protect him from the wiles and eccentricities of inexperienced examiners. We therefore recommend that each Board of Studies be regarded also as the Examination Board for the M.A. in that subject. We realise that it is impossible to press these principles to their fullest extent, but we are hopeful that by discussion among themselves the members of each Board, with the assistance of the Council, may evolve a system which will meet to some extent the requirements mentioned above. It is necessary in our opinion to associate external examiners with the teachers of the subject.

19. The Boards of Studies will each submit to the Council their resolutions regarding courses of study, standards and conduct of examinations and like matters. They will also, within a date prescribed by the Executive Committee, submit to that body the teaching requirements of their subject for the coming year and proposals regarding appointments to the teaching staff. The Executive Committee will consider these proposals of the Boards and, after further consultation, if necessary, will lay the final proposals including proposals for the remuneration of the teachers to be employed, if that has not already been decided, before the Council. The same procedure should be adopted also in the appointment of examiners. The resolutions of the Council will be submitted to the Senate for final approval. We consider it of great importance that each Board should take a large part in the teaching arrangements and the appointment of teachers and examiners. It will be necessary to pay proper regard to the actual requirements of the students in each subject and to provide that the

most suitable teachers and examiners are appointed to meet any particular needs that may arise. It will be the duty of the Committee rather to consider the financial aspects of the proposals submitted and to ensure that one Board is not unduly extravagant at the expense of another. It will be the duty of the Council to check abuse of the arrangements, if this were ever threatened. It will be the duty of the Executive Committee to receive and consider reports from the Boards as to the progress made in their respective subjects and the results of the examinations, and exercise such supervision and give such directions as may be necessary to ensure regularity of work and maintenance of discipline among the students. The proceedings of the Executive Committee will be periodically reported to the Council and may be reviewed by them. The actual carrying out of the teaching arrangements in each subject should be placed under the control of the Chairman of the Board of that subject, who would act in accordance with such resolutions of his Board as have been approved by the Council. The clerical work, the publication of time tables, syllabuses, the checking of registers, should be performed by the Secretary.

To meet the danger that the conduct of this important work might fall into the hands of inexperienced people, we would recommend that only graduates of not less than seven years' standing should be eligible for election to the Executive Committee, or the Chairmanship of a Board of Studies except in the case of a University professor. We have reason to hope that when the teachers find themselves associated so intimately with the organization of the higher teaching, they will learn that that work will be best carried out by loyal co-operation. Each authority will have its own part to play. The Boards should be responsible mainly for the enunciation of proper principles and the arrangements for teaching and examining the courses prescribed by themselves; the Committee for the carrying out of these arrangements, the discipline of students and the financial organization; and the Council should enable all engaged in the work to discuss some definite development of policy and to exercise a general control over the higher teaching.

20. In considering the organization of higher teaching in science subjects we have been faced by two difficulties. In the first place, the post-graduate authorities and teaching arrangements in science. In the second place, the post-graduate teaching in the University classes has been organized on the basis of the two endowments created expressly for that purpose by Sir Tarak Nath Palit and Sir Rash Behary Ghose. The funds are held on specific trusts; they must be administered in strict accord with the directions given by the founders, and

through the machinery of the Governing Bodies created by them. Further, the primary object of these two bequests is to further the cause of scientific research and therefore it is not actually incumbent on the Palit and Ghose professors to do more than supervise generally the arrangements for M.A. and M.Sc. teaching. In the second place, the laboratories of the Presidency College and of the University are located in separate buildings about a mile apart, and consequently amalgamation is more difficult than in the case of arts subjects. We have discussed these problems at some length, and have come to the conclusion that they are by no means insuperable, provided that the principle of University control is accepted and teachers are recruited as in (a) (b) (c) (d) of paragraph 14. We therefore recommend, subject to the exceptions made below, the constitution of post-graduate authorities in science similar to those proposed for arts, and with similar powers, *i.e.*, a Council consisting of all those engaged in the higher teaching with additional members not exceeding six in number, elected by the Senate, an Executive Committee, and Boards of Studies in each subject consisting of all engaged in the higher teaching with additional and co-opted members, not exceeding three and two respectively on each Board. The modifications that appear to us necessary are as follows :—

(a) The Executive Committee shall consist of the President of the Council, two representatives of each of the following branches of study, Physics, Chemistry, Applied Mathematics, and Botany, and one representative each of Physiology and Experimental Psychology, and three additional members elected by the Senate from among their nominees on the Council.

(b) In order to safeguard the interests of the Presidency College and the Palit and Ghose Trusts, in electing representatives in Physics, Chemistry and Botany for which teaching provision has been already made in both institutions, the united body of teachers in each subject shall elect one representative from the Presidency College and one from the University Staff.

(c) Should arrangements be made at any time for subjects other than those mentioned above, as for example, Zoology or Geology, that subject will be represented on the Executive Committee by two members to be elected by the teachers in that subject.

(d) It will also be necessary clearly to define a teacher, as it would be desirable that only those who hold independent teaching posts should find places on the Council.

When once the governing authorities have been constituted as proposed, we have every hope that the difficulties in making

teaching arrangements owing to the distance between the University College of Science and the Presidency College will be surmounted. It should be remembered that in the M.Sc. there are in each course compulsory and optional subjects. It may be necessary for the compulsory subjects to be taught in both places, but there should be a sorting out of the optional subjects at least between the two institutions by the Executive Committee in order to avoid costly duplication. A certain amount of give and take between Government and the University in the use of equipment will also be necessary, as every effort should be made to prevent unnecessary purchase of duplicate material. It should also be clearly laid down that while working in laboratories belonging to separate institutions, such as the Presidency College or the Geological or Zoological Survey, University students will be subject to such disciplinary rules as may be enforced by the authorities of those institutions.

21. The mere recruitment of a staff of teachers and the constitution of authorities for controlling the work, however, will not necessarily, in themselves render the teaching effective. There are other factors in the situation to which we would now refer :—

(a) It is essential to have some clear ideas of what is meant by the term post-graduate instruction and what are its objects. This is particularly essential as there has been some misunderstanding in the matter in the past. Some

Objects of the M.A. and M.Sc. teaching.

have urged that it is the duty of the University to confine its activities entirely to the work of research; others contend that the M.A. and M.Sc. courses should take the form merely of a more thorough undergraduate course conducted on very similar lines and methods. We hold that neither view is correct. In regard to the former we are inclined to adopt the opinion laid down by the London University Commission in paragraph 73 of their report :—“Institutes of the type, *i.e.*, for research, do not, and in our view should not, form a part of the University organization, and certainly do not justify the establishment by the University itself of institutes at a distance from, and without close connexion with, its other activities. Research work which is carried out with little reference to the other work of the University cannot introduce new vigour and life into the organization to which it is so loosely and externally attached.”

R We therefore suggest that those teachers whose work lies in the direction of research should take some active part in advanced instruction and not regard themselves as entirely

detached from the main work of the institution. On the other hand, it is necessary that graduates should receive instruction of a university type and of a kind different from each ordinarily given to undergraduates. At present a student is inclined to approach the M.A. and M.Sc. courses by a further study or more advanced text-books with the assistance of a teacher, whereas M.A. courses of lectures should stimulate a student and give him some idea of the wide field of investigation open to him and finally lead him to consult not the text-book but the original authorities. The following description of University teaching which was supplied a few years ago by the inspectors of the Board of Education in reporting on the work of the Workers Educational Association classes held by the universities of England, expresses very clearly the ideals at which, in our opinion, this University should aim in its M.A. and M.Sc. instruction. "We may assume that University teaching is teaching suited to adults; that it is scientific, detached, and impartial in character; that it aims not so much at filling the mind of the student with facts and theories as at calling forth his own individuality, and stimulating him to mental effort; that it accustoms him to the critical study of the leading authorities, with, perhaps, occasional references to first-hand sources of information, and that it implants in his mind a standard of thoroughness, and gives him a sense of the difficulty as well as of the value of truth. The student so trained to distinguish between what may fairly be called matter of fact, and what is certainly mere matter of opinion, between the white light and the coloured. He becomes accustomed to distinguish issues, and to look at separate questions each on its own merits and without an eye to their bearing on some cherished theory. He learns to state fairly, and even sympathetically, the position of those to whose practical conclusions he is most stoutly opposed. He becomes able to examine a suggested idea, and see what comes of it, before accepting it or rejecting it. Finally, without necessarily becoming an original student, he gains insight into the conditions under which original research is carried on. He is able to weigh evidence, to follow and criticise argument, and put his own value on authorities."

It is beyond our terms of reference to discuss how far under the standards imposed at present by the B.A. and B.Sc. Examinations and the type of undergraduate teaching imparted in the colleges it is possible to produce a number of graduates fitted for such instruction as we have proposed above, but, judging from the number of lectures which the M.A. students, in particular, are expected to attend, we fear that an appreciable proportion of the students have not attained the requisite preliminary

standard. It is not within our scope to advocate sweeping changes; but we are constrained for the present to trust to the gradual improvement likely to result from improved conditions. The post-graduate authorities should have the power to make regulations regarding the admission of students to their classes, and it is essential that they should also have power to cause the withdrawal of a student who is either manifestly unfitted for the work or through negligence is not benefiting by the instruction. It would also be well if a standard of efficiency in teaching equipments etc., were contemplated, as free as possible from the cramping restrictions imposed by the present rules for affiliating colleges for M.A. and M.Sc. teaching, especially in scientific subjects.

(b) We trust that the economies which may be rendered possible by an improved organization and Tutorial instruction. an effective co-operation between the colleges and the University will be the means of liberating a certain amount of teaching effort which may be used for giving tutorial guidance to the students. At present, in the university classes, it has not been possible to do much more than give additional lectures to a smaller number of students whereby some discussion and explanation of difficulties is possible. Such a practice, undoubtedly, has its uses, but we would wish to go further. All students gain inestimably from an intimate association with a teacher of ripe experience and scholarly habits who will not only assist him in solving difficulties but also inculcate in him the proper habits of study and thought. We would yet again express our meaning in the words of the London University Commission's report:—"It is the personal influence of the man doing original work in his subject which inspires belief in it, awakens enthusiasm, gains disciples..... 'Anyone,' says Helmholtz, 'who has once come into contact with one or more men of the first rank must have had his whole mental standard altered for the rest of his life.' Lectures have not lost their use, and books can never fully take the place of the living spoken word. Still less can they take the place of the most intimate teaching in laboratory and seminar which ought not to be beyond the range of the ordinary course of a University education, and in which the student learns not only conclusions and the reasons supporting them, all of which he might get from books, but the actual process of developing thought, the working of a highly trained and original mind." Every possible effort therefore should be made to provide arrangements by which all students will receive, at least, some individual attention.

(c) We would say a word on the subject of libraries which Libraries. form so large a part in the proper equipment of a University but, unfortunately, are a source of very considerable expense. We suspect that in the purchase of expensive publications and scientific periodicals there is a large amount of overlapping between the various libraries in Calcutta. There is rarely need for more than one copy of such publications within the city, but it should be easily accessible to the scholar who requires it. We would suggest, therefore, that the University might consult other libraries in Calcutta to discover how far a spirit of co-operation is possible in this direction and also consider the relationship between its own library and those of the affiliated colleges.

(d) We have experienced very great difficulty in discussing Residence. the thorny question of residence for students. The Act of 1904 entrusted the Senate to draw up regulations regarding the residence and conduct of students. The regulations of the University provide that 'every student reading in an affiliated college with the object of appearing at University examination, who does not reside with his parents or other legal guardian, or guardian approved by the principal of his college shall reside either in his college, or in lodgings approved by his college.' The following classes of lodgings may be approved by a college :—

- (i) Non-collegiate hostels, that is, hostels under external management.
- (ii) Messes attached or unattached.
- (iii) Private lodgings.

A Committee of the Senate, called the Students Residence Committee, is appointed to deal in accordance with the regulations with questions relating to the residence of students in non-collegiate hostels, messes and private lodgings. This Committee is not empowered to interfere with the internal management of a hostel or mess, or with the control of a principal over his students. But if the Committee is satisfied, upon the report of one or more of its members, or of an inspector, that a hostel or mess is maintained or conducted in a manner contravening the regulations, the Committee shall report the matter to the Syndicate.

From this it will be seen that the real responsibility rests with the college authorities and that the Students' Residence Committee merely advises the Syndicate whether or not a hostel or mess is conducted in accordance with the regulations. A college principal, however, is usually powerless in the matter. Owing to the fact that the examination results are not usually

published until the middle or end of June, principals find it impossible to make previous arrangements for residence of their students and have, in most cases, to accept such arrangements as are made by the students themselves. Moreover, the Students' Residence Committee can only say that this or that hostel or mess is unsatisfactory; it is not empowered to tell a student that he must leave his place of residence and go to another, for the very simple reason that such accommodation does not exist in Calcutta. It will be observed also that the regulations apply only to students in the affiliated colleges and not to those attending the university classes. It should also be remembered that the post-graduate students have all attained their majority, have consequently no legal guardians, and most of them are married. We could easily recommend that the governing authorities of the post-graduate teaching should make it their business to see that suitable rules are drawn up for the purpose and that an effective body be constituted to see that the rules are carried out, but we fear that the problem is far too grave to be settled by the mere issue of rules and regulations which would soon prove unworkable, as have those provided for under-graduates. It would also be within our scope to offer a pious hope that some day suitable residences would be provided for the post-graduate students, but again it is a matter of funds and, when funds are forthcoming, it is clear that the under-graduates should have the preference. Besides, even if there were large funds, it is difficult to suggest how suitable residences could be provided. We have paid earnest attention to what seems to us an insoluble problem under present conditions, and we are agreed that the only practical remedy lies in the removal of the University. Naturally, we have not had the opportunity of considering such a proposal, except as a mere suggestion, and we should be going beyond our terms of reference in offering any definite recommendation.

We have discussed also whether or not a student attending the University classes, should be permitted to remain attached to his college for the purpose of residence and for such other benefits as he may derive therefrom. In the case of the Presidency College and the Scottish Churches College, which are now affiliated for post-graduate teaching in certain subjects, we should recommend that students who have graduated from either of these colleges would be entitled, with the permission of the college authorities, to remain on the roll of their old college. The college should inform the post-graduate authorities and agree to accept responsibility for such students, except in those matters in which they will come under the

supervision and discipline of the post-graduate authorities. Students should, with the permission of the college authorities, be permitted to reside in the hostels of other colleges, but their names would not appear on the college rolls. Such residence would be merely in the nature of a private arrangement and would not be reported to the post-graduate authorities.

(e) We fully realise that the proposed concentration of teaching will entail additional lecture rooms, etc., and accordingly recommend that the scanty accommodation at present available be supplemented as soon as funds are forthcoming. The Fish Market site may be used temporarily for the development of arts teaching. For the present, it may be possible for some of the colleges to assist the University by lending for certain periods of time a modicum of accommodation for the use of a member of their staff who may be delivering a course of lectures for the University.

22. In discussing the financial aspect of our proposals, it will be convenient first to record the following extracts from the budget for 1916-17, as passed by the Senate.

Finance.

POST-GRADUATE TEACHING.

<i>Receipts.</i>		<i>Payments.</i>	
	Rs.		Rs.
Contribution from the Minto Professorship Fund ...	15,000	Salary of the Minto Professor	15,000
Contribution from the Hardinge Professorship Fund ...	13,000	" Hardinge "	13,000
Contribution from the George V Professorship Fund ...	12,000	" George V "	12,000
Contribution from the Carmichael Professorship Fund ...	12,000	" Carmichael "	12,000
Fees (1,000 students) ...	84,000	" Professors, Assitant Professors, Assistants, and University Lecturers (unendowed)	1,37,400
Government grant for University Lecturers ...	15,000	Pension contribution of Assistant Professors ...	2,250
Contribution from the Fee Fund ...	44,650	Proportion of electric expenses	4,000
Total ...	1,95,650	Total ...	1,95,650

It will be observed that Rs. 1,95,650 will be spent on post-graduate teaching during the year. Out of this sum, Rs. 40,000 represents the Government of India grant for three professorships (the annual grant for these chairs is really Rs. 37,000, the

difference Rs. 3,000 representing the unspent balance of previous years). Rupees 15,000 represents the Government of India grant for salaries of lecturers. Consequently, about 24 per cent. of the expenditure is met from Government grant. The fees paid by the students produce an income of Rs. 84,000, *i.e.*, 45 per cent. of the actual expenditure. The remaining 30 per cent., *i.e.*, Rs. 56,650, represents the contribution of the University; Rs. 12,000, contributed by the University for the Carmichael Professorship comes from the sale-proceeds of Sanskrit publications; and the balance comes from the current fee income.

UNIVERSITY SCIENCE COLLEGE.

BUDGET FOR 1916-17.

Receipts.		Payments.	
	Rs.		Rs.
Contribution from the Palit Fund—First Trust ...	41,420	Salary—	
Second Trust ...	49,100	Palit Professor of Physics	9,600
Contribution from the Ghose Fund ...	61,200	Palit Professor of Chemistry	9,600
Contribution from the Fee Fund towards salary of Ghose Professor of Mathematics ...	1,200	Ghose Professor of Applied Mathematics	7,200
Contribution from the India Government Laboratory Grant Fund ...	37,000	Ghose Professor of Physics	6,000
Contribution from the Fee Fund towards equipment of Laboratory, etc. ...	46,860	Palit Professor of Chemistry	6,000
Balance of contribution from the Fee Fund, 1915-16 ...	2,000	Palit Professor of Botany	6,000
Fees from students—		Assistant Professors and Assistants	11,100
Chemistry (16 students at Rs. 10 each per month)	1,920	Pension contribution—	
Physics (10 students at Rs. 10 each per month)	1,200	Palit Professor of Chemistry	2,100
Applied Mathematics (50 students at Rs. 7 each per month)	4,200	House allowance to Palit Professor of Physics	1,500
		Stipends—	
		Palit Research Scholars	18,600
		Ghose " "	7,200
		Salary—	
		Staff—	
		(a) General—	
		Menials	816
		(b) Chemistry Dept.—	
		Menials	1,056
		Laboratory Assistant, Storekeeper and Compounder	1,284
		(c) Physics Department—	
		Menials	1,128
		Laboratory Assistant, Mechanic Carpenter, etc.	2,000
		(d) Psycho-Physics Department—	
		Menials	120
		Laboratory Assistant and Clerk	1,260

<i>Receipts.</i>	Rs.	<i>Payments.</i>	Rs.
		(e) Mathematics Department—	
		Menials	240
		Staff	6,900
		Clerk	480
		(f) Bio-Chemistry Department—	
		Menials	120
		Recurring Expenditure—	
		(a) Chemistry Department—	
		Chemicals and Con-	
		tingencies	5,986
		Gas and Electric current...	800
		(b) Physics Department—	
		Research grant	3,000
		Contingencies	360
		Gas and Electric current	1,200
		(c) Psycho-Physics Department—	
		Electricity and Laboratory	
		Contingencies	500
		(d) Bio-Chemistry Department—	
		Laboratory Contingencies	800
		Equipment—	
		(a) Physics Department	30,000
		Ditto (1915-16)	30,000
		(b) Chemistry Department	24,000
		Ditto (1915-16)	22,000
		(c) Psycho-Physics Department	3,000
		(d) Bio-Chemistry Department	5,000
		(e) Furniture	2,000
		(f) Books	5,000
		(g) Journal	2,500
		Workshop—	
		(a) Room }	10,000
		(b) Appliances }	
Total	2,46,100	Total	2,46,100

The science programme submitted above shows that the University intends to spend, during the session, Rs. 2,46,000 on science teaching. Towards this expenditure Rs. 37,000 will be taken from the Government of India's grant of previous years, Rs. 46,860 from the current University fund, and the rest will be drawn from the Palit and Ghose funds.

