



ROYAL GOVERNMENT OF BHUTAN



26TH EDUCATION POLICY GUIDELINES & INSTRUCTIONS
(EPCI-2007)

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ROYAL GOVERNMENT OF BHUTAN

MINISTRY OF EDUCATION

Policy and Planning Division

Thimphu : Bhutan

16 July 2007

All Dasho Dzongdags
All Directors
All Heads of Divisions
All Dzongkhag Education Officers
All Heads of Schools/Institutes

RE: 26th Education Policy Guidelines and Instructions

INTRODUCTION

We are now almost at the end of 9th Five Year Plan (FYP), and most of the objectives envisaged in the plan period have been achieved. The first draft of the 10th Five Year Plan, which begins from July 2008, has been completed through extensive consultation with the Departments and Divisions under the Ministry of Education. The main theme of the sector during the 10th Plan will be consolidation of school facilities and further enhancement of the quality of education. The draft Plan is currently being reviewed for alignment with the Planning Commission's framework of Results Based Planning and Management (RBM). The 10th Plan which would be implemented by the new elected government will be ready by December 2007. The extension of the 9th Plan by a year (from June 2007 to June 2008) has given us time and opportunity to prepare a good plan through a consultative and participatory process involving all the relevant stakeholders.

With the start of the 2007 academic session, the new English curriculum for classes V - XII; new Mathematics curriculum for classes IX, XI, and XII; and the new Dzongkha curriculum for classes IX and XI are being implemented by all schools. To this effect, massive teacher orientations were conducted last winter in all three curricular areas.

The new Dzongkha curriculum, like the new English curriculum, introduced in class IX and XI in the last academic session, will focus on developing skills in reading and writing, listening and speaking, and grammar and language. Besides personal development and improving the quality of education, the curriculum's numerous activities and strategies also focus on preparing students for employment in future. Under the new curriculum for Dzongkha, students will be exposed to writing essays, reports, poems, short stories, scripts and film reviews in Dzongkha II while language, grammar and letter writing will be covered in Dzongkha I. New Dzongkha textbooks for class X and XII are being developed for introduction in 2008. Works on Dzongkha curriculum development for classes V to VIII will be carried out by mid 2007, after which revision work on the pre primary to class IV Dzongkha curriculum will start.

The concern on the quality of education in the country resulted in an extended debate and discussion in 2006, culminating in an executive order issued by the Prime Minister consisting of strategies and measures towards improving the quality of education. Curriculum reforms, reviewing school activities, enhancing use of IT in education, infrastructure expansion and enhancing teacher quality were some of the immediate strategies drawn up by the government. In all, 88 strategies and measures were identified and further divided into three timeframes as short-term (2006-08), medium term (2008-12) and long term (2008-13). ***The Prime Minister's executive order is enclosed as Annexure I.***

Works have begun in earnest to implement the order. The measures and strategies in place would take the quality of education to new heights. The extended debate and discussion on the quality of education offered opportunities for those involved in providing education. Some thoughts that have been shared in various workshops and seminars over the last winter have been further shared with all principals of schools through a letter a few months ago. ***Refer Annexure II for details.***

Towards inculcating a culture of reading among Bhutanese school students, the Ministry of Finance, on the directive of the government, has approved the budget for the development of school libraries under the normal budgetary line. Starting this July, all government schools in the country will be given Nu. 10,000.00 per year, and an additional Nu. 300 per student per year for all students in classes VII-XII, and Nu. 200 per student per year to all students in class PP-VI. This fund is to be utilized exclusively to buy library books and other reading materials. ***Refer Hon'ble Minister of Education's circular in Annexure III.*** This is indicative of the importance the government attaches to the school reading programme.

Furthermore, recognizing that quality of education would require more in-depth analysis and studies, the Government established a ten member Education Sector Review Commission (ESRC), to carry out a comprehensive review of the education sector and propose a roadmap for the development of education in the country. The Commission would complete the review and report their findings and recommendations to the Government by November 2007.

Following the approval of the Draft Psychotropic Substance and Substance Abuse Act by the National Assembly, the office of Bhutan Narcotic Control Agency (BNCA), has been established. The establishment of this office is expected to facilitate and strengthen the efforts to reduce the spread and use of narcotic and psychotropic substances.

In order to encourage lifelong learning and to allow career enhancement for those who have not been able to complete their class X and XII, the Ministry of Education launched a pilot programme on continuing education in Kelki HSS, Thimphu in February 2006. A total of 148 candidates are enrolled. Following the success of this pilot, two more centres have been opened in Kuenga HSS in Paro and Reldri HSS in Phuentsholing.

Towards enhancing the quality of Non-Formal Education, the salaries for NFE instructors have been raised to Nu. 4500 per month with effect from 1st July 2007. Similarly the allowance of the regular teachers who teach NFE classes has been raised to Nu. 1500 per month. Refer the Hon'ble Minister's circular to all Dasho Dzongdags in ***Annexure XXIV*** and detailed directions and guidelines on page 17.

In a major development in the history of Education in Bhutan, the Ministry of Education conducted the first Bhutan Higher Secondary Examinations in December 2006, marking the

successful takeover of the class XII examinations from the Council for Indian Secondary Certificate Examinations (CISCE). Despite the initial concerns about the validity of this certificate by Universities and Institutions outside the country, the Bhutan Higher Secondary Examinations Certificate (BHSEC), awarded by the Bhutan Board of Examinations, has been endorsed and is recognized by the Royal University of Bhutan (RUB), the Association of Indian Universities (AIU), the Council of the Board of School Education (COBSE), the Central Board of Secondary Education (CBSE), and the Council for Indian School Certificate Examinations (CISCE). This means that students passing out with a BHSEC will be accepted anywhere in India, and in institutions in third countries which recognize the Indian Boards.

Towards improving the management of the education system and to support policy and decision making, the Ministry of Education is presently in the process of developing an improved Education Management and Information System (EMIS). The EMIS, once in place will assist the education sector in improving its decisions, its monitoring and overall management by rationalizing the usage of information.

In keeping with the resolution of the 86th session of the National Assembly, the Dzongkha Development Authority has now become an independent commission; separate from the Education Ministry. *Refer Annexure IV for the Ministry's organizational chart*

As the Education Ministry makes progress towards achieving the goal of universal primary education, the challenge lies in providing educational access to the last 5-10 percent of the population who live in scattered and remote villages. Limited boarding for primary students from scattered villages, where it is not feasible to establish schools, will be provided in selected schools. The Government has approved a stipend of Nu. 240 per student per month for primary students who are currently staying as informal boarders where two meals are provided by the World Food Programme and the third meal is provided by parents. The Government stipend will replace the third meal which was provided earlier by parents. This arrangement will come into effect from 1st July 2007. *Refer Hon'ble Minister of Education's circular in Annexure V and further instructions on page 11.*

Similarly, the rapid expansion at the primary level has placed tremendous pressure on the higher levels of education, particularly at the secondary level. The Ministry will seek to address this issue in the 10th Plan which focuses mainly on the consolidation of school facilities and further enhancement of the quality of education.

OVERVIEW OF THE STATUS OF EDUCATION

1. Education Coverage

The goal of the Royal Government of Bhutan is to provide a minimum of 11 years of free, quality basic education to all its citizens. Within the 9th FYP, the objectives are to enroll 90-95% of all children in primary schools, enhance the quality of education, promote the national language Dzongkha and develop a higher education system under the umbrella of a national university.

The enrolment this year at all levels of formal education has risen to 152,194 students, an increase of 5670 students from PP-XII over the previous year's enrolment. This increase is supported by the opening of 13 Community Primary Schools, 1 Middle Secondary School (Bjishong), 1 private Primary school and the up-gradation of 8 Community Primary Schools to Lower Secondary Schools, 1 Lower Secondary School (Shari) to Higher Secondary School, 3 Primary Schools to

Lower Secondary Schools, 8 Lower Secondary Schools to Middle Secondary Schools, and bifurcation of 1 LSS (Phuntsholing) to MSS and Primary school.

This increase has brought the Gross Primary Enrolment Rate (GER) to approximately 105.7 % and the Net Primary Enrolment Rate (NER) to approximately 83.7 %. At the Basic Education level (PP-X) the GER is approximately 87.8 % and NER is about 78.2 %.

Overall the total number of students in the schools, institutions and non formal centres is 175,852, not including the estimated 14,436 monks and nuns under the monastic system.

The Non-formal Education Programme has expanded to 777 Centres with a total of 14,694 learners with 762 instructors.

The general overview of schools, institutes, teachers and students are as shown in table 1.

Table 1: General Education Statistics 2007

Levels/Types of Schools, Centres & Institutes	Schools/Institutes	Teachers	Students
Community Primary Schools	249	896	28,953
Primary Schools	83	751	23,585
Lower Secondary Schools	87	1,604	48,716
Middle Secondary Schools	37	1,093	29,829
Higher Secondary Schools	22	683	14,963
Private Schools	24	348	6,148
Bhutanese Students in India & Abroad	-	-	1,029
Sub-Total	502	5,375	153,223
Vocational Institutes	6	89	810
Special Institutes	3	14	109
Tertiary Institutes	10	354	3,820
Tertiary Students Abroad	-	-	2,981
Sub-Total	19	457	7,720
NFE Centres	777	762	14,694
Early Childhood Care (Day Care Centres)	6	19	215
Total	1,304	6,613	175,852

1.1 Private Schools:

As of 2007, there are 24 private schools in the country, out of which 7 are higher secondary schools, 16 are primary schools and 1 is a Lower Secondary School. The enrolment in the private schools is 6124 with 348 teachers. In 2007, there are 6 Day Care Centres with a total enrolment of 215 students and 19 teachers.

2. Examinations

2.1 Bhutan Certificate of Secondary Education (BCSE) Class X December 2006 Examination Results

A total of 7032 candidates sat the Bhutan Certificate of Secondary Education Examination (BCSE) in December 2006 from 50 schools (27 Middle, 23 Higher secondary including two private schools). There were 277 private and supplementary candidates and 139 candidates were absent.

The nationwide pass percentage was 91.95% similar to the 2005 pass percentage of 91.83%.

Table 2: A summary result of the BCSE (Class X) examination

Number Appeared			Number Passed			Number Failed			Number Absent			National
Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Pass%
3617	3276	6893	3390	2948	6338	227	328	555	73	66	139	91.95

Student performances, both in terms of pass percentage and mean marks, have improved as compared to 2005 except in Mathematics and Science.

Out of 7032 candidates who sat, 3690 boys (91.86 %) passed and 3342 girls (88.21 %) passed.

The cut off point for admission to class XI in government schools was declared at 58.60% (total marks of 293). The cut off point has gone up by 1% compared to 2005. This is basically due to better performance of students this year. A total of 2764 students got admission into class XI which is a 10% increase over last year.

2.2 Bhutan Higher Secondary Education Certificate (BHSEC) Class XII December 2006 Examination Results

After a long association of about 33 years with the Council for the Indian School Certificate Examinations (CISCE), New Delhi, the Bhutan Board of Examinations (BBE) assumed full responsibility for the conduct and certification of the class XII examination, which is now called the Bhutan Higher Secondary Education Certificate (BHSEC). The BBE took on the conduct and certification of the class X examination, known as Bhutan Certificate of Secondary Education (BCSE) in 2001.

The BCSE (Class X) and BHSEC (Class XII) examinations conducted by the BBE are recognized by the Royal University of Bhutan (RUB) and in India by the Association of Indian Universities (AIU), the Council of the Boards of School Education (COBSE), the Central Board of Secondary Education (CBSE) and the Council for the Indian School Certificate Examinations (CISCE). The BBE is the Associate Member of the Council of the Boards of School Education (COBSE), a voluntary association of 41 Boards of School Education in India.

4038 candidates (from 26 higher secondary schools including 7 private higher secondary schools) sat for Bhutan Higher Secondary Education Certificate (BHSEC) Examination conducted in December 2006 by the BBE.

The nationwide pass percentage was 94.15%, 5.12% higher than the 2005 pass percentage of 89.03%. 232 candidates failed and 69 were absent. Of the 2379 males who sat the examinations, 2205 (92.68%) passed and of the 1659 females, 532 (92.34%) passed.

Table 3: A summary result of the BHSEC examination Class XII December 2006 Examination Results

Stream	Number Appeared			Number Passed			Number Failed			Number Absent			Pass %
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Science	585	251	836	564	248	812	21	3	24	11	1	12	97.13
Commerce	997	671	1668	945	640	1585	52	31	83	10	6	16	95.02
Arts	754	711	1465	696	644	1340	58	67	125	22	19	41	91.47
Grand	2336	1633	3969	2205	1532	3737	131	101	232	43	26	69	94.15

On record the national pass percentages for the past years are as follows:

Table 4: National Pass percentages

Year	National Pass %
1997	99.21%
1998	83.78%
1999	94.45%
2000	88.65%
March 2001	91.26%
December 2001	94.01%
December 2002	91.50%
December 2003	90.28%
December 2004	91.61%
December 2005	89.03%
December 2006	94.15%

For the first time, 44 candidates also sat for an advanced Rigzhung course, which was introduced to encourage students who are good in Dzongkha to further specialize in it.

It has been observed that subject-wise performance of candidates, both in terms of pass percentage and mean marks, was better this year than last year in all subjects, except Pure Mathematics and Business Mathematics.

2.3 The Institute for Language and Cultural Studies (ILCS), Semtokha Rigzhung (New curriculum) and Teacher candidates (Old curriculum) December 2006 Examination Results

A total of 120 candidates (68 male & 52 female), including 16 private failed candidates, sat for the Rigzhung Class XII examination 2006 under the new curriculum. Out of these, 117 (97.5%) candidates passed. Out of the 52 teacher candidates who appeared the Rigzhung Class XII examination in 2006 under the old curriculum, 46 (88.46%) passed.

3. Teachers

Teacher shortage still remains a major challenge. This is especially true in key subjects such as Physics and Mathematics. While this is not a serious problem in urban areas, it is a problem in the remote schools, where teachers are reluctant to go because of harsher living conditions and higher costs of living. This has a direct impact on the quality of education, especially for children in remote and rural schools.

Overall, based on the 1:32 teacher student ratio, there is no teacher shortage. The current average teacher student ratio as per the 2007 statistics is 1:27.3. For the year 2006-2007, the Ministry of Education appointed a total of 484 new teachers at all levels of schools including 44 expatriate teachers recruited from India. The following are the details of new teachers who were appointed in 2007.

Table 5: Appointment of New teachers

Sl No.	Category	Total
1.	PGCE	62
2.	B.Ed (Sec)	141
3.	B.Ed (Pry)	237
4.	Expatriate Teachers	44
5.	Total	484

3.1 Admission of Teacher Trainees in two Colleges of Education, 2007

A total of 445 candidates with class XII passed certificate who served as apprentice teachers for a year were admitted into the Bachelor of Education (B.Ed) programme for both primary and secondary levels in the two Colleges of Education. A total of 39 degree students are undergoing PGCE training in Samtse College of Education and 15 degree students are undergoing PGCE Dzongkha in Paro College of Education.

Table 6: Admission of Teacher Trainees in Two Colleges of Education

Institute/Course	Students		Total
	Paro	Samtse	
PGCE, Samtse	-	39	39
B.Ed	283	174	457
PGCE Dzongkha	15	-	15
Total	298	213	511

3.2 Details of existing teacher

Table 7: Details of existing teacher's qualification

Sl.No	Category	Total
1	Masters in Dzongkha (M.A Dzo)	4
2	M.A	21
3	M.Ed	101
4	M.Sc	3
5	B.A Dzo	73
6	PGCE	360
7	B.Ed Sec	841
8	B.Ed Pry	655
9	B.Ed Dzo	144
10	ZTC	630
11	PTC	1830
12	Expatriate	601
	Total	5263

Note: Lecturers of the member institutes of RUB is not included in the above list

Table 8: Breakdown of existing Physics and Mathematics Teachers

Sl. No.	Category(Subjects)	Teachers
1	PGCE (Mathematics)	18
2	PGCE (Physics)	3
3	PGCE (Physics/Mathematics)	47
4	B.Ed Sec (Mathematics)	92
5	B.Ed Sec (Physics)	44
6	B.Ed Sec (Physics/Mathematics)	65
7	B.Ed Pry (Mathematics)	45
8	B.Ed Pry (Physics)	6
9	Expatriate (Physics)	51
10	Expatriate (Mathematics)	129
11	Expatriate (Physics & Mathematics)	26
	Total	526

3.3 Pre-service Teacher Education

A total of 420 class XII pass outs were selected as teacher trainee candidates in 2007 and introduced to teaching after a two-week induction course. After the induction course they were posted in different Dzongkhags as apprentice teachers. This is the last batch of the apprenticeship programme, since the duration of the B.Ed programme will become 4 years from 2008 onwards.

Table 9: Details of apprentice teacher's placement- Dzongkhag wise

Dzongkhag	Total	Dzongkhag	Total
Bumthang	6		
Chhukha	23	Samtse	24
Dagana	23	Sarpang	15
Gasa	2	Thimphu	14
Haa	5	T/gang	51
Lhuentse	26	T/yangtse	31
Mongar	54	Tsirang	8
Paro	15	Trongsa	28
P/gatshel	19	Wangdue	18
Punakha	7	Zhemgang	22
S/Jongkhar	29	Grand Total	420

DIRECTIVES AND GUIDELINES

1. Curriculum Reforms:

1.1 Towards enhancing quality education, major curriculum reforms have been initiated in the three tool subjects of Dzongkha, English and Mathematics for all classes (PP-XII). For English, following the development of Curriculum Framework PP-XII, Curriculum Guides for teachers and Textbooks for Classes V through XII have been developed. The revised curriculum was implemented in classes IX and XI in 2006 and in 2007 it is implemented for all classes from V to XII. Development of Curriculum Guides for teachers and textbooks for classes PP-IV is in progress. The revised curriculum for classes PP-IV will be implemented from February 2008.

The new English curriculum focuses on practice and achieving higher levels of competency in reading and literature, writing, listening and speaking, and language through shifts in teaching and learning practices to student-centered learning in which students take active participation in their own learning. It is expected that over a period of time the new English curriculum would address the concerns that are expressed by the parents, employers and the government on the proficiency of English of our students.

1.2 Similarly, following the development of Mathematics Curriculum Framework PP-XII, Curriculum Guides for teachers for classes XI and XII and Textbooks and teacher guides for classes IX and X have been developed. The revised curriculum has been implemented in class XI in 2006 and IX and XII in 2007 preceded by teacher orientation. The teacher guides and textbooks for classes V-VIII are being developed, which will be implemented in class 2008 following teacher orientations. Development of textbooks and curriculum guides for teachers for classes PP through IV will be taken up in 2008.

The new mathematics curriculum, besides the content adjustment and contextualization of concepts, focuses on conceptual learning and understanding.

1.3 Similarly, following the development of Dzongkha Curriculum Framework PP-XII, textbooks and teacher guides for classes IX to XII have been developed and implemented in classes IX and XI in 2007 following teacher orientation. Development of textbooks and teacher guides for classes V-VIII will be developed in 2007 for implementation in 2008. Shifts in teaching and learning processes are similar to that of the new English curriculum.

1.4 The curricular reforms in all the three tool subjects involve major shifts in approach focusing on understanding and development of skills. Those who teach the new curriculum would require orientation as well as strong support from the Heads of Schools as well the Dzongkhags.

1.4.1 Schools are encouraged to create mechanisms for professional exchange and support within the school and where possible even between schools.

1.4.2 Curriculum and Education Monitoring Officers will visit schools in the country to hold discussions as well as collect feedback and provide support in the implementation of new Dzongkha, English and mathematics curricula. They will be joined by local experts identified for the three subjects. ***The proposed structure and functions of decentralized education monitoring and support services is included as Annexure VI.***

1.5 Following the nationwide implementation of Class VII Bhutan History in Dzongkha in 2006, it is now being implemented nationwide in class VIII during the current academic year. Teaching of Class IV Social Studies in Dzongkha will continue to be piloted.

A separate letter has been sent to the schools through the offices of the DEOs on the implementation of the new curricula in 2007. ***Refer Annexure VII for more details.***

1.6 As in the past, the performance of our students in Science and Mathematics board examination still remains to be desired. It appears that our children are not getting enough practical sessions in order to understand scientific concepts. In light of this, the schools are urged to ensure that science practical are carried out. A circular has been already sent to all the Principals, Middle and Higher Secondary School to ensure that science practical in classes IX and X are carried out as part of the regular processes of teaching and learning in schools. ***Refer Annexure VIII for more details.***

2. Library fund for schools

2.1 In order to enhance a culture of reading in our schools, the Government, has approved the budget for the development of school libraries to be released through the Dzongkhags to the schools under the normal budgetary line at: *Nu.10,000 per school per year plus Nu.200 per student per year for students in classes PP-VI and Nu.10,000 per school per year plus Nu. 300 per student per year for students in classes VII-XII.*

2.2 For 2007-2008 FY, the incorporation of the budget for the development of school libraries, based on the 2006 school statistics has been initiated by the Ministry of Education with the Department of National Budget. However, from the next fiscal year, the Dzongkhags will be required to submit the library budget for each of the schools in their Dzongkhags.

2.3 This budget is meant for buying new books, replenishing old and out-dated books and subscribing to newspapers and magazines. It must be noted that this budget line is meant for the development of school libraries only and cannot be re-appropriated to any other budget head.

CAPSD will support in terms of making available a suggestive list of library books from time to time. This list will be available on the website of the Education Ministry. (Refer Annexure III for more details)

2.4 In view of the strong Government support for the development of reading habits in our children, schools are hereby instructed to seriously implement the school reading programme. One measure of success of the implementation of the school reading programme would be that more and more students and teachers are reading without any external compulsion; the only compulsion being their desire to read more. Without visible change of behaviour in the students and teachers, the schools will have stronger reasons to pursue the programme even more seriously and vigorously.

A letter of approval from the Ministry of Finance for development of Libraries in the schools is enclosed as *Annexure IX*.

The details of budget proposals and operation by schools are provided in a circular sent to schools on the subject enclosed as *Annexure X*.

3. Boarding and School Feeding Programme

3.1 Stipend for Informal Boarders

The Royal Government has approved a monthly stipend of Nu. 240 per student, for informal boarders at the primary level, with effect from 1st July, 2007. This stipend is meant to cover the third meal for primary students, in informal boarding situations, where WFP was providing only two meals and the third meal was met through parental contributions. A list of the schools where the stipend will be provided is appended as *Annexure XI*.

3.2 Scrutiny of Need for Primary Boarding Facilities

The Ministry of Education in collaboration with the Dzongkhags would like to identify other schools where primary boarding facilities are required. Dasho Dzongdags are asked to assist the Ministry in arriving at a list of such schools in their respective Dzongkhags, in order to provide access to children in scattered villages where it is not feasible to build primary schools.

3.3 Phasing out of WFP support for classes IX to XII students

Beginning 2008, WFP assistance for classes XI & XII students will be phased out. In this regard, the Dzongkhags are asked to budget Nu. 700 per boarder students in these classes, per month accordingly, in lieu of the WFP withdrawal.

The WFP feeding program for classes IX and X students will be phased out in 2009 except in 10 schools where it will continue. The list of ten schools will be confirmed to the concerned Dzongkhags and schools after its finalization.

3.4 Retargeting WFP feeding programme

A retargeting exercise to determine which schools are eligible for the WFP feeding programme has been carried out by the World Food Program with the help of a local consultant. The data collected from schools across the country was examined to achieve a reasonably sound and balanced outlook on how the school feeding resources could be reallocated. Indicators such as accessibility, efficiency, educational coverage and food insecurity were used to determine the need for WFP

feeding programme in the schools. As a result of this exercise, 39 schools will be phased in and 19 schools will be phased out. The list is attached as *Annexure XII*.

4. Enhancing the use of ICT in Education

4.1 All higher and middle secondary schools have a computer laboratory each with a minimum of 10 computers. Similarly, some lower secondary and community primary schools have also been supplied with 2-5 computers. The RGOB has committed, through the Prime Minister's Executive Order in 2006, to support the ongoing development and enhancement of ICT in education. With this support, we provide computers to schools as they get electricity supply.

4.2 Our aim is to make our teachers and students who complete basic education (i.e. class X) IT literate, or in other words familiar with Internet and computing technology, and encourage them to use the technology for teaching and learning. Since April 2007, Bhutan Telecom has made all dial up Internet packages free. Therefore, all schools which have computer and Internet facilities are urged to introduce relevant IT programmes for students and encourage the use of computers and Internet for learning especially after school hours and during the weekends, when the facilities are often underutilized and students have ample time to practise and learn. Along this line, CAPSD has developed a standard IT literacy framework, which schools are urged to use to initiate and carry out IT literacy programmes.

5. Personal Development and Co-curricular Programs

5.1 Value Education

The work on consolidating value education is continuing with greater impetus. Among the variety of programmes targeted towards the promotion of appropriate values amongst our students is the 'Choeshed' programme, which is being introduced in our schools in collaboration with the Zhung Dratshang. The Venerable Yangbi Lopen has visited all the HSS and MSS in the country and initiated the Choeshed programme in these schools. A letter addressed to all the principals in HSS and MSS issued from DYS to further institutionalize the 'Choeshed' programme in the years ahead is enclosed as *Annexure XIII*.

5.2 Career Education and Counseling Programme

The Career Education and Counseling Division have trained 402 teacher counselors from Lower, Middle and Higher Secondary schools. Each secondary school is required to have one male and one female counselor to cater to the emotional and behavioral needs of the students. Schools which do not have the required number of counselors are requested to inform the D.E.O. and also send copies of the information to the Career Education and Counseling Division and the Human Resource Division, Ministry of Education.

The Career Education Program and the Counseling Program are looked after by two separate officers of the CECD, DYS although some areas like the training of the teacher counselors are done jointly.

The objectives of the School Based Career Education and Counseling Program, roles and responsibilities of D.E.Os, Principals, Teacher Counselors, School Counselors and Master Counselors are provided in *Annexure XIV*.

5.3 Comprehensive School Health Programme

The Comprehensive School Health Program is a collaborative endeavor of the Ministry of Education and the Ministry of Health towards promoting the health and well being of our children. Recently, the Ministry of Health has agreed to provide annual checkup of all the students by the respective Dzongkhag Medical Officer at the beginning of the academic session as part of the health services of the Comprehensive School Health Program. Health screening and supplementation would be done twice a year, once in March/April and the other in September. In this connection, each student is to be provided with a notebook to keep a record of the child's health. This record should be maintained, updated and transferred with the student if he/she changes school. To this effect, all the DEOs are requested to work out the details of the health check-up with the concerned DMOs in consultation with Heads of Schools. *Refer Annexure XV for details of management of the Comprehensive School Health Programme.*

5.4 Multi Skilled Instructors (MSI) and Vocational Clubs

All multi-skilled staffs are asked to follow the following job description:

1. Motivate students to join the vocational club activities
2. Conduct theoretical and practical training classes in vocational education up to class X
3. Develop teaching/training materials and lesson plans
4. Supervise assignments carried out by the club members related to life skill training
5. Evaluate performance of students and maintain record and report
6. Coordinate meetings/discussions in areas related to vocational activities
7. Coordinate maintenance works of the school and other income generating activities within and outside the school as a part of training programme
8. Assist in life skill training and execute as a focal person for the advocacy of training opportunities in vocational education
9. Carry out any responsibility assigned by the Head of the school related to vocational skills
10. Plan and submit budget proposal for vocational club

5.5 School Physical Education and Sports Programme

The aim of School Sports Program is to promote a healthy lifestyle and inculcate positive values and skills in children through various Physical Education (PE) and Sporting activities. The sports competitions and sports excellence should not dominate the whole purpose of the School PE and Sports program. PE and Sports in schools must be practiced regularly and progressively for the well-being of the children.

As a strategy to ensure mass participation of children and to build proper sports culture in schools, henceforth the schools sports should be conducted Season-wise and Division-wise in schools besides regular PE programs. Dzongkhags and schools must also conduct several friendly matches within the clusters prior to seasonal carnivals. For details, refer *DYS's letter no. DYS/GSD (11)2007/997 dated March 15, 2007 in Annexure XVI*. The list of divisions, seasons, clusters and athletic events are provided in *Annexure XVII*.

6 Professional Development Programme for Teachers

Teachers are the most important resource, and investment in the continual professional development of teachers through in-service training contributes to raising the quality of students' learning and achievement. The MoE has established various courses for teachers to enhance their academic knowledge and professional skills.

The following programs are being carried out:

A. In-country

1. Non Accredited National Based In- service Programs (NBIPs)
2. Institute based accredited Courses

B. Programmed Ex-country Courses

C. Ad-hoc Ex-Country Programs

6.1 To facilitate the nomination and selection of candidates to these programs, the eligibility criteria and the details of the programs are specified and enclosed as *Annexure XVIII*. For further inquiries, the Human Resource Division may be contacted at Tel. No 02-331760. Please refer *Annexure XIX* for the Criteria for selection of candidates for post graduate studies (Masters) and *Annexure XX* for the application form for In-Country Award Bearing Courses for teachers.

6.2 For many of the professional development programs and accredited courses offered to teachers, the selection will now be done on open competition system. It will be advertised in all available forms of media like radio, TV, news papers as well as on the education website: www.education.gov.bt. Teachers are encouraged to look for information about the various professional development courses in the media and the education web site.

6.3 Further, the teachers are also encouraged to look for any open scholarships which the MoE will support if the courses are relevant to teachers. The HRD office will inform teachers of availability of any open scholarship, through the education web site. Teachers are encouraged to look for the information and apply accordingly.

6.4 Associated with various workshops and attendance of courses where payment of DSA is concerned, we have been having a lot of audit observation on the claims that our teachers made particularly the inadmissible claims. To avoid this, teachers are urged to refer to Hon'ble Minister's directives circulated last year, copy attached as *Annexure XXI*.

7. Human Resource Management Issues

7.1 Posting and deployment of teachers

7.1.1 The 9th AEC resolved that the deployment of new teacher graduates to schools would be decentralized to Dzongkhags. Accordingly, the MOE has already started to send teachers in groups to Dzongkhags as per their teacher requisition. Dzongkhags are asked to deploy them as per 1:32 teacher student ratio, and taking into account other prevailing teacher deployment policies so that this scarce resource is used judiciously.

7.1.2 In the past, all teachers trainees who had completed their training period, were placed in schools, regardless of whether they had cleared all the papers or not. Those teachers, who had not cleared their papers, were employed as temporary teachers and paid only a monthly salary of Nu. 3000. Henceforth, this practice will be discontinued, and appointment of such teachers as temporary teachers will be done only on a case by case basis, on application.

7.2 NOC for teachers seeking inter-professional transfers

7.2.1 The new Position Classification System of the RCSC now permits inter-Ministerial and inter-professional transfers of civil servants, including teachers. Such transfers are subject to production of the No Objection Certificate from the parent Ministries/Agencies. In the interest of the education of students, the Ministry of Education would grant NOC for teachers only at the end of the academic year. *Refer Hon'ble Minister of Education's directives enclosed in Annexure XXII.*

7.3 Promotion

7.3.1 There are several positive outcomes of the PCS for teachers. With the PCS, the minimum qualification of teachers is a Bachelor of Education degree, and therefore the entry grade is pegged at P5 (sub levels depending on the present grades). The advantage for the teachers is that they have been put in P5, without this minimum qualification. However, for promotion of teachers who do not have the minimum qualification of B.Ed, RCSC requires their performance ratings for the past three years be consistently outstanding/excellent (*aggregate*). Therefore, for those who deserve promotion, the respective principals must observe the rating norms as required by the PCS, so that such teachers are not unduly disadvantaged. Promotions up to grade 6 or position levels P3 or T1 can be granted by Dzongkhag HR Committee. For the promotions to grade 5 or position levels P2 or Senior Teacher II and above will have to go to the RCSC.

7.3.2 Another positive outcome of the Position Classification System is that our teachers who become highly skilled and professional will be able to gain promotion to senior and master teacher positions (grades 4 and 3). Teachers who are becoming highly professional, meet the requirements, and are performing the job of senior and master teachers should apply for promotion to these positions. In case of those who are doing exceptionally well, their principals and Dzongkhag should recommend fast track promotion to keep good teachers motivated. A professional Committee in the Ministry will study the proposals and recommend promotion to the RCSC.

7.4 Winter Salary

With regard to the payment of salary to new teacher graduates who are posted to schools before the start of the academic session, it has been resolved with the Royal Audit Authority and the RCSC, that they should get paid from the time the appointment letter is issued. A copy of the RCSC letter to this effect is enclosed as *Annexure XXIII.*

8. Academic Leadership and Responsibility of the DEO/ADEOs

8.1 The Dzongkhag Education Officers (DEOs) and the Assistant Dzongkhag Education Officers (ADEOs), who are selected and appointed from amongst the senior most and most capable educationist, have the pivotal role in providing professional leadership towards improving the quality of education

8.2 As a part of their mandatory duties and responsibilities, the DEOs and the ADEOs are heretofore required to visit each of the schools in their Dzongkhags at least twice a year, once in

the 1st half of the year and once in the 2nd half of the year. Refer the Hon'ble Minister's letter to all the Dasho Dzongdags and DEOS in 2006 included in *Annexure XXIV*.

9. Non- Formal Education

As resolved in the 10th Annual Education Conference:

- 9.1 The recruitment of NFE instructors are decentralized to the Dzongkhags from 2007.
- 9.2 Refresher courses for the new NFE Instructors will be conducted by the Dzongkhags with support from Department of Adult and Higher Education.
- 9.3 NFE centers will be established in the schools as far as possible.
- 9.4 Towards enhancing the quality of Non-Formal Education programme the Government has approved the raise of remuneration of regular NFE instructors from Nu. 3500 to Nu. 4500 per month and the additional allowance of teachers teaching NFE on part time basis is increased from Nu. 900 to Nu. 1,500 per month. However, minimum qualification for all new NFE instructors shall be class XII and the ceiling for the total number of NFE instructors have been fixed at 800. *Refer the Hon'ble Minister of Education's letter appended in Annexure XXV for details.*

10. Examinations

10.1 Conduct of BCSE (Class X) and BHSEC (Class XII) Examinations

The national level examinations such as the Bhutan Certificate of Secondary Education (BCSE) Class X and Bhutan Higher Secondary Education Certificate (BHSEC) Class XII are high stake examinations for parents, students, schools and the Bhutan Board of Examinations (BBE). The performance of students in these examinations determines the future scope of students for higher studies and job opportunities.

BBE has instituted the following strategies for further improving the conduct of examinations from December 2006 onwards.