From the financial statements which have been reproduced above it is clear that the University has at its disposal a fairly

large sum of money for the development of post-graduate instruction, and it may also be hoped that our proposals will result certain economies through the elimination of unnecessary duplication. On the other hand, it is obvious that if post-graduate teaching is to be carried on in Calcutta in a manner worthy of a large university, more money is required. The library should be extended, the staff increased and liberally paid, and provision made, if not for pension, at least for a provident fund. Much also will have to be done even to bring the higher teaching in natural science up to a level with the arrangements made at Allahabad, Bombay and Lahore for that work. We desire to record our appreciation of the valuable assistance rendered to students in the past by the Geological and Zoological Surveys, but at the same time some provision at least should be made by the University for the needs of these subjects. In making such provision, care should always be taken to ensure a healthy co-operation between all engaged in similar work, and therefore we would suggest that the University would do well, before embarking on any new scheme, to consult the authorities of the Geological and Zoological Surveys. We understand clearly that there is little or no hope of any additional grants being made by Government for some time, but recommend that the University should consider the possibility of raising its resources by an increase in the examination and teaching fees paid by its students provided that no undue hardship is imposed on the students. It is reasonable to expect that the University authorities will be prepared to accept an additional burden, when it is realised that such increased in revenue as may be effected will be put at the disposal of the post-graduate authorities for the development of higher teaching which has been declared by the Act of 1904 to be a part of the functions of the University and which should appeal to all who are interested in its welfare.

It has been stated already in this report that the initial proposals for carrying out the teaching requirements should first be considered carefully by the Boards of Studies in each subject and that these proposals should then be submitted to the Executive Committees and Councils but, according to the constitution of the University, financial control must rest ultimately with the Senate. It would be convenient, however, if the Executive Committees discussed their proposals with the University Board of Accounts before submitting them to the Councils and the Senate. The work of these bodies will thereby be lightened considerably by the assurance that the proposals for the conduct of higher teaching had already been adjusted to the financial position of the University.

23. It is obvious that our proposals will entail considerable expedition in the matter of making appointments, and especially in the case of those which will be temporary or consist merely in the delivery of a course of lectures for the university. Delay in this respect will be fatal to the scheme. For instance, a lecturer may be appointed, not necessarily because of his scholarship in his subject as a whole, but because he is considered to be the most suitable man to deliver lectures on a small branch of his subject in which he has taken particular interest. Any cumbrous system by which it will be necessary to submit detailed information of a lecturer's record will quickly prove unworkable. Besides under our proposals, each appointment will have been made on the recommendation of the teachers themselves and with special reference to the actual requirements of the course. Little safeguard therefore will be necessary to ensure the propriety of appointments on academic grounds. It is right that in the case of those post which have been endowed by Government, the fullest information should be submitted and that the sanction of the Government should be necessary. In the case of other appointments, however, we would suggest that a notification should be sent, within a prescribed limit of time, to Government for their information. If for other than academic reasons the Government of India have objection to any appointment, their orders should be binding on the University, but apart from this safeguard, it would be harmful to the interests of the post-graduate teaching if the definite sanction of Government were required before any appointment could take effect.

24. In making these proposal we are aware of the fact that other Indian universities also have been improving their arrangements for higher teaching, and there are, in addition, a number of Government institutions and learned societies keenly interested in the work of research. In the course of this report we have laid emphasis on the necessity for co-operation and sympathy between all those who are engaged under the University. We would now go further and suggest that scholars living in different parts of the Indian Empire should be brought into close relationship with one another. It may be hoped that the bonds of union that result from a common pursuit of knowledge, may be the means of bringing races and people into harmony with each other. In this task the University of Calcutta should not be behindhand. If India is to add to the stock of human knowledge, she cannot afford to dissipate her energies or allow her scholars to work in isolation. No inter-university rivalry

Association with
other Universities and
learned Societies.

should be permitted to interfere with the prosecution of the work under the most favourable circumstances. If, for these reasons, Calcutta scholars may have to go far afield, so also should Calcutta be prepared to welcome from elsewhere scholars wishing to avail themselves of the facilities provided in this city. To effect this there should be frequent communication between the various universities, which communication might be encouraged by the employment, from time to time, of distinguished scholars from outside as temporary lecturers and examiners. Co-operation also is possible in the editing of journals and learned works. Advantage might also be taken of inviting men of practical experience not only from Calcutta but also from elsewhere to deliver courses of lectures under the terms of recruitment which we have proposed. It has been the practice of Calcutta and certain other Indian Universities to invite to India scholars of great distinction from Europe. If such a policy is continued, it offers another admirable opportunity for valuable co-operation between the universities. The higher teaching and research need money, favourable surroundings and an intimate association between scholars, and these factors should not be neglected in any discussion of this nature.

25. In conclusion, we would point out that in our deliberations we have taken things as they are and have tried to submit recommendations whereby the best use may be made of the existing resources of the University and of its colleges. Our proposals amount, in the main, to the acceptance of two fundamental principles :—

(a) An intimate association and co-operation between the college and the university staffs is imperative in the interests of all concerned and of the development of higher teaching.

(b) It is necessary to constitute a suitable organization within which these teachers will be enabled, by discussion among themselves, efficiently to conduct the teaching and examination of graduates.

Beyond this we have been unable to go, and have refrained from commenting on the wider problems which now confront the University. We have no illusions that our proposals will result in a perfectly satisfactory state of affairs, though it may be hoped that there will be some real improvement on existing conditions which seem to us degrading to the professional

status of the teacher. We believe our principles to be sound and that the acceptance of them will assist the work of more thorough reconstruction when the time for it arrives.

ASUTOSH MOOKERJEE.
W. W. HORNELL.
H. H. HAYDEN.
G. ANDERSON.
BRAJENDRANATH SEAL.
GEORGE HOWELLS.
P. C. RAY.
C. J. HAMILTON.
W. C. WORDSWORTH.

CALCUTTA :

The 12th December, 1916.

APPENDIX III

**From the Registrar, Calcutta University,
to the Secretary, Government of India,
Education Department, through His
Excellency the Rector, No. 12142,
dated the 30th May, 1917.**

I have the honour to address you on the subject of Post-graduate Studies in the University with reference to your letter No. 93, dated 26th January, 1917, forwarding copies of the Report of the Committee appointed by the Government of India to consider arrangements for Post-graduate teaching in the University. A copy of the Report mentioned was in due course sent to each Fellow of the University. Subsequently, a letter No. 89, dated 8th March, 1917, was received by me from Mr. W. R. Gourlay, C. I. E., Private Secretary to His Excellency the Governor of Bengal. A Copy of this letter marked (A) is annexed herewith. The letter was duly circulated to all members of the Senate. No copy of the letter of the Government of India mentioned in Mr. Gourlay's letter was sent to the University.

By order of the Hon'ble the Vice-Chancellor, a meeting of the Senate was held on the 16th March last to consider the Report of the Post-graduate Committee.

The Hon'ble Sir Asutosh Mookerjee had previously given notice of his intention to bring forward the following motion :—

1. That the Senate do take into consideration the Report of the Post-graduate Committee appointed by the Government of India ;
2. That the Senate do record its approval of the two principles enunciated in para. 25 of the report ;
3. That the Senate do appoint a Committee of four members to frame on the lines of the report, draft-regulations and proposals for alterations in the existing regulations ;
4. That the Committee be instructed to submit their report on a very early date, that the debate be meanwhile adjourned till 3 p. m. on Saturday, the 31st March next, and that the further consideration of this matter be taken up on that date along with the report of the Committee now appointed.

At the meeting, the Hon'ble Sir Asutosh Mookerjee moved this motion, which was seconded by Mr. S. Khuda Bukhsh. Thereupon, Rev. Dr. W. S. Urquhart moved an amendment in the following terms :—

That the words commencing with "do take into consideration" and ending with words "now appointed" be left out in order to insert the words : "having had before it for consideration the report of the Committee on Post-graduate Studies in Calcutta University express the opinion that no action should be taken on the lines indicated in the aforesaid report at least until the Commission announced by His Excellency the Chancellor in his Convocation Address on 6th January, 1917, shall have given in his report."

The amendment was seconded by Mr. W. A. J. Archbold. The matter was elaborately discussed and the debate lasted for over four hours. At the end of this period the amendment was put to the vote and lost, only six members voting for it. The motion of Sir Asutosh Mookerjee was thereupon carried.

Pursuant to this resolution, a Committee was appointed by the Senate consisting of the Hon'ble Sir Asutosh Mookerjee, the Hon'ble Mr. W. W. Hornell, Dr. Brajendranath Seal and Rev. Dr. George Howells to frame, on the lines of the report of the Post-graduate Committee, draft regulations and proposals for alterations in the existing regulations, to be submitted to the Senate for consideration at a meeting to be held on the 31st March.

The report of this Committee, together with the draft regulations proposed by them, are annexed herewith and marked (B).

The report was duly circulated to all members of the Senate, and notices of intended amendments were received from various members. These amendments are set out in full in the agenda paper of the meeting for the 31st March, 1917, copy whereof is annexed herewith and marked (C).

At the meeting on the 31st March, the Hon'ble Sir Asutosh Mookerjee, with the leave of the Senate, moved that the report of the Committee be adopted, subject to the modification that for section 32 of the draft regulations be substituted section 32 as contained in the annexed paper marked (D). This motion being duly seconded, Mr. Peake moved the following amendment:—

— "That the word 'adopted' be left out, and there be added the words 'be modified' and referred for this purpose for further consideration to a Committee consisting of

eight members, the Senate being of opinion that nothing in the proposed regulations should interfere with colleges already affiliated up to the M. A. and M.Sc. standards under the present regulations, and that in view of the great importance of providing as far as possible for the tuition and control of post-graduate students, for the provision of library facilities, etc., affiliation should be facilitated by suitable alterations in the regulations, taking particularly into consideration the possibilities of co-operation for the purposes of lectures between the Colleges themselves and the University."

The amendment was seconded by Mahamahopadhyay Haraprasad Sastri. The matter was again elaborately discussed and the debate lasted for nearly five hours. At the end of this period, the amendment was put to the vote and declared lost, fourteen votes being recorded in favour of it and thirty-five against it. The meeting then adjourned till 12 noon on Saturday, the 14th April.

At this meeting, the amendments other than the one disposed of on the 31st March, as also other amendments which had meanwhile been notified and which will be found in annexure (E) (agenda paper of the meeting for the 14th April, 1917) were taken up for consideration. Sir Gooroo Dass Banerjee brought forward the following amendment:—

"That after the word 'adopted' there be added the words 'with the following alteration in the Draft regulations, namely, that word "mainly" be substituted for the word "only" in section 3 of those Regulations."

The amendment was seconded by Mr. Archbold and was discussed at great length. The amendment was ultimately rejected, there being sixteen votes in favour of it and thirty three against it. Various other amendments were taken up in the order decided on by the Hon'ble the Vice-Chancellor and debated upon. Some of the amendments were accepted by the Hon'ble Sir Asutosh Mookerjee and were carried. Others were rejected or withdrawn or abandoned. The debate at this meeting occupied six hours, namely, from 12 noon to 2-15 P.M. and from 3-15 to 7 P.M.

The meeting then adjourned till 5 P.M. on Monday, the 16th April. At this meeting the remaining amendments were discussed and disposed of.

I have now the honour to request that the changes in the Regulations recommended by the Senate may be sanctioned by

the Governor-General in Council under sub-section 1 of Section 25 of the Indian Universities Act, 1904.

The recommendations of the Senate may be grouped under two heads, namely, first, that for Chapter XI of the existing Regulations be substituted Chapter XI as contained in annexure (X) and, secondly, that changes as set out in annexure (Y) be made in some of the other chapters of the existing Regulations to enable the University to increase its income from examination fees paid by candidates for various examinations. It may be convenient to summarise very briefly the effect of the changes recommended by the Senate.

As regards the new Chapter XI as adopted by the Senate, it will be observed that it adheres very closely to the recommendations of the Committee appointed by the Government of India. The only points of departure worthy of mention are as follows :

The Government of India Committee recommended that there should be six representatives of the Senate on each of the two proposed Councils, namely, the Council of Post-graduate Teaching in Arts and the Council of Post-graduate Teaching in Science. The Senate have decided that these six representatives in each case should not be elected entirely by the Senate, but that four should in each case be elected by the Senate and that the other two should be elected in the case of the Arts Council by the present Faculty of Arts and in the case of the Science Council by the present Faculty of Science. The Senate un-animously adopted this alteration as a distinct improvement, because this would secure that at least two of the members in each case would be persons acquainted with the work of the respective Faculties. The Senate further decided that in addition to the Post-graduate Teachers and the four representatives of the Senate and the two representatives of the Faculty, the Heads of all Colleges in Calcutta affiliated up to the B.A. or B.Sc. standard should be ex-officio members of the respective Councils. This will tend to secure that close co-operation between the Colleges and the University which forms the chief basis of the recommendations of the Committee appointed by the Government of India. Most of these Principals will, perhaps, find a place on the Councils as Post-graduate Teachers, but the Senate thought it desirable to bring on the Councils such Heads of first grade Colleges in Calcutta as might not be able, for some reason or other, to take part in the actual work of teaching.

There is an incidental change in the constitution of the Executive Committees to which reference may be made here. The Committee appointed by the Government of India recommended

that three of the six representatives of the Senate on each Council should be members of the corresponding Executive Committee. The Senate recommend that two of the four representatives of the Senate and one of the two representatives of the Faculty should be on the Executive Committee. Subject to the alterations just explained, the scheme as approved by the Senate will be found to correspond substantially to that contained in the unanimous recommendations of the Committee appointed by the Government of India. As the reasons for the recommendations of that Committee are contained in their report, no additional reasons need be stated here.

As regards the changes proposed by the Senate in other Chapters of the Regulations, their purpose is to enable the University to increase its income which is derived principally from fees paid by candidates for examinations. It may be observed that the Committee appointed by the Government of India recommended in their report (page 17) that the University should consider the possibility of raising its resources by increasing examination fees paid by its students. The Senate now recommend that the fees for admission to some of the examinations be raised as follows :—

Matriculation Examination	from	Rs.	12	to	15
I.A. and ISc. Examinations	„	„	25	„	30
B.A. Examination	„	„	35	„	40

It is anticipated that if this increase is sanctioned, the University will have an additional revenue of one lac twenty thousand rupees a year, the whole of which it is proposed to devote to Post-graduate Teaching. The University, during the current year, has budgetted Rs. 91,000 as its contribution from current funds to Post-graduate Teaching. It is proposed that this should be continued in addition to the grant which will be derived from the increased revenue. In this connection I may be permitted to draw your attention to Section 44 of the proposed new Chapter XI which makes it obligatory on the University to constitute a separate fund for the promotion of Post-graduate Studies, to be called the Post-graduate Teaching Fund, and to credit to such fund annually, besides tuition fees paid by students and sums derived from special grants, *at least* one-third of the fees realised from candidates for certain examinations. The object of this provision is to ensure the regular contribution, by the University, of a substantial sum annually for purposes of post-graduate teaching; this contribution, it has been worked out, will amount to at least two lacs of rupees a year. The financial security of the new scheme is, consequently, assured, as far as is practicable under existing conditions.

Copies of the Minutes of the Senate, dated the 17th and 31st March, and 14th and 16th April are annexed herewith, and marked P, Q, R, S. These Minutes set out in full the debate in the Senate and contain a statement of the arguments advanced for and against the scheme by the various speakers. I also enclose a protest recorded by Dr. Urquhart and a memorandum in answer thereto prepared under Section 66 of Chapter I of the Regulations.

I may add finally that if the recommendations of the Senate are accepted by the Government of India and orders are issued early, the new scheme may be set in operation from the commencement of the ensuing session in July.

APPENDIX IV.

MEMORANDUM ON POST-GRADUATE ORGANISATION FROM THE PRESIDENCY COLLEGE STAFF IN 1913.

To

THE HONOURABLE THE VICE-CHANCELLOR AND
SYNDICATE OF CALCUTTA UNIVERSITY.

The interest we naturally feel in post-graduate arts teaching in Calcutta University and our vivid realization of the great importance of the subject, are our reasons for addressing to the Hon'ble the Vice-Chancellor and Syndicate certain observations on the statement made by the Vice-Chancellor to the Senate on the 27th of September last.

In the first place we desire to congratulate the Vice-Chancellor and Syndicate on the very notable expansion of the University Classes in the last two years, and on the distinguished band of teachers whom the Hon'ble the Vice-Chancellor has secured for the M.A. lecture courses. It is, we should think, an achievement of a unique character. But while allowing a great deal to the shortness of the time and the acknowledged incompleteness of present arrangements, we cannot shut our eyes to the weaker aspects of the statement, nor to tendencies which we conceive to contain elements of danger.

Looking to the statement as a whole, the remarkable thing, to which the Vice-Chancellor not unnaturally points with satisfaction is the great increase in the number of students studying M.A. courses in University Classes. In 1912 the total was 520 ; in 1913, it is 1,005. This would be entirely a subject for congratulation, if we could be sure that these ten hundred post-graduate students were studying under entirely satisfactory conditions. As regards lectures it may be at once allowed that in most subjects, notably in Mathematics, Philosophy and History, the lectures are amply and satisfactorily provided for. But it was long ago agreed that a satisfactory education does not consist wholly of attending lectures, and this is not least true of the highest stages. When we look for the provision for guidance outside lectures, the result is not satisfactory. There is an almost total absence of personal guidance.

It has long been recognized that, failing a complete tutorial system, M.A. work should be organized in seminars. Besides this, M.A. students, if they are to study to any purpose, certainly require some personal guidance. They need practice in writing essays and to have their essays corrected.

Taking English, for example, there are 203 students in the two classes. They attend the lectures of five lecturers, all but one of whom are professors on the staffs of Colleges with duties to the College which absorb nearly the whole of their time. Three are Presidency College professors, whose main responsibility obviously lie to their own College ; one is the distinguished Principal of the City College, who has not only his share of lecturing work at the City College, but the heavy responsibilities of the Principalship as well. It is plain that none of these can give personal attention to the 203 students of the University Classes. There remains only Mr. Roby Datta, who is also named in the Vice-Chancellor's statement as Professor of Comparative Philology.

Next year we are informed the staff will be strengthened by Professor Stephen as Professor and Mr. Knox as Assistant Professor, and this will, no doubt, be a great accession of strength. Even so it is doubtful whether the two professors will care to undertake the laborious responsibility of the tutorial work of 200, more probably (as it will be next) of 300 students.

For an aspect of the statement which demands very serious consideration is that in every case practically the 1st-year is

twice or three times as large as the 2nd-year. This means that the standard of the classes for the future is likely to be that of the 1st-year ; so that

in English there will be not	203	but	$149 + 145 = 290$
„ Philosophy	„ ... 199	„	$154 + 154 = 308$
„ Pol. Eco. & Pol. Phil.	„ ... 156	„	$107 + 107 = 214$
„ History	„ ... 183	„	$105 + 105 = 210$
„ Mathematics	„ ... 211	„	$147 + 147 = 294$

It is at once seen how much more serious from this standpoint the problems are likely to be next year.

Our experience of Post-Graduate teaching convinces us that individual and personal guidance outside lectures is an indispensable condition of fruitful work in most cases. Our experience is that the average Calcutta graduate is not at present capable of sustained study of the right kind without the assistance and guidance of some form of tutorial work. We could give many painful illustrations of the inability of students to grasp the essential elements of independent study. We fear that for some time to come students here will continue to work on wrong lines, unless they have, more not less than heretofore, the support and spur of individual guidance. The truth, of course, goes further than that. Students everywhere, not in India only, require such stimulus except in comparatively rare cases and nearly always such stimulus is valuable. It ought undoubtedly to form an essential part of any system of University study: and in Calcutta University this was fully recognised and conceded at the time of the re-constitution of the Universities in 1904.

We cannot, therefore, but regard with some apprehension the growth on so large a scale a system of post-graduate study which is at present, and seems likely to remain, without any basis of regular tutorial guidance. It is not only that the two years' course of study without adequate control is likely in a high proportion of cases to be unprofitable, a mere squandering

of time, but that the ideal of University Post-Graduate study is itself at stake. Where it is most important to initiate and uphold a high standard, a low standard will be, not so much tolerated, as prescribed.

The only remedy with present numbers would be the enrolment of a staff of whole-time teachers exceeding in number the present staff of lecturers. We do not think that a professor or assistant-professor would be prepared to undertake personal responsibility—apart from lectures—of more than 40 to 50 students. Consequently even taking 50 as the standard, English would want a staff of six; Philosophy a staff of six; for Political Economy and Political Philosophy would be wanted a staff of five; for History a staff of five; for Mathematics a staff of six; in all twenty-eight; and these must *ex hypo.* be whole-time University teachers.

Now, at the present time the staff actually conducting the classes in these subjects appears from the statement to be:

For Mathematics 4 whole-time lecturers.

For English 1 whole-time lecturer + 4 College Professors = 5.

For Philosophy 1 whole-time lecturer + 6 Do. = 7.

For Pol. Eco. & Pol. Phil. 2 whole-time Asst. Professors
+ 3 College Professors = 5.

For History 2 whole-time lecturers + 6 other lecturers,
two being College Professors = 8.

This gives rather over the same total of 29; or 30 counting the Hardinge Professor of Mathematics (who would not however necessarily take any share of the ordinary M.A. teaching), but out of that total only *ten* are whole-time teachers for the University or if you add two new professors of English—twelve. How inadequate that strength must be for the tutorial side

of the work of some 1,300 students is self-evident. But this is not the worst. For it is to be observed that the number of whole-time teachers is very unequally divided; four are attached to Mathematics, two are for Political Philosophy, two for History: *English and Philosophy have only one each.*

Thus it may be said that of these subjects Mathematics alone is equipped with anything approaching to an adequate University staff.

There is one other subject which appears to be not merely inadequately, but amply, provided with staff, namely Sanskrit. For Sanskrit there is enumerated a staff of seventeen, and though only one of these, the Carmichael Professor of Ancient Indian History and Culture, belongs wholly to the University, post-graduate students of this subject are in every sense well provided for. If all other subjects showed the same, or somewhat the same, proportion, not a word of criticism need be passed on the arrangements made by the University. But what a contrast between 17 teachers and 28 students in Sanskrit, 199 students and 7 teachers for Philosophy, 156 students and 5 teachers for Political Economy and Political Philosophy, and 5 teachers and 203 students for English.

Failing the remedy of such an increase of staff as the conditions of efficient study call for, we would seriously ask the consideration of the Hon'ble the Vice-Chancellor and Syndicate whether measures of some other kind are not required to check this large predominance of numbers over teaching strength. Two measures are possible. One is to agree to a limit of numbers in the different classes proportionate to the actual teaching strength. The other is a raising of fees.

We are well aware that neither of these measures would be popular. But is that a worthy consideration, if it should clearly appear, as we have said above, that nothing less than the very ideal of post-graduate study is at stake. Can the University ensure with its present effective teaching strength that sound methods of study shall prevail among the thirteen or fourteen hundred students who are likely next year to be taking post-graduate courses in University Classes. Unless the answer is confidently affirmative the position is very grave indeed. We are faced with a menace of the permanent degradation of post-graduate study just when opportunity seems opening for the beginning of a new era. Undoubtedly there is hopeful promise of better things in the eagerness now shown for entering on courses of M.A. study under the most rigorous conditions imposed by the regulations of 1906. But it will be to no purpose, unless this eagerness is carefully guided under the influence of high aims and sound methods. The consequences will be

disastrous and irreparable if the primary importance of high aims and sound methods is lost sight of. We therefore venture to express a hope that the aspects of the Vice-Chancellor's recent statement to which attention is called in this note may be very seriously weighed by the Hon'ble the Vice-Chancellor and Syndicate and such steps be taken for safeguarding the standards of M.A. study as their wisdom and experience may dictate.

Sd. H. R. JAMES
 " EDWARD F. OATEN.
 " THOS. S. STERLING.
 " MANMOHAN GHOSH.
 " JEHANGIR C. COYAJEE.
 " R. N. GILCHRIST.
 " JAMES W. HOLME.
 " PRAPHULLA C. GHOSH.
 " A. N. MUKERJEE.
 " P. D. SHASTRI.
 " D. N. MALLIK.
 " J. N. DAS GUPTA.

Dated the 22nd December,
 1923.

CALCUTTA UNIVERSITY

*Statement showing the Staff for Post-Graduate Teaching
 1916-17.*

Names.	Present Salary. (Monthly.)	Increments due from.	Extra amount to be paid. in 1916-17.
ENGLISH.			
<i>Professors.</i>			
		Rs.	Rs. A. P.
Dr. H. Stephen ...	750	<i>Nil</i>	...
Mr. R. S. Knox ...	750	<i>Nil</i>	...
<i>Asst. Professors.</i>			
Mr. H. C. Mukerjee	375	1. 6. 16 @ Rs. 25 for 12 months.	300 0 0
Mr. S. K. Chatterjee	225	1. 6. 16 @ Rs. 25 for 12 months.	300 0 0
Mr. R. Datta ...	250	1. 6. 16 @ Rs. 25 for 12 months.	300 0 0

Names.	Present Salary (Monthly.)	Increments due from.	Extra amount to be paid in 1916-17.
<i>Lecturer.</i>			
	Rs.		Rs. A. P.
Mr. H. C. Maitra ...	250	<i>Nil</i>	...
COMP. PHILOLOGY.			
* Mr. R. Datta ...	100	<i>Nil</i>	...
PHILOSOPHY.			
<i>Asst. Professors.</i>			
Dr. Hiralal Haldar ...	500	<i>Nil</i>	...
Dr. Ramdas Khan ...	500	<i>Nil</i>	...
Mr. Ambika C. Mitra	500	<i>Nil</i>	...
Dr. N. N. Sengupta...	250	<i>Nil</i>	...
Mr. K. C. Bhattacharyya	400	<i>Nil</i>	...
<i>Assistant.</i>			
Mr. Susil K. Maitra...	225	<i>Nil</i>	...
ECONOMICS.			
<i>Asst. Professors.</i>			
Mr. Satis C. Ray ...	550	22. 9. 16 @ Rs. 25 for 8 months and 9 days.	207 8 0
Mr. Manu Subedar	550	17. 8. 16 @ Rs. 50 for 9 months and 15 days.	474 3 1
Mr. S. C. Chakrabarti	200	<i>Nil</i>	...
<i>Assistants.</i>			
* Mr. Bhujanga B. Mukerjee	200	<i>Nil</i>	...
Mr. Jogish C. Sinha	200	<i>Nil</i>	...
Mr. D. Chattoraj	200	<i>Nil</i>	...
HISTORY.			
<i>Asst. Professors.</i>			
Mr. Bipinbihari Sen	425	1. 7. 16 @ Rs. 25 for 11 months.	275 0 0

* His case has been deferred.

Names.	Present Salary (Monthly.)	Increments due from.	Extra amount to be paid in 1916-17.
			Rs. A. P.
Mr. Ramesh C. Majumdar	325	1. 6. 16 @ Rs. 25 for 12 months.	300 0 0
Mr. Surendra N. Majumdar	300	1. 9. 16 @ Rs. 25 for 9 months.	225 0 0
Mr. Gauranga N. Banerjee	200	1. 6. 16 @ Rs. 25 for 12 months.	300 0 0
Mr. A. C. Datta	250	<i>Nil</i>	...

MATHEMATICS.

(Asst. Professors)

Dr. Syamadas Mukerjee	425	1. 6. 16 @ Rs. 25 for 12 months.	300 0 0
Dr. Haridas Bagchi	275	1. 6. 16 @ Rs. 25 for 12 months.	300 0 0
Mr. Narendra K. Majumdar	225	1. 6. 16 @ Rs. 25 for 12 months.	300 0 0
Mr. H. P. Banerjee	200	<i>Nil</i>	...
Mr. M. Gupta	200	<i>Nil</i>	...
Mr. Surendra M. Ganguli	225	1. 1. 17 @ Rs. 25 for 5 months.	125 0 0
Mr. Indu B. Brahmachari	300	<i>Nil</i>	...

SANSKRIT.

Lecturer.

Pandit Bhimsen Sastri	250	<i>Nil</i>	...
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PALI.

Lecturer.

Dr. S. C. Vidyabhushan	100	<i>Nil</i>	...
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Names.	Present		Extra amount to be paid in 1916-17.
	Salary (Monthly.)	Increments due from.	
	Rs.		Rs. A. P.

ARABIC AND PERSIAN.

(Lecturers.)

Shams-ul-Ulma S. M. Gilani ...	200	Nil	
Mr. Z. R. Zahid ...	200	Nil	
Aga Kazim Shirazi ...	100	Nil	
	11,175 (monthly)		3,706 11 1
	= 1,34,100		

HISTORY.

Mr. S. Khuda Buksh @ Rs. 500 per annum	500		
	1,34,600 +		3,706 11 1
	= 1,38,307		

Annual Expenditure.	Rs.	Income (expected.)	Rs.
1915-16 ...	1,31,700	1915-16 ...	75,600
		(Monthly average 900 students)	
1916-17 ...	1,38,307 (proposed)	1916-17 ...	1,00,800
		(1,200 students)	

Deficit for 1915-16 to be met from a contribution from the Fee Fund of the University.

APPENDIX V

GOVERNMENT OF INDIA.

HOME DEPARTMENT.

NOTIFICATION.

ESTABLISHMENTS.

Simla, the 6th July, 1922.

No. F.-531-II.—The following syllabus for the competitive examination for the Indian Civil Service to be held in India in January, 1923, is published for general information.

S. P. O'DONNELL,

Secretary to the Government of India.

Indian Civil Service Competitive Examination to be held in India in January, 1923.

Syllabus of the Examination in which the Civil Service Commissioners give an indication of the lines on which the subjects will be treated.

1. *Essay.*—An essay to be written in English on one of several specified subjects.
2. *English.*—A paper of questions to test the understanding of English and the workmanlike use of words.
3. *Present day.*—Questions on contemporary subjects, social, economic and constitutional, mainly though not exclusively concerned with India. A liberal choice of questions will be given. Effective and skilful exposition will be rewarded.
4. *Everyday Science.*—In this subject such knowledge will be expected as a candidate will have who has studied science intelligently at school and has since then kept his eyes open. A liberal choice of questions will be given.
5. *Vernacular.*—The test will include translation from the vernacular, set composition in which an English passage is given

to be put into the vernacular and free composition in which the candidate writes in the vernacular in his own words on a prescribed subject.

6. *Viva Voce*.—The examination will be in matters of general interest, not in matters of academic interest; it is intended to test the candidate's alertness, intelligence and general outlook.

Languages with History and Literature.—Subjects 7-14. History and Literature will, as far as possible, be brought into close relation. The questions on literature will require first-hand knowledge of the author; and the authors dealt with will be those which candidates ought to have read. Passages of literature may be set for comment on matters of social, political, legal, or other historical importance.

7. *Arabic Language*: translation, free composition and set composition in the classical language.

8. *Arabic History and Literature*.—The main stress in both history and literature will be on the period from the middle of the 6th century A.D. to the middle of the 13th century A.D.

9. *Persian Language*: translation, free composition and set composition in the classical language.

10. *Persian History and Literature*.—The main stress in both history and literature will be laid on the period 1000 A.D. to 1500 A.D. Candidates will be expected to have a general knowledge of Persia before 1000 A.D. and from 1500 A.D. to the present time.

11. *Sanskrit Language*: translation, set composition, questions on Vedic grammar relating to grammatical forms occurring in the passages set for translation or to general grammatical questions suggested by them. Both Vedic and Classical Sanskrit passages will be set for translation; composition will be required in Classical Sanskrit alone. A knowledge of the Prakrit used in plays will be expected.

12. *Sanskrit Literature and Civilization* will include the history of the civilization and thought of India from the Vedic period to 1200 A.D.

13. *Pali Language*: translation, free composition, set composition.

14. *Pali Literature and Civilization* will include the history of Buddhist civilization in India from 600 B.C. to 1000 A.D.

English Literature.—Subjects 15-18. Candidates for any period should be prepared to show some first-hand knowledge of some of the works of the authors named below for the period and of their place in the history of their country. Questions may also

be asked about other writers. Questions will not be set on the history of the language.

Period 1. 1580-1680. Spenser, Shakespeare, Bacon, Milton, Hobbes.

Period 2. 1680-1744. Dryden, Bunyan, Swift, Addison, Defoe, Pope.

Period 3. 1744-1832. Fielding, Johnson, Goldsmith, Burke, Sheridan, Scott, Wordsworth, Byron, Lamb.

Period 4. 1832-1914. Macaulay, Tennyson, Dickens, Thackeray, Carlyle, Ruskin, Thomas Hardy, H. G. Wells.

19. *Vernacular Literature.*—The questions will be directed in the main to test a first-hand knowledge of the best-known works in the vernacular, but questions on works of lesser importance will not be excluded. Candidates should have such knowledge of history as is necessary to understand the literature in its relation to the activities of the people.

20. *Indian History.*—*Period 1.* Hindu India from the first Aryan immigration to the end of the 12th century; history and culture together with the history of Buddhism outside of India.

21. *Indian History.*—*Period 2.* Muhammadan India, from the beginning of the 11th century to 1707 (death of Aurangzeb); together with the contemporaneous history of the Moslem powers outside of India, the Saracens, the Turks.

22. *Indian History.*—*Period 3.* India during the British period from 1600 to the present day; together with the contemporaneous history of the British Empire.

23. *European History.*—The limits of time are 1600 and 1914. Although a fixed date is given for the beginning of the period, candidates will be expected to know in general outline how the initial position was reached. The history of countries closely associated with Europe will be included so far as it influences British history, especially in relation to India.

24. *British History.*—The limits of time are 1400 and 1914. British history will be taken as a whole; politics, economics, and constitution will be considered as mutually affecting each other and all together as the outcome of the common life of the nation. Candidates will be expected to know so much European history as will make the external action of this country fully intelligible and will explain those movements in Britain which had their beginnings elsewhere, e.g., the Renaissance, the Reformation and the reactions in this country of the French Revolution.

From 1750 onwards the outstanding incidents and movements in the history of British possessions will assume more importance.

25. *Economics*.—General Economics, including industrial history with special reference to India. The subject will be treated as a whole, and candidates should be prepared to illustrate the theory by the facts and to analyse the facts by the help of the theory. The history of economic thought will be included.

26. *Politics*.—This subject will include political theory and political organisation.

Candidates will be expected to show a knowledge of political theory and its history, political theory being understood to mean not only the theory of legislation, but also the general history of the State in connection with kindred studies such as Jurisprudence, Public International Law and Economics. Questions involving illustrations from Indian history may be set.

Political organisation will include Constitutional Forms (Representative Government, Federalism, etc.) and Public Administration, central and local. The history of institutions is not included, but candidates will be expected to know the earlier stages from which existing institutions have directly developed, and in this section also illustrations from Indian history may be expected.

27. *Law*.—Constitutional Law, Jurisprudence, equity, contracts, torts, easements, law of property with special reference to Transfer of Property Act, Hindu and Muhammadan Law as administered in British India, Indian Evidence Act, Civil Procedure Code, Indian Penal Code, Criminal Procedure Code.

Mathematics.—Subjects 32-33. The examination will be designed to test understanding of the subject and ability to apply it rather than ability to reproduce proofs of propositions. No great skill in manipulation will be expected.

Questions involving the use of mathematical instruments may be set at both stages.

32. *Lower Mathematics*.—Logarithms, numerical equations; graphs, approximation; infinite series; complex numbers; solution of triangles.

Geometry in two and three dimensions according to the method of Euclid. Analytical geometry in two dimensions (method of Descartes). The construction of plans, elevations and sections of solid bodies (method of Monge).

Differential co-efficient; maxima and minima; integrals; the application of the infinitesimal calculus to curves.

Projectiles; harmonic motion; momentum; energy; power. Equilibrium of rigid bodies in two dimensions; link polygons; virtual work. Simple machines, *e.g.*, tackle, cranes, engine governors, brakes. Fluid pressure; expansion of a perfect gas; air-pump.

33. *Higher Mathematics*.—Lower Mathematics together with :—

Uniform convergence; infinite products; exponential and trigonometric functions of a complex variable.

The elements of the geometry of surfaces.

Taylor's series; partial differentiation; areas and volumes of solids by integration; moments of inertia; the solution of differential equations occurring in elementary mechanics.

Centres; simple cases of linked mechanisms. Equilibrium of forces in three dimensions; loading of beams; elementary treatment of potential. The motion of rigid bodies in two dimensions. Stability of flotation.

34. *Astronomy*.—Celestial co-ordinates. Astronomical instruments descriptively treated; method of using them and of determining their principal errors. Orbit of the earth.

The Ecliptic. Time. Latitude and Longitude. Motion of the moon, simpler calculations, eclipses. Parallax. Refraction. Aberration. Precession and nutation.

Stellar maps and catalogues; the nautical almanac; the principal constellations. Descriptive discussion of planets, comets, double stars, nebulas. The simpler processes of computation; reduction of observations and of measurements made on photographic plates.

35. *Statistics*.—The questions to be set will cover :—

- (1) Elementary theory of statistics, not depending mainly on the theory of probability nor requiring a knowledge of the calculus—frequency distributions, averages, percentiles, and simple methods of measuring dispersion, graphic methods; elementary treatment of qualitative data, *e.g.*, investigation of association by comparison of ratios, consistency of data; the practice of the simplest graphic and algebraic methods of interpolation.
- (2) Practical methods used in the analysis and interpretation of statistics of prices, wages and incomes, trade, transport, production and consumption, education, etc., the more elementary methods of dealing with population and vital statistics; miscellaneous methods used in handling statistics of experiments of observations.

- (3) Elements of modern mathematical theory of statistics; frequency curves and the mathematical representation of groups generally; accuracy of sampling as affecting averages, percentages; the standard deviation; significance of observed differences between averages of groups, etc.; the theory of correlation for two variables.

A considerable choice of questions will be given, especially as to paragraph 2, and it will be possible for a candidate without advanced mathematical knowledge to obtain full marks by answering questions under paragraphs 1 and 2.

Natural Sciences.—Subjects 36-47. The standard of the higher division of a science will be that which is required in the main subject for an honours degree at the universities. The standard for the lower division of a science will be that required in a subject subsidiary to the main subject whether required at the final degree examination or at a preceding examination.

40, 41. *Lower and Higher Botany.*—Vegetable Physiology will be included in each division.

42, 43. *Lower and Higher Geology.*—Mineralogy will be included in each division.

48. *Geography*, not excluding topics which concern geography jointly with other subjects such as economics, history, physics, botany and geology. There will be a practical test which will necessitate a knowledge of cartographical methods and notations, and for this test drawing instruments may be required.

51. *Physical Anthropology.*—The subject includes prehistoric archæology and technology. Candidates will be expected to have such knowledge as may be acquired by laboratory and museum work, consisting mainly in the handling and study of specimens and exhibits. The subject will be treated with special, but not exclusive, reference to peoples of rude culture, including prehistoric civilization.

52. *Social Anthropology.*—Candidates will not be expected to have an extensive experience of laboratory and museum work. The subject will be treated with special, but not exclusive, reference to peoples of rude culture, including prehistoric civilization.

53. *Engineering.*—Strength of materials; theory of structures; mechanism and dynamics of machines; heat and thermodynamics; surveying; hydraulics, including hydraulic machines; electricity and magnetism.