1. Wherever it is convenient the centres are to be merged to allow mixing of examinees during the examination from different schools.
2. Experienced Supervising Examiners (SEs) one each for classes X & XII to be appointed separately from schools in other Dzongkhags.
3. The Invigilators to be appointed at the ratio of 1:25 in the halls and 2 invigilators in each class room for both classes X & XII examinations.
4. A letter of undertaking to be signed by the officials for the conduct of examinations such as Conveners, Supervising Examiners, Assistant Supervising Examiners and Invigilators.
5. A BBE representative consisting of DEOs, ADEOs, EMSSD and BBE officials to be appointed who will be responsible for inspecting each centre atleast thrice during the examination period.
6. The present practice of appointing the experienced Assistant Supervising Examiners (ASEs) from schools in other Dzongkhags be continued.

The principals and the Dzongkhag Education Officers are asked to ensure that these arrangements are strictly followed in all examination centres.

10.2 Use of the services of the private school teachers for the examination related activities

The use of Private School Teachers for the Bhutan Board of Examination duties was discussed during the 16th BBE Board Meeting held on April 21, 2006 and the need for their involvement approved.

The mode of payment for private school teachers will be as follows:

1. Traveling Allowance: Actual cost of travel by bus or Mileage as per the government rules;
2. DSA: As per the grade certified by the Head of the school;
3. Basic pay for working during holidays: As per the grade certified by the Head of the school;
4. Other allowances (Question setting, moderation, supervision, marking) as per the existing approved rates.

10.3 Calendar of Major Activities for BCSE, BHSEC Examination 2007

The major events related to the 2007 Board Examination with the tentative dates are as follows:

Table 10: Calendar of major activities for BBE Board Examinations

Sl.	Activity	Date & Month
1	Receipt of Preliminary Information from Schools	15 April, 2007
2	Receipt of soft and hard copy registration forms for X and XII	15 May, 2007
3	Receipt of Nominations for various examination duties	31 May, 2007
4	Moderation Meeting of question paper setters Class X and XII	3-13 July, 2007
5	Preliminary selection of SE, ASE, Markers, V. Examiners and	25 July, 2007
6	Receipt of corrected version of registration forms	15 July, 2007
7	Invitation of Tender for confidential printing	20 August, 2007
8	Receipt of registration forms with the signature of candidates	7 September, 2007
9	Finalization of Confidential Printers	15 September, 2007
10	Award of Confidential Printing Work	25 September, 2007
11	Supervising Examiners Coordination Meeting	24-25 October, 2007
12	Receive and delivery of confidential documents for Class VI	2-6 November, 2007
13	Receive and delivery of confidential documents for Class VIII	14-17 November, 2007
14	Receive and delivery of confidential documents BHSEC (XII)	7-9 November, 2007
15	Receive and delivery of confidential documents BCSE (X)	14-17 November, 2007
16	Conduct of Class XII (BHSEC) Geography Viva Examination	14 November, 2007
17	Arrival of Supervising Examiners and Assistant for BHSEC	18 November, 2007
18	Conduct of Class XII (BHSEC) Practical Examination	20-26 November, 2007
19	Conduct of Class XII (BHSEC) Theory Examination	1-13 December, 2007
20	Arrival of Supervising Examiners and Assistant for BCSE	26 November, 2007

Sl.	Activity	Date & Month
21	Conduct of Class X (BCSE) Computer Practical Examination	28 November, 2007
22	Conduct of Class X (BCSE) Theory Examination	1-13 December, 2007
23	Conduct of Class VIII Examination	1-8 December, 2007
24	Conduct of Class VI Examination	1-6 December, 2007
25	Conduct of Rigzhung XII Examination	1-13 December, 2007
26	Marking of Class X (BCSE) Examination Answer Scripts	23 Dec.06 - 16 Jan 2007
27	Marking of Class XII (BHSEC) Examination Answer Scripts	6-30 January, 2007
28	Marking of Rigzhung XII Examination	6-20 January, 2007
29	Declaration of Class X (BCSE) Results	29 January, 2007
30	Declaration of Rigzhung XII Results	29 January, 2007
31	Declaration of Class XII (BHSEC) Results	9 February, 2008

11. GENERAL ISSUES

11.1 Supplies

11.1.1 Approved list of school supplies for 2007 are enclosed in *Annexure XXVI*. The Ministry of Education has decentralized the supply of books and sports equipments to the Dzongkhags whereby all schools under the Dzongkhags have been given budget so that they could send their requisition and pay stores for supply of items. However, the stores have run into problems because Dzongkhags had not paid their dues, thus inviting lot of audit problems. Apparently, this happened because Dzongkhags did not budget adequately. Considering that the schools will have problems, if the stores stopped supplies to the Dzongkhags who have not cleared the bills, MoE asked the stores to complete the supplies of essential items even if Dzongkhags had not cleared the bills. Dzongkhags are asked to clear the bills in time in the future.

11.1.2 Dzongkhags should further decentralize the budgeting and requisition of these items of supply to the individual schools so that while the budget for these supplies can be maintained in the Dzongkhags, school could request for the items that they need against the budget they have in the Dzongkhags

11.1.3 Further, as per the resolution of 10 AEC, supply of stationery, sports goods, science equipment and library books will also be decentralized to the Dzongkhags by 2008-09 financial year. To this end, MoE will carry out, during the year 2007 an impact analysis and draw up clear cut procedures for final adoption during the 11th AEC. Refer *Annexure XXVII for additional new guidelines issued by Department of National Budget for procurement of school textbooks, stationeries and sports equipment*.

11.2 Celebration of 5th King's birth anniversary on February 21

The current school term requires students to report to schools on February 20 every academic session. This means that schools have just one day to prepare for and celebrate an important event such as the 5th King's birth anniversary. Therefore, the 10th AEC resolved that the students reporting date be brought forward from February 20 to February 15 every year after 2007 in order to enable schools to celebrate the 5th King's Birth Anniversary on February 21.

11.3 ESWS Loan Scheme

The 10th AEC recommended that the sanction of ESWS loans be expedited. The ESWS loan scheme of Nu. 100,000 is expected to be made available to the ESWS members effectively from August 2007 when the software for the recovery of the loan is developed. The sanction of the loan would be on first come first basis. However, the genuineness of the need for the loan will have to be assessed by the Management Committee. Applicants who have already submitted the loan applications last year need to reconfirm the need for the loan. Their applications would otherwise stand valid and will be prioritized as mentioned above.

11.4 Annual Education Conference

The 10th Annual Education Conference was held in Bajothang HSS, Wangdue from 26th January to 31st January 2007. A total of 162 participants comprising of selected heads of schools, heads of institutes, the Dzongkhag Educations officers and officials from the Ministry attended the 5 day long conference. The main conference was preceded by three days of pre-conference during which the participants deliberated extensively on agenda submitted by the Dzongkhags and various Departments and Divisions in the Education headquarter. The conference was presided over by the Hon'ble Minister of Education. The Theme for the 10th AEC was '**Enhancing Quality of Education**'. *A summary of the resolutions of the 10th AEC is attached as Annexure XXVIII for your reference and further guidance.*

The 11th Annual Education Conference is tentatively scheduled to be held from 27th December to 1st January 2008.



(Pema Thinley)

Secretary of Education

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ROYAL GOVERNMENT OF BHUTAN

COM/04/06/160

August 15, 2006

PRIME MINISTER

EXECUTIVE ORDER

Subject: Quality of Education.

His Majesty the Druk Gyalpo has repeatedly commanded that 'the future of our nation lies in the hands of our children.' It is imperative that our children receive the best quality education. Therefore, the Royal Government has felt an important and urgent need to reform the education system in order to improve the existing quality of education. This need has become even more expedient in light of the new political changes taking place in the country and the long cherished desire of the Royal Government to provide a gainful employment to all Bhutanese.

The Government has, over the last two months, comprehensively reviewed the current education system. I am delighted to state that the Government has reiterated its full support and commitment to accord the highest priority for the **education of our children**. The Government takes full cognizance of the fact that the future health of our nation depends to a large extent, if not entirely, on the quality of our future citizens. We need to nurture perpetual generations of future citizens who will espouse values and principles, ideals and passions, hopes and aspirations that will build a compassionate, tolerant and a caring society, and propel Bhutan to be one of the most secure, prosperous and happy nations in the world. To this end, the government has committed to put all the necessary resources to the education sector, if necessary, even at the cost of other development areas or borrowing from other sources.

In a step towards the above vision, the Government has been pleased to approve the following strategies and measures aimed at enhancing the quality of education in the Kingdom.

I. SHORT-TERM (2006-2007), MEDIUM-TERM (2008-2012) AND LONG-TERM (2013-2020) STRATEGIES FOR ENHANCEMENT OF QUALITY EDUCATION.

1. Enhancing Quality of Curriculum.

a. Short-term

- i. English curriculum reform and implementation for V to XII.
- ii. Mathematics curriculum reform and implementation for IX to XII.
- iii. Dzongkha curriculum reform and implementation for IX and XI.



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b. Medium-term

- i. English curriculum reform and implementation for PP to IV.
- ii. Mathematics curriculum reform and implementation for PP to VIII.
- iii. Dzongkha curriculum reform and implementation for PP to VIII.
- iv. Science curriculum reform and implementation for PP to XII.
- v. Work on diversification of curriculum such as introduction of vocational related subjects (design and technology, agriculture, etc.).

c. Long-term

- i. Continue with curriculum reform, adaptation and diversification in keeping with the changing time and needs.

2. Building and Enhancing a Culture of Reading for Pleasure

a. Short-term

- i. Reading programme review to be carried out through Education Development Programme (EDP). Include study on why student and teachers read less.
- ii. Enhance school reading programme.

3. Introducing a Program of Study Skills.

a. Short-term

- i. Develop study skill guides and brochures, and ask all schools to teach students at each class level from V – XII as a part of the English program generally and in each of the subjects specifically. For this, coordinate with NIEs to strengthen study skill modules and offer study skills to their trainees.

b. Medium-term

- i. Incorporate (study skills programme) in the revised curriculum.
- ii. Continue to monitor and support the study skills programme.

4. Enhance Value Education and Counseling Programme.

a. Short-term

- i. Develop curriculum framework for value education.
- ii. Develop teacher guides for value education.
- iii. Provide for professional development of teachers for implementation of value education in schools.
- iv. Continue training two teacher counsellors in all MS and HS schools.



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- v. Strengthen care for individual students and identify counseling needs (all teachers, especially class teachers to take the responsibility).
 - vi. Strengthen multi-grade modules at NIEs and continue diploma in multi-grade teaching.
- b. Medium-term**
- i. Continue enhancing value education through curricular as well as whole school approach (through day-to-day working of the school, specialized programmes such as *choeshed*, and scouting, social services, games and sports, etc.
 - ii. Continue monitoring and supporting value education by the DEOs and EMSSD.
 - iii. Continue monitoring compliance to the Teachers Code of Conduct.
 - iv. Continue with the counseling module at NIEs and Diploma in Counseling.
 - v. Establish support network within schools/cluster schools through the use of master teachers (having expertise in counseling).
- 5. Reviewing School Activities to include more meaningful activities such as Debates, Elocutions, Speeches, Drama, Play, etc.**
- a. Short-term**
- i. Revise English curriculum focusing on spoken, writing, reading and language skills.
 - ii. Further strengthen English proficiency through:
 - Write to all schools to plan to include activities meaningful to personal development of children and their character.
 - To include activities that enhances their English proficiency such as drama, elocution and debates.
 - Monitor these activities by EMSSD and DEOs.
- 6. Enhancing the Use of ICT in Education.**
- a. Short-term**
- i. Strengthen the school IT Section.
 - ii. Support ICT in schools for wide-use.
 - iii. Enhance technical support for maintenance and upgradation of hardware and software.
 - iv. Explore possibilities for hardware and software donations from other sources.
- b. Medium-term**
- i. Implement IT literacy course for all the teachers.



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- ii. Continue establishment of intra-school network.
 - iii. Develop digital library of school curriculum and learning resource materials.
 - iv. Explore the establishment of school net.
 - v. Hardware supply to meet student to computer ratio of 1:10 in HSS and MSS by 2010.
- c. Long-term**
- i. Hardware supply to meet student to computer ratio of 1:20 in LSS and PS.
 - ii. ICT Integration across the curriculum.
- 7. Requirement of Space and Infrastructure (Expansion Strategy).**
- a. Short-term**
- i. Complete 28 secondary schools under various donor assistance, and 40 under RGOB funded Dzongkhag programme.
 - ii. Construction of 158 teacher quarters.
- b. Medium-term**
- i. Complete 16 schools which are funded under various projects;
 - ii. Construct 19 secondary schools and upgradation of facilities and consolidation of 189 schools;
 - iii. Establish small community primary schools.
- c. Long-term**
- i. Consolidate facilities (there will be less need for expansion beyond the 10th Plan).
- 8. Meeting the EFA Targets by 2015**
- a. Medium-term**
- i. Establish special needs education in some of the schools.
 - ii. Establish small boarding schools to cater to scattered settlements.
 - iii. Enhance boarding capacity in secondary schools to provide secondary education for students from rural and remote schools.
- 9. Accelerating the Pace of Establishing Private Schools and Institutes**
- a. Short-term**
- i. Develop policy to encourage at least one private school in each Dzongkhag;
 - ii. Encourage the curriculum diversification including commercial and vocational courses.



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1. **Enhancing teacher quality at the entry level.**
 - i. Conduct separate interview prior to RCSC examinations including the proficiency test.
 - ii. Provide 5 to 10 out-country undergraduate scholarships per year.
 - iii. Education scholarship at Sherubtse College to cover the full personal cost of Nu. 1500 per month for upto 20 students per year to start with in Maths and Physics.
2. **Review and reform of the initial teacher education programme**
 - i. Complete the current reform of the teacher training programme at the two NIEs, with the academic content being enhanced to graduate levels.
 - ii. Including reading habits for NIE students and importance of encouraging reading for students to be incorporated in the revised curriculum.
 - iii. Incorporate improved study skills modules in the new curriculum and ensure that it is used during their learning at NIEs.
 - iv. Introduce language laboratory in both the NIEs.
3. **Enhancing quality amongst existing in-service teachers**
 - i. Provide opportunities to enhance the existing teachers' competency and professionalism through different levels of education and training programs.
 - ii. Explore the possibility of encouraging teachers to study relevant courses through the use of ICT.
4. **Enhancing English proficiency**
 - i. Conduct English proficiency test for all in-country as well as out-country studies and provide remedial programmes to improve their proficiency of English.
 - ii. Develop self-assessment instruments for English proficiency of teachers in 2006.
 - iii. Carry out the assessment (by the individual schools/ clusters) in 2006 itself and send the report to DSE 2007.
 - iv. Carry out analysis and design appropriate measures to address the needs.



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b. Medium-term

- i. Continue encouragement and support with free text books, head teachers and secondment, and in-service training.
- ii. Explore land lease in Dzongkhags and regions with no private schools.

10. Education Sector Review.

a. Short-term

- i. Conduct a comprehensive education sector review encompassing school education, non-formal and continuing education, technical education, vocational education and tertiary education.

11. Other endorsements and commitments

- i. Enhancement or provide at least, the same level of assistance for promotion of ICT in education. At least, the RGoB funding of Nu. 10 million per year to be continued;
- ii. Enhancement of the RGOB support for school feeding programme in the 10th Plan;
- iii. Establishment of a Commission on education sector review. However, the representation in the Commission should be broadened by including two to three additional members namely from the RCSC, MoLHR and the private sector.
- iv. Approved in principle the proposals for a 4th education sector World Bank Project and enhanced budget for school libraries (Nu. 10,000 per school plus Nu. 200 to 300 per student per year). However, both the proposals should be resubmitted to the Government with more details, and in case of the library budget with more rationalised allocation criteria and modalities. The idea of mobile van-library should also be revisited.

II. ENHANCING TEACHER-CENTRED EDUCATION POLICY.

The following have been approved for enhancement of the quality of education in the country through teacher-centred education policy:



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5. **Enhancing the accountability of teachers.**
 - i. Institute a more systematic system of monitoring and support involving heads of school, DEOs, EMSSD and teachers themselves.
6. **Distribution of experienced and quality teachers in rural and remote school and provision of supplementary cost of living.**
 - i. Distribution of experienced and quality teachers in rural and remote schools.
 - ii. Construction of four teachers' quarters each for Martshala, Kamji and Phuyum.
7. **Facilitating exit**
 - i. In keeping with the position classification system, workout with the RCSC, to allow lateral movement of teachers who are not suitable for teaching or leave teaching.

III. OTHER IMPORTANT DIRECTIVES

The Government has also provided the following directives for enhancing the quality of education in the Kingdom.

1. Language and communications skills

Strong emphasis should be made in improving language proficiency and communication skills of teachers and students alike, in both Dzongkha and English. In this regard, among others, as the quality of education depends on the quality of teachers, the strategies for teacher-centred education outlined above should be vigorously implemented.

2. Wholesome Education

The Royal Government has always emphasized on the provision of wholesome education for wholesome personal development of an individual. The educationists are directed to continue to pursue the same through various innovative ways, means and strategies, including invitation of Ministers and senior citizens to deliver talks to students. Particular emphasis should also be given to improving the analytical and problem solving skills of students.



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3. Privatization of Education

The progress of privatization of education is very slow and there is a need to accelerate the pace of privatization. The Ministry of Education is directed to work on the strategies to accelerate the opening of more private schools and colleges. The privatization policies, such as the requirement of 100 acres of land to set up a college, also need to be reviewed.

4. Curriculum

It is reiterated that the curriculum should be revised and adapted in keeping with the changing time and needs.

5. Space and Infrastructure of Education system

A proper study of the space requirement of the schools keeping in view of the population movement, catchment areas and growth trends should be conducted.

6. Entry level of teacher trainees

Concrete strategies should be drawn up to enhance the quality of teachers through reforms in the entry level of teacher-trainees.

7. Accountability of Teachers

Review the accountability of the teachers, including how the District Education Officers and EMSSD would work to monitor and support the teachers.

8. Education and ICT

Discuss with the Ministry of Information and Communications on the outreach of the use to ICT, exploring how IT companies could assist in giving both the hardware and software, and how some of the software packages could be used for improving quality of education.

9. Human Resource Development

The HRD programme should to be strengthened to upgrade the qualification of lecturers from Masters Level to PhD level and to bring about quality in university teaching-learning aspects.



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PRIME MINISTER

10. Collegiate Federalism

All the enlisted nine member institutes shall form an integral part of the University under the auspices of the collegiate federalism. The member institutes shall, however, maintain their functional and professional linkages with their parent ministries. The RUB should provide adequate leadership and guidance to the member institutes in their pursuit of excellence.

11. Research

Research being one of the important and appropriate sources of information for the decision makers, the University Council is directed to give more emphasis on strategic researches wherein the potentials of the member institutes could be utilized. This requires the RUB to start postgraduate courses both at masters and research levels as soon as possible.

The Government assumes the ultimate responsibility for the quality of education, and therefore, will work in close collaboration with the Ministry of Education towards pursuing **excellence in education** in the Kingdom.

This order is issued on August 15, 2006 in pursuance to the decisions of the 303rd, 304th, 305th, 307th, 310th and 315th Sessions of the Coordination Committee Meeting (CCM) of the Council of Ministers, and has been issued so in reinforcement of its earlier directives issued vide COM/04/06/1142 on May 17, 2006; COM/04/06/1195 on May 26, 2006; COM/04/06/100 on August 2, 2006; COM/04/06/109 on August 2, 2006 and COM/04/06/159 on August 14, 2006.

The order comes into force with immediate effect. The Ministry of Education and Royal University of Bhutan are directed to implement them fully, in spirit and practice.


(SANGAY NGEDUP)
PRIME MINISTER OF BHUTAN



དཔལ་ལྷན་འབྲུག་གཞུང་།
ROYAL GOVERNMENT OF BHUTAN

PRIME MINISTER

Cc:

1. All Hon'ble Ministers, Council of Ministers, for kind information.
2. Hon'ble Chief Justice, for kind information
3. Hon'ble Speaker, for kind information.
4. Hon'ble Zhung Kalyon, for kind information.
5. Secretary to His Majesty the King, for kind information.
6. All Secretaries to the Government.
7. Vice Chancellor, Royal University of Bhutan.

འབྲུག་རྒྱལ་ཁབ་འགྲུབ་འཛུགས་ཀྱི་
 རྒྱལ་ཁབ་འགྲུབ་འཛུགས་ཀྱི་
 རྒྱལ་ཁབ་འགྲུབ་འཛུགས་ཀྱི་



ROYAL GOVERNMENT OF BHUTAN

MINISTRY OF EDUCATION
 THIMPHU : BHUTAN
 P.O. BOX NO. 112

Ref. No. MOE/2007/

13th April 2007.

To,
 The Principals
 All HSS/MSS/LSS/PS/CPS

Dear Principals

Last winter, between the Hon'ble Minister of Education, the four Directors and myself, we tried to meet most of our Principals and teachers while they were attending various workshops and Distance Education programmes. With the teachers and Principals that I met, I shared the concerns that has been expressed on the quality of Education.

I shared with the Principals and teachers I met, that for me, the Quality of Education meant three things:

(i) སེམས་གཏོར་ལྡན་པ་མཐོ་ནི (or enabling children to use their minds and hearts to positive

ends, for themselves, their families and the country) as the most important elements of the Quality of Education which His Majesty the 4th King commanded when ever our teachers had an audience with His Majesty.

(ii) To develop a joy for learning, so that they would continue to learn through out their lives, and

(ii) Competency and standards that they achieve in all the academic subjects.

We all know, that the standard that we achieve in all the three areas of the Quality of Education that I have been talking about, depend largely on the environment and the culture of the school. We also know that the Principals of the schools can create positive school cultures.

THE KINGDOM OF BHUTAN
MINISTRY OF EDUCATION
THIMPHU, BHUTAN

The reason that I am writing to you is to share an article in volume III of occasional paper that the Centre for Educational Research and Development produces called "Paying Attention to School Culture". I found this inspiring and practical that our Principals could use to develop conducive school cultures for learning.

I understand that a copy of this article has already been sent to all the Schools. I would like to urge you to study this and see how you could pay attention to your school culture. If you haven't got a copy please write to Director, CERD, Paro College of Education, Paro.

We wish you well with your school this year and in the future.

Yours sincerely,



(Pema Thinley)

SECRETARY

Cc:-

1. Hon'ble Minister, Ministry of Education, Thimphu for his kind information.
2. Dasho Dzungdag, All Dzongkhags for kind information.
3. Director, Department of School Education, for information.
4. Dzongkhag Education Officer, All Dzongkhags for kind information and further follow-up action.
5. Director, CERD, Paro for information.
6. Chief, Education Monitoring Officer, EMSSD, DSE, Ministry of Education.
7. Chief Curriculum Officer, CAPSD, Paro for information.

དཔལ་ལྷན་འབྲུག་གཞུང་།
 རྒྱལ་ཁོངས་ལྷན་ཁག་།
 རྒྱལ་ཁྲུང་།



ROYAL GOVERNMENT OF BHUTAN

MINISTRY OF EDUCATION
 THIMPHU : BHUTAN
 P.O. BOX NO. 112

Ref. No. MoE/2007/ 24

2nd July 2007.

All Dasho Dzongdags,
 Dzongkhag Administration,

Subject: Annual Budgetary Grant for School Library Development

Dasho,

We are pleased to inform that the Royal Government has approved the incorporation of annual budgetary grant for every government school for the purposes of library development and enhancement of reading programme in the schools. This is testimony of the government's commitment towards raising the quality of education in general and enhancement of reading habits in our children in particular. The reading materials are also crucial in supporting the implementation of new curricula, in particular English and Dzongkha subjects.

As per the decision of the 320th CCM session and the Prime Minister's Executive Order No. COM/04/06/160 of 15.8.2006, henceforth, every school will receive an annual budgetary grant for school library at the rate of Nu.10,000/- plus Nu.200/- per student per annum for students in classes PP-VI and Nu.10,000/- plus Nu.300/- per student per annum for students in classes VII-XII. To this effect, the Ministry of Education has asked the Ministry of Finance to incorporate the budget against each of the schools based on the Education Statistics 2006 for the 2007-08 fiscal year.

In view of the foregoing, Dasho Dzongdags and all the other concerned authorities are requested to note that:

- i. The school library budget cannot be re-appropriated to any other budget head, except for library development
- ii. Each Dzongkhag will have to submit necessary budget proposals to the Ministry of Finance for each financial year based on the endorsement of the previous year's Education Statistics and in the case of new and/or upgraded schools based on student projections.
- iii. Each school must be involved of their library budget for the year and it should make judicious use of this budget to enhance reading amongst both students and teachers.
- iv. Each school has to make a careful choice of library books, newspaper, magazines, and other relevant reading materials that is suitable to different age groups and interests.
- v. The schools can base their choice from the suggestive list of library books, periodicals, newspapers, etc prepared by CAPSD which will be updated periodically. The suggestive list is available online on www.education.gov.bt or www.schoolcurriculum.bt. The suggestive list of library books, newspaper, and magazines will be sent to each school by July/August of each year. However, the schools and Dzongkhags could also buy books, and other materials of their choices other than those in the recommendation list

- vi. Since it will not be economical to call quotations by individual schools, the Dzongkhag could float a combined tender and do a centralized procurement following all financial and procurement norms and procedures.
- vii. Small budget required to maintain the old and worn out books could also be taken care of within this budget.

With our warmest regards

Yours Sincerely,

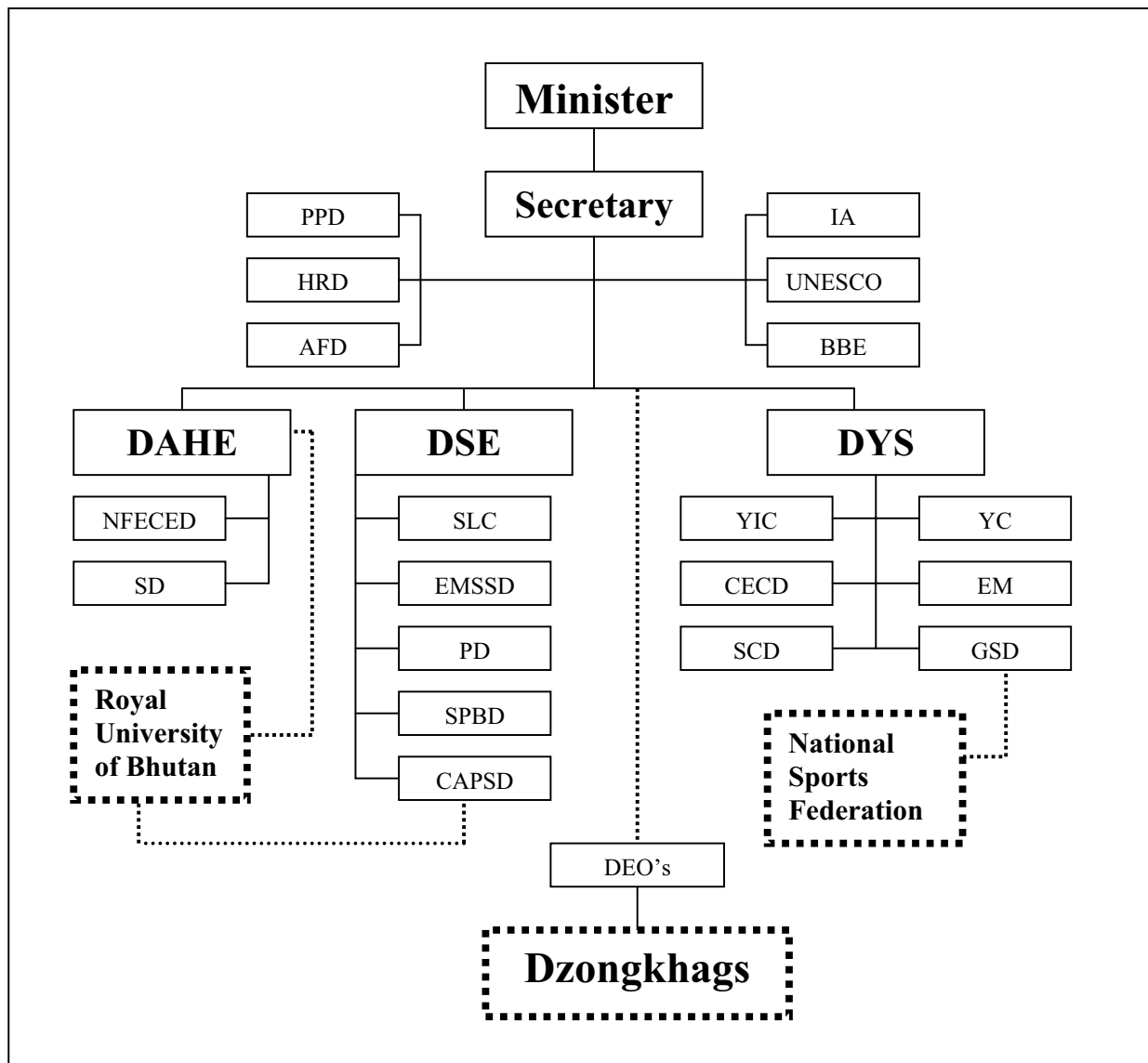


(Thipley Gyamtsho)
MINISTER

Copy to:

1. Hon'ble Minister, Ministry of Finance, Tashichhodzong for kind information.
2. Secretary, Ministry of Finance, Tashichhodzong for kind information.
3. Secretary, Ministry of Education, Thimphu for kind information.
4. Director, Department of National Budget, Ministry of Finance, Thimphu.
5. Director, Department of School Education, Ministry of Education, Thimphu.
6. Dzongkhag Education Officer, Dzongkhag Administration, _____
7. Principal, _____, _____
8. Chief Curriculum Officer, CAPSD, Ministry of Education, Paro.
9. Guard File.

Organizational Structure, Ministry of Education



- | | | | |
|--------|---|-------|---|
| PPD | Policy and Planning Division | SPBD | School Planning & Building Division |
| AFD | Administrative and Finance Division | CAPSD | Curriculum & Professional Services Division |
| HRMD | Human Resource Management Division | DYS | Department of Youth & Sports |
| IA | Internal Auditor | YIC | Youth Information Centre |
| BBE | Bhutan Board of Examination | YC | Youth Center |
| DAHE | Department of Adult and Higher Education | CECD | Career Education & Counseling Division |
| NFECED | Non Formal & Continuing Education Division | EM | Education Media |
| SD | Scholarship division | SCD | Scouts Division |
| SLC | School Liaison & Coordination Unit | GSD | Games & Sports Division |
| EMSSD | Education Monitoring & Support Service Division | PD | Programme Division |



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF EDUCATION
THIMPHU : BHUTAN

MINISTER

EDN/CIR/2007/20

Jul. 2, 07

The Dasho Dzongdag,
Dzongkhag Administration,

Sub: Provision of stipend for informal boarders

Dear Dasho,

The Ministry of Education is pleased to notify that the Royal Government of Bhutan has approved the payment of stipend of Nu. 240 per student per month as in secondary schools for informal boarders with effect from 1st July 2007. The first phase which will start from 1st July 2007, will cover the existing students studying in primary and lower secondary schools as boarders wherein two meals are provided by the WFP and the third meal by the parents as per list appended. The provision of stipend for these schools will replace the parental contribution for the third meal.

Boarding is meant only for students who cannot attend school without being a boarder due to non availability of schools with appropriate classes in their places of residence.

Dasho Dzongdags and the concerned school authorities are asked to:

- (I) Ensure that only students in rural and remote areas living beyond 5 kms or over 1 hour walking distances, are admitted into boarding, as per the existing policy.
- (II) Budget the stipend as reflected in the list appended.

In the second phase of the exercise, the Ministry of Education in collaboration with the Dzongkhags would like to identify other schools which are centrally located where such boarding facilities for children in primary and lower secondary schools would be provided. Dasho Dzongdags are asked to assist the Ministry in arriving at a list of such schools in their Dzongkhags where primary boarding is absolutely necessary to provide access to children in scattered villages where it is not feasible to build a primary school.

With warmest regards,

(Thinley Gyamtsho)

CC:

1. The Hon'ble Minister, Ministry of Finance, Tsahichhodzong.
2. The Secretary, Ministry of Finance, Thimphu.
3. The Secretary, Ministry of Education, Thimphu
4. The Director, Dept. of National Budget, Thimphu
5. The Director, DSE, Thimphu

**Education Monitoring and Support Services Division
Department of School Education, MoE, 2006**

I. DECENTRALISED EDUCATION MONITORING AND SUPPORT SERVICES (DEMSS) SYSTEM

1.1 Given the complexity of the education system, the high stakes involved, and the enormity of monitoring and support services tasks, it has long been felt that a decentralised system of monitoring and support is needed involving personnel at various levels rather than just the Education Monitoring and Support Services Division at the centre. Accordingly, such a system was adopted to be instituted in the late 90s and is being continuously developed.

1.2 As per the resolution of the 4th Annual Education Conference, December 2002, a guide on the 'Decentralised Education Monitoring and Support Services System' was published and supplied to all agencies of education, including Dzongkhags and schools in June 2003. This guide book deals with the concept of decentralised education monitoring and support services, purposes and modalities of monitoring and providing support in a decentralised management system. The Education Monitoring and Support Services Division at the centre, the Dzongkhag Education Officers working with the 'Cluster Schools' at the Dzongkhag level, and the Principals with the senior and master teachers at the school level forms a network to monitor and support the work of the teachers. The cluster schools are created particularly in the rural and remote schools to provide for interaction and professional support amongst specifically community primary schools centred around the concept of a Resource Centre. The school cluster can however be also used to carry out collaborative interaction amongst themselves to generate ideas to improve themselves.

1.3 The mission of the Decentralised Education Monitoring and Support Services is to monitor the teachers and all other education personnel against their responsibilities, and provide sustainable and a continuous professional support. The Education Monitoring and Support Services Division at the centre monitor and support dzongkhags (DEOs); the DEOs and ADEOs monitor and support schools through the system of cluster schools that are created; the Principals monitor and support teachers. The Principals with senior and master teachers working collaboratively organize cluster based or school based in service programmes and other professional interactions to support and help all teachers in their cluster.