The subject will be treated in a general manner and the questions will be confined to the more elementary parts of the

subject. The candidate will be expected to be familiar with graphical methods and to have some skill in mechanical drawing.

54. *Agriculture*.—The subject will be treated in relation to Indian conditions. Agricultural chemistry, agricultural botany, and agricultural zoology will be included.

Note 1.—From the marks assigned to candidates in each subject such deduction will be made as the Civil Service Commissioners may consider necessary in order to secure that no credit is allowed for merely superficial knowledge.

Note 2.—In view of the importance of legible handwriting in the public service, deductions which may be of considerable amount will be made from the marks of candidates whose handwriting is not easily legible.

Note 3.—In valuing the work of the candidates the Civil Service Commissioners will give credit for good English in all the 54 subjects of the examination, and not only in subjects 1 and 2 which are specially devoted to the language. Among the qualities of good English may be mentioned orderly, effective and exact expression, combined with due economy of words.

Note 4.—A pamphlet containing the question papers used at the examination held in Allahabad in 1922 is being published by His Majesty's Stationery Office, Imperial House, Kingsway, London, W. C. 2, and may be purchased either from that Office or in India from Messrs. Longmans, Green and Company, 6, Old Court House Street, Calcutta; 167, Mount Road, Madras, or 336, Hornby Road, Bombay. It will be on sale in India about 1st August, 1922.

Note 5.—Copies of the Syllabus may be obtained on application to the Chief Secretary to the Government of the province in which the applicant resides.

INDIAN CIVIL SERVICE.

Syllabus for the Open Competitive Examination of August, 1925, for appointments in the Indian Civil Service, and for any other competition that may be held in combination therewith.

The other competitions to which the same syllabus applies and which may, if required, be held simultaneously are:—

Junior Grade of the administrative class in the Home Civil Service.

Colonial Service: Eastern Cadetships.

Foreign Office and Diplomatic Service.

Consular Services (General, Levant, and Far East) and Intelligence Officer Grade in the Department of Overseas Trade.

Note.—Candidates who desire to offer any of the subjects 28, 30-44, 46, or 47 must send to the Secretary of the Civil Service Commission, so as to arrive not later than 15th May, 1925, the

evidence of training described below. Such evidence should be in the form of a certificate signed by a responsible officer of the Institution, and may be sent in advance of the Form of Application. In the case of an Institution not situated in the British Isles, the certificate must state that the Institution in which the work has been done is authorized to prepare candidates in that subject for a degree. When a candidate has been refused permission to take one of these subjects, he will be allowed to substitute another subject within the Regulations provided he does so within the time allowed for sending in Application Forms.

SECTION A.

1. *Essay*—An Essay to be written on one of several specified subjects.

2. *English*—A paper of questions to test the understanding of English and the workmanlike use of words. An optional exercise in the writing of verse will be included.

3. *Present Day*—Questions on contemporary subjects, social, economic, and political. A liberal choice of questions will be given. Effective and skilful exposition will be expected.

4. *Everyday Science*—In this subject such knowledge will be expected as a candidate will have who has studied science intelligently at school and has since then kept his eyes open. A liberal choice of questions will be given. Attention should be paid to orderly, effective, and exact expression.

5. *Auxiliary Language*—Passages dealing with history and politics may be set, but no technical matter. Verse is not excluded. Accuracy and skill in the use of English will be expected.

6. *Viva Voce*—The examination will be in matters of general interest, not in matters of academic interest; it is intended to test the candidate's alertness, intelligence, and intellectual outlook.

SECTION B.

HISTORY. *Subjects 7-10*—Candidates should know something of the original authorities, of the principles of historical criticism, and of the principles and the facts of geography in relation to history. They must be prepared to draw sketch maps.

7, 8. *English History to 1660, British History 1660-1914*—The history will be taken as a whole; politics, economics, and constitution will be considered as mutually affecting each other, and all together as the outcome of the common life of the nation. Literature will not be excluded. Candidates will be

expected to know so much of European history as will make the external action of this country fully intelligible and will explain those movements at home which had their beginnings abroad, *e.g.*, the Renaissance, the Reformation, and the reactions in this country of the French Revolution. In subject 8 the outstanding incidents and movements in the history of British possessions will be included.

9, 10. *European History*—*Period 1*, from 400 to 1494; *Period 2*, from 1494 to 1763; *Period 3*, from 1763 to 1914.

Although a fixed date is given for the beginning of a period, candidates will be expected to know in general outline how the initial position was reached. The history of the American Continent, of India, and of the Far East, will be included in so far as it influences European fortunes in an important degree.

11. *General Economics*—The subject will be treated as a whole and candidates should be prepared to illustrate the theory by the facts and to analyse the facts by the help of the theory. The history of economic thought will be included.

12. *Economic History*—Candidates will be expected to have a general acquaintance with the early economic history of England; but special attention will be paid to the economic development of the British Isles and other portions of the Empire during the last two or three centuries, and so much knowledge of European and American conditions will be expected as is necessary for the understanding of British economic history.

13. *Public Economics*—The questions will deal with the main forms of State action, central and local, in the economic sphere, together with public finance.

14. *Political Theory*—Candidates will be expected to show a knowledge of political theory and its history, political theory being understood to mean not only the theory of legislation, but also the general history of the State and its connection with kindred studies such as Ethics, Psychology, Jurisprudence, Public International Law, and Economics. Candidates will be expected to show a knowledge of original authorities.

15. *Political Organization*—This will include Constitutional Forms (Representative Government, Federalism, etc.) and Public Administration, central and local. The history of institutions is not included, but candidates will be expected to know the earlier stages from which existing institutions have directly developed.

16. *Constitutional Law*—The Constitutional Law of the United Kingdom and of the British Empire, and the Law of English Local Government.

17. *Private Law*—The following branches of English Private Law:—the Law of Real and Personal Property (including the Law of Succession), Contracts, and Torts.

18. *Roman Law*—Passages will be set for translation and comment, but credit will not be given merely for capacity to translate the texts.

19. *International Law*—Public International Law and International Relations. Candidates will be expected to show a knowledge of the principal treaties which have affected international relations from 1815 inclusive to the present day.

20. *Moral Philosophy*—The history of the subject will be included. Candidates will have an opportunity of showing their strength either in Ancient Philosophy or in Modern Philosophy.

21. *Metaphysics*—As for Moral Philosophy.

22. *Logic*—The subject will be interpreted in a wide sense. Epistemology in its bearing on logical problems will be included, together with Formal Logic and Scientific Method. Questions may be set on Mathematical Logic, *i.e.*, on the Logic of Mathematics, Symbolic Logic, and the Logic of Probability; and also on the history of Logic. A considerable choice of questions will be allowed.

23. *Psychology*—Questions on the history of the subject may be included.

MATHEMATICS. *Subjects 24-27.*—The use of the slide-rule and of mathematical tables will be allowed.

24. *Lower Pure Mathematics.*—Geometry of two and of three dimensions according to Euclid (synthetic geometry), to Descartes (analytical geometry), and to Monge (descriptive geometry), dealing with three-dimensional figures by the use of plan and elevation). The method of vectors including scalar and vector products, with applications. Only the main properties of conics and quadrics, including those of poles, polars and polar planes, are expected.

Algebra: Complex numbers; uniformly converging infinite series; the elements of the theory of equations, including the numerical solution of algebraic equations, but not including the formal solution of the cubic and quartic.

Infinitesimal calculus of real variables to partial differentiation and multiple integrals, with applications to geometry. Candidates should be able to deal with the types of differential equations occurring in elementary mechanics.

The proof of Taylor's series will not be required.

No great skill will be expected in solving complicated problems of an elementary nature. The questions will involve the use of mathematical instruments.

25. *Higher Pure Mathematics*.—The geometry of curves and surfaces. Tensor calculus.

Elementary analysis, including simple functions of a complex variable and contour integration.

Differential equations in one independent variable. Elementary treatment of partial differential equations, with special reference to the differential equations of mathematical physics. Existence theorems are excluded.

Mathematical theory of probability, including theory of errors, method of least squares, curve fitting, and correlation.

Calculus of finite differences, including numerical integration and summation and linear difference equations.

A considerable choice of questions will be allowed, so that full marks may be obtained by covering about half the range stated above.

26. *Lower Applied Mathematics*.—Statics, hydrostatics, dynamics, elementary theory of electricity and magnetism, including the induction of currents. Questions will be of an elementary character, but will not be confined to two dimensions; they will involve the use of the calculus. Candidates are free to use differential equations, but a knowledge thereof will not be necessary to answer the questions. Attention will be paid to problems which arise naturally and to general principles; artificial problems will be avoided. The questions will involve the use of mathematical instruments.

27. *Higher Applied Mathematics*.—Statics to a more advanced stage, including graphical treatment.

Dynamics to the equations of Euler and Lagrange and including the theory of the vibration of strings and other simple systems.

Hydrodynamics, including the elementary theory of the motion of solids through a liquid, surface waves, and vibrations in gases.

Elasticity, including the elements of the vibrations of rods, plates and bars.

Electricity and magnetism.

Thermodynamics, kinetic theory of gases, radiation.

Questions may involve the use of spherical and zonal harmonics. A considerable choice of questions will be allowed,

so that full marks may be obtained by covering about half the range stated.

28. *Astronomy*.—Geometrical optics will be included.

A candidate who desires to offer this subject must produce evidence satisfactory to the Civil Service Commissioners of practical training in an observatory.

29. *Statistics*. 1.—Elementary theory of statistics, not depending mainly on the theory of probability nor requiring a knowledge of the calculus:—frequency distributions, averages, percentiles, and simple methods of measuring dispersion; graphic methods; elementary treatment of qualitative data, *e.g.*, investigation of association by comparison of ratios, consistency of data: the practice of the simplest graphic and algebraic methods of interpolation.

2. Practical methods used in the analysis and interpretation of statistics of prices, wages and incomes, trade transport, production and consumption, education, etc.; the more elementary methods of dealing with population and vital statistics; miscellaneous methods used in handling statistics of experiments or observations.

3. Elements of modern mathematical theory of statistics:—frequency curves and the mathematical representation of groups generally; accuracy of sampling as affecting averages, percentages, the standard deviation; significance of observed differences between averages of groups, etc.; the theory of correlation for two variables.

A considerable choice of questions will be given, especially as to paragraph 2, and it will be possible for a candidate without advanced mathematical knowledge to obtain full marks by answering questions under paragraphs 1 and 2.

NATURAL SCIENCE. *Subjects 30-41*.—The standard of the higher division of a science will be that which is required in the main subject for an honours degree at the universities. The standard for the lower division of a science will be that required in a subject subsidiary to the main subject whether required at the final degree examination or at a preceding examination.

A candidate who desires to offer a science must produce evidence satisfactory to the Civil Service Commissioners of laboratory training in that science in an institution of university rank; the length of such training must be at least two academic years for the higher division of a science and at least one academic year for the lower division.

34. <i>Lower Botany</i> .	}	Vegetable Physiology will be included in each division.
35. <i>Higher Botany</i> .		
36. <i>Lower Geology</i> .	}	Mineralogy will be included in each division.
37. <i>Higher Geology</i> .		

42. *Engineering*.—Strength of materials; theory of structures; mechanism and dynamics of machines; heat and thermodynamics; surveying; hydraulics, including hydraulic machines; electricity and magnetism.

The subject will be treated in a general manner and the questions will be confined to the more elementary parts of the subject. The candidate will be expected to be familiar with graphical methods and to have some skill in mechanical drawing.

A candidate who desires to offer Engineering must produce evidence satisfactory to the Civil Service Commissioners that he has undergone a course of training for at least one academic year in an institution of university rank.

43. *Geography*.—Geography as understood in the Universities, not excluding topics which concern geography jointly with other subjects such as economics, history, physics, botany, and geology. There will be a practical test which will necessitate a knowledge of cartographical methods and notations, and for this test drawing instruments may be required.

A candidate who desires to offer this subject must produce evidence satisfactory to the Civil Service Commissioners of training for at least one academic year in an institution of university rank.

44. *Physical Anthropology*.—Physical Anthropology, Prehistoric Archaeology and Technology. Candidates will be expected to have such knowledge as may be acquired by laboratory and museum work, consisting mainly in the handling and study of specimens and exhibits. The subject will be treated with special, but not exclusive, reference to peoples of rude culture, including prehistoric civilization.

A candidate who desires to offer this subject must produce evidence satisfactory to the Civil Service Commissioners that he has undergone a course of training in an institution of university rank.

45. *Social Anthropology*.—Candidates will not be expected to have an extensive experience of laboratory and museum work. The subject will be treated with special, but not exclusive, reference to peoples of rude culture, including prehistoric civilization.

46. *Agriculture*.—Agricultural chemistry, agricultural botany, and agricultural zoology will be included.

A candidate who desires to offer this subject must produce evidence satisfactory to the Civil Service Commissioners that he has undergone a course of training in an approved institution.

47. *Experimental Psychology*.—A candidate who desires to offer this subject must produce evidence satisfactory to the Civil Service Commissioners that he has undergone a course of laboratory training in an institution of university rank.

48, 49. *English Literature*.—*Period 1*, from 1350 to 1700; *Period 2*, from 1660 to 1914.

Candidates should be prepared to show a first-hand knowledge of some of the works of the following authors and of their place in the history of their country:—

PERIOD 1.

Chaucer	Bacon
Malory	Milton
Spenser	Bunyan
Shakespeare	

PERIOD 2.

Dryden	Pope	Burns	Shelley
Congreve	Fielding	Scott	Keats
Defoe	Johnson	Jane Austen	Dickens
Swift	Burke	Wordsworth	Carlyle
Addison	Goldsmith	Coleridge	Tennyson
	Browning.		

Questions on other writers will not be excluded, but on the whole, the questions will be directed to the best-known authors and their best-known works. Candidates should know so much of the history as is necessary to understand the literature in its relation to other activities of the nation.

Questions will not be set on the history of the language before Chaucer, nor, in general, on its morphological or phonological changes since his time; the history of workmanship, style, and prosody will not be excluded.

LANGUAGES WITH THE ASSOCIATED CIVILIZATIONS.—*Subjects 50-67*.—In these the civilization subject associated with a language can be taken only by candidates who also offer themselves for examination in the language itself.

In the questions on civilization, history and literature will, as far as possible, be brought into close relation. In history, candidates will be expected to show a knowledge of the original authorities. They must also be prepared to answer questions on historical geography, and to draw sketch maps. The questions on literature will require first-hand knowledge of the authors; and the authors dealt with will be those which candidates ought to have read. Passages of literature may be set

for comment on matters of social, political, legal, or other historical importance. Questions on philology and the older forms of the languages may be set, but will not be compulsory. In the question papers on civilization, candidates will not be required to write their answers in the foreign language.

In the conversation test importance is attached to pronunciation. The study of phonetics is an important aid to correctness of pronunciation, and candidates who take modern languages will be expected to have studied phonetics in connection with the language or languages taken.

50. *Latin Language*.—Translation, and prose or verse composition. The composition paper will be so arranged that a candidate may confine himself to prose composition or to verse composition or, if he prefers, may take some prose and some verse.

51. *Roman Civilization*.—Roman History and Latin Literature. The outlines of the history and development down to 180 A. D. should be known; but the main stress will be laid on the period 133 B.C. to 117 A.D.

52. *Greek Language*.—As for Latin.

53. *Greek Civilization*.—Greek History and Literature. In history the main stress will be on the period 510 B.C. to 323 B.C.

54. *French Language*.—Translation, free composition, set composition, and conversation.

55. *French Civilization*.—French History and Literature. The outlines of the history and development prior to 1589 should be known; the period from 1589 to 1660 in somewhat more detail; but the main stress will be on the period from 1660 to the present day.

56. *German Language*.—As for French.

57. *German Civilization*.—German History and Literature. Candidates should know in outline the history of the Mediaeval Empire, of the growth of the German cities, of the Reformation in Germany, and of the Thirty Years War; but the main stress will be on the period from the accession of Frederick the Great to the present day.

58. *Spanish, Italian, Language*.—As for French.

59. *Spanish Civilization*.—Spanish History and Literature. In history the main stress will be laid on the periods from the Union of Castile and Aragon under Ferdinand and Isabella to the liberation of the Netherlands, and again from 1800 to the present day.

Italian Civilization.—Italian History and Literature. In history the main stress will be on the 15th century and the first half of the 16th century, and again on the period from 1789 to the present day. Sufficient should be known of the earlier period to understand the position of the Pope and the Emperor in Italy, the rise of the towns, and the position of Dante in history.

60. *Russian Language.*—As for French.

61. *Russian Civilization.*—Russian History and Literature. Something should be known of the history since the accession of Peter the Great, but the main stress will be laid on the period from 1800 to the present day. Only the broadest outlines of the history prior to Peter the Great will be required.

62. *Arabic Language.*—Translation, free composition, set composition, conversation. The examination will be in the modern language.

63. *Arabic Civilization.*—Arabic History and Literature. The main stress in both history and literature will be on the period from the middle of the 6th century A.D. to the middle of the 13th century A.D.

64. *Persian Language.*—Translation, free composition, set composition, conversation. The examination will be in the modern language.

65. *Persian Civilization.*—Persian History and Literature. The main stress in both history and literature will be laid on the period 1000 A.D. to 1500 A.D. Candidates will be expected to have a general knowledge of the history of Persia before 1000 A.D. and from 1500 A.D. to the present time.

The following applies only to candidates for the Indian Civil Service:—

66. *Sanskrit Language.*—Translation, prose composition, and questions on Vedic and Sanskrit grammar. Both Vedic and classical Sanskrit passages will be set for translation; composition will be required in classical Sanskrit alone.

67. *Sanskrit Civilization.*—Sanskrit literature and the history of the civilization and thought of India from the Vedic period to A.D. 1200.

CIVIL SERVICE COMMISSION,

• November, 1924. •

APPENDIX VI

LETTERS TO GOVERNMENT FOR FINANCIAL ASSISTANCE IN 1921

- (1) *From the Registrar, Calcutta University, to the Secretary to the Government of Bengal, Education Department, No. G-344, dated the 5th February, 1921.*

I am directed by the Vice-Chancellor and Syndicate to request you to place before the Hon'ble the Minister in charge of Education this application for financial assistance towards the construction of a suitable building for University purposes on what is known as the Fish Market site.

It is not necessary to recapitulate the history of the acquisition of the site, which is well-known to the Government of Bengal. The following extract from the Report of the Calcutta University Commission, Chapter LI, paragraph 62, states the views of the University concisely and accurately :

“But the University needs, for the proper conduct of its work, not only additional teaching strength but immediate capital expenditure for the provision of teaching accommodation and equipment. The Darbhanga Building, its only centre of teaching, has to find room for the very largely attended law classes and for the post-graduate classes which are frequented by 1,500 students, besides accommodating the Library, the Law Library and the administrative offices. It is impossible to carry on the steadily expanding work under these conditions ; and we have seen several classes being carried on simultaneously in the huge echoing Senate Hall. It will be impossible to carry on without additional accommodation the new system of co-operative teaching which we have advocated ; for though college lecture rooms can be used for this co-operative work, and we hope they will be used to the maximum possible extent, it is essential that there should be abundant accommodation at headquarters. And further demands upon accommodation will be made for the improvement of the administrative system and by the work of departments of education and of physical training. The need for additional accommodation has long been felt. The Government of India found the money for the purchase of the fish market site which is ready to be used ; and as a considerable economy was effected in the purchase of the site, a sum of about 4 lakhs is in hand for building.

Before the war the cost of building planned to fill the site was estimated at 10 lakhs. We think that in order to make the fullest use of the space, the building proposed should be a five-storied one; and in view of this, and of the increased cost of building, we think that 13 or 14 lakhs ought now to be allowed; while, the furnishing of a building on the scale would probably cost a lakh. For these purposes a capital sum of about 11 lakhs will have to be provided, and without this provision the new system which we propose will be crippled from the outset."