2. FUNCTIONS OF THE EMSSD

2.1 The Education Monitoring and Support Services Division is charged with the responsibility for Quality Assurance in the provision of education. All Education Monitoring Officers to assure overall quality of education in all dzongkhags and nationally. At the same time, each of the Education Monitoring Officers working with the network of senior and master teachers as well as curriculum officers has the responsibility to assure the quality of instruction and learning in their respective curriculum areas. The core functions of the Education Monitoring and Support Services Division at the centre are to:

2.1.1 Monitor the quality Provision of Education in each of the Dzongkhags through an evaluation and monitoring of :

- i) The programs and organisation of instruction (for both students and teachers)
- ii) Management and support system
- iii) Teacher quality and deployment
- iv) Curriculum materials

v) School facilities

2.1.2 Assess and Monitor the Quality of Education in each dzongkhag and in the country through an evaluation and monitoring of:

- i) Performance of students (in different subjects and other areas of school curriculum, employment, and in life)
- ii) National education assessment results as well as examination results and consideration of the dzongkhag performance as compared to national norms and their past performances.
- iii) Critical issues and concerns of Dzongkhags and schools with proposals to resolve them.

2.1.3 Assess the quality of monitoring and support structure and mechanism (in Dzongkhags, school clusters, and schools).

- i) Institutionalise the *performance management* of education personnel working with the Dzongkhag (DEOs and ADEOs) in schools as per the PCS (interim)

2.1.4 Monitor Quality Instruction and Learning in each of the curriculum areas in the country and providing professional leadership in the promotion and development of Quality Instruction and Learning.

The EMO responsible for a subject (or a curriculum area) with the Curriculum Officer for that subject, and the senior teachers and master teachers placed in the school will form a network for maintaining standards and improving the quality of instruction and learning in that subject. The EMO responsible for a subject or curriculum area will be responsible for monitoring implementation of instruction and in organising and providing support to teachers through their professional network. To that extent the EMSSD are expected to:

- i) Assist in curriculum development, implementation and assessment as may be necessary from time to time.
- ii) Facilitate NBIPs, DBIPs, CBIPs and SBIPs as appropriate and necessary.

3. MONITORING & SUPPORT MECHANISM (PROCESS)

3.1 EMOs joined by DEO/ADEO in the dzongkhag will form a team for monitoring the Provision of Education and assessing the Quality of Education in the dzongkhag.

3.2 The team will be carrying out a:

- i) desk review of the records e.g. examination results and national education assessment results, the annual dzongkhag education report, a sample of school monitoring reports at the Dzongkkhag.
- ii) visit sample schools based on the desk review joined by the DEO/ADEO to verify school monitoring reports.
- iii) after a thorough review which may last anywhere between a week to 2 weeks depending on the size of the dzongkhag and the complexity of the task, write a comprehensive report on the quality of education with specific recommendations on critical issues.
- iv) debrief DASHO Dzongdag on their findings and leave a report for further follow-up.
- v) publish the report in a chronicle that the EMSSD will manage and distribute to the concerned agencies of the Ministry.
- vi) Report to Ministry of Education during its quarterly meeting.
- vii) follow up on any action that is necessary.

4. STRUCTURE AND FUNCTIONS UNDER THE DECENTRALISED EDUCATION MONITORING AND SUPPORT SERVICES SYSTEM.

Levels of Monitoring and Support Services	Roles & Responsibilities of Monitors
Centre EMSSD-EMOs	<p>4.1.1. Assess the Quality of Education in the country and present a report to the Annual Education Conference each year with substantive recommendations that are critical both in the short and the long term.</p> <p>4.1.2. Monitor the implementation of the major recommendations adopted by the Annual Education Conference.</p> <p>4.1.3. Assess and monitor the Quality of Education in each of the 20 dzongkhags and recommend measures for improvement.</p> <p>4.1.4. Assess the monitoring and support structure and mechanism in the dzongkhags and provide any support that is necessary to improve their functioning.</p> <p>4.1.5. Assess the standards of instruction in the various curriculum areas and organise necessary support through the network of senior and master teachers.</p> <p>4.1.6. Assist in the curriculum development and facilitate the NBIPs, CBIPs, and SBIPs in the respective areas of EMOs' expertise.</p> <p>4.1.7. Monitor the implementation of policies and instructions of the Ministry of Education by the dzongkhags.</p>
Dzongkhag DEO/ADEOs	<p>4.2.1. Assess and Monitor the Quality of Education that is provided by each of the schools through consideration of the performance of students and mechanism of effectiveness in monitoring of the work of teachers.</p> <p>4.2.2. Monitor the implementation of policies and instruction of the Ministry of Education by the schools (using School Management Monitoring Tool).</p> <p>4.2.3. Ensure that there is adequate support mechanism that is established within the school and/or within the school cluster.</p> <p>4.2.4. Assess the Quality of Education in the dzongkhag and present the annual report to the Dzongkhag Education Conference.</p> <p>4.2.5. Assess the quality of monitoring and support structure and mechanism within the school.</p> <p>4.2.6. Ensure that schools have self development plans including professional development</p> <p>Note: The DEO and ADEO may the Principal/ Senior & Master Teachers from within the school clusters in monitoring schools and organising support activities across the curriculum areas where necessary.</p>
Cluster Schools Focal Person/Principal/Lead Teachers (Senior Teacher & Master Teacher)	<p>4.3.1. Assist the DEO and ADEO in carrying out evaluation and monitoring of schools in the cluster (using School Management Monitoring Tool).</p> <p>4.3.2. Assess the standards of instructions in their respective curriculum areas and monitor and organise professional support or help.</p> <p>4.3.3. Initiate any innovation and encourage its adoption in the school.</p> <p>4.3.4 Carry out over all review and initiate improvement plans.</p> <p>Note: The Focal Person shall identify needs of schools and organise support activities where necessary in collaboration with other principals and Senior & Master Teachers in the cluster.</p>
School Principal/	<p>4.4.1. Ensure that the work of the teachers are monitored and supported through the assistance of Senior and Master Teachers towards providing the best</p>

<p>Senior & Master Teachers</p>	<p>support for children to learn. (principal)</p> <p>4.4.2. Ensure that the resources of the school are used most efficiently on a transparent manner and everybody in the school is accountable towards creating a child friendly school.</p> <p>4.4.3. The Principal make arrangements to have the school evaluated at least once a year with the support of the DEO/ADEO, other Principals/ Senior & Master Teachers.</p> <p>4.4.4. <i>Diagnose particular learning difficulties, design special programs of studies in areas of their specialisation, implement programs within school and school cluster, and study impact of special programs through action research. (Senior Teacher I & Master Teacher)</i></p> <p>4.4.5. <i>Design, develop, and conduct professional development programs and workshops, monitor follow-up on programs and workshops and carry out consultancies in areas of specialisation. (Senior Teacher I & Master Teacher)</i></p> <p>4.4.6. Review curriculum, provide feedback, and assist in the reforms of school curriculum in areas of specialisation. . (Senior Teacher I & Master Teacher)</p> <p>4.4.7. Take up mentoring role for Apprentice Teachers and Teachers on Teaching Practice, monitor their professional development, and evaluate their performances. (Senior Teacher)</p> <p>4.4.8. Providing student support services and designing other education programs. (Senior Teacher)</p>
<p>School Teachers</p>	<p>4.5.1. Guide, counsel and inspire each child under one's care to help them grow and develop into responsible and happy persons.</p> <p>4.5.2. Carry out suitably planned instruction keeping the varied learning needs of the students.</p> <p>4.5.3. Assess student learning and provide remedial help.</p> <p>4.5.4. As professionals, continually read and reflect to improve ones' teaching and how one guides individual child to grow and develop into fuller being.</p> <p>4.5.5. Show professional experiences and provide collegial support to colleagues, particularly for younger colleagues.</p> <p>4.5.6. Contribute to the overall review and improvement plan of the school.</p> <p>4.5.7. Carry out any other responsibilities assigned by the Principal.</p>



འཕེལ་འགྲུབ་ལཱ་སྒྲུབ་པའི་འཕེལ་འགྲུབ་ལྷན་ཁག་གི་འཕེལ་འགྲུབ་ལྷན་ཁག་

Curriculum and Professional Support Division (CAPSD)
Department of School Education
MINISTRY OF EDUCATION
Paro : BHUTAN

Tel: +975(8)271226 Fax: +975(8)271991 Email: capspd@druknet.bt

Ref. No.CAPSD/DSE/ADM(8)2007/

Date: March 3, 2007

To,
All Dzongkhag Education Officers,

Sir/Madam,

Implementation of New Curricula in 2007 Academic Session

As you are aware the new Mathematics curriculum in class XI and English curriculum in classes IX and XI were implemented in 2006 academic year in all higher and middle secondary schools. We have many success stories in implementing the new curricula. With the start of the 2007 academic session, the new English curriculum in all classes from V to XII; new Mathematics in classes IX, XI, and XII; and new Dzongkha curriculum in classes IX and XI are being implemented by all schools with those class levels. You may also be aware that massive teacher orientations have been conducted during this winter in all three curricular areas to that end.

The implementation of new curricula are supported by provision of appropriate textbooks and teachers' guides which have been developed by educators from various quarters. As it will be evident from the teachers' guides the new curricula make important demands on both students and teachers. The teachers' guides, besides providing learning activities in line with the learning outcomes, provide many other important related materials and instructions including modes of assessment and time allocation for teaching.

In this regard, the Ministry of Education would like to urge your team to ensure that the implementation of the new curricula are followed well as intended by the schools. We also urge you to initiate creation of curriculum implementation support mechanisms as discussed during the 10th Annual Education Conference. Such a functioning support mechanism is important for the learners to enjoy the full benefits of the new curricula. Establishment of such a support network was suggested in the editorial of the 36th CAPSD Newsletter to begin with and such a system must also be seen as part of the monitoring and support mechanism we are familiar with under the auspices of the EMSSD.

It may be noted that while the changes in the curricula are correspondingly reflected in the syllabuses, the new English curriculum for classes V-VIII is not included in the syllabus booklets for classes IV-VI and VII and VIII. The schools are expected to closely follow the English Curriculum Framework PP-XII, the teaching of which is supported by textbooks, teachers' guides, and references.

Further, while teaching of Social Studies in Class IV will continue as last year including the pilot phase, the nationwide teaching of Bhutan History in Dzongkha has moved to class VIII in 2007 academic session.

While to a large extent these changes are understood by the schools, we request you to immediately communicate the contents of this letter to the schools.

With best wishes,

Yours Sincerely,

Sd/-

(Karma Yeshey)

Chief curriculum Officer

Copy to:

1. Dzongkhag Education Officer, Dzongkhag Administration,
_____.
2. Hon'ble Minister, Ministry of Education, Thimphu for His Excellency's kind information.
3. Hon'ble Secretary, Ministry of Education, Thimphu for his kind information.
4. Director, Department of School Education, Ministry of Education, Thimphu for information.
5. Director, DYS/DAHE, Ministry of Education, Thimphu for information.
6. Director General, Dzongkha Development Commission, Thimphu for information.
7. Secretary, Bhutan Board of Examination, Ministry of Education, Thimphu for information.
8. Chief Education Monitoring Officer, EMSSD/DSE, Ministry of Education, Thimphu for information.
9. Director, Paro/Samtse college of Education, Royal University of Bhutan, Paro/Samtse for information.
10. Chairperson, Dzongkha/English/Mathematics/ Social Studies Subject Committee, for information.
11. Chief Planning Officer, PPD, Ministry of Education, Thimphu for inclusion in the EPGL.
12. Curriculum Officer(s), Dzongkha/ English/ Mathematics/ Social studies, CAPSD, Paro.
13. Office Copy



འཕེལ་ལོན་ཚུ་གཞུང་དང་ཁྱད་རིག་རྒྱུ་སྐྱོར་སྡེ་ཚོན།

Curriculum and Professional Support Division (CAPSD)

Department of School Education

MINISTRY OF EDUCATION

Paro : BHUTAN

Tel: +975(8)271226 Fax: +975(8)271991 Email: capsd@druknet.bt

Ref. No. CAPSD/DSE/Sc(4)2007/ 9369

Date: April 25, 2007

CIRCULAR

Science Practical Work in Classes IX and X in Schools

It is needless to mention that the processes of learning form the bedrock to gaining knowledge and skills in any subject. It becomes even more important that the learning in science takes place through practical hands-on approach so that our education system prepares our children to be scientifically literate citizens to live their lives meaningfully in a rapidly changing world of science and technology.

Cognizant of the needs of the system and to facilitate the development of scientific skills in our children, the Ministry of Education has been continuously making efforts in constructing science laboratories and equipping them with equipment and chemicals spending enormous government resources which otherwise could be used for other more important purposes. Regrettably, however, science practical work is reportedly not conducted in most schools in the country, presumably owing to the withdrawal of science practical examinations at the end of class X a few years ago. This does not reflect well of our education system. It must be noted that, under the present scenario, we as a system would be subject to government and the public scrutiny for establishing science facilities at huge costs which are hardly used for the intended purposes. This is a grave concern for the Ministry of Education.

In the interest of developing scientific skills and make learning of science meaningful to our children, schools are instructed to make adequate efforts to ensure that science practical works in classes IX and X are carried out as part of the regular processes of teaching and learning in science in all schools. It may be noted that not conducting science practical sessions in support of learning the principles and concepts of science and developing scientific skills in our children will be viewed very seriously by the Ministry of Education.

(Tshewang Tandin)

DIRECTOR

Department of School Education

Copy to:

1. All Principals, Middle and Higher Secondary Schools,
2. Dzongkhag Education Officer, Dzongkhag Administration,
3. Hon'ble Secretary, Ministry of Education, Thimphu for kind information.
4. Secretary, Bhutan Board of Examinations, Ministry of Education, Thimphu for necessary action. The BBE is asked to explore ways and means of assessing the science practical works at these grade levels, which may include even reinstating science practical examinations at the end of class X.
5. Chief Education Monitoring Officer, EMSSD/DSE, Ministry of Education, Thimphu. EMSSD is asked to frequently monitor the science practical works in schools and submit the status report from time to time.
6. Chief Curriculum Officer, CAPSD/DSE, Ministry of Education, Paro for necessary follow-up action.
7. Chief Planning Officer, PPD, Ministry of Education, Thimphu with instructions to include the letter in the forth-coming issue of the EPGL.
8. Office Copy



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF FINANCE
TASHICHHO DZONG

MoF/MoE-Corres/2006-2007/ 888
February 20th 2007

The Secretary
Ministry of Education
Thimphu

Subject: **Budget for Development of Libraries in the Schools**

Dear Dasho,

This has reference to Hon'ble Education Minister's letter dated 01 December 2006 regarding the subject cited above.

In this regard we would like to convey the approval of the Ministry of Finance for development of libraries in the schools as follows:

1. Nu. 10,000 per school per year plus Nu. 200 per student per year for students in classes PP-VI
2. Nu. 10,000 per school per year plus Nu. 300 per student per year for students in classes VII-XII.

However, we would like to convey that the provision would be budgeted under the normal budgetary line and not as budgetary grant.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Yanki T Wangchuk'.

(Yanki T Wangchuk)
Finance Secretary

Copy to:

1. The Secretary, Cabinet Secretariat, Tashichhodzong, Thimphu, for kind information.
2. The Chief Curriculum Officer, Curriculum and Professional Support Division, Paro, for information and necessary action.



འཕེལ་ཡོན་ཅུ་གཞུང་དང་ཁྱད་རིག་རྒྱུ་སྐྱོར་སྡེ་ཚོན།

Curriculum and Professional Support Division (CAPSD)
Department of School Education
MINISTRY OF EDUCATION
Paro : BHUTAN

Tel: +975(8)271226 Fax: +975(8)271991 Email: capzd@druknet.bt

Ref. No. CAPSD/DSE/ENG/2/07/

March 24, 2007

CIRCULAR

Enhancement of Reading Programme in Schools

Ministry of Education is pleased to inform all schools that, on the directives of the government, the Ministry of Finance has approved the budget for the development of school libraries under the normal budgetary line, which is: *Nu.10,000 per school per year plus Nu.200 per student per year for students in classes PP-VI and Nu.300 per student per year for students in classes VII-XII*. This is indicative of the importance the government attaches to the school reading programme.

For 2007-2008 FY, the budget incorporation for the development of school libraries has been initiated by the Ministry of Education with the Department of National Budget, which is based on the 2006 school statistics. However, from the subsequent year onwards, guided by the Dzongkhag Education Sector, schools will be required to put in their own library budget requirements, which would be based on the previous year's school statistics.

This budget is meant for buying new books, replenishing old and dated books, subscribing to periodicals, etc. It must be noted that this budget line cannot be re-appropriated to any other budget heads. It is meant for the development of school libraries only. CAPSD will support in terms of making available suggestive list of library books from time to time which will be available in the website of Education Ministry.

In view of the strong government support for development of reading habits in our children, schools are hereby instructed to seriously implement the school reading programme. One measure of success of the implementation of school reading programme would be that more and more students and teachers are reading without any external compulsion; the only compulsion being their desire to read more. Without visible change of behaviour in the students and teachers, the schools will have stronger reasons to pursue the programme even more seriously and vigorously.

Sd/-
(Tshewang Tandin)
DIRECTOR
Department of School Education

Copy to:

1. All Principals, C&PS, LSS, MSS, HSS,
2. Dzongkhag Education Officer, Dzongkhag Administration,

3. Hon'ble Secretary, Ministry of Education, Thimphu for kind information.
4. Chief Education Monitoring Officer, EMSSD/DSE, Ministry of Education, Thimphu for necessary follow-up during their Dzongkhag/School monitoring visits.
5. Chief Curriculum Officer, CAPSD/DSE, Ministry of Education, Paro for necessary action.
6. Chief Planning Officer, PPD, Ministry of Education, Thimphu with instructions to include the letter in the forth-coming issue of the EPGI.
7. Office Copy.

Dzongkhag-wise list of existing boarding schools that require stipend for existing primary boarders

3.1

Sl.#	Dzongkhag	Name of school	boarders	stipend rate	for 10 months	Remarks
1	Chukha	Bongo PS	49	240	117600	
2		Chungkha LSS	232	240	556800	no new hostel construction to take place
3		Kamji LSS	373	240	895200	
4		Dungna LSS	142	240	340800	
5	Bumthang	Tang LSS	14	240	33600	additional stipend for PP-VI boarders
6		Ura LSS	5	240	12000	additional stipend for PP-VI boarders
7	Haa	Jyengkha PS	180	240	432000	
8	Lhuentse	Wambur PS	32	240	76800	
9		Zangkher PS	90	240	216000	
10		Dungkher PS	70	240	168000	
11		Khoma LSS	150	240	360000	additional stipend for PP-VI boarders
12	Mongar	Tsakaling PS	29	240	69600	no new hostel construction to take place
13		Tsamang PS	135	240	324000	
14		Thongrong PS	93	240	223200	
15		Kengkher PS	91	240	218400	
16		Nagor LSS	19	240	45600	additional stipend for PP-VI boarders
17	Paro	Bitekha LSS	64	240	153600	
18		Dawakha LSS	164	240	393600	to be kept operational until Bitekha has adequate accomodation
19	P/gatsel	Dungmain PS	42	240	100800	
20		Mikuri PS	51	240	122400	
21		Chimong PS	23	240	55200	no new hostel construction to take place
22		Tshatse PS	75	240	180000	
23		Tseber LSS	34	240	81600	additional stipend for PP-VI boarders
24		Yurung LSS	18	240	43200	additional stipend for PP-VI boarders
25		Decheling LSS	19	240	45600	additional stipend for PP-VI boarders

Sl.#	Dzongkhag	Name of school	boarders	stipend rate	for 10 months	Remarks
26	Sjongkher	Lauri PS	128	240	307200	no new hostel construction to take place
27		Minjiwoong LSS	35	240	84000	additional stipend for PP-VI boarders
28		Orong LSS	97	240	232800	additional stipend for PP-VI boarders
29		Nanglam LSS	16	240	38400	additional stipend for PP-VI boarders
30		Marshalla PS	179	240	429600	No hostel construction pending study of merger with Martsalla LSS
31	Samtse	Dorokha LSS	272	240	652800	Includes PP-VIII eligible boarders
32		Sengdhyen CPS	308	240	739200	
33	Thimphu	Thinlaygang PS	143	240	343200	no new hostel construction to take place
34		Genekha LSS	213	240	511200	
35	Trashigang	Tokshingma PS	106	240	254400	
36		Kangpara PS	112	240	268800	
37		Radi LSS	177	240	424800	* postpone by one year for class VII & VIII boarders till Dungtse construction completes
38		Wamrong LSS	115	240	276000	
39		Uzorong LSS	87	240	208800	additional stipend for PP-VI boarders
40		Bidung LSS	41	240	98400	additional stipend for PP-VI boarders
41	Tiyangtse	Thragom PS	98	240	235200	
42		Tomijangsa LSS	126	240	302400	additional stipend for PP-VI boarders
43	Trongsa	Langthel LSS	41	240	98400	no new hostel construction to take place
44	Wangdue	Adang CPS	115	240	276000	
45		Nahi PS	66	240	158400	
46		Sha Tasha CPS	213	240	511200	no new hostel construction to take place
47	Zhemgang	Bardo PS	59	240	141600	
48		Khomsher CPS	74	240	177600	
49		Langdhubi CPS	23	240	55200	no new hostel construction to take place
50		Bjoka PS	59	240	141600	
51		Gomphu PS	52	240	124800	
52		Pantang PS	117	240	280800	
53		Shingker PS	127	240	304800	
54		Goshing PS	81	240	194400	
55		Panbang LSS	38	240	91200	additional stipend for PP-VI boarders
			5512		13228800	

TOTAL SCHOOLS TO BE PHASED IN 2008 (ALL NEW SCHOOLS)

	Dzongkhag	School Name	Total students	Vulnerable status
1	Dagana	Geserling LSS	276	Most vulnerable criteria
2	Dagana	Zinchela CPS	45	Most vulnerable criteria
3	Dagana	Nimtola CPS	83	Most vulnerable criteria
4	Dagana	Lungtengang CPS	119	The school has been proposed by the DEOs
5	Lhuentse	Zham CPS	59	The school has been proposed by the DEOs
6	Lhuentse	Tshochen CPS	126	The school has been proposed by the DEOs
7	Mongar	Lingkhar CPS	40	Most vulnerable criteria
8	Mongar	Yaragla CPS	34	Most vulnerable criteria
9	Mongar	Waichur CPS	55	Most vulnerable criteria
10	Mongar	Narang CPS	150	Most vulnerable criteria
33	Paro	Goneytsawa PS	104	The school has been proposed by the Director, MoE
11	Pemagatshel	Khangma CPS	104	Most vulnerable criteria
12	Pemagatshel	Rezimo CPS	35	More vulnerable criteria
13	Pemagatshel	Dagor CPS	59	More vulnerable criteria
14	Pemagatshel	Thongsa	90	More vulnerable criteria
15	Samdrup Jongkhar	Bazor CPS	75	Most vulnerable criteria
16	Samdrup Jongkhar	Sarjung CPS	110	Most vulnerable criteria
17	Samdrup Jongkhar	Tshotsalu CPS	58	Most vulnerable criteria
18	Samdrup Jongkhar	Dungmanba CPS	85	Most vulnerable criteria
19	Samdrup Jongkhar	Kerong	69	The school has been proposed by the DEOs
20	Samtse	Bara CPS	100	Most vulnerable criteria
21	Samtse	Rangtse CPS	37	The school has been proposed by the DEOs
22	Trashigang	Thrimshing CPS	55	Most vulnerable criteria
23	Trashigang	Jerelemi CPS	76	Most vulnerable criteria
24	Trashigang	Woongchilo PS	113	Most vulnerable criteria
25	Trashigang	Berdungma CPS	61	Most vulnerable criteria
26	Trashigang	Kurchilo	137	More vulnerable criteria
27	Trashigang	Benshingmo	104	More vulnerable criteria
28	Trashigang	Karshong	27	More vulnerable criteria
29	Trashigang	Dalingthangma CPS	40	The school has been proposed by the DEOs
30	Trashiyangtse	Dukti PS	23	Most vulnerable criteria
31	Trasigang	Chiya CPS	106	Most vulnerable criteria
32	Tsirang	Tsirangtoe CPS	430	Most vulnerable criteria
34	Wangdue	Rameychen CPS	184	More vulnerable criteria
35	Zhemgang	Duengmang CPS	35	The school has been proposed by the DEOs
36	Zhemgang	Budashi CPS	42	The school has been proposed by the DEOs
37	Zhemgang	Degala CPS	52	The school has been proposed by the DEOs
38	Zhemgang	Tradijong CPS	49	The school has been proposed by the DEOs
39	Zhemgang	Barpong CPS	39	The school has been proposed by the DEOs
		Total	3,486	

TOTAL SCHOOLS TO BE COMPLETELY PHASED OUT IN 2008

	Dzongkhag	School	Total Students
1	Bumthang	Chungphel CPS	42
2	Haa	Mochu PS	30
3	Lhuentse	Tangmachu PS	149
4	Mongar	Chaskhar PS	338
5	Paro	Wanakha LSS	283
6	Pemagatshel	Khar CPS	186
7	Punakha	Walathang CPS	103
8	Punakha	Kabesa LSS	104
9	Thimphu	Tsaluna CPS	78
10	Trashigang	Galing PS	80
11	Trashiyangte	Tshangphuchen PS	167
12	Trashiyangte	Jamkhar PS	151
13	Trashiyangte	Trashi Yangtse LSS	75
14	Trongsa	Chendibji PS	68
15	Trongsa	Kuenga Rapten LSS	201
16	Trongsa	Samcholing CPS	152
17	Zhemgang	Buli PS	108
18	Zhemgang	Zhemgang LSS	127
19	Wangdue *1	Bajothang HSS	127
	Total		2,569

*1 - The school has only classes xi and xii boarders.

Notes:

- 1 Dungkhar PS (Lhuentse) and Bidung LSS and Phongmey LSS (Trashigang) have been requested by MoE to be retained due to the boarding facilities.
- 2 Radi LSS (Trashigang) has been requested by MoE to be retained till end 2008 until the new school Dungshtsi MSS becomes operational.
- 3 Chamgang LSS, Thimphu, has been requested by MOE, to be retained due to the mobility of the parents (yak herders).

SCHOOLS TO BE PARTIALLY PHASED OUT BY 2008

This means that feeding has to be retained for lower secondary sections (classes 7 & 8)

	School	Dzongkhag	Students in classes 7&8	Primary students in boarding
1	Tang LSS	Bumthang	38	5
2	Ura LSS	Bumthang	139	14
3	Yadi LSS	Mongar	252	
4	Norbuling LSS	Sarpang	306	
5	Tshangkha LSS	Trongsa	89	
6	Langthel LSS	Trongsa	108	
	Total		932	19

དབང་ལྷན་འགྲུལ་གཞུང་།

ཤེས་རིག་ལྷན་ཁག།
ཐིམ་ཕུ།



ROYAL GOVERNMENT OF BHUTAN

MINISTRY OF EDUCATION
THIMPHU : BHUTAN
P.O. BOX NO. 112

Ref: Prog (2.10)2007/ 5481

ལྷི་ཚེས་ ༥/༦/༢༠༠༧

ལྷན་འགྲུལ་གྱི་

༡༽ རྟོན་འབྲས་ གཞུང་གྲུ་ཚང་དང་ཤེས་རིག་ལྷན་ཁག་མཉམ་ཁུལ་གྱི་ཐོག་ལས་ རང་ལྷན་འགྲུལ་དང་པའི་ཚོས་བཞུགས་ཐོག་ལས་ ང་བཅས་སའི་ན་གཞོན་ཚུ་
གིས་ གྲུ་སྤོང་དང་གྲུ་སྤོང་གོང་ལ་མེལ་བཟང་གི་ལྷ་ དམིགས་ཏེ་ ལྷི་ལོ་ ༢༠༠༩ ལས་ ཚུས་ རྒྱལ་ཡོང་ནང་ལའོད་ཀྱི་འབྲིང་རིམ་སློབ་གྲྭ་གོང་མ་དང་བས་
མའི་ནང་ལྷ་ རང་ལྷན་འགྲུལ་དང་པའི་ཚོས་བཞུགས་ཐོག་ལས་རིམ་གཞི་བཟོ་གས་འབད་དེ་ཡོད་པའི་ཁར་ ཚོས་བཞུགས་ཐོག་ལས་རིམ་འགོ་འདྲེ་པའི་སློབ་དཔོན་ཚུ་ལྷ་ རྒྱུང་
བརྒྱུ་དང་གོམས་འདྲིས་ཚུ་ གཞུང་གྲུ་ཚང་གི་ དབྱེད་པའི་སློབ་མཚོ་གིས་ གནང་ཡོད་པ་ཡིན། འདི་བཟུམ་འབད་ དབྱེད་པའི་སློབ་དཔོན་མཚོ་གིས་
སློབ་གྲྭ་འི་ ཚོས་བཞུགས་ཐོག་ལས་རིམ་དོན་ལས་ བཟུམས་གནང་ཡོད་པའི་ **གྲུ་སྤོང་ལོ་གྲྭ་འགྲུལ་ལྷན་ཁག་གི་ གི་དེ་བའི་** ཚོས་ཚན་མེ་གཞུང་
ནང་བཟོ་གས་ཏེ་ཡོད། གི་དེ་བའི་ ཚོས་ཚན་མེ་གཞུང་གི་ དཔེ་ཚང་བསྐྲུ་ལེ་ལྷི་ རྒྱ་སྤོང་ལམ་ལྷན་ཁག་བཟུ་དུ་ གནམ་ལོ་ ༢༠༠༧ ལྷི་ ལོ་ལས་ འགོ་ཐོག་
སློབ་རིམ་ ༩ ལས་ ༡༢ རྒྱང་ལའོད་ཀྱི་ སློབ་ཕྱག་ཚུ་ལྷ་ བསྐྲུ་ལེ་ལམ་ལྷི་ཡིན། དེ་གི་ལུ་ལས་ ལོ་བཟུ་བཞི་ནུ་ སློབ་རིམ་ ༩ པའི་ སློབ་ཕྱག་རྒྱུང་མ་
ཅིག་ལྷ་བསྐྲུ་ལེ་ལམ་ལྷི་དང་ གི་དེ་བའི་ ལོ་ལོ་ ༩ གི་རིང་ རྒྱུ་དགོ་པ་ཡིན། གཞུང་གི་བྱེད་ཕྱོད་ལྷན་ཁག་གི་སྤོང་ལའོད་ལའོད་ ལོ་ག་རང་སོ་ཏེ་དགོ་པ་ཡིན།

༢༽ ང་བཅས་སའི་ རྒྱལ་ལམ་དེ་ ཚོས་འདྲེ་གི་ རྒྱལ་ལམ་ཅིག་ཡིན་པའི་ཁར་ མི་ལེ་མེ་མེ་ཚུ་ཡང་ ལས་རྒྱ་འབྲས་དང་ རྒྱུ་ལས་ལྷི་ལོ་ཡོད་པའི་ མི་
ཅང་ཅ་ཡིན་ཅུང་ ལུ་ལྷི་འགྲུ་བ་དང་བཟུ་ རྟོན་མོང་པའི་དབང་དུ་སོང་དེ་ཡོད་པ་ལས་ རྒྱ་མའོང་མ་ལས་གཞུ་བ་དང་ རྟོན་མའོང་མ་ལས་རིམ་འགོ་ཐོག་
དོ་བཟུམ་ ང་བཅས་སའི་ རྟོན་མའོང་སློབ་ཕྱག་ཚུ་གིས་བཟུ་ལྷ་ ལམ་ལོ་ལྷི་དེ་ལམ་ལྷི་དང་ དགོ་ལྷི་ལམ་ལྷི་གི་ མཉམ་ཁུལ་གྱི་གིས་སློབ་ལས་ གོ་བརྒྱ་
ལྷི་དགོ་པ་འདི་ ག་གི་མེ་མེ་མེ་མེ་ལུ་ཡིན། རྒྱ་མཚན་འདི་ལྷ་དམིགས་ཏེ་ ང་བཅས་སའི་ན་གཞོན་ཚུ་ལྷ་ རྟོན་མོང་པའི་ ལུ་ལྷ་དང་ལུ་ལྷ་ ༣ ལྷ་
སོགས་པ་ཚུ་ གོ་བརྒྱ་ལྷི་ལམ་ལྷི་ ཤེས་རིག་ལྷན་ཁག་གི་ ལྷི་པའི་ལའོད་ལོ་ བཟོ་བསྐྲུ་ལམ་ལྷི་དེ་ཡོད་པ་ལས་ རྒྱལ་ཡོང་གི་སློབ་གྲྭ་གསའི་ནང་ལྷ་
གཞུ་ལའོད་བཟུ་དུ་འབྲེལ་ཡོད་ཀྱི་ ཤེས་རིག་མཚན་ལའོད་ཚུ་གིས་བསྐྲུ་ལེ་ལམ་ལྷི་ཡིན།

༡༽ མི་ལོ་སློབ་གྲྭ་དང་སློབ་གྲྭ་ཚུང་མཚུ་ལྷ་ ༢༽ འབྲིང་རིམ་སློབ་གྲྭ་ལོ་གྲྭ་ལྷ་ ༣༽ རེ་དང་ ༤༽ འབྲིང་རིམ་སློབ་གྲྭ་བས་མ་དང་གོང་མཚུ་ལྷ་ ༥༽

Career Education and Counseling Programme

The Career Education and Counseling Division have trained 402 teacher counselors from Lower, Middle and Higher Secondary Schools. Each secondary school is required to have one male and one female counselor to cater to the emotional and behavioral needs of the students. Schools which do not have the required number of counselors are requested to inform the D.E.O. and also send copies of the information to the Career Education and Counseling Division and the Human Resource Division, Ministry of Education.

The Career Education Program and the Counseling Program are looked after by two separate officers of the CECD, DYS although some areas like the training of the teacher counselors are done jointly.

Objectives of the School Based Career Education and Counseling Program:

- To establish a systematic guidance and counseling programme in all schools as an integral part of pastoral care.
- To assist students to explore their potentials and limitations, aptitudes, skills and achievements to help them understand themselves better and thereby develop positive self-concept towards their life.
- To train school male and female counselors in all Higher, Middle and Lower Secondary Schools so as to provide youth in schools with guidance and counseling when required.
- To instill in youth qualities like initiatives and drive, which can ultimately lead to self-employment
- To develop an awareness and learn the importance of the relation between the world of work and educational achievement for career opportunities.
- To assist students in conducting career research to set their career options.
- To provide information to students concerning post high school career options, course selection at plus two level, further studies, scholarships and selection procedure.
- To create awareness on the role and responsibility of young people in the nation building.
- To train professional counselors so as to provide professional counseling services and resource persons for in country training programmes.

Roles and Responsibilities of the DEO:

As the Coordinator of the Career Education and Counseling Program of all the secondary schools in the Dzongkhag, the D.E.O. will be the focal person for the Career Education and Counseling Division, Department of Youth and Sports, and will be responsible for the following:

1. Liaising with the CECD, DYS and secondary schools of the Dzongkhag

2. Ensuring the delivery of correspondence and resource material sent by the CECD, DYS to the secondary schools
3. Collecting and compiling yearly Career Education Program and Counseling Program action plans, and yearly reports of the Career Education Program and Counseling Program from the secondary schools, and sending them to the Career Education and Counseling Division, Department of Youth and Sports
4. Ensure/carry out supervision and monitoring of the CEC program activities in schools
5. Maintaining a record of Teacher Counselors and Career Education Teachers in the schools (especially transfers)and updating the CECD,DYS
6. Ensure that all Secondary schools within their Dzongkhag have a trained male and female counselor
7. Assisting the schools in conducting Career Education program activities like Career Days/Career Fairs
8. Assisting the CECD,DYS in providing Career Education program and Counseling program related support to the schools

Roles and Responsibilities of the Secondary Principals:

1. To support the counselors at all the times.
2. Implement a school based comprehensive counseling and career education in the school.
3. Incorporate career education classes class at least once a week for Classes 7-12
4. Assist in carrying out career portfolio development exercises for class IX and XI students.
5. Conduct career education and counseling workshop for class X and XII students by coordinating with the DEO and the Dzongkhag in consultation with the teacher/school counselor.
6. Supervise and monitor CEC activities in the school.
7. Help the teacher/school counselor form a task group and be a member of the task group.
8. Participate in meetings/workshops related to the program organized by DYS and other relevant agencies

Roles and responsibilities of the Teacher Counselor:

1. Act as a consultant to students and teachers and parents.
2. Help students develop career portfolios/carry out job shadowing/ job interviews during term break and vacations
3. Conduct career education classes for grade VII to XII at least once a week
4. Provide group and individual counseling to students and develop network for referral services
5. Implement career education and counseling classes once a week in school for classes 7 to 12 and use the three volumes of the A Light on Your Career Path and the Curriculum Framework and Activities Handbook
6. Conduct SBIPs in their respective schools
7. Assist the school counselor and the Principal in conducting the school based career education and counseling programs (in the absence of school counselors within the schools, the teacher counselor is expected to coordinate the programs)
8. Work with the school counselor in developing annual plan for the CEC program in their school
9. Submit yearly reports on the CEC activities carried out in their respective schools to the D.E.O. for submission to DYS along with the annual work plan
10. Liaise with the DEO, DYS and other relevant organizations to develop network to enhance the CEC program in their schools
11. Submit any outstanding research/assignments carried out by students to the D.E.O. for submission to DYS for compilation
12. Work together as a team with SPEA focal persons, scout masters, vocation instructors and the school health coordinator

Roles and responsibilities of the School Counselor:

All school counselors are expected to undertake the responsibilities of the teacher counselor in addition to the following:

1. Act as referral point for teacher counselors within their schools and to teacher counselors in other schools within their area.
2. Coordinate school based Career Education and Counseling Programs such as:
 - Organize youth counseling programme in their schools on various youth issues
 - Help students develop career portfolio
3. Provide individual counseling services to students and network with relevant personnel/agencies for referral services
4. Work with the DEO, Head Teacher and teacher counselors in organizing the school CEC workshop
5. Liaise with the DEO, DYS and other relevant organizations to develop network to enhance the CEC program in their schools

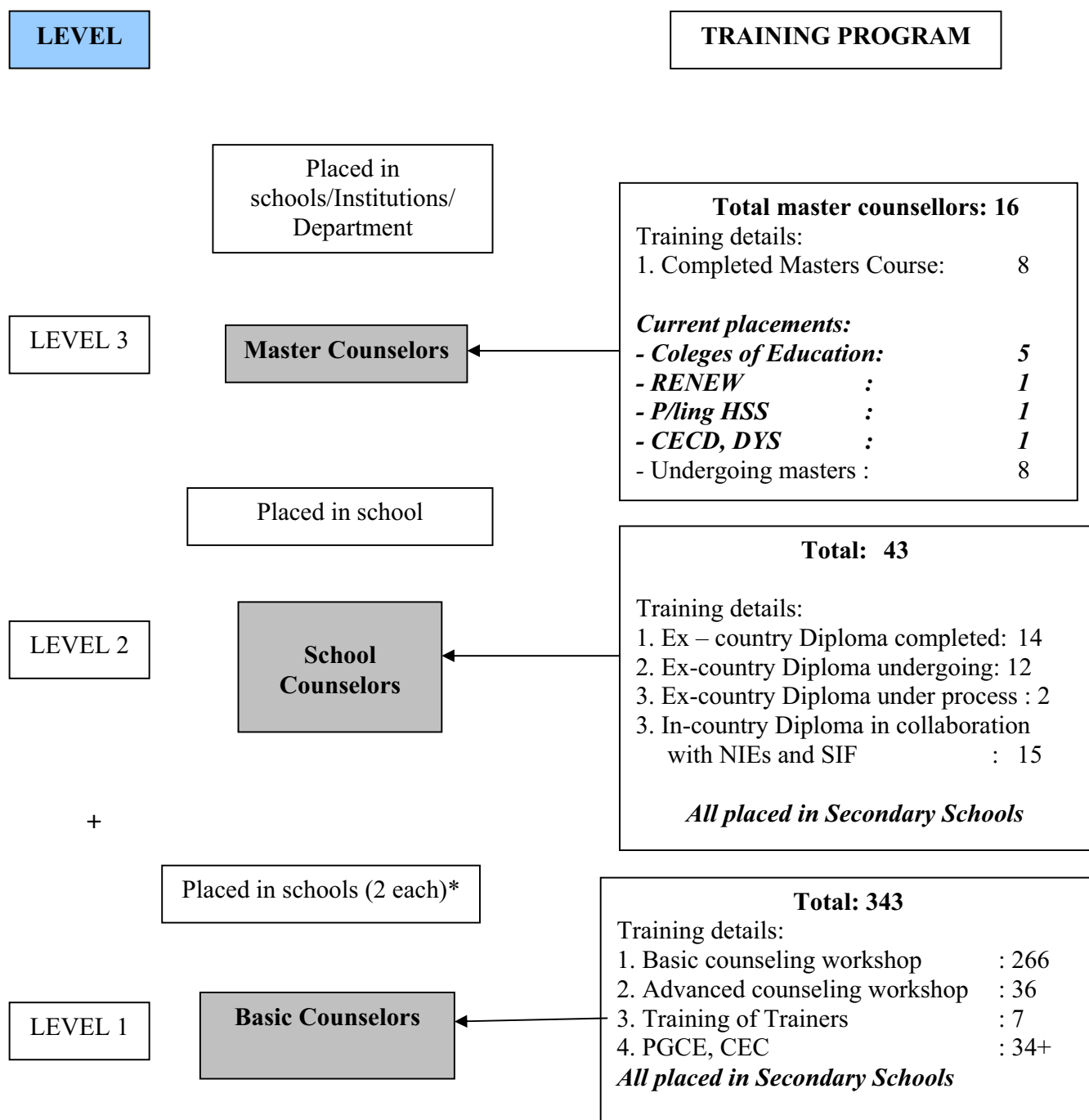
Roles and Responsibilities of the Master Counselor:

The Master Counselor is expected to undertake the roles and responsibilities of the school counselor in addition to the following:

1. Act as cluster counselor i.e. act as referral person for teacher and school counselors of the schools in their cluster
2. Coordinate all career education and counseling programmes in their cluster
3. Provide group and individual counseling to students of schools within their cluster
4. Coordinate cluster meeting for counselors in their cluster
5. Monitor and evaluate the CEC programme in the school within their cluster and report/send feedback to the DYS
6. Resource cluster based CEC programmes
7. Resource CEC programmes organized by the DYS

* Note: As most of the Dzongkhags do not have master counsellors, the role of the master counsellor, esp. the administrative ones, DEOs are requested to carry it out.

The Status of the Training and Placement of Counselors in the Field in Line with the Masterplan



***All the H.S.S, M.S.S and L.S.S will have minimum of two trained Teacher Counselors, however the allocation of the Counselors will also depend on the school size (Ratio of 500 students – 2 counselors)**

TOTAL COUNSELORS: 402
Status of the Counselor's development, 2000- 2007

A. Level 1: Basic Counselors 334

Basic Counselors are:

1. Candidates who taken counseling as an optional subject through the NIEs.
2. In-service candidates who have undergone the Basic/Advanced/TOT Guidance and Counseling Workshops/courses organized by the DYS

Details as of 2000 – 2006

Sl.No	Types of training	Number of teachers trained
1.	Basic counseling workshop	257
2.	Advanced counseling workshop	36
3.	Training of Trainers	7
4.	PGCE, CEC	34
TOTAL		334

Placement of Basic Counselors

The DYCS under the Royal Command initiated the placement of male and female Basic Counselors in all Secondary Schools. The placement has been considered according to the following table:

Sl.	School Strength(Students)	Counselors to be posted
1	500	2 (male + female)
2	1000	4 (male + female)
3	1500	6 (male + female)

Though in 2005 the basic training workshop conducted by the Department trained 79 teachers and covered all the schools without counselor, due to transfers and other reasons 15 secondary schools currently lacks a school counselor.

B. Level 2: School Counselors 43

Four category of counselor preparation is suggested for Level 2 counselors:

1. In – country Diploma/Certificate courses
The Department started first In-service Diploma program in collaboration with NIEs and Singapore International Foundation from January 2006 and 15 Basic Counselors are undergoing this program along with 1 lecturer from NIEs.

2. Undergraduate with counseling
3. Elective Subject- Guidance & Counseling

CURRENT PLACEMENTS OF THE Level 2: SCHOOL COUNSELORS

7 Candidates from level 1 selected to undergo the Six months Diploma in Counseling at NCERT, Delhi and their placements are reported below. 4 candidates were supported by UNFPA and 5 through Danida Funding.

<i>Sl.No</i>	<i>Dzongkhag</i>	<i>School</i>	<i>Name</i>
1.	Thimphu	Lutenzampa HSS	Mrs. Tashi Yangzom
2.		Jigme Namgyel LSS	Mrs. Khandu Dorji
3		YHSS	Mrs. Tshering Yangchen
4	Chukha	Rinchen Kuenphen PS	Mrs. Neten Lhamo
5.		YDRC	Mr. Tenzin Thinley
6		Phuntsholing LSS	Mrs. Pema Choden
7		Gedu MSS	Mr. Ugyen Penjor
8.	T/gang	Rangjung HSS	Mr. Dorji Thinley
9.	Paro	Rinpung LSS	Mrs. Sonam Wangmo
10		Drugyel HSS	Mr. N.T. Dorji
11	Bumthang	Jakar HSS	Mrs. Deki Choden
12	Samtse	Samtse MSS	Mrs. Dechen Dema
13	S/Jongkhar	SJ MSS	Mr.Phuntsho Namgyel
14	Tsirang	Damphu LSS	Mr. Tshewang Tenzin

- **29 teachers would be trained in Diploma Course in 2007 – 2008. By the end of 2008, 43 School counselors would be trained.**



ROYAL GOVERNMENT OF BHUTAN
Ministry of Education
DEPARTMENT OF YOUTH & SPORTS
THIMPHU: BHUTAN

DYS/SH 1/2006-2007/ 1029

22/3/07

DEO

All Dzongkhags

Sir/Madam,

The Comprehensive School Health Program, a collaborative endeavour of the Ministry of Education and the Ministry of Health wishes to reinforce its effort towards the health and well being of our children.

Firstly, in a joint meeting held between the two agencies on 27th February 2007, the Ministry of Health has kindly agreed to provide annual checkup of all students by the respective Dzongkhag Medical Officer at the beginning of the academic session as part of the health services of the Comprehensive School Health Program.

In this connection, each student is to be provided with a notebook to keep a record of the child's health to be used throughout the student's school tenure hence should be transferred with the student till the child completes school. I would therefore, like to request all DEOs to work out the details of the visit with the concerned DMOs in consultation with Heads of schools.

Secondly, in order to institute better coordination within the dzongkhag as well as gain understanding and support for the School Health Program, the school health should be included as an agenda during the Annual Dzongkhag Head Teachers' Conference and invitations extended to the DHSO/DMO and the DE to attend.

Look forward to your continued support towards the promotion of health and well being of our students.

(Sonam Tobgay Dorji)

Director

Department of Youth & Sports

Cc:

1. Hon'ble Secretary, Ministry of Education for his kind information
2. Hon'ble Secretary, Ministry of Health for his kind information.
3. Dasho Dzongdags, Dzongkhag Administration for kind information
4. Director, Department of School Education for his information.
5. Program Officer, CSHP, Ministry of Health for information.

☎ : Director-(00975) 2-323219, 325084, Career Education & Counselling Division-325177, Youth Information Centre-328498, 329000
 Scouts & Culture Education Division-325421, Games & Sports Division-328377, 328453

Fax : Director-(00975) 2-325199, Career Education & Counselling Division-332251, Scouts & Culture Education Division-331148
 Games & Sports Division-328377, Youth Information Centre-329276

Email : Director - ygcdhead@druknet.bt, Youth Information Centre - ygcd@druknet.bt, Games & Sports Division - sportsygcd@druknet.bt

29/3/07

The Comprehensive School Health Program

It was in 1984, that a School Health Unit was established in the Education Division, Ministry of Social Services, which was later, merged with the Curriculum and Professional Support Section. This finally became the Comprehensive School Health Program in 1998: a partnership between the then Department of Health and the Department of Education. Today, the health and well being of our students is considered even more important as there is an increase of youth involvement in substance abuse, suicide, accidents adolescent pregnancies, made worse by the threat of HIV and AIDS. These new changes coupled with the fact that our population has such a high percentage of children and young people make it all the more important to have an effective school health program.

In view of the important contribution that this program can make to the future of our nation, the aims, objectives and how these can be achieved is as follows.

1. Objectives:

- Formulate health-related school policies;
- Provide health services in the schools;
- Provide health education in the schools;
- To encourage a sense of belonging and promote self-esteem and respect among all pupils and staff;
- To promote a safe and supportive environment;
- Work in partnership with the home, the wider community and key agencies.

The program has the following four focuses which work towards making health promoting schools:

i. Skills based Health Education:

More than ever before, health and well being are influenced by behavioural factors. Though vaccinations, medical treatment, attempts to reduce environmental causes of illness and education about disease processes continue to be important means of maintaining and restoring health, they are not enough. Such measures will not protect people from harmful effects of their own behaviour like e.g. washing hands before meals, choosing to or pressurized to smoke, use drugs, engage in unprotected sexual activity. To safeguard their physical and emotional health, individuals must play an active role, and for this need for than just knowledge. They need life promoting attitudes, values and beliefs, and specific cognitive and behavioral skills. Skills based health education would contribute to the adoption of health-promoting habits such as healthy eating, and reduce risk-taking behaviours associated with drug and alcohol use, HIV/STI infection, unplanned pregnancy, violence, injury, etc. Young people who receive quality skills based health education are more likely to adopt and sustain a healthy lifestyle not only during their school years but throughout their lives.

Topics such as personal health, sexuality education, mental and emotional health, injury prevention and safety, nutrition, substance use and abuse should be covered.

School health education includes:

- academic skills and knowledge development (that make full use of a range of pedagogical techniques, including active learning, peer education, and inquiry-based learning);
- health and nutritional education;
- life skills education
- staff education through training and development of school personnel.

ii. School Health Services:

The school health services comprise of services to appraise, protect and promote health. These services would then ensure access or referral to primary health care services, foster appropriate use of primary health care services, prevent and control communicable diseases and other health problems and provide emergency care for illness or injury.

School health services include:

- preventive, curative, and referral services;
- safe water and sanitation services;
- nutritional and food safety services;
- counseling, psychological, and social services;

iii. Healthy School Environment:

This would involve making the school healthy in its physical and aesthetic surroundings as well as the psychosocial climate and culture of the school.

Physical environment would include the school building, area surrounding it, adequate water supply and sanitation, physical conditions such as noise, lighting, etc.

The psychological environment would include the physical, emotional, and social conditions that affect the well being of students like bullying, eve teasing and absence of positive regard and lack of recognition by teachers. Three priority areas for action would be identified: building a sense of security and trust, enhancing skills and opportunities for communication and social connectedness, and building a sense of positive regard through valued participation in schools.

The school health environment component consists of:

- physical, psychological, and social environment that is developmentally oriented and culturally appropriate, and that enables students to achieve their potential;
- a healthy organizational culture within the school;
- productive interaction between the school and the community of which it is a part.

iv. Family/Community Involvement:

Positive interaction between the school and the community is fundamental to the success and sustainability of school-based health programs. Effective community partnerships ensure broad-based agreement about the health issues that schools should address, and joint action to design and maintain an appropriate programmatic response. Parent input and support increases the likelihood that health-promoting education will reach the entire family and be reinforced at home. Involvement of the broader community (private sector, community organizations) also enhances and reinforces the school's health promotion activities. Hence, schools actively solicit parent involvement and engage the community resources and services to respond to the health-related needs of students. The School Management Board and the SPEA (School based Parenting Education & Awareness Program) can be utilized to address this component.

2. The following guidelines are to be implemented from this year (2007) onwards:

i. School Health Services:

Each student will be given a thorough medical check up by the medical doctor followed by de-worming, vitamin supplementation and iron folic acid supplementation in the first two months of the academic session i.e. March –April. Each student is to maintain a health record notebook where the health status and the treatment provided is recorded.

The second round of de-worming, vitamin supplementation and iron folic acid supplementation will be administered by the health workers in September-October. The provision of First Aid and the treatment of minor ailments and wounds should be available as and when required.

The health record of each student should be maintained in a notebook which should be transferred with the student till he/she completes higher secondary school.

The following format is a sample showing the details of information that should be recorded in the health notebook of each child:

Year:

Name:	Age:	Sex:
Height:	Weight:	BMI:
Eyes:	Ears:	
Physical check up:		
Cardiovascular		
Respiratory		
Digestive		
Neurons		
Any disabilities		
Learning/mental health		
Problems:		

ii. Health promotion activities:

Health education sessions where the local health personnel are usually invited to deliver talks to the students during the morning assembly are encouraged to be continued. However, it is recommended that the observation of global health days should be utilised to deliver talks by the health personnel on the subject, e.g. on World No Tobacco Day and International Day against Drug Trafficking and Substance Abuse; talks could focus on the dangers of drug abuse, etc. The other global health days could be observed in a similar fashion.

Schools organize essay, debate, drama, song and dance competitions throughout the academic session. These activities can be made more meaningful if the topics for these competitions are on health issues.

It is also reminded that the advocacy and awareness of adolescent health issues like personal health and hygiene, nutrition, substance abuse, unintended teenage pregnancies, STIs and HIV/AIDS need to be conducted regularly in the schools. Our students have to be reminded of the dangers of involving in risky behaviour. Schools are also reminded to make use of the booklet 'Adolescent Reproductive Health- Know the Facts' which is a compilation of answers to questions on adolescent health concerns raised by the students during the advocacy visit of Her Majesty, the Queen Ashi Sangay Choden Wangchuck to schools.

iii. Annual Dzongkhag Head teachers Conference:

To overcome the problem of coordination within the dzongkhag regarding school health viz. DEO/DE/DHSO/schools and work in cohesion, it is requested that all DEOs include the School Health as an agenda every year and invite the DE, DHSO and the DMO to the meeting.

The roles and responsibilities of the school health coordinator and strategies for the professional development of the school health coordinator remain as reflected in the EPGI 2006.

Standard List School Based Health Promotion Activities - Basic minimum services/activities

Sl.	ACTIVITY	TIME FRAME
1.	Establishment of a School Health Committee	March
2.	Establishment of a School Health Club	March
3.	Development of action plan	March
4.	Visual screening	March – April
5.	Dental screening	March – April
6.	De-worming	March/April & September/October
7.	Vitamin A supplementation	March /April & September/October
8.	Iron Folic Acid Supplementation	March/April & September/October
9.	Global Days Observation	

	<ul style="list-style-type: none"> ♣ World Water Day ♣ World TB Day ♣ World Health Day ♣ World No Tobacco Day ♣ World Population Day ♣ International Day against Illicit Drug Trafficking & Substance Abuse ♣ World Sight Day ♣ World AIDS Day 	<p>22nd March 24th March 7 April 31 May 11 July 23 July 12 October 1 December</p>
10.	Promotion of/and maintenance of proper sanitation & safe drinking water	Continuous
11.	First Aid provision	Continuous
	<p>Health Education Sessions</p> <ul style="list-style-type: none"> ♣ Control of diarrhoeal diseases ♣ Prevention of malaria ♣ Prevention of water borne diseases ♣ Prevention and management of ARI ♣ Substance abuse prevention ♣ Sexual health ♣ Hygiene & sanitation 	<p>These can be conducted in conjunction with the observation of Global Health Days.</p>
12.	<p>Health campaigns</p> <ul style="list-style-type: none"> ♣ STI/HIV/AIDS ♣ Adolescent Reproductive Health ♣ Substance Abuse ♣ Nutrition ♣ Prevention & control of endemic diseases 	



ROYAL GOVERNMENT OF BHUTAN
Ministry of Education
DEPARTMENT OF YOUTH AND SPORTS
THIMPHU: BHUTAN

Ref. No. DYS/GSD (11)2007/997

Date: March 15, 2007

The Dzongkhag Education Officer
 Dzongkhag Administration

Subject: School Sports Program

Dear Sir/Madam,

As discussed during the meeting at Bajo HSS, beginning this year we are proposing a change in the school sports program. Henceforth, sports in schools will have to be conducted Seasons-wise and Division-wise and accordingly cluster level sports carnivals will have to be conducted. Such arrangements are made to ensure focus and equal opportunities for children. It is also expected to inculcate a sense of healthy lifestyle and sporting culture in children.

Besides, school's own sports and PE programs, we would like the schools to conduct friendly matches (warm up games) among schools in the cluster prior to carnivals. The sample of the Thimphu Dzongkhag is attached herewith for your kind reference.

For the time being, Dzongkhags may initiate some kind of organized sporting activities for classes VIII and below besides school's own sports programs. As part of sports and PE promotion at the school level, personnel from the Games and Sports Division will visit schools to introduce and conduct basic PE and sports programs.

Any sporting events at school or cluster level, fund should be made available from the PE and Sports Program's budget which we have proposed you to include in the annual budget. Ref. our earlier letter no. DYS/GSD (01)2007/779 dated January 16, 2007.

We look forward to your kind and continued cooperation.

Yours sincerely,

(Sonam Tobgay Dorji)
Director, DYS

CC: Hon'ble Secretary, MoE for kind information.

☎ : Director- (975) 2-335446, 325084,
 Fax : Director- (975) 2-325199,
 Email : Director - vgcdhead@druknet.bt

Sports Seasons

<u>Seasons</u>		<u>Sports Disciplines</u>
March & April	:	Athletics, cricket & basketball
May & June	:	Volleyball, chess & badminton
July & August	:	Football, Taekwondo & other sports
September & October	:	Athletics, table tennis, archery & other sports

Note:

- As appropriate other sports are also encouraged.
- Primary schools may not follow the above seasons.

Divisions for School Sports Programs

<u>Division</u>	<u>Class</u>	<u>Proposed Activities</u>
A	XI & XII (Senior)	PE activities, organized coaching classes & Sports competitions
B	IX & X (Junior)	PE activities, organized coaching classes & Sports competitions
C	VII & VIII	PE activities, organized coaching classes & Sports competitions
D	IV – VI	PE activities, lead up games & mini sports competitions
E	II& III	PE activities, skill dev. Drills & lead up games
F	PP & I	PE activities (basic movement skills/non structured sport activities)

Senior Division Clusters

Cluster – I

1. Yangchenphu HSS
2. Nima HSS
3. Kelki HSS
4. Rinchen HSS
5. Mothithang HSS

Cluster – II

1. Drugyel HSS
2. Kunga HSS
3. Ugyen Dorji HSS
4. Shari MSS

Cluster - III

1. Chukha HSS
2. Phuntsholing HSS
3. Reldi HSS
4. Samtse HSS

Cluster – IV

1. Punakha HSS
2. Ugyen Academy
3. Bajo HSS
4. Damphu HSS
5. Gelephu HSS

Cluster – V

1. Zhemgang HSS
2. Sherbuling HSS
3. Jakar HSS
4. Sonam Kunphen HSS

Cluster VI

1. Gyelposhing HSS
2. Mongar HSS
3. Baylling HSS

Cluster - VII

1. Ranjung HSS
2. Jigme Sherbuling HSS
3. Nangkhon HSS

Junior Division Clusters

Cluster – I

1. Yangchenphu HSS
2. Mothithang HSS
3. Lungtenzampa MSS
4. Kharsadrapchu MSS
5. Dechencholing MSS

Cluster - III

1. Chukha HSS
2. Wangchuk MSS
3. Chapcha MSS
4. Darla MSS
5. Gedu MSS
6. Phuntsholing HSS
7. Phuntsholing MSS

Cluster – V

1. Punakha HSS
2. Khuruthang MSS
3. Bajo HSS
4. Gaselo MSS
5. Thinleygang MSS

Cluster – VII

1. Sherbuling HSS
2. Taktse MSS
3. Jakar HSS
4. Chumey MSS
5. Sonam Kunphen HSS
6. Zhemgang HSS
7. Yebliptsa MSS

Cluster - IX

1. Ranjung HSS
2. Trashigang MSS
3. Kanglung MSS
4. Baylling HSS
5. Tshenkarla MSS

Cluster - II

1. Shaba MSS
2. Shari MSS
3. Khangkhu MSS
4. Ugyen Dorji HSS
5. Damthang MSS
6. Drugyel HSS

Cluster - IV

1. Samtse HSS
2. Gomtu MSS
3. Tendu MSS
4. Ghumauney MSS
5. Peljorling MSS

Cluster VI

1. Dagana MSS
2. Drujaygang MSS
3. Damphu HSS
4. Sarpang MSS
5. Gelephu HSS

Cluster - VIII

1. Gyelposhing HSS
2. Mongar HSS
3. Tangmachu MSS
4. Phyum MSS

Cluster - X

1. Jigme Shurbling HSS
2. Wamrong(Trashitse) MSS
3. Nangkhor HSS
4. Nganglam MSS
5. Pemagatshel MSS
6. Samdrupjongkhag MSS
7. Deothang MSS

ATHLETIC EVENTS FOR

BOYS

1. 100 meters
3. 200 meters
5. 400 meters
7. 800 meters
9. 1500 meters
11. 3000 meters
13. 400m Relays
15. Long Jump
17. Triple Jump
19. High Jump
21. Shot put (12 lbs.)
23. Discus throws (1.5 kg)
25. Javelin throws (800g)

GIRLS

2. 100 meters
4. 200 meters
6. 400 meters
8. 800 meters
10. 1500 meters
12. 3000 meters
14. 400m Relays
16. Long Jump
18. Triple Jump
20. High Jump
22. Shot put (8 lbs.)
24. Discus throws (1kg)
26. Javelin throws (600g)

Note:

1. *Dzongkhags and schools are also requested to initiate and organize marathon, traditional sports and recreational games.*
2. *Please mention all records of Throws and Jumps in **meters** and also make sure you have right equipments for boys and girls.*

In service Teacher Education Programs (INSET)

Teachers are the schools' most important resources. Investment in the continual professional development of teachers through in-service training contributes to raising the quality of students' learning and achievement.

Objectives:

- 1 Promote professional development
- 2 Develop professional Competence and improve their understanding of the educational principles and modern techniques of teaching.
- 3 Provide opportunities for teachers to learn of and practice new methods of teaching.
- 4 Provide experience for teachers to widen/deepen their knowledge and skills.
- 5 Provide training in methods or subject matter developed after their original training.
- 6 Allow teachers to extend their personal education
- 7 Give qualification and haul teachers to up to date in terms of day to day teaching.
- 8 Keep teachers updated with the new knowledge and teaching skills and pedagogy.

Programs:

The following programs are being carried out by the Ministry of Education:

A. In-country

1. Non Accredited National Based In-service Programs (NBIPs)
2. Accredited Courses

B. Ex- country

C. Ad hoc Programs

A. 2. Accredited In-service In- country Training Programs (current programs)

The Ministry of Education has established various accredited course for teachers to enhance their academic knowledge and professional skills. To facilitate the nomination and selection of candidates to these programmes, the eligibility criteria and the details of the programmes are specified. Interested candidates can obtain information from the Education Website/DEO's office/ the Human Resource Division (HRD). A teacher will not be allowed to attend two programs simultaneously and may not apply for more than one program at the same time. Double application may result in cancellation of application for both the programs applied for. Changes, if any, in nomination will be done by HRD only.

Programs:

1. Upgrading academic qualification of teachers
2. M.Ed leadership and Management
3. Diploma in Leadership and Management
4. Certificate in Primary English Teaching
5. Certificate in Primary Maths Teaching

6. Distance Education B.Ed(P), General
7. Distance Education B.Ed, Dzongkha

1. UPGRADING ACADEMIC QUALIFICATION OF TEACHERS

The 25th TEB Meeting on approved the new criteria for academic qualification of teachers (i.e. to sit for class X and XII examination)

Eligibility Criteria

1. Should have served a minimum of 3 years
2. Should be teaching at the time of application

2. M.Ed Leadership and Management:

Eligibility Criteria:

1. Should be in a Manager's position
2. Minimum qualification of B.Ed
3. Has at least two years of management experience and 5 years service.
4. Clear service record
5. Endorsement of the respective DEOs
6. Candidates will have to undergo the English Language proficiency test or RuB's entry eligibility test. Based on the result of the test, candidate will be selected on merit

Note: A new set of eligibility and selection criteria will be circulated soon after the RuB finalizes one.

3. Certificate in Primary English Teaching:

Eligibility Criteria:

1. PTC and B.Ed primary
2. Currently teaching in the Primary classes
3. Should have minimum 3 years' teaching experience
4. Recommendation from the Principal/DEO

4. Certificate in Primary Maths Teaching

Eligibility Criteria:

1. PTC and B.Ed primary
2. Currently teaching Maths in the Primary level
3. Should have minimum 3 years teaching experience
4. Recommendation from the Principal/DEO

5. Distance Education, B.Ed (P), General

Eligibility Criteria:

1. Hold a Primary Teacher's Certificate
2. Selection based on seniority which will be specified by the HRD upon declaring the admission criteria for a particular year.
3. Produce relevant documents required by the Institute for admission, which will be specified upon acceptance for admission;

Note:

In 2007 Jan. having phased out the erstwhile Level I and Level II of the program, only PTC teachers with class twelve pass certificates were granted admission into the program (direct into Level III).

From 2008 Jan., in confirmation with AP (E) L equivalency system of the Royal University, intake into DE, B.Ed Level III for PTC teachers without class XII pass certificates will be considered upon confirmation from the Royal University. However, PTC teachers are strongly advised to sit for qualification up gradation examination which is provided by the Ministry of Education for obvious reasons. The DE Level III batch for 2007 Jan. were PTC teachers (without managerial position) of up to 1994, and PTC teachers with managerial positions of 1995 and 1996 who possessed 12 pass certificates.

6. Distance Education B.Ed, Dzongkha

Eligibility Criteria:

1. Hold a Primary Zhungkha Teacher's Certificate or Equivalent.
2. Selection based on seniority which will be specified by the HRD upon declaring the admission criteria for a particular year.
3. Produce the documents required by the Institute for admission, which will be specified upon acceptance for admission.

Note: Same criteria as that of DE B.Ed (P) General apply, however, as the number of teachers vary, seniority criterion will also vary accordingly.

B. In-service Ex-country Training for Teachers.

For Long Term Masters:

Eligibility Criteria

1. B.Ed and PGCE candidates
2. Minimum 3 years service
3. 45 years of age and below

Selection Criteria (Merit Based)

1. Academic: 35%
2. Performance appraisal: 30 %
3. Location: 20%
4. Seniority: 20%
5. Mobility: Candidate should be able to work in any place as required by the Education Ministry.
6. Have clear service record
7. Should produce all the prerequisite documents

8. C. Ad Hoc Programs:

The Ministry of Education continue to receive HR Ad Hoc offers from within and from out side Bhutan. The Programs include unplanned Long Term Programs, Short Courses, Seminars, and Workshops funded fully by donor/inviting agencies. This HR activity is different from any other HR activity mentioned above. The offers are granted based on the relevance to the Ministry and in very small manner. Therefore, procedure slightly differs from all the above programs.

Procedure for Nomination & Selection:

1. Nomination is invited from the offices for which the ad hoc program is most relevant as per the criteria laid by the offer
2. Nomination is put to HR Committee for endorsement
3. Candidates are informed though Head/DEOs.
4. Remoteness of the school given preference

HRD, MoE Form A approved by 113th MCM Meeting

Criteria for selection of candidates for post graduate studies (Masters)

In order to ensure selection of quality candidates through fair, transparent, and equitable system, the following set of criteria is proposed. This will also be in line with the principles of the Position Classification System (PCS).

Criteria

1. **Academics (BA/B.Com/BSc/B.Ed).** The candidate should meet the minimum academic proficiency requirement. (35%)

Qualification level	Academic marks/ Professional marks
PGCE with Bachelors in honors	Min. 40% aggregate (excluding elective)
PGCE with Bachelors in General courses	Min. 45% aggregate (relevant subject)
B. Ed	Min. 50% aggregate

Note: 10 marks bonus will be added to the Honours Bachelors and 5 marks to general bachelors to their marks.

Marks range	Point award
40-49	1
50-59	2
60-69	3
70-79	4
80+	5

The points obtained will be converted to 35%.

2. **Relevancy of the Course to the candidate.**
3. Recommendation from the school head. (Assessment form to be filled by the HT. Assessment must be supported evidence/ cite examples. Candidate's *interpersonal relations*, *professional capability*, and *potential for academic growth*.) (25%)

<i>Assessment Format</i>					
Name (teacher): X					
School: Y					
Subject: X					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
(1) The candidate bears commendable Inter-personal relationships Please qualify.....	1	2	3	4	5
(2) The candidate has proven to be a Professional educator Please qualify.....	1	2	3	4	5
(3) The candidate has the potential to grow academically. Please qualify.....	1	2	3	4	5

Note: The total points obtained will be converted to 25%

4. Seniority (Years of service) (20%). The candidate above 45 years will be disqualified.

Sl. No	No. of years in the service	Points awarded
1	3-5	1
2	6-8	2
3	9 +	3

Note: Total points obtained will be converted to 20%

4. Location of school (Categorization as per the AEC (2005) resolution.) (20%)

Locations	Points awarded
Very remote	3
Remote	2.5
Semi-remote	2
Semi-urban	1.5
Urban	1

Note: Total points obtained will be converted to 20%

5. The candidate should not be enrolled in any in-country award bearing courses (eg. B.Ed DE, M.Ed, PG. Diploma etc...) at the time of selection.
6. The candidate should be mobile- willing to work in any school after completing his/her studies/training.