It is stated in the above extract that a sum of about 4 lakhs is in hand for building, and that the total cost of construction and furnishing is likely to amount to 15 lakhs. On this basis it is recommended that a capital sum of about 11 lakhs should be provided. Since the date of the Report, the amount in hand in the Fish Market Fund has increased, the position now being as follows :

4 per cent. Calcutta Municipal Debentures	...	Rs.	2,35,500
6 per cent. Ten Years Bond	...	"	7,100
4 per cent. Fixed Deposit	...	"	64,200
Treasury Bills	...	"	2,40,000
Total Rs			5,56,800

On account of depreciation of securities, the actual value may be approximately taken to be about $4\frac{1}{2}$ lakhs. On the other hand, on account of the rise of prices of materials and cost of labour, the cost of construction and equipment is likely to exceed Rs. 15 lakhs. Consequently, the estimate of 11 lakhs made by the Commission may be taken as substantially correct at the present time.

The University authorities have during the last eight years prepared plans for the proposed building from time to time. The general scheme may be briefly described. The building, as stated by the Commission, is intended to be a five-storied one. The first, second and third floors will be used as class rooms, seminars, lecture-hall and library for the post-graduate students, whose number, as stated by the Commission, is nearly 1,500. Since the date of the report of the Commission, new departments have been opened, such as the departments of Indian Vernaculars, Ancient Indian History, and Anthropology and Ethnology. The number of teachers and classes has consequently increased. It has been estimated that the whole of the first, second and third floors will have to be utilised for teaching purposes. The top floor is intended to be used as residential quarters for post-graduate students and teachers. It is important to bear in mind that since the introduction of the Post-Graduate system,

the whole of the higher teaching within the jurisdiction of the University (excluding Dacca and Gauhati) is centralised in Calcutta, and it is absolutely essential that adequate provision should be made for residence of students who are required to come to Calcutta for higher teaching. As regards the ground floor, there has been some difference of opinion. The suggestion has been made that the rooms abutting on College Street and Colootola Street may be profitably let out as shops, specially shops for the sale of articles constantly required by students, such as books, papers, stationery and the like. It has been maintained, on the other hand, that such a use of University buildings is not consistent with its dignity as an academic institution. This consideration is not without weight, but may have to give way, when the University is faced with financial difficulties. In any view, it is clear that the major portion of the ground floor accommodation will be required for the extension of University Offices and the University Press, both of which are now very much congested. A copy of an outline sketch of the proposed distribution of rooms on the first, second and third floors is forwarded herewith,

It is obviously premature to work out detailed plans till it is known whether any, and, if any what, funds will be available. It is apprehended that if funds are made available, there will be no difficulty in the settlement of details by a Committee on which the University and the Government will be represented. It may be stated that when the balance of the Government of India grant was made over to the University, that Government expressed a wish that the amount should be funded till sanction had been obtained from Government for its utilisation. It is requested that the Government of Bengal, if it is in a position to grant the present application, should, if necessary, after communication with the Government of India, grant sanction for the expenditure of the sum now standing to the credit of the University in the Fish Market Fund.

I am directed, finally, to add that the whole of the eleven lakhs may not be actually required during the ensuing financial year. The sum of Rs. 4½ lakhs in the Fish Market Fund together with such sum as may be allotted by the Government of Bengal for the year 1921-22 will enable the University to commence work, and the balance may be paid in the following year."

(II) *From the Registrar, Calcutta University, to the Secretary to the Government of Bengal, Education Department, No. G-345, dated the 5th February, 1921,*

I am directed by the Vice-Chancellor and Syndicate to

request you to place before the Hon'ble the Minister in Charge of Education this application for financial assistance for the development of teaching work in accordance with the recommendations of the Calcutta University Commission.

Paragraph 54 of Chapter LI of the Report of the Commission (Vol. V, pages 282-83) is in these terms :

“ The post-graduate scheme described in Chapter XV is carried on at a cost of more than 5 lakhs of rupees, of which Rs. 1,25,000 is derived from lecture fees. The Government of India has contributed towards the cost, first, by founding three chairs and two readerships at an annual cost of Rs. 40,000; and, secondly, by a grant for the post-graduate classes in general of Rs. 15,000. The balance, more than half of the total, is taken from the general funds of the University, which are, in fact, derived almost wholly from the profits on examinations. Fees at the Matriculation, Intermediate and B.A. Examinations have been increased in order to meet these charges. The 138 full-time University Lecturers who provide the bulk of the instruction are paid salaries, varying in amount, which average Rs. 225 per mensem or £180 per annum. The funds do not permit these salaries to be increased, nor is any superannuation scheme provided; it is, consequently, difficult to retain the services of some of the abler teachers. It would demand an additional expenditure of about 1½ lakhs to increase the average salary to Rs. 300, which is not excessive for this grade of work, seeing that we have suggested Rs. 200 as the average for those of the College Teachers who are not Heads of Departments.”

The recommendation of the Commission has received additional strength from recent events. It has been brought to the notice of the Vice-Chancellor that appointments in the Dacca University have been offered to members of the Calcutta University staff on much higher salaries than the Calcutta University has found it hitherto possible to pay them. To take one illustration, a member of the Post-Graduate staff in Philosophy, who is in receipt of a salary of Rs. 300, has been offered an appointment in the Dacca University on a minimum salary of Rs. 500 with periodical increments. The Vice-Chancellor and Syndicate are not able to appreciate the justification for placing public funds at the disposal of the Dacca University authorities, with the inevitable result that they are enabled to take away members of the Post-Graduate staff by offer of higher salaries. If public funds are available for development of higher teaching in Bengal, the Calcutta University is manifestly entitled to a fair share thereof. I am,

accordingly, directed to request that a grant of one and a quarter lakhs be made for salaries of the Post-Graduate staff during the session 1921-22, as recommended by the Commission.

I am, further, directed to request that a capital grant of Rupees Ten Lakhs may be made for extension of Technological studies, as recommended by the Commission in Paragraph 75 of Chapter LI of their Report. The Government of Bengal are, no doubt, aware of the organisation which exists in the University College of Science and Technology for teaching in Science, Pure and Applied. The College of Science owes its existence in the main to the munificence of the late Sir Taraknath Palit and the Hon'ble Sir Rashbehary Ghose. The gift made by the former (money and land) is worth 15 lakhs of rupees: the endowment created by the latter exceeds 20 lakhs of rupees. The income of the two endowments has to be applied principally in the maintenance of eight Chairs and sixteen Research students. The Chairs are now held by scholars of the highest academic distinction :

Palit Professor of Chemistry—Sir P. C. Ray, Kt., C.I.E.,
Ph.D., D.Sc., F.C.S.

Palit Professor of Physics—Mr. C. V. Raman, M.A.

Ghose Professor of Applied Mathematics—Dr. S. K. Banerjee, D.Sc.

Ghose Professor of Chemistry—Dr. P. C. Mitter, M.A.,
Ph.D. (Berlin).

Ghose Professor of Physics—Dr. D. M. Bose, M.A., B.Sc.,
Ph.D. (Berlin).

Ghose Professor of Agricultural Botany—Dr. S. P. Aghar-
kar, M.A., Ph.D. (Berlin).

Ghose Professor of Applied Physics—Dr. P. N. Ghosh,
M.A., Ph.D.

Ghose Professor of Applied Chemistry—Dr. H. K. Sen,
M.A., D.Sc. (London).

The balance of the income of these endowments which is left after payment of the salaries of these Professors and of scholarships to the research students, is quite inadequate for equipment of the respective Laboratories. The University has, consequently, found it necessary to devote a large portion of its current income from year to year to the construction of the Laboratory Building, and the equipment of the Laboratories.

Some idea of the sums which have been spent by the University will be gained from the following statement:—

	Rs.
Cost of erection of Palit Laboratory Building at 92, Upper Circular Road	3,89,427
Equipment for the Laboratory (Physical, Chemical and Biological)	3,34,382
TOTAL	7,23,809

Besides this, the University maintains two Chairs, one for Botany and the other for Zoology. The former is held by Dr. P. Brühl, D.Sc., who is on the grade of Rs. 800-50-1,000, and the latter, by Mr. S. Maulik, M.A.(Cantab.), who is on the grade of Rs. 600-50-800. To carry on work in each Department, the University has found it necessary to employ a number of Assistant Professors, Lecturers and Demonstrators, whose aggregate salary amounts to Rs. 3,525 per month. Notwithstanding all these arrangements, the University has found it impossible to undertake instruction in Technology and Applied Science on anything approaching an adequate scale. This is a matter for deep regret, specially in view of the fact that the last gift of the Hon'ble Sir Rashbehary Ghose was made expressly for development of technological teaching, and the Chair of Botany first created by him was expressly intended for improvement of agricultural instruction. The authorities of the Science College have had ready for some time past a carefully prepared programme of work for the development of technological instruction, and its outline may be set forth here for information of Government:

(A) Applied Chemistry	Rs. 4,65,000
(B) Applied Physics	,, 2,10,000
(C) Applied Botany (including Agriculture)	,, 2,00,000
(D) Library of the Science College	,, 1,25,000

TOTAL Rs. 10,00,000

In Applied Chemistry (A), the most essential need is an adequate workshop; this, it is estimated, will cost Rs. 2,25,000, namely, Rs. 75,000 for building and Rs. 1,50,000 for appliances. It is proposed to undertake instruction in Chemistry of Leather and Chemistry of Dyes. Besides this, it is proposed to have arrangements for practical instruction in the manufacture of some of the following:

Sulphuric Acid, Glass, Paper and Pulp, Lime, Mortar and Cement, Sugar, Soap, Candle and Glycerine, Paints and

Pigments, Oils. Apart from these, factory appliances, like disintegrators, centrifugals, filter-presses, hydraulic presses, vacuum pans, etc., would be indispensable. These would require a grant of 2 lakhs of rupees to enable the College authorities to make a good beginning. Finally, at least Rs. 40,000 would be needed for even a small laboratory for technical analysis. This brings up the figure for the Department of Chemistry to Rs. 4,65,000.

In the Department of Applied Physics (B), it is intended to undertake work in Applied Electricity, in the testing and standardisation of instruments, in Applied Optics (including Illumination Engineering), in Pyrometry and in Applied Thermo-Dynamics (including a study of the efficiency of different types of Heat Engines). An estimate of Rs. 2,10,000 is manifestly a very modest demand for so important a work.

In the Department of Botany (C), it is intended to undertake instruction in Agriculture. The most urgent need is an Experimental Farm, which need not be situated in the immediate neighbourhood of Calcutta. A site in some place easily accessible by rail will meet the needs of our students. The acquisition of land and the construction and equipment of a farm will cost at least a lakh of rupees. Another one lakh will enable the University Professors to complete the arrangements which have already been begun in the Palit House at 35, Balligunj Circular Road.

The remaining item (D) is the Library of the University College of Science. For purposes of instruction on the most modern lines in such subjects as Chemistry, Physics and Botany, it is absolutely essential to acquire the chief journals and standard works of reference. A sum of Rupees One Lakh and Twenty-five Thousand will enable the University to procure not all, but many, of the most pressing requisites.

It is obvious that a recurring grant would be needed for the purpose of carrying out efficiently the work of technological and agricultural instruction from year to year. The Vice-Chancellor and Syndicate do not, however, press for a recurring grant during the ensuing session, and they will be content to utilise the capital grant which may be placed at their disposal with the assistance of their present staff.

APPENDIX VII

REQUIREMENTS OF THE BOTANY DEPARTMENT

To

THE SECRETARY,

POST-GRADUATE REORGANISATION COMMITTEE,

DARBHANGA BUILDINGS, CALCUTTA.

SIR,

I have the honour to place before you the following Memorandum enumerating the needs of the Botany Department of the University which please place before the Committee :

I. *Staff :*

In order that Post-Graduate teaching in Botany be efficiently carried out the following staff is needed. Three whole-time officers are required as against two at present. I would assign the following duties to each of them. One of the whole-time officers—Dr. Brühl or his successor—shall devote himself mainly to Plant-physiology and Anatomy. This becomes necessary not only on account of the intrinsic importance of this branch of Botany but also on account of the fact, that none of the other three members of the present Post-Graduate staff (the two members attached to the Presidency College and myself) have specialised in this branch of Botany or conducted researches in it. The significance of this will be realised when a reference is made to the reply of the Board of Higher Studies in Botany to Question 5 of the Questionnaire, which lays down that only persons who by their previous work have shown themselves capable of doing and guiding research work should be appointed to the Post-Graduate staff.

The third whole-time officer should devote himself entirely to the study of General Mycology, Algology and Plant Diseases which are of such great importance to the economic life of Bengal. In this connection it may be useful to point out that there is no one in Bengal who is at present working in this branch.

I myself will continue to deal with the Systematic Botany of Phanerogams, Plant-Geography, Economic Botany and Genetics. The two University Lecturers in Botany attached to the Presidency College have a great deal of under-graduate work to do besides their share of Post-Graduate work. Under these

circumstances I do not consider it fair to expect them to devote more time than they do at present to post-graduate work without sacrificing the interests of the Undergraduate students. The significance of this fact will be clear if we bear in mind the poor quality of students we are compelled to admit under the present circumstances to the post-graduate classes.

Apart from the addition of a third whole-time officer to the teaching staff as mentioned above, we require for the efficient conduct of the classes, at least two and preferably three demonstrators on a salary of Rs. 150-5-200 p. m. The present system of the Professors being their own demonstrators cannot be continued for any length of time. One of the demonstrators shall assist in Physiological and Anatomical work. The other who should preferably be a Systematist shall assist in Systematic Botany and be in charge of the Herbarium attached to the department which has more than 20,000 Sheets in it. I might mention that there is some danger of the specimens being lost by the attack of insects and other pests, if they are not properly looked after. The 3rd demonstrator might assist in Mycology, Algology, and Plant-diseases.

There is also the necessity of a clerk and librarian for the department. At present the librarian's work is being done by my personal assistant, which means that I am rarely able to get any assistance from him in my research work. Owing to the want of a clerk I carry on all my correspondence, only occasionally getting casual outside assistance on payment. These practices cannot be continued indefinitely without seriously interfering with my legitimate work and I propose that a clerk and librarian be provided on a salary of Rs. 50-2-75 p. m.

II. *Equipment :*

Our needs as regards equipment can be divided into the following categories: (a) additional accommodation, (b) Laboratory, (c) Library and (d) Garden. Besides these which are strictly necessary for the work of post-graduate and Research Students, are my own needs for carrying on research in Applied Botany, for which purpose the Chair that I hold was founded. I intend summarising our requirements under each of these heads.

(a) *Additional Accommodation.*

The accommodation that we have at present, is hardly sufficient for our needs. We have no place for a research laboratory for the use of the research students (we have at present five of these), no place for a Botanical Museum, no reading room and

no students' common room. All these will necessitate in the near future additions to the existing premises or the erection of new ones. Although I have no plans ready at present, these could be got easily when required; for the present I only wish to point to a necessity which will soon have to be faced.

(b) *Laboratory.*

Our urgent requirements in this respect are for physiological apparatus. The equipment that we have at present is sufficient for experiments of the B.Sc. standard and there is very little more. It would be necessary to provide an initial grant of Rs. 10,000 (ten thousand rupees) for the purpose and a recurring grant of Rs. 2,000 per annum should be earmarked for it.

The present equipment grant of Rs. 3,500 per annum has proved to be insufficient and I desire that it should be raised to Rs. 5,000 (five thousand rupees) per annum at least.

(c) *Library.*

Although our library is a fair one there are many sets of periodicals which are not available in Calcutta libraries and which it is desirable to add. We have also to obtain several costly works of reference for which no provision can be made from the existing library grant. Our library grant which used to be Rs. 1,000 per annum has this year been reduced to Rs. 850. This has already necessitated the holding-up of several bills on account of books ordered before the reduction was known.

I therefore propose that our library grant be raised to Rs. 2,500 (two thousand five hundred rupees) per annum out of which Rs. 1,000 should be for current periodical and Rs. 1,500 for completing sets of Journals, purchase of works of reference, obtaining new text-books, charts, and for binding and replacement of old books.

(d) *Garden.*

That a Botanical Garden is necessary for providing the necessary material for demonstration and practical work may be taken to be axiomatic. The compound of 35 Ballyganj Circular Road is sufficiently large for the establishment of such a garden and we have a staff of Malis to look after it. We are, however, much handicapped in our work by the want of a properly trained overseer who shall be responsible for its supervision. The members of the teaching staff are usually absent during the vacations which often means the loss of valuable specimens owing to want of proper supervision during the

period, I recommend the appointment of a trained Garden-overseer to be in charge of this work. I think it would be possible to obtain a suitable person for the purpose on a salary of Rs. 60-2-80 per mensem.

The provision of suitable plant-houses for the cultivation of delicate and biologically interesting plants is a necessity. This would be an expenditure to be incurred once only and the total amount needed for the provision of two such houses of moderate dimensions will be Rs. 2,500. The initial expenditure on manuring and stocking the garden will be about Rs. 2,000, and a recurring grant of Rs. 1,000 per annum will have to be provided for the same purpose.

III. *Applied Botany Department:*

Lastly I wish to allude to my own personal needs. The greatest of my needs is the provision of a suitable plot of land for plant-breeding experiments. Such a one is available close to 35 Ballyganj Circular Road. It measures an area of nearly 5 Bighas and forms part of the late Sir T. Palit's property held in Trust by the University.

The difficulty in utilizing the plot is that it has three fairly large Jhils or Dobas on it which have to be filled in and the level of the plot raised to that of the road on which it lies before it can be used for experimental purposes. Estimates were obtained in 1922 and 1923 for the cost of this and other measures necessary such as draining the plot and enclosing it by a fence or wall. These estimates show that a sum of approximately Rs. 17,000 would be necessary for the purpose. Some extra money will have to be provided for the provision of Cooly lines, a farm office and quarters for the Superintendent, so that a sum of Rs. 20,000 (twenty thousand rupees) at least will have to be provided. On the other hand it will provide ample facilities for conducting research work in Plant-breeding very close to the laboratory at a very moderate expenditure of money.

To look to the work of the farm under my direct supervision a superintendent will have to be appointed. He should be a trained Agricultural graduate and I propose a salary of Rs. 150-10-250 p.m. for him.

In addition a sum of Rs. 1,000 (one thousand) will have to be provided for buying the necessary farm implements and a sum of Rs. 1,000 per annum will have to be provided for cooly wages.

IV. The proposals made above may be summarised as under :

I. *Staff* (additional to the existing 2 Professors).

- 1 Lecturer, @ 250-25-450 p.m.
- 3 Demonstrators, @ 150-5-200 p.m.
- 1 Clerk and Librarian, @ 50-2-75 p.m.
- 1 Garden overseer, @ 60-2-80 p.m.
- 1 Farm superintendent, @ 150-10-250 p.m.

II. *Equipment*.

		Non-recurring Rs.	Recurring Rs.
(a) Laboratory ...	{ Physiology General	10,000 ...	2,000 5,000 (instead of Rs. 3,500 at present)
(b) Library ...	...	...	{ Books, reference 1,500 works, etc. Periodicals 1,000
(c) Garden ...	{ Plant houses Manures	2,500 2,000	1,000 plants, etc.
(d) Farm ...	{ Levelling, etc. Implements	20,000 1,000	1,000 cooly wages.
• TOTAL ...		35,500	11,500

I hope the Committee will carefully consider the above proposals and be able to adopt them. I will be able to give any additional information if necessary.

I have the honour, to be

SIR,

Your most obedient servant,

S. P. AGHARKAR,

Ghose Professor of Botany.

APPENDIX VIII

PRESIDENCY COLLEGE MEMORANDA.

Answers to Questionnaire regarding Economics.