Process

1. Short listing: Candidates will be short listed based on Criteria 1 and 2. **Criterion 1 will need to be fulfilled (minimum academic requirement) in order to be eligible.**
2. Candidates will be ranked based on merit from the points obtained from the criteria (3-5).
3. The short listed candidates will be checked if they are currently enrolled in any in country award bearing courses at the times of selection.
4. Confirmation from the candidate on their mobility will be obtained.
5. The final short listed candidates will be put up to the Selection Committee for final approval and endorsement.
6. On approval of the Committee, the selected candidates will then be accordingly contacted for processing their pre departure formalities (*RCSC approval, Visa, Passport, ILTS etc...*)
7. Selection of candidates for all scholarships (DANIDA, EDP, STEP, GOI etc...) under the planned HRD: **Complete in October.**
8. **Placement to University: Feb & July** of each year.

Human Resource Division: Ministry of Education

Application form for In-Country Award Bearing Courses for Teachers

The completed Application Form should be submitted to the HRD section latest by 30th July each year

In country Course applied for:

Name:

Qualification: PGCE

B.Ed (Sec)

B.Ed (Pry)

B.Ed (DE)

PTC

ZTC

Diploma

Date of appointment in Service:

Day	Month	Year

Designation

Date of appointment (to current designation):

--	--	--

Employee ID Number

Schools worked in:-

Sl #	School	Dzongkhag	Year

Teaching subject/s trained in:-

1.

2.

Subjects taught currently:-

Sl #	Subject	Class

Copies of Mark sheet and Certificate to be attached

Signature of the applicant

Date:

Recommendation by head of school: - The candidate is capable of undertaking the course he/she has applied for:-

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

Please qualify your judgment:-

Name of Head/ Principal:

Signature

Date:

Recommendation by DEO:

Name of DEO:

Signature:-

For office use only

In country Award Bearing Programs:-

1. Post Graduate Diploma in English (in Sherubtse)
2. Certificate in Teaching English
3. Certificate in Teaching of Maths
4. B.Ed DE Level I and Level III
5. B.Ed Dzongkha Level I and Level III
6. Diploma in School Management and Leadership
7. M.Ed in Leadership and Management (*from 2007 only*)

Eligibility Criteria:

1. Post Graduate Diploma in English Teaching (PGDE in Sherubtse College) :- Applicant should be B.Ed (secondary/ Primary) with minimum of 4 years in service and should be currently teaching English in secondary classes
2. Certificate in Teaching of Maths and Certificate in Teaching of English:- Applicant should be holding PTC/ Equivalent or B.Ed Primary, and should be currently teaching the relevant subject in Primary Classes
3. B.Ed Level I and B.Ed DE Level III for General/ Dzongkha: - For B.Ed DE level I, applicant should be holding PTC/ZTC and equivalent and for B.Ed DE Level III, applicant should have class XII/ILCS Cl. XII pass certificate or equivalent. Note:- selection would be done purely based on eligibility and seniority
4. Diploma in School Management and Leadership:- Applicant should be serving heads of primary schools and those who have not already participated in the programs earlier(eligibility and seniority will be considered)
5. M.Ed in Leadership and Management: Applicant should be having minimum qualification of B.Ed and should be currently serving as head of school (seniority and type of school being served will be considered).

For further information: - contact HRDS, Ministry of Education, Thimphu. Tele: - 331760

Note: - 1. Applicants who are already enrolled in any of the in country award bearing programs will be disqualified
2. Application will be valid for the current year selection only.



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MINISTER

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ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF EDUCATION
THIMPHU : BHUTAN

MoE/AFD/2005-2006/ 190

10 July 2006

OFFICE ORDER

In order to ensure better Financial Management System in the conduct of INSET Workshop/Trainings both at the National and Dzongkhag level, the following modalities for releasing advances from henceforth will be implemented by all concerned:

- (1) The concerned Program Officers should seek formal approval from Head of the Ministry/Department for the amount of advances required for workshops/trainings along with realistic cost estimates.
- (2) For proper evaluation and monitoring, the advances excluding TA/DA, will be released in the name of Program Officers who in turn will make the funds available to DEO's & ADEO's.
- (3) The list of participants and name of resource persons for the workshop/training should be submitted to the AFD in advance as far as possible or at a later stage but duly certified by the Course Director. The daily attendance of the registered participants should also be maintained to authenticate the legitimacy of claims.
- (4) For workshops/trainings conducted both in and outside Thimphu and the payment of TA/DA exceeding Nu 0.100 million will be disbursed directly by Finance Officer/Accountant and shall not be handled by the concerned Programme Coordinators.
- (5) To make the funds available at the end of the workshop, AFD will arrange pool vehicle for the same.
- (6) The DEO's & ADEO's should make use of the Dzongkhag Finance Officer whenever and wherever the programmes are delegated to them.
- (7) The accounts for the advances released by the Head Quarter should be submitted within one month failing which the concerned officers will be held responsible and called for written explanation.
- (8) Similarly, all Ex Country trainings (both short term & long term) formalities should be processed by the Human Resource Division of the Ministry to maintain consistency and uniformity and not by individual Departments/Divisions.

This notification shall come into force with immediate effect and all concerned are required to strictly adhere to the same.

(Thinsley Gyamtsho)
MINISTER

Copy to;

- 1 The Secretary, MoE, Thimphu for kind information.

ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF EDUCATION
THIMPHU : BHUTAN



MINISTER

MOE(PS)-23/- 8458

10.5.2007

To
All Dasho Dzongdags

Subject: Additional directions on postings of new teachers and NOC on teachers seeking inter professional transfers.

Dear Dasho(s),

In pursuance of the decentralization policy, the Ministry of Education is pleased to convey the following additional 2 directives on personnel management of our teachers:

1. Postings of new teacher graduates

As resolved by the 10th Annual Education Conference in January 2007, the Ministry of Education would henceforth allot new teacher graduates to the Dzongkhags in batches whereas their individual deployment to the schools is henceforth fully decentralized to the Dzongkhags. However, the Dzongkhag Administration should generally take into account the prevailing teachers deployment policies, such as,

- (i) the optimal utilization of teachers and no excess teachers should be permitted in any school.
- (ii) all fresh teacher graduates must serve in remote schools for at least 3 years.
- (iii) secondary teachers must be posted in secondary schools and likewise B.Ed. primary teachers posted in primary schools.
- (iv) Generally, subject combinations of teachers must be respected.

2. NOC for teachers seeking inter Ministerial and inter professional transfers

The new Position Classification System of the Royal Civil Service Commission now permits inter Ministerial and inter professional transfers of civil servants, including interested teachers. Therefore, a large number of teachers are expected to request for such transfers which would further



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF EDUCATION
THIMPHU : BHUTAN

MINISTER

aggravate the current teacher shortage. However, such transfers are subject to productions of the No Objection Certificates from the parent Ministries/Agencies.

Therefore, all teachers seeking transfers must first approach the concerned Dzongkhag Administration for necessary recommendations for NOC and the Ministry of Education shall henceforth issue NOC to such transfers only based on the recommendations to this effect issued by the respective Dzongkhag Administrations.

Dasho Dzongdags, however, are requested to bear in mind the following while deciding to recommend any teacher for inter professional transfer:

- (i) Based on their requests, only teachers who can be genuinely spared should be recommended for NOC.
- (ii) The Ministry of Education will not be able to send any replacement teacher, not at least till the new teacher graduates pass out towards the end of the year. Therefore, all such transfers should generally take place only towards the end of the academic year.
- (iii) Teacher shortage is more acute in subjects like Dzongkha, Maths and Sciences and no recommendation for NOC is expected to be issued for teachers teaching these subjects.

Finally, the Ministry of Education would like to reiterate its deep appreciations for the great efforts being made by our Dzongkhag Administrations under the decentralization policy, amongst others, in providing quality education to our children.

With warmest regards,

Yours Sincerely,



(Thinley Gyamtsho)

- CC: Hon'ble Minister, Ministry of Home & Culture Affairs, Tashichhodzong.
- CC: Dasho Secretary, RCSC.
- CC: Dasho Secretary, Ministry of Education.
- ✓ CC: All Heads of Departments, Ministry of Education.
- CC: HRO, Ministry of Education.



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ROYAL GOVERNMENT OF BHUTAN
ROYAL CIVIL SERVICE COMMISSION

RCSC/LS-4/2006/ 1157

16th August 2006

Auditor General,
Royal Audit Authority,
Thimphu.

Dear Sir,

Please refer to our earlier letter No. RCSC/LS-4.1/2006/6589 dated 16th March 2006 in connection with the payment of vacation salary to teachers appointed during the winter vacation.

In this regard, the Royal Civil Service Commission would like to inform the following to the Royal Audit Authority:

- The Ministry of Education has submitted repeated requests to the RCSC to continue the existing practice of paying vacation salary to new teachers appointed during the vacation (a copy of the letter along with summary of teachers appointed from 2002 to 2005 from the Ministry of Education are enclosed herewith for your kind perusal);
- Recovery of vacation salary from teachers appointed during the winter vacation has adversely affected morale of our teachers who are serving in remote schools of the country;
- Payment of vacation salary to newly appointed teachers will help them to begin their employment in the new place of posting; and
- The requirement to render a minimum teaching service shall be applied only to existing teachers in the system, and not in the first year of service.

In view of the above, the RCSC would like to request the RAA not to recover the vacation salary paid to newly appointed teachers and kindly consider refunding the recoveries made to the teachers concerned. Your kind cooperation on this matter shall be highly appreciated.

With best regards,

Yours sincerely,

(Bap Kexang)
SECRETARY

CC:

- Secretary, Ministry of Finance, Trashichhodzong, Thimphu for kind information.
- Secretary, Ministry of Education, Thimphu for kind information.
- Vice Chancellor, RUB, Thimphu for kind information and necessary action.
- Director, Department of National Budget, MoF, Thimphu with the directive to make the refund.
- Director, Department of Public Accounts, MoF, Thimphu with the directive to make the refund.
- All Dzongdags for kind information and with the directive to make the refund.



Telephone No. 322252, 325141
Fax : 325141

ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF EDUCATION
DEPARTMENT OF SCHOOL EDUCATION
EDUCATION MONITORING & SUPPORT SERVICE DIVISION

EMSSD(01)/DSE/MOE/ 2006/1692

September 6, 2006

To
All Dasho Dzongdags

Subject: Academic Leadership and Responsibilities of the DEO/ADEOs

Dear Dasho(s),

Quality of education is presently a national concern and one of the reasons for not being able to enhance the quality of education is our inability to provide more effective leadership, guidance, monitoring and evaluation over the schools particularly in academic areas. The Dzongkhag Education Officers (DEOs) and the Assistant Dzongkhag Education Officers (ADEOs), who are selected and appointed from amongst the seniormost and most capable educationists, have the pivotal role in providing such academic leadership. We are of the view that the qualifications and skills of these educationists in the Dzongkhags should be fully utilized in providing professional leadership towards improving the quality of education.

Therefore, as a part of their mandatory duties and responsibilities, the Dzongkhag Education Officers and the Assistant Dzongkhag Education Officers are heretofore required to visit each of the schools in their Dzongkhags at least twice a year, once in the 1st half of the year and the other in the 2nd half of the year. Each time the DEO and/or the ADEO visits the schools, they shall

- (i) ensure that the work of the teachers are monitored and supported in line with the mandate of the Position Classification System, and provide support in putting a proper system in place;
- (ii) make an evaluation of the extent to which the policy and instructions of the Ministry of Education are carried out and provide necessary directions for the follow up plans of action by the schools where necessary;


- (iii) make an assessment of the quality of education that is provided in the school including listing of improvements made as well as any further improvements that need to be made by the school.

The evaluations must be done in a team with the Principal (Headteacher) of the school and teachers as may be necessary. Depending on the need, the DEO/ ADEO may also invite another Headteacher or a senior/ master teacher from another school preferably from within the cluster, during the visit.

A copy of the monitoring tool (*School Management Monitoring Tool*) which the EMSSD has developed for collecting information and facilitating discussions and a format for reporting on the schools (*Monitoring Report Form*), are enclosed for use by the evaluation team.

Each visit to a school shall be completed with submission of a report as per the prescribed form. The report prepared in the EMSSD form should be submitted to the concerned Dasho Dzongdag, with a copy kept in the school, and a third copy sent to the Director of School Education, Ministry of Education. This report would form the basis for further review of the quality of education in the Dzongkhag to be carried out by the central education monitoring team (EMSSD) together with the DEO and the ADEO, as may be decided by the Director of School Education. Finally, based on these reports and evaluations, the Ministry of Education will prepare an Annual Report, including Dzongkhagwise specifics, on the status of education in Bhutan with emphasis on quality of education to the Royal Government to be submitted through the Annual Education Conference.

Dasho Dzongdags are requested to extend their fullest cooperation to the DEOs/ADEOs in this matter in order to raise the standards and quality of education.



(Thinley Gyamtsho)

MINISTER

Cc:

1. The Secretary, Ministry of Education, Thimphu for kind information.
2. Director, Department of School Education. Ministry of Education, Thimphu.
3. The Chief Education Monitoring Officer, EMSSD, DSE, MoE, Thimphu.
4. The DEO, Dzongkhag Administration, _____.

ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF EDUCATION
THIMPHU : BHUTAN



MINISTER

MOE(PS)-22/- 9670

22.6.2007

To,
Dasho Dzongdags,
All the Dzongkhag Administrations.

Subject: Increase in the Remuneration for Instructors of the Non Formal Education.

Dear Dasho(s),

Please find enclosed herewith a copy of the letter No. COM/04/07/1446 dated June 19, 2007, from the Cabinet Secretary, increasing the remuneration of instructors of the Non Formal Education (NFE) by orders of the 349th session of the Coordination Committee Meeting of the Council of Ministers.

Following 4 salient features of the Order may be noted:

- (i) Lumpsum salary of all the regular NFE instructors is raised from Nu. 3,500/- to Nu. 4,500/- per month.
- (ii) Additional allowance of school teachers teaching NFE on part time basis is increased from Nu. 900/- to Nu. 1,500/- per month.
- (iii) Minimum qualification for all future recruitments of NFE instructors shall be class XII.
- (iv) The total number of regular NFE instructors shall be fixed at 800. To this end, Dzongkhag wise distribution of the present number of regular NFE instructors is attached herewith.



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF EDUCATION
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MINISTER

Quality of education is equally important both for the formal and the non formal education and the above mentioned Government decisions are based primarily on the importance of enhancing the quality of non formal education.

It may be noted that as per the resolution of the 10th Annual Education Conference of January, 2007, recruitment and posting of all NFE instructors (minimum qualification class XII) are now decentralized to the respective Dzongkhag authorities. Therefore, the Government decision to freeze the total number of NFE instructors at the present number may cause a few inconveniences. To this end, Dashos may like to think of different options in addressing the likely problems, including

- (i) closing down some of the redundant NFE centers and transferring their instructors for opening new centers, where necessary; and
- (ii) more use of school teachers on overtime/part time basis to take up NFE teaching.

Finally, the above mentioned salary increases for the NFE teachers shall come into effect from 1st July, 2007.

With warmest regards,

Yours Sincerely,



(Thinley Gyantsho)

- CC: Dasho Cabinet Secretary, Tashichhodzong.
CC: Dasho Finance Secretary, Ministry of Finance.
CC: Dasho Education Secretary, Ministry of Education.
CC: Director, Department of Adult and Higher Education, MOE.
CC: All the Dzongkhag Education Officers.

POLICY ON THE SUPPLY OF TEXTBOOKS (from 2006 academic session onwards)

Sl. No.	Category	Expected Life of Book		Issue Criteria	Remarks
		Primary PP - VI	Secondary VII - XII		
1	Workbook	1 Year		1 copy per student	* Strictly for use in the classroom work * To be kept in the classroom * Students do not have to return
2	Textbook	2 Years	3 Years	1 copy per student	* To be kept in the classroom for classes PP - III * Allowed to take home for classes IV - XII * Students have to return at the end of the academic year
3	Reader	3 Years	3 Years	* 1 copy between 2 students * Big books - 1 copy per section in PP only	* To be kept in the classroom
4	Teacher's Guide	5 years or till further revisions		* 1 copy per subject teacher * 2 copies for the school library	* Teachers do not have to return until change of subjects/classes or transferred * To be kept in the library
5	Reference	5 Years		* 3 copies per school below 5 sections * 5 copies per school above 5 sections	* To be kept in the library
6	Dictionary	5 Years		5 copies per section	* To be kept in the classroom and library
7	Atlas			* 1 copy per student	* To be issued twice, classes IV and VII and to be retained until completing classes VI & XII respectively * Students do not have to return even if they leave the schools. However, they will not get the supply from other schools
8	Syllabus	Yearly	Batches	* 3 copies per school below 5 sections * 5 copies per school above 5 sections	To be kept in the library
9	Audio Material			CAPSD will provide complete recorded audio materials	To be kept in the library
10	Poster			1 set per section	To be kept in the classroom
11	Prayer Book			1 copy per student (Classes V - XII)	To be issued once only
12	National Flag	1 Year	1 Year	2 sets per school	To be hoisted during school hours and important national events only
13	School Leaving Certificate	1 Year	1 Year	1 per student	Students leaving schools
14	Student Progress Report	1 year	1 Year	1 per student	Students receive at the end of the academic year

N.B. Revised as per the endorsement of the 16th CAPSD Board Meeting held on March 28, 2005

TOTAL NUMBER OF TITLES (List updated on July 27, 2006)

SI. No.	Subjects	CAPSD Publications (No. of Titles)	OUTSIDE Publications (No. of Titles)	Total No. of Titles	Page Nos.
1	Dzongkha	50	33	83	1
2	English	74	62	136	5
3	Mathematics	14	13	27	10
4	Science	13	12	25	12
5	Physics		17	17	14
6	Chemistry		17	17	15
7	Biology	2	16	18	16
8	Thakhor Lobjong (EVS)	10	4	14	17
9	Social Studies	5	6	11	18
10	History and Civics	10	14	24	19
11	Geography	6	14	20	21
12	Economics	4	5	9	23
13	Commerce	2	9	11	24
14	Accounts		9	9	25
15	Information Technology (IT)		8	8	26
16	Arts Education		11	11	27
17	Health and Physical Education	1		1	28
18	Values Education	7		7	28
19	General	7		7	28
20	Syllabus	5		5	29
	GRAND TOTAL	210	250	460	
21	Maps (Geography)				22
22	National Flag of Bhutan				28
23	Jamyang Soelde, National Anthem & Ka Thriet (Audio)				28
24	Certificates (5 types)				29

N.B.: Due to the Curriculum Reform Process there will be changes on the book list particularly for Dzongkha, English and Mathematics until completion of the projects. CAPSD will update the list accordingly. Please feel free to contact the Chief Curriculum Officer, CAPSD or Curriculum Officers (Subject related) for any clarifications.

**A LIST OF SCHOOL TEXTBOOKS FOR CLASSES PP - XII (for 2007 academic session)
DZONGKHA, Classes PP - XII**

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
	CAPSD Publications								
1	Losar Lopdeb	PP	Textbook	99936-0-000-8	CAPSD	Ministry of Education	1979, 1984, 1990, 2001	24.00	
2	Losar Loprim Lopengi Lagdeb	PP	T/Manual	99936-0-051-2	CAPSD	Ministry of Education	1994, 2004	112.30	
3	Losar Loprim Jongdeb Ka	PP	Workbook	99936-0-056-3	CAPSD	Ministry of Education	1994, 2001	16.55	
4	Losar Loprim Jongdeb Kha	PP	Workbook	99936-1-0-057-1	CAPSD	Ministry of Education	1994	19.36	
* 5	Alui Trolu	PP-III	Reference	99936-0-055-5	CAPSD	Ministry of Education	1994	15.34	
6	Lopdeb Dangpa	I	Textbook	99936-0-001-6	CAPSD	Ministry of Education	1979, 1984, 1990, 2001	22.75	
7	Loprim Dangpa Lopengi Lagdeb	I	T/Manual	99936-0-058-X	CAPSD	Ministry of Education	1994, 2004	132.20	
8	Loprim Dangpai Jongdeb Ka	I	Workbook	99936-0-066-0	CAPSD	Ministry of Education	1994	19.00	
9	Loprim Dangpai Jongdeb Kha	I	Workbook	99936-0-067-9	CAPSD	Ministry of Education	1994	18.51	
10	Lopdeb Nyepa	II	Textbook	99936-0-068-7	CAPSD	Ministry of Education	1979, 1984, 1990, 2001	25.90	
11	Loprim Nyepai Lopengi Lagdeb	II	T/Manual	99936-0-069-5	CAPSD	Ministry of Education	1994, 2004	115.55	
12	Nima Dang Dawa	II	Reader	99936-0-053-9	CAPSD	Ministry of Education	1994	10.80	
13	Kuenzang Dang Dechen	II	Reader	99936-0-052-0	CAPSD	Ministry of Education	1994	11.42	
14	Chhimla Metog Tshoeme	II	Reader	99936-0-054-7	CAPSD	Ministry of Education	1994	12.51	
15	Achu Dakar	II	Reader	99936-0-059-8	CAPSD	Ministry of Education	1994	10.73	
16	Ap Yangku Tashi	II	Reader	99936-0-061-X	CAPSD	Ministry of Education	1994	10.73	
17	Kakur Dang Totshang Tshu	II	Reader	99936-0-060-1	CAPSD	Ministry of Education	1994	9.58	
18	Lopdeb Sumpa	III	Textbook	99936-0-078-4	CAPSD	Ministry of Education	1979, 1984, 1990, 2001	29.00	
19	Loprim Sumpa Lopengi Lagdeb	III	T/Manual	99936-0-079-2	CAPSD	Ministry of Education	1994, 2004	120.40	
20	Ap Tag Dang Amchum Jili	III	Reader	99936-0-070-9	CAPSD	Ministry of Education	1994	9.95	
21	Totshang Nga Dang Migoe	III	Reader	99936-0-071-7	CAPSD	Ministry of Education	1994	9.95	
22	Goye Dilbu Ting Ting	III	Reader	99936-0-072-5	CAPSD	Ministry of Education	1994	10.95	
23	Chogthab Tshoeme	III	Reader	99936-0-080-6	CAPSD	Ministry of Education	1994	11.38	
24	Wangmo Dang Chharo tshu	III	Reader	99936-0-081-4	CAPSD	Ministry of Education	1994	11.59	
25	Lopdeb Zhipa	IV	Textbook	99936-0-002-4	CAPSD	Ministry of Education	1979, 1984, 1990	23.38	
26	Lopdeb Ngapa	V	Textbook	99936-0-003-2	CAPSD	Ministry of Education	1979, 1984, 1990	61.75	

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
27	Lopdeb Drukpa	VI	Textbook	99936-0-004-0	CAPSD	Ministry of Education	1979, 1984, 1990	65.77	
28	Daw Butshu Dang Rochhi Kongzen	VI	Reader	99936-0-093-8	CAPSD	Ministry of Education	1999	9.00	
29	Lopdeb Duenpa	VII	Textbook	99936-0-005-9	DDC	Ministry of Education	1991	33.10	
30	Lopdeb Gaypa	VIII	Textbook	99936-0-006-7	DDC	Ministry of Education	1991	32.79	
* 31	Dzongkhai Tsa-zhung Koeri, Losar-ley Loprim Chu-nyepa Tshuen	PP-XII	Reference	99936-0-243-4	CAPSD	Ministry of Education	2006		New 2007
32	Lhag-rig Dang Tsom-rig, Loprim Gupa	IX	Textbook	99936-0-2244-2	CAPSD	Ministry of Education	2006		New TB IX from 2007
33	Ke-yig Dang Yigu Jonwa, Loprim Gupa	IX	Textbook	99936-0-245-0	CAPSD	Ministry of Education	2006		New TB IX from 2007
34	Lopengi Lamtoen, Loprim Gupa	IX	T/Guide	99936-0-246-9	CAPSD	Ministry of Education	2006		New TG IX from 2007
35	Lhag-rig Dang Tsom-rig, Loprim Chupa	X	Textbook	99936-0-247-7	CAPSD	Ministry of Education	2007		New TB X from 2008
36	Ke-yig Dang Yigu Jonwa, Loprim Chupa	X	Textbook	99936-0-248-5	CAPSD	Ministry of Education	2007		New TB X from 2008
37	Lopengi Tsa-zhung Lamtoen, Loprim Chupa	X	T/Guide	99936-0-249-3	CAPSD	Ministry of Education	2007		New TG X from 2008
38	Lhag-rig Dang Tsom-rig, Loprim Chu Chipa	XI	Textbook	99936-0-250-7	CAPSD	Ministry of Education	2006		New TB XI from 2007
39	Ke-yig Dang Yigu Jonwa, Loprim Chu Chipa	XI	Textbook	99936-0-251-5	CAPSD	Ministry of Education	2007		New TB XI from 2007
40	Lopengi Lamtoen, Loprim Chu Chipa	XI	T/Guide	99936-0-252-3	CAPSD	Ministry of Education	2007		New TG XI from 2007
41	Lhag-rig Dang Tsom-rig, Loprim Chu Nyipa	XII	Textbook	99936-0-253-1	CAPSD	Ministry of Education	2007		New TB XII from 2008
42	Ke-yig Dang Yigu Jonwa, Loprim Chu Nyipa	XII	Textbook	99936-0-254-X	CAPSD	Ministry of Education	2007		New TB XII from 2008
43	Lopengi Lamtoen, Loprim Chu Nyipa	XII	T/Guide	99936-0-255-8	CAPSD	Ministry of Education	2007		New TG XII from 2008
* 44	Gyelse Laglen	IX&X	Reference	99936-0-007-5	CAPSD	Ministry of Education	1974	29.00	
* 45	Legshed Langdor Shenjed	IX&X	Reference	99936-0-009-1	CAPSD	Ministry of Education	1976	15.50	
* 46	Dzongkhai Dazhung Sarpa	IX&X	Reference	NA	DDA	Ministry of Education	1990	35.20	
* 47	Sumchupai Namshed Dzongkhai Nang	IX-XII	Reference	NA	Jampa Chhogyel, DDA	Ministry of Education	1999	24.20	
* 48	Shetring Tsadrel	XI-XII	Reference	99936-0-011-3	CAPSD	Ministry of Education	1974	37.15	
* 49	Chhu Dang Shingj Tenchoe	XI&XII	Reference	99936-0-012-1	CAPSD	Ministry of Education	1984	41.95	
* 50	Dzongkhai Lozey, Dzongkhai Nyentsig Gi Zhiten	IX-XII	Reference	99936-10-73-9	Dasho Sangay Dorji (DDA)	Ministry of Education	1999	45.55	

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
* 51	Zhungdrel Dechhen Nyei Soi Namshed	PP-XII	Reference	NA	Dasho Sangay Dorj (DDA)	Ministry of Education	1999	43.55	
* 52	Dzongkhai Tshigzoed (HB)	IV-XII	Dictionary	NA	DDA	Ministry of Education	1993, 2005		Revised Ed.
* 53	Dzongkha English Dictionary	PP-XII	Reference	99936-15-00-5	DDA	Ministry of Education	2002, 2005	45.6	
* 54	English Dzongkha Dictionary (HB)	IV-XII	Dictionary		DDA	Ministry of Education	2006		New 2007
* 55	Chogyel Norzang Namthar (Duepa)	XI&XII	Reference	99936-0-214-0	CAPSD	Ministry of Education	2004	15.6	
* 56	Rangdrel Dang Yangdren	IX-XII	Reference		DDA	Ministry of Education	2002		New 2007
	LOCAL Publications								
1	Dhi Gachi Ina?	PP	Reader	99936-607-3-6	Pema's Graphics	Galing Printing & Pub.	2001	65.00	
2	Yigzo Jongdep (Ka)	PP	Workbook			Galing Printing & Pub.	2005	45.00	
3	Yigzo Jongdep (Kha)	I	Workbook			Galing Printing & Pub.	2005	45.00	
4	Yigzo Jongdep (Ga)	II	Workbook			Galing Printing & Pub.	2005	45.00	
5	Yigzo Jongdep (Nga)	III	Workbook			Galing Printing & Pub.	2005	45.00	
6	Nye Joedtshig Pedep (Nyepa)	PP	Reader	99936-10-23-2	Kuenzang Thinley	KMT Publisher	2002	49.50	
* 7	Nyi Seijed Pedeb	PP-III	Reference	99936-10-27-5	Kuenzang Thinley	KMT Publisher	1999	35.00	
* 8	Nyi Tsek Dhog Pedeb	PP-III	Reference	99936-10-09-7	Kuenzang Thinley	KMT Publisher	1999	45.00	
* 9	Seijoed Sumchu Poster (9 per set)	PP-III	Reference (Poster)			Galing Printing & Pub.	2005	210.00	1 set per section
* 10	Gochen Dokchen Poster (10 per set)	PP-III	Reference (Poster)			Galing Printing & Pub.	2005	210.00	1 set per section
11	Nye Ming Tshig	I	Reader	99936-607-0-1	Pema's Graphics	Galing P.&Pub.	2001	65.00	
12	Gatey Dhug	I	Reader	99936-607-2-8	Pema's Graphics	Galing P.&Pub.	2001	60.00	
13	Rochhi Dang Jiliye Chharog	I	Reader	NA	Ugyen Nima	Megah Enterprise	2003	85.00	
14	Nye Joedtshig Pedep (Sumpa)	I	Reader	99936-10-24-0	Kuenzang Thinley	KMT Publisher	2002	60.00	
15	Nye Joetshig Pedep (Zhipa)	II	Reader	99936-10-25-9	Kuenzang Thinley	KMT Publisher	2002	45.95	
16	Nye Joetshig Pedep (Ngapa)	III	Reader	99936-10-26-7	Kuenzang Thinley	KMT Publisher	2002	34.50	
17	Naga Cherai Thakhor	IV	Reader	NA	Tshering	Pekhang Pub.	2000	55.00	
* 18	Dzongkhai Yikur Namzhak	IX-XII	Reference	99936-10-07-0	Kuenzang Thinley	KMT Publisher	1995	75.00	
* 19	Toenpat Zepa Dhor Dhu Kuenphen Lam Zang	IX&X	Reference	99936-10-06-2	Kuenzang Thinley	KMT Publisher	1999	150.00	
* 21	Nyer Khoi Namshed Nawa Sarpa	IX-XII	Reference	99936-10-08-9	Kuenzang Thinley	KMT Publisher	2001	115.00	
* 22	Langdor Sheja	IX-XII	Reference	99936-10-	Kuenzang Thinley	KMT Publisher	2003	150.50	
* 23	Loptoen Selwai Melong Lopengi Lagdeb	PP-VIII	Reference	99936-10-	Dorji Wangchuk	KMT Publisher	1999	169.00	
* 24	Dzongkhai Tsig Zoed Chenmo (HB)	VII-XII	Reference		Kuenzang Thinley	KMT Publisher	2005		

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Book Price	Remarks
* 25	Dzongkhai Dha Dhoen Juendrel	PP-VIII	Reference	99936-621-0-0	Keizang Wangchuk	KMT Publisher	2002	140.00	
* 26	Jipai Legshed Dang Lapja	VII-XII	Reference	99936-612-1-X	Dasho Sherab Thai	Sherub Lham Press	1986, 1987, 2001	65.00	
* 27	Dzongkha Da-zhung Losar Lamtoen	IX&X	Reference		Kinley Namgyel		2006		New 2007
* 28	Da-zhung Ka-nyel Sel-thab	IX&X	Reference		Tenzin	Galing	2005		New 2007
* 29	Dzongkha Jey-dra	IX&X	Reference		Kinley Gyeltshen		2006		New 2007
* 30	Jangchub Choed-tshel Nyingpor Drelwa	IX&X	Reference		Karma Dorji				New 2007
* 31	Choedpai Buyi Thrab-sung	IX&X	Reference		Tshering Gyeltshen	Pekhang	2006		New 2007
* 32	Chhogyel Norzang Namthar (Gepa)	XI&XII	Reference		Yonten Phuntsho	KMT Publisher	2006		New 2007
* 33	Druk-gi Lozey	IX-XII	Reference		Dasho Sherub Thai	Sherub Lham Press	2001		New 2007
* 34	Gelong Sumdar Tashi	IX-XII	Reference		Genpo Tenzin		1996		New 2007
* 35	Jipai Leg-shoed Dang Tsangmo	IX-XII	Reference		Dasho Sherub Thai	Sherub Lham Press	2005		New 2007
* 36	Tsangmo Na-zhoen Gawai Lu-yang	IX-XII	Reference		Karma Wangdi	KMT Publisher			New 2007
* 37	Dzongkhai Tsangmo Pechung	IX-XII	Reference		Dasho Sherub Thai	Sherub Lham Press	1999		New 2007
* 38	Shar Lhoi Tam-jued	IX-XII	Reference		Dorji	Pekhang	2006		New 2007
* 39	Dey-gar Mig-gi Gatoen	IX-XII	Reference			Kuensel			New 2007
* 40	Dzongkha Petam	IX-XII	Reference		Dasho Sherub Thai	Sherub Lham Press			New 2007
* 41	Ludep Losar Lamtoen	IX-XII	Reference		Kuenzang Thinley	KMT Publisher	2003		New 2007
* 42	Nyerkholi Kangdrang Muensel Nawa Gen	IX-XII	Reference		Lodey Yoezer		2005		New 2007
* 43	Legshoed Joenwang-gi Delpa	XI&XII	Reference	99936-22-10-9	Ngawang Chador	KMT Publisher	2005	70.00	New 2006
* 44	Chenjug Chendrel	XI&XII	Textbook		Ngawang Chador	KMT Publisher			Elective
* 45	Nyen-nga Lew	XI&XII	Textbook						Elective
* 46	Nyoenjoed Jamtshoi Chhu Thig	XI&XII	Textbook		Norbu Draduel, Tshering Namgyel			295.00	Elective

* Same book used for multiple grades

ENGLISH, Classes PP - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
	CAPSD Publications								
1	DEDP Workbook A	PP	Workbook	99936-0-108-X	CAPSD	Ministry of Education	1990, 1991	14.95	
2	DEDP Workbook B	PP	Workbook	99936-0-109-8	CAPSD	Ministry of Education	1989, 1990,	16.85	
3	DEDP English Teacher's Manual and Syllabus	PP	T/Manual	99936-0-117-9	CAPSD	Ministry of Education	1985, 1988	15.59	
4	The Dog and the Cat (DEDP Class PP Bk 1)	PP	Reader	99936-0-110-1	CAPSD	Ministry of Education	1991, 1992	9.5	
5	Dechen's Cat and Dorji's Dog (DEDP Class PP Bk 2)	PP	Reader	99936-0-111-X	CAPSD	Ministry of Education	1991, 1992	9.55	
6	Where is Dechen? (DEDP Class PP Bk 3)	PP	Reader	99936-0-112-8	CAPSD	Ministry of Education	1991, 1992	9.55	
7	Momo Monkey (DEDP Class PP Bk 4)	PP	Reader	99936-0-113-6	CAPSD	Ministry of Education	1991, 1992	9.55	
8	Momo and the Elephant (DEDP Class PP Bk 5)	PP	Reader	99936-0-114-4	CAPSD	Ministry of Education	1991, 1992	9.55	
9	The Small Red Hen (DEDP Class PP Bk 6)	PP	Reader	99936-0-115-2	CAPSD	Ministry of Education	1991, 1992	9.55	
10	I can count (DEDP Class PP Bk 7)	PP	Reader	99936-0-116-0	CAPSD	Ministry of Education	1991, 1992	9.55	
11	Dechen and Dorji	PP	Big Book 1	99936-0-014-8	CAPSD	Ministry of Education	1991, 1992	93.75	
12	Dechen and Dorji's Father	PP	Big Book 2	99936-0-015-6	CAPSD	Ministry of Education	1991, 1992	93.75	
13	The Dog and the Monkey	PP	Big Book 3	99936-0-016-4	CAPSD	Ministry of Education	1991, 1992	93.75	
14	Look for me	PP	Big Book 4	99936-0-017-2	CAPSD	Ministry of Education	1991, 1992	93.75	
* 15	English Songs and Rhymes for Primary Schools (PP-III)	PP-III	Song Book	99936-0-151-9	CAPSD	Ministry of Education	1990, 1999	15	
16	Basic English for Deaf in Bhutan, Cl. PP	PP	Textbook	99936-0-215-9	CAPSD	Ministry of Education	2005	45.5	New 2006
17	Basic English for Deaf in Bhutan, Cl. I	I	Textbook	99936-0-216-7	CAPSD	Ministry of Education	2005	48.2	New 2006
18	DEDP Class I Workbook A	I	Workbook	99936-0-118-7	CAPSD	Ministry of Education	1990, 1991	19.85	
19	DEDP Class I Workbook B	I	Workbook	99936-0-119-5	CAPSD	Ministry of Education	1990, 1991	19.75	
20	DEDP Class I English Teachers' Manual and Syllabus	I	T/Manual	99936-0-047-4	CAPSD	Ministry of Education	1985, 1988, 1990, 1989,	45.07	
21	The School (DEDP Class I Bk 1)	I	Reader	99936-0-120-9	CAPSD	Ministry of Education	1991, 1992	9.75	
22	Momo and the Bananas (DEDP Class I Bk 2)	I	Reader	99936-0-121-7	CAPSD	Ministry of Education	1991, 1992	8.80	
23	Work (DEDP Class I Bk 3)	I	Reader	99936-0-122-5	CAPSD	Ministry of Education	1991, 1992	8.80	
24	Cats (DEDP Class I Bk 4)	I	Reader	99936-0-124-1	CAPSD	Ministry of Education	1991, 1992	9.64	
25	Twelve Animals of Bhutan (DEDP Class I Bk 5)	I	Reader	99936-0-125-X	CAPSD	Ministry of Education	1991, 1992	9.28	
26	What's the time, Momo ? (DEDP Class I Bk 6)	I	Reader	99936-0-126-8	CAPSD	Ministry of Education	1991, 1992	9.28	
27	The Elephants' nose (DEDP Class I Bk 7)	I	Reader	99936-0-127-6	CAPSD	Ministry of Education	1991, 1992	8.80	
28	Water (DEDP Class I Bk 8)	I	Reader	99936-0-123-3	CAPSD	Ministry of Education	1991, 1992	9.64	
29	Momo and the Leopards (DEDP Class I Bk 9)	I	Reader	99926-0-128-4	CAPSD	Ministry of Education	1991, 1992	8.88	
30	DEDP Class II English book	II	Textbook	99936-0-129-2	CAPSD	Ministry of Education	1992	39.00	
31	DEDP Class II English Teachers' Manual and Syllabus	II	T/Manual	99936-0-018-0	CAPSD	Ministry of Education	1985, 1988, 1988, 1990,	42.93	
32	The Good Monkey (DEDP Class II Bk 1)	II	Reader	99936-0-130-6	CAPSD	Ministry of Education	1991, 1992	9.55	
33	The Carpenter and the Painter (DEDP Class II Bk 2)	II	Reader	99936-0-131-4	CAPSD	Ministry of Education	1991, 1992	9.55	

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
34	The Body Book (DEDP Class II Bk 3)	II	Reader	99936-0-132-2	CAPSD	Ministry of Education	1991, 1992		
35	Weather (DEDP Class II Bk 4)	II	Reader	99936-0-133-0	CAPSD	Ministry of Education	1991, 1992	9.55	
36	Blessed Rainy Day (DEDP Class II Bk 5)	II	Reader	99936-0-134-9	CAPSD	Ministry of Education	1991, 1992	9.55	
37	Momo and the Mirror (DEDP Class II Bk 6)	II	Reader	99936-0-135-7	CAPSD	Ministry of Education	1991, 1992	9.55	
38	The Golden Tree (DEDP Class II Bk 7)	II	Reader	99936-0-136-5	CAPSD	Ministry of Education	1991, 1992	9.55	
39	Dechen remembers her lesson (DEDP Class II Bk 8)	II	Reader	99936-0-137-3	CAPSD	Ministry of Education	1991, 1992	9.55	
40	Yaks (DEDP Class II Bk 9)	II	Reader	99936-0-138-1	CAPSD	Ministry of Education	1991, 1992	9.55	
41	Snow White (DEDP Class II Bk 10)	II	Reader	99936-0-139-X	CAPSD	Ministry of Education	1991, 1992	9.55	
42	DEDP Class III English Book	III	Textbook	99936-0-140-3	CAPSD	Ministry of Education	1992	30.00	
43	DEDP Class III English Teachers' Manual and Syllabus	III	T/Manual	99936-0-019-9	CAPSD	Ministry of Education	1985, 1988, 1989, 1990,	80.00	
44	The True Son (DEDP Class III Bk 1)	III	Reader	99936-0-141-1	CAPSD	Ministry of Education	1992	9.55	
45	Seeds and Fruits (DEDP Class II Bk 2)	III	Reader	99936-0-142-X	CAPSD	Ministry of Education	1992	9.50	
46	The Monkey King and the Mango Tree (DEDP Class III Bk 3)	III	Reader	99936-0-143-8	CAPSD	Ministry of Education	1992		
47	Pem and Tashi (DEDP Class III Bk 4)	III	Reader	99936-0-144-6	CAPSD	Ministry of Education	1992	9.55	
48	The Princess and the Arrow (DEDP Class III Bk 5)	III	Reader	99936-0-145-4	CAPSD	Ministry of Education	1992	9.55	
49	Daedalus and Icarus (DEDP Class III Bk 6)	III	Reader	99936-0-146-2	CAPSD	Ministry of Education	1992	9.55	
50	Druk Air (DEDP Class III Bk 7)	III	Reader	99936-0-147-0	CAPSD	Ministry of Education	1992	9.55	
51	Some Birds of Bhutan (DEDP Class III Bk 8)	III	Reader	99936-0-148-9	CAPSD	Ministry of Education	1992	22.00	
52	The Lost Cow (DEDP Class III Bk 9)	III	Reader	99936-0-149-7	CAPSD	Ministry of Education	1992	22.00	
53	The Punakha Dorchhoe (DEDP Class III Bk 10)	III	Reader	99936-0-150-0	CAPSD	Ministry of Education	1992	23.00	
54	DEDP Class IV English Book	IV	Textbook	99936-0-152-7	CAPSD	Ministry of Education	1992	75.49	
55	DEDP Class IV English Teachers' Manual and Syllabus	IV	T/Manual	99936-0-020-2	CAPSD	Ministry of Education	1988, 1992	83.75	
56	The Poor Boys' Fortune	IV	Reader	99936-0-048-2	CAPSD	Ministry of Education	1996	10.00	
* 57	Language Abound...Allowed	PP-XII	Reference		Gwen Mowbray				New 2006
* 58	Reading Techniques, Supplementary Reading Programme	PP-XII	Reference	9936-0-256-6	CAPSD	Ministry of Education	2004		New 2007
* 59	English Curriculum Framework, Cl. PP-XII	PP-XII	Reference	99936-0-218-3	CAPSD	Ministry of Education	2004	65.20	New 2006
60	English Reading & Literature Class V	V	Textbook	99936-0-257-4	CAPSD	Ministry of Education	2006		New 2007
61	English Teacher's Guide Class V	V	T/Guide	99936-0-258-2	CAPSD	Ministry of Education	2006		New 2007
62	English Reading & Literature Class VI	VI	Textbook	99936-0-259-0	CAPSD	Ministry of Education	2006		New 2007
63	English Teacher's Guide Class VI	VI	T/Guide	99936-0-260-6	CAPSD	Ministry of Education	2006		New 2007
64	English Reading & Literature Class VII	VII	Textbook	99936-0-261-5	CAPSD	Ministry of Education	2006		New 2007
65	English Teacher's Guide Class VII	VII	T/Guide	99936-0-262-0	CAPSD	Ministry of Education	2007		New 2007
66	English Reading & Literature Class VIII	VIII	Textbook	99936-0-263-9	CAPSD	Ministry of Education	2006		New 2007
67	English Teacher's Guide Class VIII	VIII	T/Guide	99936-0-264-7	CAPSD	Ministry of Education	2006		New 2007

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
68	BCSE English Reading & Literature Class IX	IX	Textbook	99936-0-265-5	CAPSD	Ministry of Education	2005	45.20	New 2006
69	BCSE English Teacher's Guide Class IX	IX	T/Guide	99936-0-266-3	CAPSD	Ministry of Education	2005	52.10	New 2006
70	BCSE English Reading & Literature Class X	X	Textbook	99936-0-267-1	CAPSD	Ministry of Education	2005	47.40	New 2007
71	BCSE English Teacher's Guide Class X	X	T/Guide	99936-0-268-X	CAPSD	Ministry of Education	2005	55.20	New 2007
72	BHSEC English Reading & Literature Class XI	XI	Textbook	99936-0-224-8	CAPSD	Ministry of Education	2005	45.70	New 2006
73	BHSEC English Teacher's Guide Class XI	XI	T/Guide	99936-0-217-5	CAPSD	Ministry of Education	2005	68.50	New 2006
74	BHSEC English Reading & Literature Class XII	XII	Textbook	99936-0-269-8	CAPSD	Ministry of Education	2005	46.30	New 2007
75	BHSEC English Teacher's Guide Class XII	XII	T/Guide	99936-0-270-1	CAPSD	Ministry of Education	2004	65.70	New 2007
Outside Publications									
1	Graded Spell-Well Wordbooks 1	I	Reference	NA	Aggarwala N.K	Goyal Bros. Prakashan	2003	24.00	
2	Graded Spell-Well Wordbooks 2	II	Reference	NA	Aggarwala N.K	Goyal Bros. Prakashan	2003	24.00	
* 3	Simple Parts of Speech	II-III	Reference	NA	Aggarwala N.K	Goyal Bros. Prakashan	2003	38.00	
4	Graded Spell-Well Wordbooks 3	III	Reference	NA	Aggarwala N.K	Goyal Bros. Prakashan	2003	24.00	
5	Graded Spell-Well Wordbooks 4	IV	Reference	NA	Aggarwala N.K	Goyal Bros. Prakashan	2003	22.00	
6	The Grammar Tree 1	I	Reference	0-19-565624-5	Indranath Guha	Oxford University Press	2001	35.00	
7	The Grammar Tree 2	II	Reference	0-19-565625-3	Indranath Guha	Oxford University Press	2001	39.00	
8	The Grammar Tree 3	III	Reference	0-19-565626-1	Indranath Guha	Oxford University Press	2001	43.00	
9	The Grammar Tree 4	IV	Reference	0-19-565627-X	Indranath Guha	Oxford University Press	2001	46.00	
10	Oxford Reading Circle (Primer)	PP	Reference	0-19-566161-3	Nicholas Horsburgh	Oxford University Press	2003	30.00	
11	Oxford Reading Circle Book 1	I	Reference	0-19-566162-1	Nicholas Horsburgh	Oxford University Press	2003	44.00	
12	Oxford Reading Circle Book 2	II	Reference	0-19-566163-X	Nicholas Horsburgh	Oxford University Press	2003	46.00	
13	Oxford Reading Circle Book 3	III	Reference	0-19-566164-8	Nicholas Horsburgh	Oxford University Press	2003	50.00	
14	Oxford Reading Circle Book 4	IV	Reference	0-19-566165-6	Nicholas Horsburgh	Oxford University Press	2003	52.00	
15	Grammar Builder 2	V	Textbook	0-521-54860-8	A. Amin etal	Cambridge University	2004, 2005	120.00	New 2007
16	Grammar Builder 3	VI	Textbook	0-521-54861-6	A. Amin etal	Cambridge University	2004, 2005	120.00	New 2007
17	Grammar Builder 4	VII	Textbook	0-521-54862-4	A. Amin etal	Cambridge University	2004, 2005	120.00	New 2007
18	Grammar Builder 5	VIII	Textbook	0-521-54863-2	A. Amin etal	Cambridge University	2004, 2005	120.00	New 2007
* 19	Meaning into words, Intermediate Student's book (with Cassette)	IX-X	Reference	81-7596-007-8	A. Doiff, C Jones & K Mitchell	Cambridge University Press	1997	85.60	
* 20	Meaning into words, Intermediate Test book (with Drills Cassette)	IX-X	Reference	81-7596-010-8	A. Doiff, C Jones & K Mitchell	Cambridge University Press	2002	25.75	
* 21	Meaning into words, Intermediate Work book	IX-X	Reference	81-7596-009-4	A. Doiff, C Jones & K	Cambridge University	2002	40.00	
* 22	Meaning into words, Intermediate Teacher's book	IX-X	Reference	81-7596-008-6	A. Doiff, C Jones & K	Cambridge University	2002	135.00	
* 23	Mastering English Literary Terms	IX-XII	Reference	0-33-336108-4	Richard Gill	Macmillan India Ltd.	1994	65.00	
* 24	Practical English Usage	IX-XII	Reference	0-1943892-6	Michael Swan	Oxford University Press	1980, 1995,	195.00	
* 25	Cambridge International Dictionary of Phrasal Verbs	IX-XII	Reference	0-521-63453-9		Cambridge University Press	1997	200.00	
* 26	A Practical English Grammar	IX-XII	Reference	0-19-562053-4	A. J. Thomson &	Oxford University Press	1960, 1969,	95.00	

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
* 27	Reading & Study Strategies	IX-XII	Reference	0-19-564289-9	Nirmala Ballara	Oxford University Press	1998, 2002	75.00	
* 28	Punctuations	IX-XII	Reference	0-19-860439-4	Robert Allen	Oxford University Press	2002	145.00	
* 29	Spelling	IX-XII	Reference	0-19-566998-3	Robert Allen	Oxford University Press	2002	145.00	
* 30	Oxford Practice Grammar	IX&X	Textbook	0-19-565472-2	Eastwood, John	Oxford University Press	1999, 2000,	165.00	T/B 2006
* 31	Intermediate English Grammar	XI-XII	Reference	81-85618-51-8	Raymond Murphy	Cambridge University	1992, 1994	95.00	
* 32	Exploring Grammar in Context: Grammar reference and practice upper-intermediate and advanced	XI&XII	Textbook	0-521-56844-7	Ronald Carter, Rebecca Hughes and Michael MacCarthy	Cambridge University Press	2000	325.00	New 2006
* 33	Language and Linguistics: An Introduction	IX-XII	Reference	0-521-54088-7	John Lyons	Cambridge University	1981	250	New 2006
34	Dawa, The Story of Stray Dog in Bhutan	IX	Textbook	99936-644-0-5	Kunzang Choden	Kunzang Choden	2004	90	New 2006
35	The Giver	X	Textbook	0-440-21907-8	Lois Lowry	Bantam Doubleday Dell	1993	USD 5.50	
36	Pride and Prejudice	XI	Textbook		Jane Austen	UBSPD			Elective
37	The Importance of Being Earnest	XI	Textbook		Oscar Wilde	Oxford University Press			Elective
* 38	Nineteen Twentieth Century Verse	XI&XII	Textbook		Chris Wood Head	Oxford University Press			Elective
39	Tess of the D'Urbervilles	XII	Textbook		Thomas Hardy	UBSPD			Elective
40	The Crucible	XII	Textbook		Arthur Miller	Penguin			Elective
* 41	Literacy: Helping Children Construct Meaning	PP-XII	Reference	0618473939	J.David Cooper	Houghton Mifflin Co.	2006		New 2007
* 42	Portfolio Assessment for your Whole Language Classroom	PP-XII	Reference	1446700145	Teacher Ceated Materials, Inc.	Teacher Ceated Materials, Inc.	1992		New 2007
* 43	An Introduction to Using Portfolios in the Classroom	PP-XII	Reference	0-87120-290-5	Charlotte Danielson, Leslye Abrutyn	Supervision and Curriculum Development	1997	USD 10.95	New 2007
* 44	Portfolio Assessment	PP-XII	Reference	0-590-49183-0	Allan A. De Fina	Scholastic Professional	1992		New 2007
* 45	A Teacher's Guide to Creating Portfolios: For Success in School, Work and Life	PP-XII	Reference	0-915793-74-1	Martin Kimeldorf	Free Sprit Publishing Inc. USA	1994	USD 14.95	New 2007
* 46	Rubrics: A Handbook for Construction and Use	PP-XII	Reference	1-56676-652-4	Edited by Germaine	Taggart	2001, 1998	32.95	New 2007
* 47	Designing Rubrics for K 6 Classroom Assessment	PP-XII	Reference	0-926842-86-2	Debbie Rickards, Earl Cheek, Jr.	Christopher Gordan Publishers, Inc.	1999		New 2007
* 48	Scoring Rubrics in the Classroom	PP-XII	Reference	0-7619-7756-2	Judith Arter, Jay	Corwin Press, Inc.	2001		New 2007
* 49	Student Generated Rubrics	PP-XII	Reference	1-57232-921-1	Larry Ainsworth, Jan	Education, Inc. Publishing	1998	USD 23.93	New 2007
* 50	Language in Use - Beginner (Classroom Book)	IV	Reference	81-7596-211-0	Adrian Doif and etal	Cambridge University	2004	195.00	
* 51	Language in Use - Beginner (Self Study with Answer Key)	IV	Reference	81-7596-211-9	Adrian Doif and etal	Cambridge University Press	2004	125.00	
* 52	Language in Use - Beginner (Teacher's Book)	IV	Reference	0-521627044	Adrian Doif and etal	Cambridge University	2004	695.00	
* 53	Language in Use-Pre - Intermediate (Classroom Book)	V-VI	Reference	81-7596-219-4	Adrian Doif and etal	Cambridge University Press	2001	195.00	
Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
* 54	Language in Use-Pre - Intermediate (Self Study Workbook)	V-VI	Reference	81-7596-220-8	Adrian Doif and etal	Cambridge University Press	2001	125.00	

* 55	Language in Use-Pre - Intermediate (Teacher's Book)	V-VI	Reference	0-521774047	Adrian Doff and etal	Cambridge University Press	2001	695.00	
* 56	Language in Use - Intermediate (Classroom Book)	VII-VIII	Reference	81-7596-221-6	Adrian Doff and etal	Cambridge University Press	2001	195.00	
* 57	Language in Use - Intermediate (Self Study Workbook)	VII-VIII	Reference	81-7596-222-4	Adrian Doff and etal	Cambridge University Press	2001	125.00	
* 58	Language in Use - Intermediate (Teacher's Book)	VII-VIII	Reference	0-521435536	Adrian Doff and etal	Cambridge University Press	2001	695.00	
* 59	Oxford Elementary Learner's Dictionary	IV-VI	Dictionary	0-19-564047-0	Angela Crawley	Oxford University Press	1994	105.00	
* 60	Oxford Student Learner's Dictionary	VII-XII	Dictionary	0-19-4315401	Miranda Steel	Oxford University Press	2000	160	
* 61	Oxford Advanced Learner's Dictionary (HB)	PP-XII	Reference	0-19-431-5975		Oxford University Press	1948	550	
* 62	International Dictionary of Idioms	VII-XII	Dictionary	0-521-68598-2		Cambridge University	1998	200	New 2007

*** Same book used for multiple grades**

MATHEMATICS, Classes PP - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
	CAPSD Publications								
1	Mathematics Teachers' Manual for Class PP	PP	T/Manual	99936-0-157-8	CAPSD	Ministry of Education	1985, 1987, 1988, 1991, 1997	41.35	
2	Mathematics Teachers' Manual for Class I	I	T/Manual	99936-0-158-6	CAPSD	Ministry of Education	1985, 1987, 1990, 1992, 1997	19.80	
3	Mathematics Teachers' Manual for Class II	II	T/Manual	99936-0-159-4	CAPSD	Ministry of Education	1985, 1987, 1988, 1991, 1997	80.33	
4	Mathematics Teachers' Manual for Class III	III	T/Manual	99936-0-160-8	CAPSD	Ministry of Education	1985, 1987, 1988, 1991, 1997	80.00	
5	Mathematics Handbook for Class IV	IV	T/Manual	99936-0-161-6	CAPSD	Ministry of Education	1997	21.80	
6	Mathematics Handbook for Class V	V	T/Manual	99936-0-162-4	CAPSD	Ministry of Education	1997	19.95	
7	Mathematics Handbook for Class VI	VI	T/Manual	99936-0-163-2	CAPSD	Ministry of Education	1997	57.88	
8	Mathematics Handbook for Class 7	VII	T/Manual	99936-0-164-0	CAPSD	Ministry of Education	1996	29.14	
9	Mathematics Handbook for Class VIII	VIII	T/Manual	99936-0-165-9	CAPSD	Ministry of Education	1996	34.55	
* 10	Mathematics Curriculum Framework, Cl. PP-XII	PP-XII	Reference	99936-0-271-X	CAPSD	Ministry of Education	2005		New 2006
11	BCSE Understanding Mathematics, Textbook for Class IX	IX	Textbook	99936-0-272-8	CAPSD	Ministry of Education	2006		New TB IX from 2007
12	BCSE Teacher's Guide to Accompany Understanding Mathematics Textbook for Class IX	IX	T/Guide	99936-0-273-6	CAPSD	Ministry of Education	2006		New TG IX from 2007
13	BCSE Understanding Mathematics, Textbook for Class X	X	Textbook	99936-0-274-4	CAPSD	Ministry of Education	2006		New TB X from 2008
14	BCSE Teacher's Guide to Accompany Understanding Mathematics Textbook for Class X	X	T/Guide	99936-0-275-2	CAPSD	Ministry of Education	2006		New TG X from 2008

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Book Price (MRP)	Remarks
15	BHSEC Mathematics Curriculum Guide for Teachers	XI	T/Guide	99936-0-276-0	CAPSD	Ministry of Education	2005		New 2006
16	BHSEC Mathematics Curriculum Guide for Teachers	XII	T/Guide	99936-0-277-9	CAPSD	Ministry of Education	2005		New 2006
	Outside Publications								
1	Systematic Mathematics 2	II	Textbook	99936-0-159-4	S.K. Malhotra, Y.P Verma	Sultan Chand & Sons (P) Ltd	1995, 2001	55.00	
2	Systematic Mathematics 3	III	Textbook	NA	S.K. Malhotra, Y.P Verma	Sultan Chand & Sons (P) Ltd	1995, 2001	55.00	
3	Systematic Mathematics 4	IV	Textbook	NA	S.K. Malhotra, Y.P Verma	Sultan Chand & Sons (P) Ltd.	1995, 2001	58.00	
4	Systematic Mathematics 5	V	Textbook	NA	S.K. Malhotra, Y.P Verma	Sultan Chand & Sons (P) Ltd.	1995, 2001	58.00	
5	New Integrated Mathematics 6	VI	Textbook	81-7170-181-7	G.W. Mayer	Frank Bros & Co. (Pub.) Ltd.	1989, 1996, 1998	74.90	
6	New Integrated Mathematics 7	VII	Textbook	81-7170-667-3	G.W. Mayer	Frank Bros & Co. (Pub.) Ltd.	1989, 1996, 2003	74.90	
7	New Integrated Mathematics 8	VIII	Textbook	81-7170-183-3	G.W. Mayer	Frank Bros & Co. (Pub.) Ltd.	1989, 1996, 1998, 2003	89.90	
8	ICSE Mathematics Class X	X	Textbook	N.A	Dr. Harbans Lal	Sultan Chand & Sons (P) Ltd.	1994, 1999, 2003	145.00	to be replaced by New TB from 2008
9	ISC Mathematics Book I for class XI	XI	Textbook	81-219-0521-4	O.P.Malhotra, S.K Gupta	S. Chand & Company Ltd.	1991, 2001	135.00	
10	ISC Mathematics, Book II for class XII	XII	Textbook	81-219-0556-7	O.P.Malhotra S.K Gupta	S. Chand & Company Ltd.	1991, 2001	240.00	
11	ISC Business Mathematics, Class XI	XI	Textbook	81-7663-897-8	N.K. Nag	Kalyani Publishers	1996, 1998, 2001	190.00	
12	ISC Business Mathematics, Class XII	XII	Textbook	81-272-0693-8	N.K. Nag	Kalyani Publishers	2001	190.00	
* 13	Scientific Calculator FX 82-100	IX-XII	Calculator						Issue criteria as that of stationery items

SCIENCE, Classes IV - VIII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
	CAPSD Publications								
1	Science Class Four	IV	Textbook	99936-0-166-7	CAPSD	Ministry of Education	1991, 1992, 2006	53.91	
2	Primary Science, Class IV, An Activity Guide for Teachers	IV	T/Manual	99936-0-027-X	CAPSD	Ministry of Education	1991, 1992, 1993, 2002	65.00	
* 3	Teaching Primary Science in Bhutan for Classes IV, V and VI	IV-VI	T/Manual	99936-0-167-5	CAPSD	Ministry of Education	1993	19.42	
* 4	Science Laboratory Management, A Guidebook for Schools, Classes PP-X	PP-X	Reference	99936-0-182-9	CAPSD	Ministry of Education	1999, 2004	32.20	
5	Science Class Five	V	Textbook	99936-0-028-8	CAPSD	Ministry of Education	1992, 2006	59.91	
6	Primary Science, Class V, An Activity Guide for Teachers	V	T/Manual	99936-0-029-6	CAPSD	Ministry of Education	1992	29.88	
7	Science Class Six	VI	Textbook	99936-0-030-X	CAPSD	Ministry of Education	1991, 1992, 2006	50.40	
8	Primary Science, Class VI, An Activity Guide for Teachers	VI	T/Manual	99936-0-031-8	CAPSD	Ministry of Education	1992	65.00	
9	Science for Class VII Learning Science Through Environment	VII	Textbook	99936-0-178-0	CAPSD	Ministry of Education	1999, 2006	55.77	
10	Science for Class VII Teachers' Manual & Syllabus	VII	T/Manual	99936-0-179-9	CAPSD	Ministry of Education	1999, 2006	58.50	
11	Science for Class VIII Learning Science Through Environment	VIII	Textbook	99936-0-180-2	CAPSD	Ministry of Education	2000, 2006	82.44	
12	Science for Class VIII Teachers' Manual & Syllabus	VIII	T/Manual	99936-0-181-0	CAPSD	Ministry of Education	2000, 2006	48.82	
* 13	Outdoor Education, A guidebook for teachers	PP-XII	T/Manual	99936-0-199-3	CAPSD	Ministry of Education	2000	35.30	
	Outside Publications							Book Price	
* 1	Excellence in Science (Vol. 3)	IV-VI	Reference	NA	Dr. Krishan Chand	Prachi India Pvt. Ltd.	2003	60.00	
* 2	Excellence in Science (Vol. 4)	IV-VI	Reference	NA	Dr. Krishan Chand	Prachi India Pvt. Ltd.	2003	60.00	
* 3	Excellence in Science (Vol. 5)	IV-VI	Reference	NA	Dr. Krishan Chand	Prachi India Pvt. Ltd.	2003	60.00	
* 4	New Horizons, Science Resource Book for Children	IV-VIII	Reference	05-21397-928	Chris Brown	Cambridge University Press	2000	125.00	
* 5	Essential Science	IV-VIII	Reference	NA	Philippa Wingate, Cline Gifford	Goyal Brothers Prakashan	1992	85.00	

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Book Price	Remarks
* 6	Learning Elementary Science and Technology for cl.8 (CD)	IV-VIII	Reference	NA	V.K.Sally, A.K.Agarwal	Goyal Brothers Prakashan	2002	135.00	
*7	Learning Elementary Science and Technology for cl.6 (CD)	IV-VIII	Reference	C-1340-02-03	V.K.Sally, A.K.Agarwal	Goyal Brothers Prakashan	2002	120.00	
* 8	Learning Elementary Science and Technology for cl.7 (CD)	IV-VIII	Reference	C-1444-02-03	V.K.Sally, A.K.Agarwal	Goyal Brothers Prakashan	2002	125.00	
* 9	Basic Concepts of Science and Technology (for Middle Schools) Vol-I	IV-VIII	Reference	81-7289-300-0	A. Aggarwal & J. Aggarwal	Ambar Parkashan	2003	100.00	
* 10	Basic Concepts of Science and Technology (for Middle Schools) Vol-II	VI-VIII	Reference	81-7289-301-9	A. Aggarwal & J. Aggarwal	Ambar Parkashan	2003	125.00	
* 11	Basic Concepts of Science and Technology (for Middle Schools) Vol-III	IV-VIII	Reference	81-7289-302-7	A. Aggarwal & J. Aggarwal	Ambar Parkashan	2003	125.00	
* 12	Oxford Concise Science Dictionary	IV-VI	Reference	0-19-566991-6		Oxford University Press	1996	245.00	

*** Same book used for multiple grades**

SCIENCE (Physics), Classes IX - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Book Price (MRP)	Remarks
	Outside Publications								
1	ICSE Innovative Physics for class IX	IX	Textbook	NA	R.C. Sethi	Good Luck Publishers Ltd.	2003	125.00	
2	Concise Practical Physics for Class IX	IX	Reference	NA	R.P.Goyal, Archana Goyal	Selina Publishers	2003	28.00	
3	ICSE Innovative Physics for class X	X	Textbook	NA	R.C. Sethi	Good Luck Publishers Ltd.	2003	125.00	
4	Concise Practical Physics for Class X	X	Reference	NA	R.P.Gopal, Archana Goyal	Selina Publishers	2003	51.50	
* 5	Coordinated Science Physics	IX&X	Reference	81-7596-057-4	Mary Jones	Cambridge University Press	1999	195.00	
6	ISC Practical Physics (Vol 1) for cl.XI	XI	Textbook	81-209-0680-2	K.K. Mohindroo	Pitambar Publishing Co.	1983, 1992, 1994, 1998, 2003	90.00	
7	ISC Physics for Class XI	XI	Textbook	81-272-0732-2	K.N. Sharma	Kalyani Publishers	1993, 1995, 1999, 2003	260.00	
8	Numerical Problems in Physics, Part I, Class XI	XI	Reference	81-272-1405-1	K.N. Sharma, M.K.Chanana	Kalyani Publishers	2001, 2004	185.00	
9	ISC Practical Physics (Vol 2) for cl.XII	XII	Textbook	81-209-0216-5	K.K. Mohindroo	Pitambar Publishing Co.	1983, 1992, 1994, 1998	83.00	
10	ISC Physics (for class XII)	XII	Textbook	81-7663-102-7	K.N. Sharma	Kalyani Publishers	1993, 1995, 1999, 2000, 2004	260.00	
* 11	Physics	IX-XII	Reference	81-7663-954-0	Gilbert Rowell	Cambridge University Press	1987	140.00	
* 12	Advanced Physics	XI&XII	Reference	0-7195-8605-4	Tom Duncan	John Murray Publishers Ltd. (UK), Cambridge University Press, Foundation Books, India	1973, 1994	1190.00	
* 13	The Elements of physics	XI&XII	Reference	0-19-566327-6	I.S. Grant, W.R. Phillips	Oxford University Press	2001, 2002	395.00	
* 14	Oxford Dictionary of Physics	XI&XII	Reference	0-19-566924-X	Alan Isaacs	Oxford University Press	1985, 1990, 1996, 2000	245.00	
15	Numerical Problems in Physics, Part II, Class XII	XII	Reference	81-272-1406-X	K. N. Sharma, M. K. Chanana	Kalyani Publishers	2001, 2004	165.00	
16	Physics for class XI	XI	Reference			NCERT		200.00	
17	Physics for class XII	XII	Reference			NCERT		255.00	

*** Same book used for multiple grades**

SCIENCE (Chemistry), Classes IX - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Book Price (MRP)	Remarks
	Outside Publications								
1	ICSE Chemistry Vol. I for Class IX	IX	Textbook	81272-0714-4	K.L. Chugh	Kalyani Publishers	2000, 2003	130.00	
2	ICSE Concise Chemistry Practical Part I	IX	Reference		Dr. S.P. Singh	Selina Publishers	2003	28.00	
3	ICSE Chemistry 9	IX	Reference	81-7633-010-8	Anita Prasad	General Printers & Publishers	1995, 2002	165.00	
4	ICSE Chemistry Vol. II for Class X	X	Textbook	81-272-1955-X	K.L. Chugh	Kalyani Publishers	2001, 2004, 2005	130.00	
5	ICSE Concise Chemistry Practical Part II	X	Reference		Dr. S.P. Singh	Selina Publishers	2003	29.00	
6	ICSE Chemistry 10	X	Reference		Anita Prasad	General Printers & Publishers	1995	165.00	
* 7	New Edition Chemistry	IX&X	Reference	81-7596-157-0	Richard Harwood	Cambridge University Press	2002, 2003	325.00	
* 8	Coordinated Science Chemistry	IX&X	Reference	81-7596-056-6	Mary Jones, Geoff Jones, David Acaster	Cambridge University Press	1999	195.00	
9	ISC Chemistry Book I for class XI	XI	Textbook	81-219-0802-7	R.D. Madan, B.S. Bisht	S.Chand & Company Ltd	1991, 2003	175.00	
10	ISC Practical Chemistry Vol I	XI	Textbook	81-209-0720-5	Dr. Vikas C. Garg	Pitamber Pub. Com (p) Ltd	1983, 1985, 1989, 1992, 1993	50.00	
11	ISC Chemistry Book II for Class XII	XII	Textbook	81-219-1543-0	R.D. Madan, B.S. Bisht	S.Chand & Company Ltd	1992, 1999	240.00	
12	ISC Practical Chemistry Vol II	XII	Textbook	81-209-0217-3	Dr. Vikas C. Garg	Pitamber Pub. Com (p) Ltd	1983, 2000	70.00	
* 13	Oxford Dictionary of Chemistry	XI&XII	Reference	0-19-566995-9	Edited by: John Daintith	Oxford University Press	1985, 1990, 1996, 2000	245.00	
* 14	Chemistry, IGCSE	IX-XII	Reference		B. Earl, L.B.R. Wilford	Cambridge University Press		990.00	
* 15	Advanced Chemistry, Physical and Industrial	XI&XII	Reference	81-7596-156-2	Philip Mathews	Cambridge University Press	2003	395.00	
16	Chemistry for class XI	XI	Reference			NCERT		175.00	
17	Chemistry for class XII	XII	Reference	81-7450-190-8		NCERT		175.00	