The main subjects taught by the Board are—Economics and Political Philosophy. The following are the sub-divisions of these two subjects:—

Economics.	Political Philosophy.
(a) General Principles.	(a) General Principles.
(b) Economic History.	(b) Public Administration.
(c) International Trade.	(c) History of Political Thought.
(d) Banking and Currency.	(d) Comparative Politics.
(e) Statistics.	(e) International Law.
(f) Mathematical Economics.	(f) Sociology.

2. Both the two subjects—Economics and Political Philosophy are of equal importance. Each of these subjects has more sub-divisions than those that are taught. These sub-divisions are all, more or less, of equal importance and are taught in all good Universities.

International Law and Comparative Politics are common to Political Philosophy and History. Both these subjects are two-paper subjects in Political Philosophy; but in History, International Law is a one-paper subject and Comparative Politics is a two-paper subject. History students may attend the lectures on International Law under the Economics Board; there may be common lectures on Comparative Politics for History and Political students.

3. No such differentiation is possible.

4. Before we can fix the number of teachers we should fix the number of lectures necessary for each sub-division of a subject, and the minimum number of lectures that should be delivered by a lecturer.

Subject.	No. of lectures required per year (according to syllabuses).
General (Principles of Economics).	75
Economic History	75
International Trade	50
Banking and Currency	50
Statistics	50
Math. Economics	50
General Principles of Politics.	75
Public Administration.	100
History of Political Thought	75
Comparative Politics	75
International Law	75
Sociology	75
TOTAL	825

Assuming twenty-five full working weeks in the year and six hours (leaving sufficient time for study and research) as the minimum number of lectures alone per week per lecturer we find that, theoretically speaking, six whole-time men or four whole-time and four part-time men are necessary for doing the work. We have, however, to take into consideration the fact that some of the subjects, *e.g.*, Statistics and Mathematical Economics are very specialised and require separate lecturers. Practically speaking, therefore, *eight whole-time* men or more preferably six whole-time men and four part-time are necessary for the efficient working of this Department: and these can very well also cope with the 19 or 20 hours per week which may also be required for tutorial and seminar work. The present staff contains ten whole-time men (including the Minto Professor) and six part-time men. This superfluity of men is, however, now employed in M. Com. and B. Com. teaching work. Taking the Department of Economics and Politics singly, the staff certainly appears to be more than what is necessary; but taking it along with the Commerce Department, it fulfils the requirements of both of them. For some years past the posts vacated by the departure of men to other Universities have not been filled up. This precedent might be followed in the case of the vacancy created by Mr. S. C. Roy's appointment elsewhere.

5. These teachers should be recruited from the ranks of First Class M.A.'s with a teaching experience of at least two years.

6. Yes. We should have the following gradation of appointments :

Professors	...	Rs. 600-50-1,000
Lecturers	...	„ 250-25-600
with efficiency bar at	...	„ 400

7. So far as we know our Board has not strictly followed the provisions of Sec. 35, Chapter XI of the Regulations, for the Board has never assigned students of the Post-Graduate Class to particular members of the staff as tutors. The spirit of the provisions has, however, been to some extent followed in the past for the lecturers meet the students now and then during the hour set apart for "tutorials" or at other times and advise them with regard to the lectures which they should attend and to their courses of reading, and assist them in any difficulties that they may encounter in their studies. We think the existing staff is sufficient to carry out such provisions.

8. So far as this College is concerned the maximum of co-operation has been obtained by the Board, for all three members of our staff take a prominent part in Post-Graduate instruction. But it cannot be said that the maximum of co-operation with the staff of other colleges affiliated to the University has been obtained. We believe that the staff of the S. C. College and the C. M. S. College which are affiliated up to the B.A. Honours standard in Economics, may be invited to co-operate.

8 (a). Some heart-burning may be felt by part-time lecturers if the scale proposed in para. 6 be introduced for whole-time men: but this may be obviated if the part-time also are paid on a graded scale, e.g., Rs. 100-25-250. They should, however, be placed in complete charge of one whole sub-division of a subject.

9. So far as is known only four (including the Minto Professor) out of the ten whole-time teachers have published original work two of the members of the Presidency College staff have also published original work. It is not known if anybody else is engaged in carrying out original work. So far as library facilities are concerned, there are ample facilities in our subject, though the want of room is felt to be serious hindrance to quiet study at the University. The number of lectures should be reduced to a minimum, so that both teachers and students may have sufficient time for study and research. That is the only reason why the six hours per week for lectures alone has been accepted. Each subject should have a special room for study and research and seminar work.

10. We do not think that the period of Post-Graduate studies is exactly suited for research work. It is for the lecturers

turers to carry on researches and to infuse the spirit of research in the minds of the students. Post-M.A. students—not Post-Graduate—are alone fitted to undertake research work.

As regards the rest of the questions (Nos. 9 and 10) we agree with the answers given by the English Department.

Signed on behalf of the Economics staff,

H. E. STAPLETON,
Principal,
Presidency College (Offg.)

Answers to Questionnaire regarding English.

1.	Two groups—A and B.	
2.	Yes.	
3.	This question does not arise.	
4.	Maximum number of teachers required—	
1st paper—	History of Literature	2 (with additional help
2nd „	—Drama	2 from the teachers of
3rd „	Poetry	2 Anglo-Saxon and
4th „	Prose	2 Middle English. The
		number of Lecturers
		in this Paper has
		always been 2 in the
		past).
5th „	Chaucer (A Group) and	3 (History of Literature
	the special Papers (5th,	Anglo-Saxon and
	6th and 7th—B Group)	Middle English
		Periods.)
6th „	Special period—Poetry	2 (including History of
		Literature of the
		period.)
7th „	„	2 „ „
8th „	Essay	2 „ „
		—
	TOTAL	15

Note.—This compares with 17 as at present. The number of whole-time Lecturers can only be finally decided when the amount of co-operation from Colleges is known.

Maximum number of Lectures necessary.

		5th-year	6th-year.
A Group & B Group	1st paper	2	2
	2nd "	1	1
	3rd "	2	1
	4th "	1	2
A Group	5th "	1	1
	6th "	2	2
	7th "	2	2
B Group	5th "	1	1
	6th "	1 } x	1 } x
	7th "	1 } x	1 } x
A Group		11	11
B "		9	9
Total No. of lectures (11 + 3 x) = 14			14

Seminar Work.

About 250 students (<i>i.e.</i> , serious students <i>vide</i> Appendix A)	250 Essays a fortnight, <i>i.e.</i> , 250 hours in <i>the</i> month or 62 hours a week.
	Oral work and tutorial guidance (10 boys in each group for one hour a week).
	25 hours a week. <i>Total</i>
	87 hours a week.
Add hours of lectures	28

Grand total of hours to be taught 115 hours a week.

Suggested distribution of work among the 15 teachers.

Group A.		5th-year.	6th-year.
Paper I A. S. Period M. E. Period	{ A	1	0
	{ B	0	2
	{ Z followed by X (6 months each)	1	0
Paper II	{ C	1	0
	{ D	0	1
Paper III	{ E	1	1
	{ F	1	0

Paper IV	{ G	1	0
	{ H	0	2
Paper V	{ X (Chaucer's text)	1	0
	{ Y (Hist. Eng. Gram.)	0	1
Paper VI	{ I	1	1
	{ K	1	1
Paper VII	{ L	1	1
	{ M	1	1
<i>Group B.</i>			
Paper V	Z (Anglo Saxon texts)	1	1
Paper VI	X (M. E. Texts)	1	1
Paper VII	Y	1	1
		14	14

5. Lecturers—1st Class M.A.'s—with at least 2 years' experience of under-graduate teaching in a College affiliated to the Honours standard.

6. Yes.

(1) Professors—Rs. 600-50-1,000.

(2) Readers (only if any lecturer shows special merit and has not already been promoted to a Professorship)
Rs. 400-25-600.

Lecturers Rs. 250-20-400.

Part-time Lecturers ,, 100.

Terms and conditions for all whole-time men should be the same, namely appointment for 5 or 7 years with prospect of reappointment but terminable on either side with due notice. All whole-time Lecturers should be compelled to subscribe to the Provident Fund.

7. It should be applied strictly and to all whole-time teachers up to a total maximum of 10 hours a week (lecturing and tutorial work combined). Part-time Lecturers attached to College should take charge of the tutorial work of their own boys only under Section 34 of Chapter XI.

8. In agreement with the principles on which the Report of the Committee appointed by Government in 1916-17 was based, whole-time Lecturers should be appointed by the University only after the existing resources of the constituent Colleges in Calcutta have been utilised to the full; but no College Professor should be invited to take part in the ordinary routine work of the Post-Graduate Department unless he is prepared to take charge of a substantial part of a paper, as too minute a

sub-division of work tends to weaken the sense of responsibility. Eminent College Professors whose College work is too heavy to allow them to be appointed by the University for part-time work may be invited to deliver special courses of lectures in subjects of which they have made a special study.

8(a). They should be appointed as Lecturers, but should any one show special merit, he might be appointed a Reader or Professor (though he need not necessarily draw the full pay of of the post).

9. The question can hardly be said to arise in connexion with the subject of English Literature.

10. Yes. There is already one such stipend (the Upendranath Mitra research scholar).

11. The teachers should contribute the same amount as the University contribution, viz. (8½%).

12. The Post-Graduate Council is at present a most unwieldy Body. No Council to be effective should exceed 50 or 60, and the Council in future should be limited to Professors, Readers and Lecturers of 10 years' standing. The Board of Higher Studies may exercise its present functions, but it should be divested of its power of appointing teachers. For every appointment to be made, it should recommend a certain number of men to the Executive Committee. The Executive Committee after considering in particular the financial aspects of the case, should make its recommendations to the Appointment Board, which in turn should report its final selection of candidate to the Senate. Financial matters should go from the various Boards of Studies to the Executive Committee and then direct to the Senate. Academic matters should go from the Board to the Executive Committee (as a forwarding medium only) and then through the Post-Graduate Council to the Senate. In this respect real authority will be vested in the Council which will become a truly Academic Council.

CALCUTTA,

H. E. STAPLETON,

The 19th December, 1924.

Principal, Presidency College.

(Signed on behalf of the English
staff of Presidency College.)

NOTES ON THE TEACHING OF PALI IN THE POST-GRADUATE
DEPARTMENT OF CALCUTTA UNIVERSITY.

1. There are four groups in Pali.
2. All the subdivisions are of certainly not of equal importance.

The Board may very well drop some of these subjects. Considering the scope and extent of Pali literature the division into four groups appears superfluous. With the exception of some Ceylonese chronicles the whole literature is essentially religious. The total extent of the literature including commentaries and compilations will be about a hundred volumes. Portions of it are recommended for the Matriculation, I.A. and B.A. Examinations. The rest of the literature can be conveniently reduced to one group instead of four as at present. Moreover the subject is popular with only a very small section of the population of Bengal, *viz.*, the Buddhists of Chittagong. With the rest it is only of academic interest. The number of students in the subject is very small. Under these circumstances four groups and a large staff of teachers is absolutely unnecessary.

As in Sanskrit the M.A. course is divided into 8 papers of which four are common to all the groups. Each of the three groups A, B and C has three special papers, Paper VIII being the same in these three Groups, while Group D has four special papers.

The four general papers as they stand require some modifications.

Paper 2 (c)—So-sor-thar-pa by Mahamahopadhyaya Dr. Satischandra Vidyabhusan should be omitted. It is a Tibetan work and has very little to do with Pali.

Paper 3 prescribes 8 works on Pali and Prakrit Grammar and Philology but no work on Sanskrit Grammar. It is essentially necessary that for the M.A. Examination students should make a comparative study of Sanskrit and Pali; and a general knowledge of Sanskrit Grammar and Sanskrit Language should be insisted upon. Instead of Morris's Notes and Queries on Pali words: (1) Satischandra Vidyabhusan—Grimm's Law, (2) Gene's Comparative Philology, (3) Whitney's Sanskrit Grammar may be recommended.

Paper 4. Rhys Davids.—Buddhist India, should be omitted, as it is recommended for the B.A. Honours in Pali. The number of books recommended appears to be too many and their reading involves unnecessary repetition. Some of the

works may be safely omitted. On the other hand, a knowledge of the History and Geography of places connected with the History of Buddhism may be required of students.

Group A, Paper V prescribes—

- (a) Some selected Jataka stories.
- (b) All the Jatakas referred to in the Bharhut sculpture so far as they have been identified.
- (c) Peta Vatthu, pp. 1-43.

(d) Introduction to Rhys Davids' Buddhist Birth Stories. This paper appears to be too easy for the M.A. course. The Pali students of this University begin to read the Jataka stories from the Matriculation. They study the history of the Jataka stories in the B.A. Honours: so portions marked (a), (b) and (d) are unnecessary. The Peta Vatthu again is an easy work. Students preparing for the M.A. degree are expected to know the matter prescribed in the paper, so this paper may be omitted.

Group A Paper VI. The following six works have been recommended for this paper:—

1. Theri-gatha with Paramattha dipani (first half).
2. Thera-gatha (second half).
3. Sutta-nipata edited Fausbol, pp. 1-99.
4. Visuddhimagga.
5. Puggala Pannatti.
6. Milinda panho (Mendakapanho only).

A combination of the above six works in one paper is hardly desirable. The first three works belong to the Khuddaka Nikaya of the Sutta Pitaka and are in poetry. Nos. 4 and 6 strictly speaking are compilations from the sacred literature and No. 5 belongs to the Abhidhamma Pitaka. The first three works are very important in the History of Indian Literature and should be studied in their entirety by all students preparing for the M.A. degree in Pali, with such portions of the commentary as will be necessary for a knowledge of the History of the Theras and Theris and for the elucidation of the text. Portions of the Milindapanho are prescribed for the B.A. pass course and prescribing portions of the same work for the M.A. is unnecessary. The remaining works Nos. 4 and 5 should also be omitted.

Group A, Paper VII and Group C, Papers VI and VII relate to Indian Inscriptions. Of these Group C, Paper VII, prescribes the following:—

- (a) Inscriptions of the Kshaharata and Satavaham dynasties.
- (b) Inscriptions of the Imperial Guptas.

Neither of these bodies of inscriptions has any special bearing on the History of Buddhism in India. So this paper may be safely omitted.

Group A, Paper VII and Group C, Paper VI deal with very nearly the same matter and may be easily combined into *one*.

Group V has three special papers, all of which relate to Abhidhamma. These may be combined into one paper instead of constituting a group as has been done in the case of Vinaya and Suttanta. Much of the matter contained in the works recommended is the same. If any graduate wants to specialize in Abhidhamma, he may appear in the Title Examination in that subject which has been instituted by Government.

Group C, Paper V, prescribes some Ceylonese chronicles which are too easy for the M.A. course. The Matriculation students are required to read one such chronicle and portions of one recommended for the M.A. course form part of the Honours course in the B.A. The Chronicles generally are very easy works and M.A. students are expected to read them for themselves.

Paper VIII, Groups A, B and C prescribes Ancient Geography of India. Instead of this a knowledge of the History and Geography of the places connected with the History of Buddhism should be prescribed and this paper may be made a part of general paper IV.

Group D has three papers relating to Mahayana literature and Philosophy and one paper for Sanskrit Grammar. It has been pointed out that knowledge of Sanskrit Grammar is essential to all students of Pali and should be studied along with Pali Grammar as part of paper III. So it need not be kept as a part of Group D alone. The remaining three papers should be combined into one and form a part of the M.A. course in Pali as without a knowledge of Mahayana literature and Philosophy, knowledge of Buddhism becomes entirely one-sided.

The whole M.A. course in Pali may be thus reduced to *one* group only.

Paper I.—Select portions of Digha, Majjhima, Sanyutta and Anguttara Nikayas.

Paper II.—Select portions of the Khuddaka-nikaya, viz., Therā and Theri gatha and Sutta-nipata with portions of commentaries on these works.

Paper III.—Select portions of the Vinaya.

Paper IV.—Select portions of Abhidhamma.

Paper V.—Pali Grammar, General knowledge of Sanskrit Grammar and general principles of Comparative Philology as applied to the Indo-Aryan family of languages.

Paper VI.—History of Buddhism together with a knowledge of the History and Geography of the places connected with the History of Buddhism.

Paper VII.—Selected Mahayanic texts as would lead to a knowledge of the essential features of the Mahayana doctrine.

Paper VIII.—Indian Inscriptions from the earliest times down to the 1st Century A.D.

3. Pali literature has only an academic interest for the general body of students in Bengal. It is popular only with the small Buddhist community of Chittagong.

4. Paper I ...	... 2	Lectures per week.
" II ...	... 2	"
" III ...	... 2	"
" IV ...	... 3	"
Paper V	2 lectures per week.	
" VI	2	"
" VII	2	"

separate lectures for paper VIII will not be necessary, as it can be taken up along with the same subject in the Sanskrit course.

Thus the number of lectures that will be necessary for the 5th and 6th-year Classes will be 30 only. As the number of candidates is very limited, the lecture work and the necessary tutorial work may be done by 3 whole-time men only, instead of 7 men as at present.

As Pali is taught in two Colleges only in Calcutta and the staff is very small, little or no assistance from the Colleges can be expected.

5. Distinguished specialists with considerable experience in teaching should be appointed as Post-Graduate teachers.

6. No, there seems little need for different grades of appointments. The salary for whole-time teachers may be Rs. 300-25-500.

NILMANI CHAKRAVARTY,

Senior Professor of Sanskrit and Pali,

Presidency College.

28th December, 1924.

No. 9.

Dated the 3rd January, 1925.

Forwarded to the Secretary, Post-Graduate Reorganisation Committee for information in continuation of my No. 8 of the 3rd January, 1924, and favour of communication to Members of the Committee.

H. E. STAPLETON,
Offg. Principal, Presidency College.

Answer to Questionnaire regarding Arabic and Persian.

1. Arabic— (i) Literature.
(ii) Tafsir (Commentaries of Quran), and Hadis (Traditions of the Prophet).
(iii) Philosophy and History.
(iv) Grammar and Rhetoric.
- Persian— (i) Poetry, Rhetoric and Prosody.
(ii) Prose and Muhammadan History.
(iii) Arabic Prose Text.
(iv) Philology and History of Persian Literature.
2. Yes.
3. No.
4. The number of whole-time teachers required by the University can only be finally decided when the amount of co-operation from the various Calcutta Colleges is known. Roughly speaking the minimum staff may be calculated as *three whole-time teachers and three part-time teachers.*
5. (i) Either Higher Madrasah qualifications (1st Division) with sufficient knowledge of English and teaching experience.
(ii) Or, 1st Class M.A.'s in Arabic or Persian with sufficient teaching experience.
6. Yes.
(i) 1 Professor on Rs. 600-50-1,000.
(ii) Lecturers on Rs. 250-20-400.
(iii) Part-time teachers on Rs. 100.

7. So far as we are aware, no tutorial work is done in the Post-Graduate Arabic and Persian Classes. The rule should be applied strictly to all whole-time teachers who should teach at least a total of 10 hours a week (lecture and tutorial work combined). Part-time teachers attached to Colleges should take charge of the tutorial work of their own College students only under Section 35 of Chapter XI.

8. In their Report of 1916 the Committee appointed to consider arrangements for Post-Graduate teaching in the University of Calcutta remarked "An intimate association and co-operation between the College and the University staffs is imperative in the interest of all concerned and of the development of higher studies"—*vide* para. 25 (a) of Appendix 21 of the Report of the Government Grant Committee appointed by the Senate in 1922. The teaching staff of Arabic and Persian of the Presidency and other Calcutta Colleges have, we believe, at present no share in the Post-Graduate teaching of Calcutta University. The co-operation may be achieved by appointing them part-time teachers and offering them charge of a paper or a substantial part of it.

8. (a) Part-time teachers should ordinarily be appointed as lecturers, but a specialist, who can spare sufficient time from his college work to take charge of a whole paper in the University, might be appointed Honorary Professor or 'Reader.'