* Same book used for multiple grades

SCIENCE (Biology), Classes IX - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
CAPSD Publications									
1	Natural Resources of Bhutan and their conservation, Supplementary Text for Biology, class XI	XI	Textbook	99936-0-209-4	CAPSD	Ministry of Education	2004	54.2	
2	Tissue Culture Practices in Bhutan, A Supplementary Text for Biology, Cl. XII	XII	Textbook	99936-0-223-X	CAPSD	Ministry of Education	2005	55.7	New 2006
Outside Publications									
1	ICSE Concise Biology Part I, Class IX	IX	Textbook	NA	Dr.H.S. Vishnoi, Mrs. Rekha Kumar	Selina Publishers	2003	124.00	
2	Concise Practical Biology for Class IX	IX	Reference	NA	Dr. H.S.Vishnoi, Susobhan Mukherjee	Selina Publishers	2003	42.00	
3	A textbook of ICSE Biology, Class IX	IX	Reference	NA	Anita Prasad	General Printers & Publishers	1993, 2000	195.00	
4	ICSE Concise Biology Part II, Class X	X	Textbook	NA	Dr.H.S.Vishnoi, Mrs. Rekha Kumar	Selina Publishers	2003	120.00	
5	Concise Practical Biology for Class X	X	Reference	NA	Dr. H.S.Vishnoi	Selina Publishers	2002	35.00	
6	A textbook of ICSE Biology, Class X	X	Reference	81-7633-007-8	Anita Prasad	General Printers & Publishers	1993, 2000	195.00	
* 7	Coordinated Science, Biology	IX-X	Reference	81-7596-055-8	Mary Jones, Geoff Jones	Cambridge University Press	1998,	195.00	
8	A complete course in ISC Biology Vol. I	XI	Textbook	81-209-0822-8	Dr (Mrs.) V.B.Rastogi	Pitamber Pub. Co. (P) Ltd.	1993, 2003	350.00	
9	ISC Practical Biology Vol. I for Class XI	XI	Textbook	81-209-0913-5	Dr (Mrs.) V.B. Rastogi	Pitamber Pub. Co. (P) Ltd.	1993, 1997, 1999, 2000, 2001	75.00	
10	ISC Practical Biology Vol. II for Class XII	XII	Textbook	81-209-0920-8	Dr (Mrs.) V.B. Rastogi	Pitamber Pub. Co. (P) Ltd.	1993, 1997, 1999, 2000, 2001	88.00	
11	A complete course in ISC Biology Vol. II	XII	Textbook	81-209-0823-6	Dr (Mrs.) V.B. Rastogi, B. Kishore	Pitamber Pub. Co. (P) Ltd.	1993, 1996, 1999	450.00	
* 12	Oxford Dictionary of Biology	IX-XII	Reference	0-19-566993-2	OUP	Oxford University Press	1985, 1990, 1996, 2000	245.00	
* 13	Biological Science, 3rd edition	XI-XII	Reference	05-521-63923-9	D.J.Taylor, N.P.O. Green, G.W. Stout	Cambridge University Press	1984, 1990, 1997	450.00	
* 14	Advanced Biology Principles & Application	XI-XII	Reference	0-7195-8604-6	C.J.Clegg, D.G.Mackean	John Murray Pub. Ltd. (UK), Cambridge University Press	1994, 2000	1, 190.00	
15	Biology for class XI	XI	Reference			NCERT		235.00	
16	Biology for class XII	XII	Reference	81-7454-181-1		NCERT		340.00	

*** Same book used for multiple grades**

THAKHOR LOBJONG (EVS), Classes PP - III

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
CAPSD Publications									
1	Thakhor Lobjong Losar Jongdep	PP	Workbook	99936-0-211-6	CAPSD	Ministry of Education	2004	15.30	
2	Thakhor Lobjong Losar Lopengi Lagdep	PP	T/Manual	99936-0-043-1	CAPSD	Ministry of Education	1994, 1995	120.00	
3	Thakhor Lobjong Loprim Dangpa Lopengi Lagdep	I	T/Manual	99936-0-044-X	CAPSD	Ministry of Education	1997, 2002	128.30	
4	Thakhor Lobjong Loprim Nyipa Lopengi Lagdep	II	T/Manual	99936-0-045-8	CAPSD	Ministry of Education	1998, 2002	133.50	
5	Thakhor Lobjong Loprim Sumpa Lopengi Lagdep	III	T/Manual	99936-0-046-6	CAPSD	Ministry of Education	1999, 2002	160.00	
*6	Dzongkha Thakhor Lobjong Pari Tshigzoed	PP-III	Reference	99936-0-198-5	CAPSD	Ministry of Education	2000	117.40	
7	Thakhor Lobjong Mingdep, Losar Loprim	PP	Reference	99936-0-094-6	CAPSD	Ministry of Education	1999	25.85	
8	Thakhor Lobjong Mingdep, Loprim Dangpa	I	Reference	99936-0-189-6	CAPSD	Ministry of Education	1999	25.85	
9	Thakhor Lobjong Mingdep, Loprim Nyipa	II	Reference	99936-0-190-X	CAPSD	Ministry of Education	1999	25.85	
10	Thakhor Lobjong Mingdep, Loprim Sumpa	III	Reference	99936-0-191-8	CAPSD	Ministry of Education	1999	51.15	
LOCAL Publications									
*1	Thakhor Lobjong Losar Lhagdep	PP	Reference	99936-10-02-X	Kuenzang Thinley	KMT Publisher	2000	34.00	
*2	Thakhor Lobjong Lhagdep Dangpa	I	Reference	99936-10-03-8	Kuenzang Thinley	KMT Publisher	2000	51.00	
*3	Thakhor Lobjong Lhagdep Nyipa	II	Reference	99936-10-04-6	Kuenzang Thinley	KMT Publisher	2000	59.50	
*4	Thakhor Lobjong Lhagdep Sumpa	III	Reference	99936-10-05-4	Kuenzang Thinley	KMT Publisher	2000	68.00	

*** Same book used for multiple grades**

SOCIAL STUDIES, Classes IV - VI

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
	CAPSD Publications								
1	Social Studies Class Four Student Book	IV	Textbook	999336-0-183-7	CAPSD	Ministry of Education	1992, 2002, 2006	46.45	
2	Social Studies Class Four Teachers' Manual	IV	Teachers' Manual	999336-0-184-5	CAPSD	Ministry of Education	1991, 2003, 2005	59.00	
3	Social Studies Class Five Student Book	V	Textbook	999336-0-032-6	CAPSD	Ministry of Education	1992	140.00	
4	Social Studies Class Five Teachers' Manual	V	Teachers' Manual	999336-0-033-4	CAPSD	Ministry of Education	1992	140.40	
5	Social Studies Class Six Student Book	VI	Textbook	999336-0-205-1	CAPSD	Ministry of Education	2003	45.00	
	Outside Publications							Book Price (MRP)	
* 1	Aspect of World History Bk-1	IV-VI	Reference	81-209-0594-5	J. Fuste	Pitambar Publisher	1976, 1999	36.00	
**	Oxford School Atlas	IV-VI	Atlas (Textbook)	0-19-566033-1		Oxford University Press	1995, 2000	90.00	
* 2	Geography for cl. 6	IV-VI	Reference	81-7709-320-7	K.K.Maitiar, S.R. Maitiar	Bharati Bhawan	1998, 2000	49.00	
* 3	Exploring Geography Book I	IV-VI	Reference	81-209-0267-X	J.K.Bhatnagar	Pitambar Publisher	1989, 1990, 1991, 1994, 2002	80.00	
* 4	Understanding Geography for the Middle School	IV-VI	Reference	0-19-566288-1	Manosi Lariri	Oxford University Press	1986, 1989, 1993, 2003	80.00	
* 5	Discover Geography Class 6	IV-VI	Reference	81-250-2143-4	J. Balagopal	Orient Longman Pvt. Ltd.	2002	60.00	
* 6	A Text Book of Geography 6	IV-VI	Reference	NA	Rita Rajen	General Printers and Publishers	1996	100.00	

*** Same book used for multiple grades**

HISTORY AND CIVICS, Classes VII - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
	CAPSD Publications								
1	Drukgi Junggrab Loprim Duenpai Pedep	VII	Textbook	99936-0-037-7	CAPSD	Ministry of Education	1990, 1992, 1998, 2005	35.44	BH VII in Dzongkha 2006
3	A History of Bhutan (15th-19th Century), Course book for Class VII	VII	Textbook	99936-0-037-7	CAPSD	Ministry of Education	1990, 1992, 1998		Printing withheld
4	Drukgi Junggrab Loprim Gyepa Pedep	VIII	Textbook	99936-0-039-3	CAPSD	Ministry of Education	1991, 1992, 1998, 2006	50.20	BH VIII in Dzongkha 2007
5	A History of Bhutan (19th-20th Century), Course book for Class VIII	VIII	Textbook	99936-0-039-3	CAPSD	Ministry of Education	1991, 1992, 1998		Printing withheld
6	A History of Bhutan, Course Book for Class IX	IX	Textbook	99936-0-187-X	CAPSD	Ministry of Education	1994	44.25	
7	A History of Bhutan, Course Book for Class X	X	Textbook	99936-0-188-8	CAPSD	Ministry of Education	1996	47.55	
* 8	Bhutan Civics, Course Book for Classes IX & X	IX&X	Textbook	99936-0-040-7	CAPSD	Ministry of Education	1999	40.00	
9	A History of Bhutan, A Supplementary Text for class XI	XI	Textbook	99936-0-206-X	CAPSD	Ministry of Education	2004	55.40	
10	A History of Bhutan, A Supplementary Text for class XII	XII	Textbook	99936-0-222-1	CAPSD	Ministry of Education	2005	55.40	New 2006
	Outside Publications							Book Price (MRP)	
1	Aspects of World History Book II for Class VII	VII	Textbook	81-209-0595-4	J. Fuste, I.R. Mehta	Pitamber Publishing Co. (P) Ltd.	1976, 1997, 1999	36.00	
2	Aspects of World History Book III for Class VIII	VIII	Textbook	81-209-0380-3	J.Fuste , B.N. Ahuja	Pitamber Publishing Co. (P) Ltd.	1976, 1995, 1998	36.00	
* 3	Indian History & World Development since 1945, Classes IX & X	IX&X	Textbook	0-19-56-5690-3	Manjistha Bose	Oxford University Press	2000, 2001	60.00	
4	History & Civics ICSE 9	IX	Reference	0-19-566628-3	Manjistha Bose	Oxford University Press	2000, 2004	125.00	
5	A textbook of History & Civics 9	IX	Reference	81-7659-004-5	Perin Bagli	General Printers & Pub.	1999, 2001	195.00	

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Book Price (MRP)	Remarks
6	History & Civics ICSE 10	X	Reference	0-19-566629-1	Manjistha Bose	Oxford University Press	2000, 2004	125.00	
7	A textbook of History & Civics 10	X	Reference	81-7659-005-3	Perin Bagli	General Printers & Pub.	2000	176.00	
8	ISC History, Part I	XI	Textbook	81-271-0671-7	Sachhida Nanda Banerjee	Kalayani Publishers	2001, 2003	85.00	
9	ISC History, Part II	XII	Textbook	81-271-1256-3	Sachhida Nanda Banerjee	Kalayani Publishers	2001, 2004	110.00	
* 10	A new textbook of History of India (Part 2)	XI-XII	Reference	NA	D.N. Kundra	Navdeep Publications		100.00	
11	Contemporary World History, A Textbook for class XII	XI	Reference		Mohammed Anwar-ul-Haque, Himansu S. Pataik	NCERT			
12	Contemporary World History, A History Textbook for class XII, Part II	XII	Reference		Arjun Dev	NCERT			
13	Medieval India, A History Textbook for class XI	XI	Reference		Meenakshi Jain	NCERT			
14	Modern India, A History Textbook for class XII	XII	Reference		Satish Chandra Mittal	NCERT			

*** Same book used for multiple grades**

GEOGRAPHY, Classes VII - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
CAPSD Publications									
1	A Geography of Bhutan-Our Natural Environment, Course Book for Class VII	VII	Textbook	99936-0-036-9	CAPSD	Ministry of Education	1990, 1992, 1998	35.44	
2	A Geography of Bhutan-Our Made Environment, Course Book for Class VIII	VIII	Textbook	99936-0-038-5	CAPSD	Ministry of Education	1991, 1998	50.94	
3	Introducing to Map Reading, Basic Skills, Class VIII	VIII	Textbook	99936-0-201-9	CAPSD	Ministry of Education	1992	16.95	
* 4	A Geography for Bhutan, Course Book for Classes IX & X	IX&X	Textbook	99936-0-186-1	CAPSD	Ministry of Education	1994, 2006	55.25	Revised TB from 2007
5	Geography, A Supplementary Text for class XI	XI	Textbook	99936-0-207-8	CAPSD	Ministry of Education	2004	35.20	
6	Geography, A Supplementary Text for class XII	XII	Textbook	99936-0-220-5	CAPSD	Ministry of Education	2005	40.50	New 2006
Outside Publications									
1	Exploring geography Book II	VII	Textbook	81-209-0268-8	J.K. Bhatnagar	Pitambar Publishing Co. (P) Ltd.	1989, 1990, 1991, 1994, 2002	85.00	
2	Frank World Geography Book II for Class VII	VII	Reference	81-7176-058-6	N. Anantapadmanabhan	Frank Bros & Co.	1992, 1993, 1994, 1998,	66.90	
3	Understanding Geography for the Middle School Bk. 2	VII	Reference	0-19-566289-X	Manosi Lahiri	Oxford University Press	1986, 2003	75.00	
* 4	Oxford School Atlas	VII-XII	Atlas (Textbook)	0-19-566033-1		Oxford University Press	1915, 2000	90.00	
5	Exploring Geography Book III	VIII	Textbook	81-209-0269-6	J. Fustle	Pitambar Publishing Co. (P) Ltd.	1989, 1990, 1991, 1994, 2002	78.00	
6	Modern Geography Book III	VIII	Reference	81-209-0122-3	J. Fustle	Pitambar Publishing Co. (P) Ltd.	1976, 1978, 1979, 1986, 1991	80.00	
* 7	Principles of General Geography, Book I	IX&X	Textbook		Charles Farro	General Printers & Publishers	1977	190.00	
* 8	A text book of Geography 10	IX&X	Reference	81-7659-002-9	Rita Rajan	General Publishers & Publishers	1998	195.00	
* 9	Map reading	IX-X	Reference	81-209-0612-8	Alexander S. Job	Pitambar Publishing Co. (P) Ltd.	1982, 1984, 1986, 1992	30.00	
10	ISC Geography Class XI	XI	Textbook	81-272-0752-7	D R Khullar	Kalyani Publishers	2002, 2003	150.00	
11	Principles of Physical Geography XI	XI	Reference	81-219-0258-4	A Das Gupta, A N Kapoor	S. Chand & Company Ltd.	1955, 1991, 1997, 1999	70.00	
12	ISC Geography Class XII	XII	Textbook	81-272-1267-9	D R Khullar	Kalyani Publishers	2003, 2004	195.00	
* 13	Elements of Practical Geography XI&XII	XI&XII	Reference	81-7098-910-7	R L Singh, RPB Singh	Kalyani Publishers	1991	100.00	

Sl. No.	Items	Class	Category	Unit	Specifications	Publisher/ Supplier	Year of Pub. & Revisions	Price (MRP)	Remarks
* 14	Human and Economic Geography	XI&XII	Reference	0-19-582816-X	Goh Cheng Leong, Gillian C. Morgan	Oxford University Press	1973, 1982,	650.00	
1	Globe (Physical)	PP-XII	Globe	No.	Medium size				
2	Globe (Political)	PP-XII	Globe	No.	Medium size				
3	Map of Africa (Physical)	PP-XII	Wall map	No.	20x30 inches, 4C, 220 gsm W/F, M/F art card, lamination				
4	Map of Africa (Political)				"				
5	Map of Asia (Physical)				"				
6	Map of Asia (Political)				"				
7	Map of Australia (Physical)				"				
8	Map of Australia (Political)				"				
9	Map of Europe (Physical)				"				
10	Map of Europe (Political)				"				
11	Map of N. America (Physical)				"				
12	Map of N. America (Political)				"				
13	Map of S. America (Physical)				"				
14	Map of S. America (Political)				"				
15	Map of India (Physical)				"				
16	Map of India (Political)				"				
17	Map of Bhutan (Physical)				"	Dept. of Survey and Land Records, MoA			
18	Map of Bhutan (Political)				"	Dept. of Survey and Land Records, MoA			
19	Map of World (Physical)								
20	Map of World (Political)								
21	Outline map of India	IV-XII		Packet	70 gsm Offset paper, A4, 1/0 in black (100 sheets per packet)				
23	Outline map of Australia				"				
24	Outline map of Europe				"				
25	Outline map of N. America				"				
26	Outline map of S. America				"				
27	Outline map of World				"				
28	Outline map of Bhutan				"	Dept. of Survey and Land Records, MoA			
29	Topographic map	IX-XII	Toposheet	Sheet	78M/11 (Full), Rural, 60x80 cm, 4C, Scale, 1:50,000	Dept. of Survey and Land Records, MoA	1998	85.00	
30	Topographic map	IX-XII	Toposheet	Sheet	78E/11 (Full), Urban, 60x80 cm, 4C, Scale, 1:50,000	Dept. of Survey and Land Records, MoA	1991	85.00	

* Same book used for multiple grades

ECONOMICS, Classes IX - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
	CAPSD Publications								
1	Introductory Economics, A Course book for class IX	IX	Textbook	99936-0-041-5	CAPSD	Ministry of Education	1996, 2006	33.09	
2	Introductory Economics, A Course book for class X	X	Textbook	99936-0-042-3	CAPSD	Ministry of Education	1998, 2006	33.09	
3	Bhutan Economics, A Supplementary Text for class XI	XI	Textbook	99936-0-2-5-1	CAPSD	Ministry of Education	2004	43.50	
4	Bhutan Economics, A Supplementary Text for class XII	XII	Textbook	99936-0-219-1	CAPSD	Ministry of Education	2005	40.50	New 2006
	Outside Publications							Book Price (MRP)	
* 1	ICSE Economics, Class IX	IX-X	Reference	81-7764-145-X	Sampat Mukerjee	Allied Publisher Pvt. Ltd.	2001	95.00	
2	Frank ISC Economics, Class XI	XI	Textbook	81-7170-443-3	D.K. Sethi, U. Andrews	Frank Bros. & Co. (Publishers) Ltd.	1998, 2000, 2003	154.90	
3	ISC Economics for Class XI	XI	Reference	81-272-1272-3	R.K.Lekhi	Kalyani Publishers	1997, 1998, 2000, 2003, 2004	180.00	
4	Frank ISC Economics, Class XII	XII	Textbook	81-7170-466-2	D K Sethi, U Andrews	Frank Bros. & Co. (Publishers) Ltd.	1999, 2000, 2001, 2003	159.90	
5	ISC Economics for Class XII	XII	Reference	81-271-1261-X	R.K. Lekhi	Kalyani Publishers	1997, 1998, 2000, 2004	180.00	

*** Same book used for multiple grades**

COMMERCE, Classes IX - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revision	Net Price (Nu)	Remarks
	CAPSD Publications								
1	Commerce, Supplementary Text, class XI	XI	Textbook	99936-0-208-6	CAPSD	Ministry of Education	2004	35.40	
2	Commerce, Supplementary Text, class XII	XII	Textbook	99936-0-221-3	CAPSD	Ministry of Education	2005	40.20	New 2006
	Outside Publications							Book Price (MRP)	
1	Frank Certificate Commercial Studies Part 1	IX	Textbook	81-7170-567-7	G.K. Varshney	Frank Bros. & Co. (Publishers) Ltd.	2001	69.90	
2	ICSE Tulsian's Commercial Studies and Application for Class IX	IX	Reference	81-7070-735-8	P.C.Tulsian, S.D Tulsian	Ratna Sagar P. Ltd.	2002, 2003	159.90	
3	Frank Certificate Commercial Studies Part II	X	Textbook	81-7170-621-5	G.K. Varshney	Frank Bros. & Co. (Publishers) Ltd.	2002	109.90	
4	ICSE Commercial Studies for Class X	X	Reference	81-7070-653-X	P.C.Tulsian, S.D Tulsian	Ratna Sagar P. Ltd.	2002	159.90	
* 5	Elementary statistics (for classes XI & XII)	XI&XII	Textbook	N.A	H.C. Saxena	Sultan Chand & Sons (P) Ltd.	1962, 2002	80.00	
6	A complete course in ISC Commerce Vol. I for Class XI	XI	Textbook	81-209-0447-8	R.P. Maheshwari	Pitambar Publishing Co. Pvt. Ltd.	1992, 1997, 1999, 2001, 2003	130.00	
7	ISC Tulsian's Commerce for Class XI	XI	Reference	81-7070-720-X	P.C.Tulsian, S.D Tulsian	Ratna Sagar P. Ltd.	2001, 2003	149.90	
8	A complete course in ISC Commerce Vol. II for Class XII	XII	Textbook	81-209-0643-8	R.P. Maheshwari	Pitambar Publishing Co. Pvt. Ltd	1992, 1997, 1999, 2001, 2004	114.00	
9	ISC Tulsian's Commerce for class XII	XII	Reference	81-7070-927-X	P.C.Tulsian, S.D Tulsian	Ratna Sagar P. Ltd.	2002, 2004	159.90	

*** Same book used for multiple grades**

ACCOUNTS, Classes IX - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revision	Book Price (MRP)	Remarks
	Outside Publications								
1	A Textbook of ICSE Accounts	IX	Reference		A. Ghosh, S. C. Mittal	Oswal Printers & Publishers Pvt. Ltd.	1999	89.00	
2	A textbook of ICSE Accounts	X	Reference		A. Ghosh, S. C. Mittal	Oswal Printers & Publishers Pvt. Ltd.	2000	107.00	
3	Double Entry Book keeping, Class XI	XI	Textbook		T. S. Grewal	Sultan Chand & Sons (P) Ltd.	2002, 2003	90.00	
4	ISC Accountancy for Class XI	XI	Reference	81-272-0747-0	C.M. Juneja	Kalyani Publishers	1996, 1998, 1999, 2000, 2003	175.00	
5	Tulsian's Accountancy for Class XI (CBSE)	XI	Reference	81-7070-934-2	P. C. Tulsian	Ratna Sagar	2002, 2004	179.90	
6	ISC Accountancy for Class XII	XII	Textbook	81-272-892-3	C.M. Juneja	Kalyani Publishers	2004	200.00	
7	ISC Tulsian Accountancy for Class XII	XII	Reference	81-7070-899-0	P. C. Tulsian, SD Tulsian	Ratna Sagar	2002, 2004	299.90	
8	Tulsian's Accountancy for Class XII (CBSE)	XII	Reference	81-7070-892-3	P. C. Tulsian	Ratna Sagar	2002, 2004	259.90	
* 9	Advanced Accounts Complete Vol. I, II & III	XI&XII	Reference	81-219-0278-9	Shukla MS, T. S. Grewal, S. C. Gupta	S. Chand & Company Ltd.	1960, 2002	525.00	

*** Same book used for multiple grades**

INFORMATION TECHNOLOGY (IT), Classes IX - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Book Price (MRP)	Remarks
	Outside Publications								
1	Computer Application for class IX	IX	Textbook	NA	Sangeeta Panchal, Alka Sabharwal	Oxford University Press		235.00	
2	Introducing Information Technology, The Complete Textbook for Class IX	IX	Reference	81-7656-629-2	Satish Jain	BPB Publications		99.00	
3	Computer Application for class X	X	Textbook	NA	Sangeeta Panchal, Alka Sabharwal	Oxford University Press		240.00	
4	Introductory Information technology, The complete textbook for Class X	X-XII	Reference	81-7656-620-9	Satish Jain	BPB Publications		75.00	
5	Excellence in Computer Education, Computer System & Application Software: MS Office, IX	XI	Textbook		C.K. Seth, Shashi Seth	Prachi India Ltd.	2002, 2003	124.00	
6	Excellence in Computer Education, Internet, Website Designing & MS Access, X	XII	Textbook		C.K. Seth, Shashi Seth	Prachi India Ltd.	2002, 2003	133.00	
7	ICSE Computer Application with Java, XI classes IX	XI	Reference	81-272-1378-0	R.N. Mukherjee, Nilanjan Basu	Kalyaini Publishers			to be replaced
8	Computer Science C++, Part I, class XI	XII	Textbook		C.K.Seth	Prachi India Ltd.			to be replaced
7	ICSE Computer Application for Class IX	IX	Reference	81-7764-996-5	Dr Gautam Roy	Allied Publishers Pvt. Ltd.	2006	140.00	New from 2007
8	Sams Teach Yourself JavaScript in 24 Hours (4th Ed)	XII	Textbook	0-672328798	Michael Moncur		2006		New from 2007
9	Learning Web Design	XII	Reference	81-8404-090-3	Jennifer Niederst	Shroff Publishers & Distributors Pvt. Ltd.	2006	375.00	New from 2007

ARTS EDUCATION, Classes PP - VIII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Book Price (MRP)	Remarks
	Outside Publications								
* 1	Art & Craft (Book 1)	PP-VIII	Reference	0-19-566052-8	Nicholas Horsburgh	Oxford University Press	1998	40.00	
* 2	Art & Craft (Book 2)	PP-VIII	Reference	0-19-566053-6	Nicholas Horsburgh	Oxford University Press	1998	40.00	
* 3	Art & Craft (Book 3)	PP-VIII	Reference	0-19-566053-6	Nicholas Horsburgh	Oxford University Press	1998	40.00	
* 4	Art & Craft (Book 4)	PP-VIII	Reference	0-19-566054-4	Nicholas Horsburgh	Oxford University Press	1998	40.00	
* 5	Art & Craft (Book 5)	PP-VIII	Reference	0-19-566055-2	Nicholas Horsburgh	Oxford University Press	1998	50.00	
* 6	Expressions in Craft (Book 1)	PP-VIII	Reference	NA	Kavita Bhatia	Navdeep Publications		40.00	
* 7	Expressions in Craft (Book 2)	PP-VIII	Reference	NA	Kavita Bhatia	Navdeep Publications		40.00	
* 8	Expressions in Craft (Book 3)	PP-VIII	Reference	NA	Kavita Bhatia	Navdeep Publications		40.00	
* 9	Expressions in Craft (Book 4)	PP-VIII	Reference	NA	Kavita Bhatia	Navdeep Publications		40.00	
* 10	Expressions in Craft (Book 5)	PP-VIII	Reference	NA	Kavita Bhatia	Navdeep Publications		40.00	
* 11	Expressions in Craft (Book 6)	PP-VIII	Reference	NA	Kavita Bhatia	Navdeep Publications		40.00	

*** Same book used for multiple grades**

GENERAL, Classes PP - XII

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
	HEALTH & PHYSICAL EDUCATION								
* 1	The Suggested Guidelines on Physical Education, Stages I & II	PP-VI	T/Manual	99936-0-107-1	CAPSD	Ministry of Education	2001	56.80	
	VALUES EDUCATION								
* 1	Teaching Learning To be, A Curriculum Guideline for Classes PP – XII, Part I-II	PP-XII	Reference	99936-0-194-0	CAPSD	Ministry of Education	1999	25.62	
* 2	Teaching Learning To Be, Suggested Values Education Lessons, Section I (PP-VIII)	PP-VIII	Reference	99936-0-195-0	CAPSD	Ministry of Education	2001	25.62	
* 3	Teaching Learning To Be, Suggested Values Education Lessons, Section II (IX-XII)	IX-XII	Reference	99936-0-196-9	CAPSD	Ministry of Education	2001	25.62	
* 4	Mie-tshey Solwai Doenmoed (Dzongkha Version)	IV-XII	Reference	99936-0-050-4	CAPSD	Ministry of Education	2001		One time supply
* 5	The Light of My Life (English Version)	IV-XII	Reference	99936-0-050-4	CAPSD	Ministry of Education	2001		One time supply
* 6	National Flag of Bhutan	PP-XII	Flag		CAPSD	Ministry of Education	2001	1,500.00	
* 7	Jamyang Soeldep & National Anthem	PP-XII	Audio	Sony TDK, 30 min.	CAPSD	Ministry of Education	2004		One time supply
* 8	Kezang Yidki Ga-toen	IX-XII		99936-0-230-2	H.H. Yangpai Lopen Chhimey, DYC	Ministry of Education	2006		New 2007 One time supply
* 9	Thuengi Rimpa Dang Choejoegi Rig	PP-XII	Reference		Lam Kuenzang Wangdi	KMT Publishers		65.00	One time supply
* 10	Ka Thriet (6 cassettes)	PP-XII	Audio		H.H. Tilku Jigme Choeda, 70th Je Khenpo	Choythin Tshogpa	2003	320.00	One time supply
	GENERAL								
* 1	The Purpose of School Education in Bhutan, A Curriculum Handbook for Schools (PP-XII)	PP-XII	Curriculum Framework	99936-0-202-7	CAPSD	Ministry of Education	2003	56.40	

Sl. No.	Title of books	Class	Category	ISBN	Author	Publisher	Year of Pub. & Revisions	Net Price (Nu)	Remarks
* 2	Continuous Assessment, Teachers' Guide (Eng. Version))	VI-X	T/Manual	99936-0-192-6	CAPSD	Ministry of Education	1999	48.50	
* 3	Duenguen Ezhib Lopengi Lagdep (Dz. Version)	VI-X	T/Manual	99936-0-193-4	CAPSD	Ministry of Education	1999	21.00	
* 4	A Guide to Continuous Assessment, With Particular Emphasis on Formative	PP-VI	T/Manual	99936-0-200-0	CAPSD	Ministry of Education	2000	25.6	
* 5	Idea Folder, Learning Materials for Primary Schools	PP-VI	Reference		CAPSD	Ministry of Education	2000	40.50	
* 6	Running The School Library, Teacher-Librarian's Guide	PP-XII	Reference	99936-0-197-7	CAPSD	Ministry of Education	1990, 1992, 2000	41.25	
* 7	Career Portfolio Workbook, Classes IX&XI	IX&XI	Workbook		DYCS	Ministry of Education	2004	48.50	
	SYLLABUS								
* 1	Syllabus for Classes PP-III (All Subjects)	PP-III	Syllabus	99936-0-202-7	CAPSD	Ministry of Education	2002	43.55	
* 2	Syllabus for Classes IV to VI (All Subjects)	IV-VI	Syllabus	99936-0-203-5	CAPSD	Ministry of Education	1989, 1996, 2002, 2006	44.30	
* 3	Syllabus for Classes VII&VIII (All Subjects)	VII&VIII	Syllabus	99936-0-204-3	CAPSD	Ministry of Education	1989, 1996, 2002, 2006	40.55	
* 4	Syllabus fo Classes IX & X, Bhutan Certificate of Secondary Education (BCSE)	IX&X	Syllabus	99936-0-204-3	CAPSD, BBE	Ministry of Education	2001, 2003, 2006	46.70	
* 5	Rules and Regulations and Syllabus for Classes XI & XII, Bhutan Higher Secondary Education Certificate (BHSEC)	XI&XII	Syllabus	99936-0-210-8	CAPSD, BBE	Ministry of Education	2004, 2006	50.60	New 2006
	CERTIFICATES								
* 1	Student Progress Report	PP-VI			CAPSD	Ministry of Education	2004		
* 2	Student Progress Report	VII&VIII			CAPSD	Ministry of Education	2004		
* 3	Student Progress Report	IX&X			CAPSD	Ministry of Education	2004		
* 4	Student Progress Report	XI&XII			CAPSD	Ministry of Education	2004		
* 5	School Leaving Certificate	PP-XII			CAPSD	Ministry of Education	2003		

*** Same book used for multiple grades**

B: OFFICE STATIONERY

Sl. No.	Item	Specifications	Unit	Issue criteria from 2006
1	Paper pins	Assorted nickel plated-net wt. Minimum 60gms, 100 pins per packet	Pkts	CS/PS - 2 pkts per school per year. LSS/MSS/HSS -5pkts per school per yr.
2	Paper clip	35mm metal	Pkts	CS/PS - 3 pkts per school per year. LSS/MSS/HSS -5pkts per school per yr.
3	Drawing pin	13mm net wt. 75gms, 144 pins per packet	Pkts	2 pkts per section per year for all schools
4	Fountain pen ink (Red)	500-700ml, Plastic bottles	Btls	CS/PS -1 bottle per school per year for office for remote schools.
5	Fountain pen ink (Blue)	500-700ml, (plastic bottles)	Btls	CS/PS-2 bottles per school per year for remote schools.
6	Stamp pad	Self inking, size 70 X 110mm	Nos	1 no.per school per year.
7	Stamp pad ink	60ml, Plastic bottles	Nos	1 no. per school per year for all schools
8	Office paste	500-700ml, Plastic bottles	Btls	CS/PS -1bottle per section per school per year LSS/MSS/HSS - 5 bottles per school per year.
9	Black board paint	1ltr tin	Ltrs	1 litre per 3 sections per year (Schools without greenboards)
10	Painting brush for blackboard	3" flat	Nos	1 no. for every 3 sections for all schools without greenboard
11	Low dust chalk	100 sticks in a pkt	Pkts	5 pkts per teacher per year .
12	Envelope	9"x4" white with printing of MoE	Nos	CS-200 nos per school per year PS-300 nos per school per year. LSS/MSS/HSS - 500 nos per school per year
13	Envelope	12"x16"	Nos	CS/PS-25 nos. per school per year LSS/MSS/HSS- 50 nos. per school per year
14	Punching machine double hole	8cm/2.5cm	Nos	As per requirement
15	Stapler machine	24/6inc.	Nos	2 nos. per school per year for all schools
16	Staples	24/6	Pkts	CS/PS -30 pkts per school per year.
17	Eraz-ex with diluter		Nos	LSS/MSS/HSS - 50 pkts per school per year. 2 nos.per school per year for all schools.
18	Twin thread		Ball	CS/PS-1ball per section per Year.
19	Typing carbon paper	100 shts in a pkts.	Shts	LSS/MSS/HSS- 5balls per school per year. 1 pkt per school per year for all schools.
20	Stencil Typing paper	50 shts in a pkts.	Shts	CS/PS-2 pkts per section per year.
21	Stencil correcting fluid		Sets	LSS/MSS/HSS-7 pkts per section per yr. 1 no for every 4sections per year
22	Duplicating Paper	500 shts in a ream	Reams	CS/PS-150 shts per student per year.
23	Duplicating ink	400gms	Tube	LSS/MSS/HSS-250 shts per student per year. 1tube for 5 reams of duplicating paper
24	News printing paper		Reams	50 shts per section per year for all schools.
25	Typing paper	500 sheets per ream	Pkts	CS/PS/LSS -2 reams per school per year.
26	Foolscape paper ruled	500sheets in a pkt	Pkts	20 shts per student per year
27	Photo copy paper		Reams	10 reams per school for schools with computers and 3 reams per school without computers.
28	Arch files		Nos	As per requirement

Sl. No.	Item	Specifications	Unit	Issue criteria from 2006
29	Bound register ruled No.4		Nos	As per requirement
30	Bound register ruled no.8		Nos	As per requirement
31	Bound register ruled no.16		Nos	As per requirement
32	Fee collection register		Nos	As per requirement
33	Student Progress report register		Nos	As per requirement
34	Students admission register		Nos	As per requirement.
35	Students attendance register		Nos	As per requirement
36	Teachers attendance register			As per requirement
37	Mathematical instrument box for teacher			CS/PS-1no.per school once in 2 yrs. LSS/HSS/MSS-1 no. per school per year.
38	Stock ledger			As per requirement
39	Lesson plan book	192 pages	Nos	2 nos per teacher per year
40	Typing ribbon cotton			2nos per typewriter per school per year.
41	Solar lantern		Nos	2 nos. per school per year where there is no electricity
42	Cohoe-thri	6 Kgs	Nos	As per requirement

C: STATIONERY FOR RURAL SCHOOLS

Sl. No.	Item	Specifications	Unit	Issue criteria from 2006
1	Lead pencil		Doz	6 nos. per student per year
2	Pencil eraser		Doz	3 nos per per student per yr for all schools.
3	Wax crayons	12pcs. In pkts-EN71-3, non toxic,	pkts	PP-III: 3 pkts per student per yr
4	Mathematical instrument box for students		Nos	IV-VI: 1no.per student once in class IV VII-X: 1no per student once in class VII.
5	Ex.book ruled 6		Nos	I - III: 6 Nos , IV-VI: 8 Nos.
6	Ex.book ruled 8		Nos	VII -XII: 10 nos
7	Ex.book Plain 6		Nos	PP-II: 1 no, III-VI: 2 nos.
8	Ex.book Plain 8		Nos	VII-XII: 2 nos
9	Ex.book squarlined No.4		Nos	PP&I: 2 Nos
10	Ex.book fourlined No.4		Nos	PP: 6 Nos
11	Drawing Ex.book		Nos	I -III: 1 No.
12	Graph Ex. Book		Nos	VI -XII: 1 no.
13	Science Practical book		Nos	VI-VIII: 1 No. IX-XII: 3 nos

D: TEACHING AIDS

Sl No	Item	Specifications	Unit	Issue criteria from 2006
1	Drawing paper	22" x 28", 210 gsm, 50 sheets per pkts	Pkts	PP-XII--5shs per section per year.