9. This will presumably be dealt with by the Arabic and Persian Board. (It may be noted that of the three existing teachers of the Presidency College, two have already published, and are now engaged in carrying out original work.)

10. Yes; the establishment of two research scholarships—for students who have passed the M.A. is desirable—one for Arabic and one for Persian.

11. This is a matter for the Board to decide. Presumably whole-time teachers should also contribute $8\frac{1}{2}$ per cent. of their salaries.

12. The present constitution of the Board is unsatisfactory for the reason stated in para. 8. Until the College staffs are allowed to co-operate fully as unanimously recommended by the Government Committee of 1916, the Board is not likely to be able to fulfil its proper functions.

H. E. STAPLETON,
Offg. Principal.

19th December, 1924.

(Signed on behalf of the Arabic and Persian
Staff of the Presidency College.)

Answer to Questionnaire regarding Arabic and Persian.

1. The subjects taught by our Board are (A) Arabic and (B) Persian. The Subdivisions of the subjects are as follows :—

(A)

ARABIC.

- (i) Literature (Texts).
- (ii) Tafsir (Exegesis and Interpretation of the Quran).
- (iii) Hadis (Sayings and Traditions of the Prophet).
- (iv) Philosophy.
- (v) History of Islam.
- (vi) History of Arabic Literature.
- (vii) Grammar.
- (viii) Rhetoric and Prosody.

(B)

PERSIAN.

- (i) Literature.
 - (a) Prose Text.
 - (b) Poetry Texts.
- (ii) Arabic (Text and Grammar).
- (iii) Philology of the Persian Language.
- (iv) Rhetoric and Prosody.
- (v) History of Islam.
- (vi) History of Persian Language and Literature.

2. Yes.

3. No.

4. At least eight whole-time teachers, 4 for Arabic and 4 for Persian.

5. Maulavis of established reputation or distinguished graduates having considerable teaching experience.

6. Yes.

(i) Professor on Rs. 600-50-1,000.

(ii) Lecturers on Rs. 250-25-500-50-800.

(iii) Remuneration of part-time teachers should depend upon the type of persons available.

7. Some tutorial work is done at present. The present staff is not sufficient to carry out the provisions of Sec. 35, Chapter XI of the Regulations.

8. The Board considered from time to time the claims of persons working in different colleges, but could not avail itself of the services of any such professors as they were, in the opinion of the Board not competent to undertake Post-Graduate work. What the Board feels in this connection is that the principle of co-operation, particularly in such special subjects as Arabic and Persian, cannot be given effect to with success unless the colleges maintain competent teachers on the staff who could do Post-Graduate work.

(a) We anticipate difficulties in connection with part-time lecturers. Between 11 A.M. and 4-30 P.M. part-time lecturers are likely to be employed in the work of their respective colleges. Most of the students attend Law Classes after 4-30 P.M. It would be extremely difficult to prepare a time table to suit the convenience of students and of part-time lecturers from various colleges.

9. All the members. No facilities are given.

(a) Increase in the number of staff which will afford some relief to the overworked teachers and ensure leisure for research.

(b) Adequate provision for the purchase of books.

10. Yes. At least one for Arabic and one for Persian of Rs. 25 each for Post-Graduate students, and one in Arabic one in Persian of Rs. 50 each for those who have already taken their M.A. Degree.

11. No. Contribution by teachers $8\frac{1}{2}$ per cent. of their salaries and by the University $12\frac{1}{2}$ per cent.

12. Not in a position to answer.

Answer to Questionnaire, Department of Philosophy.

1. The Philosophy Board teaches altogether 7 subjects:—
 - (i) History of Philosophy, Ancient, Medieval and Modern—2 papers.
 - (ii) Outlines of Indian Philosophy—1 paper.
 - (iii) Special branches of Indian Philosophy—Samkhya and Yoga, Naya Vaisesika, Vedanta (Sankara and Ramanuja Systems) (original and translation).
 - (iv) Psychology.
 - (v) Ethics and Sociology.
 - (vi) Theology.
 - (vii) Logic.

Subjects *iii-vii* are optional with two papers each; only two can be taken out of these five.

2. The subjects are all important, and so none of them can be dropped. If a question not included in the questionnaire can be raised, it may be considered whether it is not desirable to increase the number of subjects under (ii) by the inclusion of Buddhist and Jain Philosophy.

In view of the fact that there are already arrangements for teaching Pali, the study of Buddhist and Jain Philosophy may be appropriately undertaken in the Calcutta University. As regards the teaching of subjects of an allied nature, more systematic co-operation is desirable in respect of Indian Philosophy. At present only one member of the Sanskrit Board is drafted to teach in the Philosophy department. This number may be increased, either from the Sanskrit Board, or better still, by enlisting greater assistance from the Colleges.

3. The question does not arise.

4. If the proposal made in Para. 2 would be accepted, one teacher to take charge of Buddhist Philosophy and one to take charge of Jain Philosophy would be needed in addition to the existing staff. Further co-operation from the Sanskrit and Pali Boards would also be required.

5. Lecturer—First Class M.A.'s with at least two-years' experience of undergraduate teaching in a College affiliated to the Honours standard or two-years' experience as assistant to a University Professor with some published original work to his credit.

6. Yes.

One Professor (in addition to King George Professor)
Rs. 600-50-1,000.

Lecturers—Rs. 250-20-400.

Part-time Lecturers—Rs. 50-100 according to qualification, seniority and amount of lecture-work.

The number of whole-time lecturers can only be decided after the question of maximum co-operation from Colleges has been disposed of.

7. The existing staff of the Philosophy Board is however sufficient to carry out the provisions of Sec. 35.

8. At present the Board consists of 16 members, including the King George Professor; and a member who belongs to both the Sanskrit and Philosophy Boards and two others who belong to the Science College (Experimental Psychology). The co-operation from the Colleges comes to 5 members who put in

between themselves 16 hours out of the aggregate lecture periods of 63 hours. The number of whole-time lecturers is thus seven including a gentleman who does only one hour's lecture work in the week.

The number of lectures delivered by the remaining 6 members of the whole-time staff varies from 3 to 7 hours per week. This will be substantially increased when tutorial work is placed on a satisfactory basis.

Tutorial and Seminar work.

About 50 students—50 Essays per month in three compulsory subjects, 30 essays in Theology and Ethics, 20 in each of the other subjects (1 essay per hour). The number of tutorial hours in a subject will thus vary from 20 to 50 per month according to subject.

If the tutorial work is mainly to devolve upon the whole-time officers of the University the total amount of work of each of these gentlemen will vary from 7 to 12 hours a week. In History of Philosophy for example the only whole-time men may have to do at least 30 out of 50 hours per month. In Logic, the bulk of tutorial work will fall on 2 members, *i.e.*, 8 hours a month or 2 hours a week for each member.¹

The number of students has ranged between 30 and 50 during the last four years but the range of selection of subjects by students being rather wide, the staff cannot be reduced much below its present strength.

The number of lecture-hours for any student varies at present from 16 to 18 hours a week in the 5th-year and from 18 to 23 hours in the 6th-year according to the combination he has taken up.

This amount of 3 or 4 hours lectures per diem is impossibly large and is a good example of the tendency in the Post-Graduate Department to permit an excessive amount of lecturing. The students are tired out by attendance at so many lectures and they are given little or no chance of working for themselves. This is a large question which is intimately bound up with the question of the fitness of the M.A. students for their course: but it is certainly desirable to insist on a higher standard of knowledge to begin with, so as to enable fewer lectures to be given, the students being left, as in other Universities, to do the greater part of their work by private reading.

The maximum co-operation from colleges has not been secured. Although the number of whole-timers cannot be said

to be unduly large, there is still scope for increasing association of the members of the different colleges. The system of University Extension Lectureships may be instituted on a larger scale.

9. Dr. Guba, Dr. Haldar, Prof. Radhakrishnan, Dr. Urquhart are among those who have published original work. There are a few others who are engaged on such work. So far as the whole-time members of the University are concerned, their pay and prospects should be placed on a sound basis. So far as the part-time lecturers are concerned, their work in the undergraduate department should be lightened. University Extension lectures should be encouraged so that the lecturers may get an opportunity of bringing before the public the outlines of the work they may be engaged on.

12. So far as the constitution of the Post-Graduate is concerned, there is one point which deserves consideration and that is the available financial resources. In the light of what has happened in the past, it seems desirable to modify Sec. 45 (c) of Chapter XI in such a way as to leave no room for future controversy or doubt. In Sec. 46 (d) the following words should be added :

“After meeting the expenses of working of the University in its other departments.”

H. E. STAPLETON,
Principal.

(Signed on behalf of the Philosophy)
Staff of Presidency College,
Calcutta.)

*Notes on the present arrangements for teaching History in the
Post-Graduate Department of Calcutta University.*

1, 2. There is a very large number of special subjects in History. History itself is divided into two parts, General History and Ancient Indian History. In General History, besides the five compulsory papers, there are no fewer than eleven alternative special subjects; and in Ancient Indian History, there are four compulsory papers and five groups of special subjects, each of which is further sub-divided.

Many of these special subjects are taken by only a very small number of students; and there is no reason why some of them should not be removed from the syllabus. Thus, for instance, the *Modern History of China and Japan* may well go. And there is scarcely any justification for courses on all the Indian special subjects in General History, *Bengal 1757-1793*, *the Rajputs*, *the Mahrattas*, *the Sikhs*.

In view of the small number of students attracted to some of the groups, some of them should be given up.

Another point which may be urged in this connexion is this: that many of the students in the History post-graduate classes are, in my opinion, unfit to pursue the course of study which they have entered on. *The proportion of Honours to Pass graduates in the post-graduate History classes is not more than one to three; and a large proportion of the Pass students do not and cannot profit by post-graduate instruction.* Many of them are incapable of following a lecture intelligently and taking down notes for themselves. Some discrimination should be exercised in the admission of students to the post-graduate classes.

At present, also, there is a great deal of over-lecturing. There are some forty lecturers in History and they deliver, according to the time-table, about 200 lectures a week. Each student attends from 12-15 lectures a week. This seems excessive. As far as I can find out, very little tutorial work is done. At the post-graduate stage, on the contrary, the student should be encouraged to do most of his work for himself, under the guidance and supervision of his tutor. The number of lectures given should be cut down considerably; and more tutorial work should be done.

8. A small number of College teachers are recognised as post-graduate lecturers. *But I do not think that the maximum amount of co operation has been obtained.*

5. If the suggestions made above are accepted, I believe the following staff would be able to carry on the work: General History: 8 whole-time University teachers, with the help of part-time College teachers.

Ancient Indian History: 10 whole time University teachers, with part-time assistance.

K. ZACHARIAH,

Senior Professor of History, Presidency College.

No. 8.

Dated, the 3rd January, 1925.

Forwarded to the Secretary, Post-Graduate Reorganisation Committee for information in continuation of my letter No. 388 of 22nd December, 1924, and favour of distribution to Members of the Committee.

H. E. STAPLETON,

Offg. Principal, Presidency College.

ANSWERS TO QUESTIONNAIRE REGARDING
SANSKRIT.

1. There are nine groups in Sanskrit.
2. All the sub-divisions are certainly not of equal importance.

The Board may very well drop some of these subjects. The M. A. course in Sanskrit consists of two parts, general and special. There are four general papers which are common to all the groups and four special papers are prescribed for each group. The aim of the general papers should be to test all candidates' general knowledge of the Sanskrit language and literature studied historically. The general papers as they now stand fail to satisfy the test. Moreover there are too many groups. No other subject has so many groups, there being, *e.g.*, only two groups in English. One candidate can appear nine times for the M. A. degree in Sanskrit and each time he will be examined in the same set of general papers, thus having an undue advantage over the candidates who appear for the first time. Moreover Government hold the Title Examinations in all the various branches of Sanskrit learning and graduates who wish to show their proficiency in those subjects may sit for those Examinations.

PAPER I.

(a) Paper I prescribes one selected *Astaka* of the *Rigveda* with *Sayana's* commentary. Here only one single phase of the Vedic literature, *viz.*, the *Mantras* has been represented. Instead of this all the other phases of the Vedic literature together with a general knowledge of Vedic Grammar should be introduced, the amount of Rigvedic text being proportionately reduced. For this purpose works from Group B may be included in the paper and that group may be dispensed with.

Instead of confining themselves to the interpretations of *Sayana* the students should familiarise themselves with different methods of interpretation including that of *Sayana*.

(b) *Sayana's* introduction does not help in the elucidation of Vedic texts. It is only helpful in the study of the *Purva-mimamsa*. It should, therefore, be omitted.

PAPER II.

The whole of the Siddhanta Kaumudi has been prescribed as a compulsory subject of study for candidates in all the groups, which is unnecessary. It should be prescribed to a limited extent, e.g., Sandhi, Subanta and Tinanta. At present students preparing for Honours in Sanskrit read the portions on Karaka and Samasa. Those chapters as well as the chapters on Krit and Taddhita may be omitted. The whole of the work is too heavy to be thoroughly mastered in two years along with other subjects.

PAPER III.

Comparative Philology is already a special branch of the M. A. course. In Sanskrit it should be studied only to a limited extent.

(c) *Sabda Sakti Prakasika* should be altogether omitted as it is an extremely difficult work with no commensurate philological value. Instead of this a work on Sabdabodha may be prescribed along with Grammar.

Students should be required to study the intermediate stages of the Indian Languages from Classical Sanskrit down to the modern vernaculars. For this purpose Pali and Prakrit works may be prescribed.

PAPER IV.

A comprehensive study of the History of Sanskrit Literature should be insisted upon.

Groups.

Of the existing groups, Groups A, C, H & I may be retained with certain alterations suggested below. Groups D, E, F & G are devoted exclusively to Indian philosophy. There is great inequality among these groups in respect to their extent and difficulty. Paper VI of Group D of the present Regulations is greater in breadth and difficulty than the four papers of group E put together. **These four groups may very well be combined into one of General Philosophy. A total of Five Groups may thus be taught in future instead of Nine.**

Working on the above lines the four General papers would then stand as follows :

Paper I.

(a) Selected hymns from the Rigveda.

(b) Selected passages from the Brahmana literature including Upanishadas.

(c) Panini's Vaidika Prakriya: Macdonell's Vedic Grammar to be consulted; Yaska's Nirukta and the Pratisakhya for reference.

Paper II.

Grammar & Analysis.

(a) Siddhanta Kaumudi—Sandhi, Subanta and Tinanta with Principles of Sabdabodh.

(b) Chapter II of Kavyaprakasa.

Paper III.

(1st Alternative.)

(a) General principles of Comparative Philology as applied to Indo-Aryan languages from the time of the Vedas to the time of the Modern Vernaculars.

(b) Pali Texts :—Selected Jataka Stories.

(c) Prakrit Texts—One of the following Texts :
Uvasaga-dasac, Prasna-Vyakarana or Vipakasutra.
Either the Setubandha or the Hala-Saptasati.

(d) General knowledge of Prakrit and Pali Grammar.

Paper III. (2nd Alternative.)

Elementary Philosophy.

(a) Bhasa-Pariccheda.

(b) Artha Sangraha.

(c) Vedantasara.

Paper IV.

History of Sanskrit Literature with Essay.

As regard to Groups, the following 5 are desirable :—

GROUP A.

Paper V.

Kavyaprakasa, 1st six chapters of Bharata Natya-sastra and Chandomanjari.

Papers VI, VII, & VIII.

Courses of Sanskrit Literature: (a) Prose, (b) Poetry and (c) Drama.

GROUP B.

Philosophy (corresponding to Group C of the present Regulations).

Paper V.

Selected portions of the Brahmasutras with Sankarabhasya.

Paper VI.

- (a) Samkhya-Karikas with Tattva Kaumudi.
(b) Yoga-sutras with Bhoja Vritti.

Paper VII.

- (a) Nyaya sutras of Gautamas with the Vritti of Visvanatha.
(b) Vaisesika Sutras of Kanada with the Bhasya of Prasastapada.

Paper VIII.

History of Indian Philosophy in detail.

GROUP C.

(Corresponding to Group C of the present Regulations.)

Paper V.

Mimansa-Sutras with Sabarabhasya, adhaya 1 with selections from Kumarila's Sloka Varttika.

Paper VI.

Portions of Manusamhita with Kulluka's commentary.

Paper VII.

Dharma-sutras of Apastamba and Gautama with Haradatta's commentary.

Paper VIII.

Portions of Yajnavalkya's Institute with Vijnanesvara's Mitaksara. Portions of Daybhaga and Udvaha-tattva.

GROUP D.

(Corresponding to Group I of the present Regulations.)

Paper V.

Indian inscriptions from the earliest times down to the 1st century A.D.

Paper VI.

20 dated inscriptions from 2nd century A.D. to the 12th century A.D.

Paper VII.

Rapson, Ancient Indian coins.

V. Smith, Catalogue of Coins in the Indian Museum.
Elements of Iconography and Arts.

Paper VIII.

Ancient Geography of India.

GROUP E.

Paper V.—Portions of Jaina literature.

Paper VI.—Prakrit literature.

Paper VII.—Prakrit Inscriptions.

Paper VIII.—Prakrit grammar and Pali grammar.

Detailed Explanations.

In the existing Regulations far too much attention has been paid to specialisation which is a great defect. Students must have first a wider outlook on the subject before they are allowed to specialise according to their own choice. If any such specialisation in the M.A. had to be considered, then the Sanskrit Honours course in the B.A. would first have to be enlarged. At present no Philosophical work is prescribed for the B.A. Honours. The students only begin to study Indian Philosophy in the M.A. course. And specialisation in any one of these within the short period of two years appears to be altogether undesirable. Again in some of the special groups as Sankhya, the number of books is very small. The really valuable and ancient work on the Sankhya Philosophy is the Sankhyakarika of Isvarakrishna. It has two commentaries, one by Gaudapada and the other by Vacaspati Misra. For want of books one commentary has been

prescribed in paper V and the other has been prescribed in paper VI. Paper VII prescribes three commentaries on the same work. In paper VIII Yogavasistha Ramayana and Sārvadarsana-Sangraha have been prescribed for want of books. The former has very little Philosophy in it and the latter is an abridgement of different Philosophical views current at the time of its composition.

In paper VIII Group A an excessive number of books on the same subject has been prescribed, *viz.*, Ekavali, Kavya-prakasa, Sarasvati-Kanthabharana and Sahitya-Darpana.

In paper VI (a) Group C Jaiminiya Nyayamala Vistara has been prescribed. The amount of matter contained in the work is very great. The length of the text is out of all proportion to the time at the disposal of the candidates.

The same remark applies to paper VIII (a).

Group D. Paper V (a) prescribes five works, which is an excessive amount and involves unnecessary repetition.

Paper VI. The whole of the Vadanta Sutras with Sankāra Bhasya is also excessive.

Paper VII (b) prescribes passages from Anubhasya and Saivabhasya for translation. Instead of this, passages from Vedantic texts generally may be prescribed.

Group F. Paper V prescribes three Commentaries on the same body of Sutras which is entirely unnecessary. Papers VII and VIII are also excessive in their scope. Moreover, the works on Nyaya Philosophy are generally very abstruse and it is difficult to master so many works within the space of two years.

Group G. Paper V. Two works—the Sankhya Sutras of Kapila with the Vritti of Aniruddha and Sankhya-tattva-kaumadi—are unnecessary; one only and that the more ancient one should be retained. Two commentaries, *viz.*, Bhasya of Vyasa and the Vritti of Bhoja on the same work are unnecessary. The same remark applies to paper VI. In paper VIII Vedanta-sara appears to be superfluous. The Purva-mimamsa cannot be strictly called Philosophy. It has very little Philosophy in it. It is more connected with the Dharma-Sastras and should, therefore, be removed from paper VIII of this group.

Group I, paper V prescribes Rajtarangini and its continuation with Stein's introduction and commentary all of which are useless. A study of Indian numismatics will serve a more useful purpose and this subject is also intimately connected with Epigraphy.

Summing up, it will be seen that if the modifications in the existing regulations suggested above are adopted, the existing *Nine groups may be reduced to Five* without any appreciable

loss to scholarship. The five groups suggested above will, on the other hand, be more useful and will save much expenditure of time and energy on the part of the students as well as money on the part of the University, seeing that the number of lecturers and examiners may be correspondingly reduced.

Candidates who appear for the 1st time will be examined in the four general papers and in the special papers in any one of the five groups. If a candidate appears for a second time he will be examined in the special papers of two of the remaining groups and on the 3rd occasion he will be examined in the special papers of the remaining two groups. No candidate should be allowed to appear more than 3 times.

Subjects or groups of subjects of an allied nature under different boards should be taught by a superior officer of professorial rank and these lectures should be delivered to combined classes.

3. No. This question does not arise.

4.	<i>General.</i>	No. of Professor.	No. of Lectures a week.
	Paper I	1	3
	Paper II	1	3
	Paper III (a) & Group E (special paper) 2		6 (2 + 4)
	Paper III (b) & Group B (special paper) 2		8 (2 + 6)
	Paper IV	1	2
	<i>Special.</i>		
	Group A	2	6
	Group C	2	6
	Group D	2	6
		13	40

In the two years—the fifth and sixth—the number of lectures will be 80 or nearly an average of 6 hours' lecture work for every individual whole-time Professor. Along with this every whole-time Professor will be required to do tutorial work for 4 hours a week and thus the total amount of work for every Professor including lecture and tutorial will amount to 10 hours, a week.

The number of whole-time teachers that may be necessary can only be determined when the amount of assistance that can be obtained from the Colleges is known. Part-time teachers

should not be called upon to do more than 6 hours per week, half (or two-thirds) lecturing and the rest tutorial and seminar work.

5. Only distinguished specialists with considerable experience in teaching should be appointed as Post-Graduate teachers.

6. No ; there seems little need for different grades of appointments. The salary for whole-time teachers should be Rs. 400-20-600 per mensem. Part-time Lecturers may be given Rs. 100 per month.

7. No ; so far as can be ascertained from ex-students. It is most desirable that a proper system of seminar and tutorial work should be introduced at once.

8. No. Those Professors in the affiliated Colleges who have specialised in any subject may be appointed part-time Lecturers.

9-12. It does not seem necessary at present to enter into these questions.

19th December, 1924. }

(Signed on behalf of Sanskrit
Staff of Presidency
College,)

H. E. STAPLETON,
Principal.

APPENDIX IX

Names of Teachers and other details supplied by different affiliated Colleges.

SANSKRIT COLLEGE.

College.	Name.	Qualifications.	Teaching experience.	Subject.	No. of hours per week.		Remuneration expected per month.	REMARKS.
					In College.	In University Classes.		
Sanskrit College.	Dr. Adityanath Mookerjee, Principal, Sanskrit College.	B.A. with Honours in English and Philosophy. M.A. in Philosophy, First Class Gold Medalist. Premchand Roychand Student, 1897. Doctor of Philosophy.	Taking a substantial share of the M.A. Philosophy teaching for the past 20 years.	Philosophy	...	About 6 or 7 hours.	Rs. 100	
,	Mr. Krishnadhan Banerjee.	M.A., Class I, History, 1908.	He is delivering lectures in History, Paper I, for the last 4 years.	History, Paper I	...	4 hours	100	

College.	Name.	Qualifications.	Teaching experience.	Subjects.	No. of hours per week.		Remuneration expected per month.	REMARKS.
					In Col-lege.	In Uni-versity Classes.		
Sanskrit College.	Mr. Abinaschandra Bose.	M.A. in English, 1st Class, 1907. 3rd in order of merit with special proficiency in Historical English Grammar (Philology). Recently with a view to proceed to B.A. of London University.— (a) Passed Inter. Arts Examination of London University, Class II, Honours in English (besides Latin, Logic and Ethics). (b) Passed subsidiary subject for B.A. Honours of London. (c) Preparing for the principal subject, viz., English.	With over 16 years' teaching experience.	(a) Part paper, History of English Literature, Anglo-Saxon (period), Gr. A. or B. (b) Whole paper, English Historical Grammar and Teutonic Philology—Gr. A. or B. (c) Part paper, Shakespeare—(drama).	...	3 hours on any subject.	Rs. 100	
	Dr. Mahendranāth Sārkār.	M.A. in Philosophy, Class II, 1908. Ph.D. 1920.	.....	Logic as Epistemology. Ethics, Paper I. Indian Philosophy, General or Vedānta, Sāṅkhya Group—special.	...	2 hours in July Sessions.	100	

Mr. Shyamacharam Mookerjee.	B.A. Honours in Sanskrit. M.A. in English, Class II.	.....	Paper I on General History of English Literature.	4 hours	100
Surendranath Bhattacharjee.	M.A., Class II in Sanskrit.	.....	Paper VII in Gr. A. on "A selected period of prose."	4 hours	100
Sacchidananda Bhattacharji.	M.A., Class I, History	.....	(i) Indo-Muslim History. (ii) Political and Administrative History of Bengal from 1757-1793. (iii) Democracy and Nationalism in Europe from 1815-1898.	4 hours	100
Fandit Sitikantha Vachaspati.	A Sanskrit Scholar of the old School in Smriti and passed the Title Examination in Kavya.	(i) Has been teaching Smriti in the Tol Department and Smriti and Alankar in the College Department (I.A. & B.A. Classes) since 1911. (ii) Was engaged as University Lecturer in Smriti, Gr. C, for six years since 1911 and in Kavya, Gr. A, for one year during the session 1917-18	Sanskrit. Any one of the following papers :— Kavya Gr. A, paper, V VI, VII or VIII. Smriti, Gr. C, paper VI, VII or VIII.	4 hours	100

College.	Name.	Qualifications.	Teaching experience.	Subjects.	Lecture hours per week.		Remuneration expected per month. Rs.	REMARKS.
					In College Classes.	In University.		
Sanskrit College.	Pandit Kunjabihari Tarkasiddhanta.	Passed the Government Title Examinations in Kavya and Naya in Gr. Ka. (Anumankhanda) and Kha (Sabākhanda).	He has successfully prepared many students for the Adya, Madhya and Title Examinations in Nyaya, Vedanta, Sankhya, Kavya and Vyakarana.	Sanskrit.— (i) Sabdasakti Prakasika, III (B). (ii) The first half (i.e. the Sanskrit Text) of any of the papers V-VIII of Sanskrit, Gr. A., Gr. D, Grs. E, F and G.	...	4 hours	100	
"	Pandit Sakalnarayan Sarma.	Passed the Title Examinations of Kavya, Vyakarana and Sankhya.	Has been employed as a Teacher in Sanskrit College as well as in the University Classes for over 9 years.	Sanskrit—Paper II (Grammar).	...	2 hours	100	
"	Pandit Jogendranath Bagchi, Sankhya-Tarka-Vedanta-tirtha.	Passed the Sanskrit Title Examinations in Tarka, Sankhya and Vedanta.	Teaching 3 years in the Sanskrit College and 7 years in the Gurukul University both in the Oriental Dept. and College.	Sanskrit—Gr. A., V, VI, VII, VIII and III. " Gr. B., Vedas V, VI, VII and VIII. " C, V & VI " D, V, VI, VII & VIII.	...	4 hours	100	

" " E, V, VI,
 VII &
 VIII.
 " " F, V, VI,
 VII &
 VIII.
 " " G, V, VI,
 VII &
 VIII.
 General—I & III.

ASUTOSH COLLEGE.

Asutosh College, Bhowanipur.	Mr. Moheschandra Chatterjee.	M.A., in English, Class I, 1st, 1915, (Allahabad Univ.).	.....	Shakespeare (Drama).	...	9 Hours	200
"	" Mohinimohan Mukherjee.	M.A., in English, 4th 1918.	Formerly Senior Prof. of English Literature, Midnapore College, Temporary Prof. of Presidency College.	Elizabeth— Drama. Sp. period in Prose. History of Bengali Literature including the Medieval and Modern periods. Bengali Drama and Prose.	...	8 Hours	150-200

College.	Names.	Qualifications.	Teaching experience.	Subject.	No. of		REMARKS.
					hours per week	Remuneration expected per month.	
					In Col-lege.	In Univer-sity Classes.	
Asntosh College, Bhowanipur.	Mr. Chandicharan Mitter.	B.A. with Honours in English, 1913 2nd. M.A. in English (Gr. A.) 1915, 2nd in the list.	Formerly Prof. of English St. Xavier's, Carmichael and Presidency Colleges.	History of English Lit. (Eliz).	2 Hours	60	
				Drama of Shakespeare.	4 "	100	
				Poetry (Modern).	8 "	200	
				Prose (Modern.)			
				Special period, Poetry.			
				Special period, Prose.			
"	" Bibhutibhusan Ghosal.	M.A. in English II Class, 1918, B.A. with Honours in English, Class II, 1916.	.....	Poetry and Drama. Modern Bengali.	8-10 Hrs.	200-250	
"	" Sibdas Banerjee.	B.A. with Honours in Sanskrit 1911. Stood II Class 2nd. M.A. in 1913 in Gr. A, II Class, 1st. Got the Hemchandra Gossain Medal and the Sonamoni Prize.	Formerly, Professor of Sanskrit, Ripon and Raj-shahi Colleges.	Gr. A. Papers V, VI or VII.	5-6 Hours	100-125	

Gangadas Mukherjee.	B.Sc. with Honors, 1911, Formerly Prof. of Mathematics, Cooch-Bihar College. M.Sc. (Pure Mathematics) I Class, 3rd. lege. 1913.	Higher Math.— Algebra. Trigonometry (both plane and Spherical), Solid Geometry and differential Geometry. Differential Equations.	6-8 Hours 100-200	Already working as part-time Lecturer in the Dept. of Applied Mathematics of the Univ. College of Science on Rs. 100 p.m. since 1921.
Bhupendra-chandra Das.	M.Sc. in Mathematics I Class 1st, Gold Medalist, 1917. B.Sc. Hons. Class I, 4th.			
Amalapada Chatterjee.	M.A. in Mixed Mathematics, 1st Class 1st (Gold Medalist), 1917. B.Sc., I Class with Hons. in Math. (1915).	Ethics or Hydrostatics (Mixed Mathematics).	8-10 Hours 150-200	
Kalidas Sen	M.A. in Philosophy, Class II, 1910.	Philosophy, Papers, I, II, III, & IV Psychology, Logic, Epistemology Dialectic.	As many Hours as the College can spare.	

College.	Name.	Qualifications.	Teaching experience.	Subject.	No. of hours per week In College. In University classes.	Remuneration expected. Rs.	REMARKS.
Asutosh College, Bhowanipur.	Mr. Harimohan Bhattacharji.	B.A. with II Class Hon. in Philosophy, 1913. M.A. in Philosophy (1915), 3rd in Class I; M.A. in Sanskrit, Gr. G., 1919, 1st in subject Gold Medalist, Kavyatirtha, 1907.	.....	Modern Philosophy ... (Bacon to Hegel) Recent Tendencies, Modern Logic and Epistemology, Outlines of Indian Philosophy.	... ..	100-150	
"	" Bijoygopal Sircar.	M.A. in Philosophy, Class II, 1914.	.....	Ethics, History of Philosophy, Logic.	... ..	.....
"	" Abaninath Bose.	M.A. in Ancient Indian History and Culture, Gr. II, I Class 1st (Gold Medalist), 1921.	Ancient Indian History and Culture, Gr. II, Papers V, VI, and VII.	6 Hours	100-125 p.m.	

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RIPON COLLEGE.

Ripon College.	" N. N. Raye ...	B.A. with Double Honours in English and Philosophy 1893. M.A. in English, 1st Class 1894. (Medalist).	Double Lecturer at Hugli College (1894-95). Prof. Ripon College (1896-1903), Prof. Cotton College, (1904-5). Principal T. N. J. College 1905-1922). Principal, (Ripon College (since July, 1922).	
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"	R. N. Ghosh	B.A. with double 1st Class Hons. in English & Philosophy 1904. Eshan Scholar, M.A. in English, 1st Class 1905 (Gold Medalist).	Prof. Ripon College, (1911-1914), Prof. Presidency College (1914-16), Prof. Krishnagore College (1916-17), Prof. and Vice-Principal at Ripon College (since October 1917).	Remuneration will depend upon nature and quantity of work.
"	D. P. Ghosh	M.A. in Mathematics, 1st Class 1st (Gold Medalist), 1924, stood First at all University Examinations.	Professor at Ripon College (since Sept., 1914).	.....
"	Dr. A. B. Datta	M.A. in Mathematics 1st Class 1st, 1917, P.R.S. 1922, Ph.D. in Mathematics, 1922.	Professor at Ripon College (since August, 1923).	.....

VIDYASAGAR COLLEGE.

Vidyasagar College.	Prof. J. R. Banerjea.	.....	At present University Lecturers,	.....	The teachers will accept any suitable remuneration.
"	Prof. S. C. Bose	.....	.....	.....
"	Pandit Radharaman Vidya-bhusan.	.....	A Professor of 20 years' Sanskrit Kavya standing.	.....

College.	Name.	Qualifications.	Teaching experience.	Subjects.	No. of hours per week.		Remuneration expected.	REMARKS.
					In Col-lege.	In Uni-versity. Class.		
Vidyasagar College.	Mr. Amulyachandra Aikat.	.....	A Professor of 13 years' standing.	English Literature.	...	...	...
"	Mr. Madhavdas Sankhyatirtha.	.....	A Professor of 8 years' standing.	Sanskrit Literature Sankhya system of Philosophy.	...	...	...
"	Mr. Achyutakumar Dutt.	.....	A Professor of 8 years' standing.	English Literature.	...	...	...
"	Mr. Vishnucharan Bhattacharyya.	A First Class M.A. in Bengal.	A Professor of 5 years' standing.	Bengali and Pali	...	...	...
"	Mr. Jnandakanta Ganguli.	.....	A Professor of 4 years' standing.	English Literature.	...	...	...
"	Mr. Nimaicharan Maitra.	.....	A Professor of 3 years' standing.	Do.	...	...	...

ST. XAVIER'S COLLEGE.

St. Xavier's College.	Rev. P. Johanns	S.J., B.Litt. (Oxon), Oriental Language and Literature. Studied Philosophy and Theology for	He taught for 2 years in Belgium and for last three years at St. Xavier's College as a Lecturer in Philosophy.	Mediaeval Philosophy or "Modern Scholastic Philosophy" "Hindu Philosophy."	...	2 hours	Not less than Rs. 100 per month.	
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10 years at Louvain. With special study of Kant and Hegel.

sophy," Sankara and Ramanuja or Vedic Grammar, translation of Vedic Hymns.

Mr. H. K. Sarkar	M.A. English Gr. A., 1911, II Class, 6th.	Serving as Prof. of English from 1912 up-to-date.	English Poetry, Drama Books. Prose, or Text	2 or 3 hours.	Do.	
St. Xavier's College.	Mr. P. C. Banerjee	B.A. (Hons. in English) 1917. M.A. (English A, Class II) 1919.	Professor of English, Uttarpara College, 1920. Professor of English, St. Xavier's College, since 1921. Teaching B.A. (Pass and Honours.)	Any paper in English, Gr. A. except Chaucer and Philology.	2 Hours.	Do.
Mr. N. N. Mukherjee	M. Sc. in Pure Mathematics in 1916, standing 5th in the 1st class.	Serving as a Professor of Mathematics in the college from 1919 and teaching B.A. & B.Sc. (Pass and Hons.) course since then.	Pure Mathematics (a) Plane or Spherical Trigonometry. (b) Theory of Equations. (c) Plane Analytical. (d) Calculus Geometry. (e) Differential Equations. (f) Projective Geometry.	2 Hours.	Do.	

College.	Names.	Qualifications.	Teaching experience.	Subject.	No. of hours per week		Remuneration expected per month.	REMARKS.
					In Col-lege.	In Univer-sity Classes.		
St. Xavier's College.	Mr. B. N. Pal	M.A. in Pure Mathematics, 1st Class 1st, Gold Medalist. The Keshab Lal Mullick Gold Medal and Prize Holder. Sir R. B. Ghosh research Scholar at the University College of Science.	Serving as a Professor of mathematics at the St. Xavier's College since 1922 and Teaching different classes up to B.A. and B.Sc. classes (Pass and Honours).	Pure Mathematics.— (a) Algebra (b) Calculus. (c) Differential equations. (d) Theory of equations. (e) Plane Trigonometry. (f) Projective Geometry, etc.	2 Hours		Not less than Rs. 100 p.m.	

ST. PAUL'S COLLEGE.

St. Paul's College.	The Rev. P. G. Bridge, Offg. Principal.	Has specialised in Scholastic and Medieval Philosophy.	17 years' teaching experience.	Scholastic and Mediaeval Philosophy.	...	Will accept pay suggested.
	Mr. H. H. Crabtree	Has specialised in Plato & Aristotle.	4 years' experience	Plato and Aristotle	...	Do.
	Mr. P. B. Chatterjee.	First class M.A. in Sanskrit, Medalist.	9 years' experience	Sanskrit	...	Do.
	Mr. J. C. Mondol	Mathematics, 1st class	9 years' experience	Mathematics	...	Do.
	Mr. P. Mahanty	Has specialised in Oriya History	7 years' experience.	History	...	Do.

Mr. Sudimalchandra Dutta, M.A.

6 years' experience ... Rajput History ...

He is drawing Rs. 100 per month from the P.G. Arts Dept. as Lecturer.

Mr. Bejoykumar Bhattacharjee.

5 years' experience Economics ...
He is printing 3 books on Indian Economics.

Do.

DIOCESAN COLLEGE.

Diocesan College.

Miss T. Wright ...	B.A. Hons. (London) London Teaching Diploma.	11 years' School and College experience in England and India.	European History ...	2 or 3 Hours.	Usual pay'
Miss B. M. W. Beatty, B.A.	B. A. Hon. (Dublin)-- (Senr. Mod.) Diploma in Teaching, London and Dublin.	24 years' experience in Teaching both in the School and College, England and India.	Honours English or Psychology or Economics.	2 or 3 hours.	Do.
Miss D. MacLaren	B.A. Birmingham Univ Board of Education Teaching Diploma.	8 years' Teaching experience in England and India.	English	2 or 3 hours.	Do.
Miss Kinvig ...	Hons. B.A. (Oxford) Oxford Diploma in Education.	.....	English	2 or 3 hours.	Do.
Mr. J. C. Ghatak M.A.		6 years' teaching experience in Calcutta.	Sanskrit, Economics, History.		Do.

BANGABASI COLLEGE.

College.	Name.	Qualifications.	Teaching experience.	Subjects.	No. of hours per week.		Remuneration expected per month.	REMARKS.
					In College.	In University.		
Bangabasi College.	Mr. Lalitkumar Banerjee.	1st in 1st Class English 1888.	36 years' teaching experience.	.....	...	...	Rs.	Present health does not permit to take up the work at present.
"	Pulinbehri Kar	M.A. II Class 7th in English 1901. B.A. Hons. in English, Philosophy.	13 years' teaching experience.	English 3rd paper (Poetry) or 4th paper (Prose).	...	From July to Dec. 3 Hrs. From Jan. to Mar. 6 Hrs.	250	
"	Jitendranath Chakravarti.	First Class 1st English 1918.	7 years' experience	Eng. Gr. B. Part of either 5th paper (Anglo-Saxon) or 6th paper (Mid. Eng.) Gr. A.—Part of 1st paper, 3rd paper (Poetry) or 5th paper (Chaucer and Philology).	...	Ditto	100	