2	Chart paper (Red,Blue,Green)	22" x 28", 140 gsm, 50 sheets per pkts	Pkts	CS/PS-15shs each per section per year. LSS/MSS/HSS-10shs each per section per year.
3	Drawing pencil	2B, 10 pencils per box	Box	CS/PS, 5 boxes per section per year. LSS/MSS/HSS, 3 boxes per section per year.
4	Colour pencil	12colours per set	Set	CS/PS-5boxes per section per year. LSS/MSS/HSS-3boxes per section per year.
5	Art marker (Blue, Red, Green & Black)	Medium bullet-tip	Set	CS/PS, 3 sets per section per year. LSS/MSS/HSS, 5sets per section per year.
6	Scissors	Stainless steel, 7" long		5 nos per school per year for all schools
7	Masking tape		Roll	1 roll per section per year for all schools
8	Fevicol	125 gms in plastic bottles.	Btls	CS/PS-1bit per section per year. LSS/MSS/HSS- 5 btls per school per year
9	Watercolour	12 colours per box, 5 ml tube	Box	CS/PS, 5 boxes per section per year. LSS/MSS/HSS, 10 boxes per school per year.
10	Poster colours (Red, Yellow, Blue & Black)	15ml bottles	Box	CS/PS-5 boxes per section per year. LSS/MSS/HSS-10boxes per school per year.
11	Water colour brush	Glow art round shapes-size, nos 1, 5 & 10	Set	CS/PS, 10 sets per section per year. LSS/MSS/HSS, 10 sets per school per year.
12	Water colour Palette,white		Nos	CS/PS-5nos per section per year. LSS/MSS/HSS-10nos per school per year.

E: SPORTS GOODS

Sl. No.	Item	Specifications	Unit	Issue criteria from 2006
1	Football No.5	any colour/pattern, leather/suitable materials,	Nos	CS/PS: 5 nos. per school above Ci. IV per yr. LSS-15 nos per school per yr. MSS/HSS - 20 nos per school yr and 10 extra for boarding schools.
2	Football No.4		Nos	CPS/PS-10 nos per school per year LSS/MSS/HSS-10 nos per school per year having Primary sections
3	Football Goal Net		pair	As per requirement
4	Football inflator 13"		Nos	As per requirement
5	Volleyball	Multi-colour leather/suitable materials	Nos	CS/PS- 10 nos per school per year. LSS/MSS/HSS - 15 nos. per school per year & 10 extra for boarding schools.
6	Volleyball Net		Nos	As per requirement

						CS/PS: 3 nos. per school per year LSS, 10 nos per school per yr. MSS/HSS, 15 nos per school per year and 5 nos. extra for boarding schools
7	Basketball	Orange in colour with 8 traditionally shaped panels & black seams circumference, 74.9-78cm	Nos			
8	Basketball Net		Pair			As per requirement
9	Chessboard		Set			As per requirement
10	Chess men		Set			As per requirement
11	Carom board		Set			As per requirement for remote schools
12	Carrom man		Set			As per requirement
13	Carom striker		Nos			As per requirement
14	Chinese Checker board		Nos			CS/PS, 2 nos per school per year LSS/MSS/HSS, 3 nos per school per year
15	Chinese Checker men		Set			As per requirement
16	Skipping rope		Nos			A per requirement
17	Badminton Racket		Pair			CS/PS- 4 pairs per school per year LSS/MSS/HSS-8 pairs per school per year
18	Badminton Net		Nos			As per requirement
19	Shuttle Cock	Made of natural feather/synthetic materials with 16feathers fasten firmly thread/suitable materials weight:4.74-5.50gms	Barr			CS/PS- 4 barrels per school per year. LSS/MSS/HSS- 8 barrels per school per year.
SI No	Item	Specifications	Unit			Issue criteria from 2006
20	Handball		Nos			CS/PS- 10 nos per school per year
21	Soft tennis		Nos			CS/PS- 10 nos per school per year
22	Tenniquits		Nos			CS/PS- 10nos per school per year
23	TT board, Net with clamp		Nos			20 boards per year for 20 schools
24	TT bat		Pair			8 bats for 1board per year for 20 schools.
25	TT balls	6 ball per pkts	Pkts.			5 pkts per board per year for 20 schools

MISCELLANEOUS ITEMS

	ITEMS		ISSUE CRITERIA FROM 2006	USE
1	Spare parts for duplicating machine		As per requirement	Repair old machine
2	Basket ball ring		As per requirement	Learn skills
3	Handwriting stencil	80 shts/pkt	CS/PS -1 pkt per section	Handwriting practice
4	Heavy duty stapler		1 no. for all schools	Repair books and bind bulky documents
5	Heavy duty staples	1000 pcs/pkt	CS/PS -3 pkts per school. LSS/MSS/HSS - 5 pkts per school	Repair books and bind bulky documents
6	Racket Re-gutting		2 nos.forall schools	Repair old badminton rackets
7	Gut		CS/PS - 1 roll per school per year. LSS -2 rolls per school per year	
8	Cash book		As per requirement	Repair old badminton rackets Keep school account

SCIENCE LABORATORY EQUIPMENT, GLASSWARE & CHEMICAL STANDARD LIST

PRIMARY SCHOOL / COMMUNITY SCHOOL

Sl.No.	Items	Qty.
1	Acid (conc.HCl)	500ml x 2
2	Alkali (NaOH)	500g
3	Aluminium foil paper	1 roll
4	Ammonium hydroxide solution	500 ml
5	Bar Magnet- 4", Alinco, with keepers (11 x 5 mm). Made of cobalt steel, in pairs, half red and half blue (for N & S) spray painted, very strong with keepers	12 nos.
6	Bathroom scale with height stand	2 Nos.
7	Beakers (graduated, 150ml)	20 nos.
8	Beakers (graduated, 250ml)	20 nos.
9	Beaker (500 ml)	10 nos.
10	Beam balance with weight box: Balance Physical in Double Door Case 7 Stone Agate, Brass Beam, S.S. Pan	2 Nos.
11	Formalyn	500ml.
12	Copper Connecting Wire with insulation (single wire), DCC	1 coil
13	Conical flask (100ml)	12 nos.
14	Cork (18mm wooden)	4 doz
15	Cork (28mm wooden)	4 doz
16	Cork (rubber - assorted)	4 doz
17	Cork borer (set of six, 4 -10mm, brass, heavy duty)	2 sets
18	Copper sulphate	500 gm
19	Distillation apparatus with graham condenser, interchangeable joints and stopper, 500ml.	2 sets
20	Drinking straw (Plastic)	2 dz
21	Filter paper (medium retention and flow, 9 cm dia)	4 pkts
22	Fire extinguisher	1 No
23	Forceps (blunt end, steel)	15 nos.
24	Forceps (sharp end, steel)	15 nos.
25	Funnel (50 mm)	15 nos.
26	Glass rods (6mm)	3 kg
27	Glass tubes (8mm)	2 Kg
28	Hand lens (75mm, metal handle)	20 nos.
29	Horse Shoe Magnet with keepers, 4". Made of steel, (for N & S) spray painted, with keeper.	6 Nos.
30	Iodine Solution	500ml.
31	Iodine crystal	100gm x 5
32	Iron filings	500g
33	Litmus paper(red)	4 pkts.
34	Litmus paper (blue)	4 pkts.
35	Litmus solution	100ml
36	Magnetic compass (fine needle, 1" dia, Alnico: both side glass)	12 nos.
37	Measuring cylinder (100ml)	15 nos.
38	Measuring cylinder (250ml)	15 nos.
39	Meter rule (SS,100cm)	12 nos.
40	Microscope (compound - Olympus, 10x & 15x -eye pc, objt. To total magification 10x - 675x in cabinet with lock & key, lens diaphragm, dust cover and duster)	2 nos.
41	Microscope slides	4 pkts
42	Microscope slides cover slips	4 pkts
43	Microscope permanent slides:	2 each
	Plant cell	

Sl.No.	Items	Qty.
	Animal cell	
	Blood cell (3 cell types)	
44	Modelling clay	6 pkts
45	Motor & pestle (unglazed inside and glazed outside, 10 cm)	6 Nos.
46	Pendulum bobs (brass, 1" diameter)	6 nos.
47	pH paper (with numerical scale packed in a plastic container)	4 pkts
48	Plane mirror (3"x4", strip with holders)	12 nos.
49	Plastic tray (18"x12"x6")	8 Nos
50	Potassium permagnate	500gm
51	Prisms (50mm, equilateral, Borosil -silicate, crown glass)	6 nos.
52	Pulley (single with metal hook)	6 nos.
53	Pulley (double with metal hook)	2 sets
54	Retort Stand with clamp and boss head, complete with retort ring, heavy base.	6 nos.
55	Rubber tubing(8mm diameter, soft)	20m
56	Slotted Weights with hanger, C.P. Brass. Made of machined brass, finely adjustable and marked. Provided with 4 mm slot to fit hanger. Arranged on a metal rack with handle:	2 set
	a) 5 x 5 gm = 25 gm	
	b) 10 x 5 gm = 50 gm	
	c) 20 x 5 gm = 100 gm	
	d) 100 x 5 gm = 500 gm	
57	Scissors (steel, a set of four) - dissecting:	
	Blunt	2 sets
	Sharp	2 sets
58	Screw driver set with tester	1 set
59	Sealing wax	1 pkt.
60	Sieve (30cmx20cm)	6 Nos.
61	Soil testing kit (4 parameters, packed in a plastic carrier)	2 sets
62	Specimen jar	6 Nos.
63	Spirit	10 litres
64	Spirit lamp (brass, 6/50)	12 nos.
65	Spring (5 " length)	12 nos.
66	Spring Balance 1-1000 gms. Brass Scale. Flat form with zero adjustable device having anodized metal scale, metal parts richly plated in high impact polysterene body. Suspension loop at top and load hook at the lower head. Individually packed in a beautiful cardboard box.	15 nos.
67	Stop clocks (metal body without 0 error)	6 nos.
68	Syringe (10 ml, plastic)	6 nos.
69	Test tube (15x150)	100 nos
70	Test tube (32x200)	200 nos
71	Test tube holder (brass)	24 Nos.
73	Test tube rack (plastic)	12 nos.
74	Thermometer (-10° -110°C, 30cm)	12 nos.
75	Thermometer (clinical)	6 nos.
76	Tong (6" steel)	12 nos.
77	Torch Bulbs (1.5V)	15 nos.
78	Torch Bulbs (3V)	15 nos.
79	Torch bulb holder	15 nos.
80	Tripod stand, superior/heavy 8" Ht., Iron black colour painted.	10 nos.
81	Twine thread (thick)	6 bolls

Sl.No.	Items	Qty.
82	Universal indicator solution (pH 4-11)	500ml.
83	Vinegar	2 bottles
84	Wash bottle (500 ml)	6 Nos.
85	Watch glass (75 mm dia)	8 Nos
86	Wheel and axle	2 sets
87	White cloth (cotton)	2 m
88	Wire gauze (asbestos centre, 6"x6")	1 doz
89	Charts and models-	
	Human:	
	• Teeth set (full set model)	1 no.
	• Digestive system (chart)	1 no.
	• Skeletal system (chart)	1 no.
	• Excretory system (chart)	1 no.
	• Circulatory system (chart)	1 no.
	• Respiratory system (chart)	1 no.
	• Reproductive system (male - chart)	1 no.
	• Reproductive system (female - chart)	1 no.
	• Nervous system (chart)	1 no.
	• Muscular system (chart)	1 no.
90	Carpentry tools (in metal box of 540x300x200mm): <i>For improvising teaching aid.</i>	
	1. Pliers (8")	1no.
	2. Nails (assorted)	1 kg
	3. File (triangular, 8")	4 no.
	4. Glass cutter	6 no.
	5. Hammer (claw with metal handle)	1 no.
	6. Measuring tape (10m, Freeman)	1 no.
	7. Plane	1 no.
	8. Saw (plastic handle, 18")	1 no.
	9. Soldering set (soldering rod and wire)	1 pkt.
	10.Scissors 12"	1 no.
	11.Tin cutter	1 no.
	12. Measuring tape (5m, Freeman, steel)	1 no.
	13. Hand Drill with drill bit set upto 1/2"	1 no.
	14. Chisel Made of Carbon Steel, 1/2", 3/4", 1", 2"	1 no each
91	Steel shelves, 3'(breadth) x 3' (height), with acrylic glass lids sliding on top of each shelf, three shelves (14"+10"+6" - hgt), lockable, label slit, ash colour).	3 each
92	Weather Station:	
	1. Wind vane	1
	2. Rain gauge	1
	3. Anemometer	1
	4. Max - mini thermometer	1
	5. Aneroid barometer	1
	6. Mercury barometer	1

SCIENCE LABORATORY EQUIPMENT, GLASSWARE & CHEMICAL STANDARD

LOWER SECONDARY SCHOOL - GLASSWARE

Sl.No.	Item	Qty.
1	Bell jar, Round Bottom, Edge Ground (200x350)	2 nos.
2	Beakers -	
	50 ml	10 nos.
	100ml	10 nos.
	250 ml	10 nos.
	500 ml	10 nos.
3	Beakers PP Autoclavable (plastic) -	
	50 ml	10 nos.
	100ml	10 nos.
	250 ml	10 nos.
	500 ml	10 nos.
4	Boiling tube	6 Nos
5	Burette (50ml)- Straight Bore Stopcock, Accuracy as per	4 nos.
6	Conical flask (100ml)	4 nos.
7	Cover slip	1 pkt
8	Distillation flask, with side arm (vensil, 100ml)	3 nos.
9	Flat bottom flask (250ml)	4 nos.
10	Funnel- Plain, 60° (50mm)	20 nos.
11	Gas jar with cover (small)	4 nos.
12	Glass beads	500g
13	Glass rod (8mm)	1 kg
14	Glass rod (6mm)	1 kg
15	Glass slab (7.2x5.2x1.8cm)	6 nos.
16	Glass tube (8mm)	1 kg
17	Liebig condenser (vensil, 100ml)	3 nos.
18	Measuring cylinder-	
	50 ml	5 Nos
	100 ml	5 Nos
	200 ml	5 Nos
19	Microscope glass slide	2 pkts
20	Petri dish 50 x 17	10 nos.
21	Pipette (10ml)	6 nos.
22	Reagent bottle with lids Amber	6 Nos
23	Rectangular glass vessel (1-2 lit.)	6 nos.
24	Round bottom flask (100ml)	3 nos.
25	Separating funnel (250ml)	2 nos.
26	Specific gravity bottle	6 nos.
27	Test tube -	
	25x150	200 Nos
	32x200	300 Nos
28	Thistle funnel (small)	4 nos.
29	Trough glass	6 nos.
30	Wash bottle (500ml)	10 nos.
31	Watch glass (75mm)	20 nos.
32	Y-shaped glass tube (assorted)	1 pkt.

LOWER SECONDARY SCHOOL - EQUIPMENTS		
Sl.No.	Item	Qty.
1	Aneroid Barometer	1 no.
2	Assorted balloon	1 kg
3	Atomic model (assorted)	2 sets
4	Bar Magnet- 4", Alinco, with keepers (11 x 5 mm)	12 nos.
5	Battery holder	6 nos.
6	Beam balance	3 nos.
7	Bee hive shelf (porcelain)	2 nos.
8	Bicycle pump	1 No
9	Bimetallic strip	6 nos.
10	Block & tackle of 2-3 pulleys	6 nos.
11	Blotting paper	1 pkt.
12	Blow pipe (small, brass NP)	5 nos.
13	Bucket (5 lit.plastic)	2 nos.
14	Bulb (1.5V)	12 nos.
	Bulb (3V)	12 nos.
15	Bulb holders	1 doz.
16	Candle	6 pkts.
17	Carpentary tools (in metal box of 540x300x200mm):	
	1. Pliers (8")	1no.
	2. Nails (assorted)	1 kg
	3. File (triangular, 8")	4 no.
	4. Glass cutter	6 no.
	5. Hammer (claw with metal handle)	1 no.
	6. Measuring tape (10m, Freeman)	1 no.
	7. Plane	1 no.
	8. Saw (plastic handle, 18")	1 no.
	9. Soldering set (soldering rod and wire)	1 pkt.
	10. Scissors 12", S.S.	1 no.
	11. Tin cutter	1 no.
	12. Measuring tape (5m, Freeman, steel)	1 no
	13. Hand Drill with drill bit set upto 1/2"	1 set
	14. Chisel Made of Carbon Steel, 1/2", 3/4", 1", 2"	4 Nos each
18	Cellophane paper red, blue, green, yellow)	
19	Cellotape	1 roll
20	Chart paper (black)	12 nos.
21	Charts:	1no.
	• Digestive	1no.
	• Skeletal	1no.
	• Excretory	1no.
	• Reproductive	1no.
	• Circulatory	1no.
	• Respiratory	1no.
	• Nervous	1no.
	• Muscular	1no.
	• Muscular cell	
	• Life cycle of Tape worm	1no.
	• Life cycle of Round worm	1no.
• Flowering plant (LS)		

Sl.No.	Item	LSS Equipment	Qty.
22	Chemical balance with weight box		1 no.
23	Circuit board		1 no.
24	Clamp Stand Complete, Set 7" x 5" x 24".		15 set
25	Coiled spring helical		10 nos.
26	Colour filter (RGB)		3 each
27	Concave lenses:		
	F = 10 cm		6 nos.
	F = 15 cm		6 nos.
28	Convex lenses:		
	F = 10 cm		6 nos.
	F = 15 cm		6 nos.
29	Copper connecting wire with insulation (SWG26)		20m
30	Copper wire DCC		10m
31	Cork (wooden, assorted 25 - 50mm)		2 doz.
32	Cork (rubber, assorted 25 - 50mm)		2 doz.
33	Cork Borer (set of 3:brass NP)		1 set
34	Cotton wool		1 roll
35	Cotton wool (450g)		2 rolls
36	Crucible (with lid, medium size, porcelain, 50ml)		4 nos.
37	Deflagrating Spoon, with disc & G.I. Wire		4 nos.
38	Displacement can		6 nos.
39	Dissecting Tray with wax, enamelled		5 nos.
40	Dissection Set, 18 instruments, S.S.		5 sets
41	Drawing Board Softwood, 12" x 18", Superior Quality,		6 nos.
42	Drawing pins		1 pkt.
43	Drinking straw		1 pkt.
44	Dropper (2ml, glass)		1 doz.
45	Fire extinguisher		1 No
46	Ear droppers (2ml)		6 nos.
47	Ear model plastic		1 no.
48	Ebonite rod (thin and light)		6 nos.
49	Electric bell model		2 nos.
50	Electric motor (6v,DC)		2 nos.
51	Eye model plastic		1 no.
52	First aid kit		1 set
53	Flannel cloth		2m
54	Force pump model		1 no.
55	Forceps(blunt end)		6 nos.
	Forceps (sharp end)		6 nos.
56	Fur cloth		2m
57	Fuse wire - 5A		10 pcs
58	Fuse wire - 15A		10 pcs
59	Gear wheels (model)		2 nos.
60	Gloves (rubber) medium size		1 dz
61	Gold leaf electroscope		1 no
62	Graph paper		50 sheets
63	Hand lens, 3" Metal Frame		20 nos.
64	Hanger and weights - 100 gm of 10 gwgtsm		6 sets
65	Herbarium press		1 no.
66	Horse Shoe Magnet with keepers, 4".		12 nos.

Sl.No.	Item	LSS Equipment	Qty.
67	Human skeleton		1 no.
68	Hydrometer		2 nos.
69	Insulated copper wire (DCC)		100m
70	Lab. thermometer (-10_C -110_C with LC 0.5_C)		6 nos.
71	Lactometer		2 nos.
72	Lift pump (model)		1 no.
73	Magnetic compass (1/2" diameter)		6 nos.
74	Magnetic needle 3"		6 nos.
75	Mandeburg hemisphere		2 nos.
76	Metre scale (SS)		12 nos.
	Metre scale (SS) 1/2 m		12 nos.
77	Microscope (compound - Olympus, 10x & 15x -eye pc,		8 Nos.
78	Milli-ammeter (LC=0.2A)		2 nos.
79	Model of animal cell		1 no.
80	Model of plant cell		1 no.
81	Mortar & pestle (porcelain, 100mm)		3 nos.
82	Mounted needle		10 nos.
83	Napthalene balls		500g
84	Newton Colour Disc, Superior Quality.		2 nos.
85	Nickle and copper foil		1 roll
86	Optical pins		2 doz.
87	Pendulum bobs (brass, 1"diameter)		6 nos.
88	Periscope		1 no.
89	Permanent slides-		
	• amoeba		2nos.
	• bacteria		2nos.
	• euglena		2nos.
	• Human blood		2nos.
	• Human bone cell		2nos.
	• Human muscle cell		2nos.
	• Human nerve cell		2nos.
	• virus		2nos.
	• yeast		2nos.
90	Pinhole camera model		1 no.
91	Pithball electroscope		6 nos.
92	Plane mirrors with support		12 nos.
93	Plastic syringe (2ml, 5ml, 10ml, 20ml)		12 nos.
94	Plastic tubes (3cm dia.)		4m
95	Plasticine		6 pkts.
96	Preserved specimens		
	coral		1no.
	fish		1no.
	flat worm		1no.
	frog		1no.
	garden lizard		1no.
	gold fish		1no.
	hookworm		1no.
	hydra		1no.
	hydrilla		1no.
	jellyfish		1no.

Sl.No.	Item	LSS Equipment	Qty.
	leech		1no.
	marchantia		1no.
	horse tail		1no.
	octopus		1no.
	round worm		1no.
	pinworm		1no.
	planaria		1no.
	salamander		1no.
	sea anemone		1no.
	sea horse		1no.
	sea urchin		1no.
	sea weed		1no.
	snail		1no.
	snake		1no.
	sponge		1no.
	star fish		1no.
	sting ray fish		1no.
	tapeworm		1no.
	toad		1no.
	vallisernia		1no.
97	Ray box		1 no.
98	Razor blade		2 pkts.
99	Resistance wires -		
	Nichrome SWG24,26,28,30		2m
	ConstantanSWG 24,26,28,30		2m
	ManganinSWG 24,26,28,30		2m
100	Retort Stand with clamp and boss head, complete with		6 nos.
101	Rubber tube (8mm)		2 pkts.
102	Scalpel		
103	Scissors - dissecting		
	Sharp		6 nos.
	Blunt		6 nos.
104	Screw driver with tester		1 set
105	Sealing wax		2 pkts.
106	Set of plastic trays starting from 30x40cm, 3 sizes		1 doz.
107	Silk cloth		2m
108	Single movable pulley		6 nos.
109	Single pan balance (butcher balance)		1 no.
110	Six's maximum and minimum thermometer		2 nos.
111	Slinky spring		3 nos.
112	Soft iron bar		6 nos.
113	Soil testing kit		2 nos.
114	Spatula (small, SS, 4")		5 nos.
115	Specimen jars with lids		10 nos.
116	Spherical mirror - concave :		
	F = 10 cm		6 nos.
	F = 15 cm		6 nos.
117	Spherical mirror – convex: F=10cm		6 nos.
	F = 10 cm		6 nos.
	F = 15 cm		6 nos.

Sl.No.	Item	LSS Equipment	Qty.
118	Spirit lamp (brass, medium)		1 doz.
119	Spring balances (N) 0 - 500gm		24 Nos
120	Steel bar		6 nos.
121	Stop clocks (metal body without 0 error)		4 nos.
122	Surgical blade		2 pkts.
123	Test tube brush		12 nos.
124	Test tube holder (brass)		12 nos.
125	Test tube rack (wooden)		6 nos.
126	Thermometer (lab)		6 nos.
127	Three core flexible wire (brown, blue, green, yellow)		2m
128	Tongs (brass)		6 nos.
129	Torch		2 nos.
130	Tripod stand, superior/heavy 8" Ht., Iron black colour		10 nos.
131	Tripod stand, superior/heavy 8" Ht., Iron black colour		1 doz.
132	TT balls		2 nos.
133	Tuning fork Ragg's Type set of 8		1 set
134	Twine thread		1 roll
135	Voltmeter (LC=0.2): 0-3v		4 nos.
136	Weather Station:		
	1. Wet & dry bulb thermometer		2 nos.
	2. Wind vane		1
	3. Rain gauge		1
	4. Anemometer		1
	5. Max - mini thermometer		1
	6. Aneroid barometer		1
	7. Mercury barometer		1
138	Wheel & axle (model)		1 no.
139	Wire gauge, with asbestos centre 6" x 6"		6 nos.
140	Woolen cloth		2m
141	Zero' centre galvanometer (LC=0.3A)		4 nos.
142	Fire extinguisher 8 litre, dry powder)		1 No

SCIENCE LABORATORY EQUIPMENT, GLASSWARE & CHEMICAL STANDARD

LOWER SECONDARY SCHOOL CHEMICALS

Sl.No.	Item	Qty.
1	Acetic acid	500ml
2	Alum	250g
3	Aluminium	250g
4	Aluminium Hydroxide	240 gm
5	Ammonia	500ml x 2
6	Ammonium chloride	500g
7	Ammonium hydroxide	500ml
8	Ammonium Sulphate	250gm
9	Barium chloride	500g
10	Barium sulphate	500g
11	Benedict solution	500ml
12	Calcium bicarbonate	250g
13	Calcium carbonate	500g
14	Calcium chloride	500g
15	Calcium hydroxide	500g
16	Calcium oxide	500g
17	Calcium powder	100g
18	Calcium sulphate	250g
19	Carbon disulphide	500ml
20	Cobalt Chloride paper	2 pkt.
21	Cobalt chloride paper	1 pkt.
22	Conc.HCl &	500ml x 2
23	Copper carbonate	250g
24	Copper nitrate	250g
25	Copper oxide	500g
26	Copper sulphate	500g
27	Copper turnings	250g
28	CuSO4 (crystals)	500gm
29	Eosin dye	200g
30	Ethanol	500g
31	Ethyl alcohol	500ml.
32	Ferric chloride	500g
33	Ferrous sulphate	500g
34	Filter paper (9.0cm)	2pkts. (100pc.)
35	Formaldehyde	500ml.
36	Formalin	500ml.
37	Glucose	500g
38	Glycerine	500ml.
39	Hydrochloric acid (conc.)	1 litre
40	Hydrogen peroxide (30%)	500ml
41	Iodine crystals	250g
42	Iodine solution	500ml
43	Iron filings	250g
44	Iron filings	100g
45	KMnO4 and	500gm
46	Lead carbonate	250g
47	Lead dioxide	250g
48	Lead monoxide	500g

Sl.No.	Item	Qty.
49	Lead nitrate	500g
50	Litmus paper-	
	Blue	2 pkt.
	Red	2pkts. (100pc.)
51	Litmus solution-	
	Blue	125ml
	Red	125ml
52	Magnesium bicarbonate	250g
53	Magnesium carbonate	500g
54	Magnesium ribbon	100g
55	Magnesium sulphate	500g
56	Manganese dioxide	500g
57	Mercury	500gm x 2
58	Mercury oxide	300g
59	Methyl orange	500ml
60	Methylated spirit	10 litres
61	Methylene blue	500ml
62	Napthalene	250g
63	Nitric acid (conc.)	1000ml
64	pH paper (0-14 scale)	2 pkt.
65	Phenolphthalein	500ml
66	Potassium hydroxide	500g
67	Potassium iodide	100g
68	Potassium nitrate	500g
69	Potassium permanganate	500g
70	Potassium permanganate	250g
71	Red lead oxide	250g
72	Safferin blue	500ml
73	Silver nitrate	100g
74	Sodium bicarbonate	500g
75	Sodium bicarbonate	500g
76	Sodium carbonate	250g
77	Sodium chloride	500g
78	Sodium hydroxide	500g
79	Sodium metal	50g
80	Sodium nitrate	250g
81	Sodium Nitrite	250 gm
82	Sodium Sulphate	250 gm
83	Spirit	10litres
84	Starch	500g
85	Sucrose	500g
86	Sulphur powder	250g
87	Sulphuric acid (conc.)	1000ml
88	Universal indicator paper	1 roll
89	Universal Indicator solution	500ml
90	Vinegar	250 gm
91	Wax paraffin	500g
92	White petroleum jelly	250g
93	Xylene	500ml
94	Yeast powder	200g

Sl.No.	Item	Qty.
95	Zinc (Granulated)	100gm
96	Zinc carbonate	500g
97	Zinc metal	250g
98	Zinc nitrate	500g
99	Zinc oxide	500g

**SCIENCE LABORATORY EQUIPMENT, GLASSWARE & CHEMICAL STANDARD
MIDDLE SECONDARY SCHOOL CHEMICALS**

SUBJECT: BIOLOGY		
Sl.No	Item	Qty.
1	Acetic acid	500ml x 1
2	Acetone	500ml x 1
3	Ammonium hydroxide	500ml
4	Anti serum A , B & Rh	2 Sets
5	Benedict's solution	2 btls.
6	Canada balsam	100 ml
7	Carbolic acid	1 lit.
8	Chloroform (500 ml)	2 lit.
9	Cobalt chloride paper	6 pkts.
10	Eosin dye	200g
11	Ethyl alcohol	1 litre
12	Fehling solution -	
	• A	500ml
	• B	500ml
13	Filter paper (9.0cm)	6 pkts.
14	Formalin	500mlx10
15	Glucose	500g
16	Glycerine (500 ml)	1 No.
17	Iodine solution	500ml
18	Leishman's stain	250 ml
19	Litmus paper	
	• blue	6 pkts.
	• red	6 pkts.
20	Mercury	500 gm
21	Millions reagent	500ml.
22	Potassium hydroxide	500ml.
23	Potassium permanganate	500ml.
24	Safferin blue	500ml
25	Sodium bicarbonate	500g
26	Spirit	5 litre
27	Starch	500g
28	Sucrose	500g
29	Sudan solution	500ml.
30	Vaseline	500gx2
31	Yeast powder	500g
SUBJECT: CHEMISTRY		
1	Acetic acid	500ml
2	Aluminium sulphate	500g
3	Ammonium carbonate	500g
4	Ammonium chloride	1000gm
5	Ammonium dichromate	500g
6	Ammonium hydroxide	500g
7	Ammonium sulphate	500g
8	Barium chloride	500g X 2
9	Calcium metal granulated	500g
10	Calcium carbonate	500g

Sl.No	Item	Qty.
11	Calcium chloride anhydrous	500g
12	Carbon disulphide	500ml
13	Calcium nitrate	500g
14	Calcium oxide	500g
15	Calcium sulphate	500g
16	Cobalt nitrate	500g
17	Copper carbonate	500g
18	Copper chloride	500g
19	Copper nitrate	500g
20	Copper oxide	500g
21	Copper sulphate	500g
22	Copper turnings	250g
23	Ferric carbonate	500g
24	Ferric chloride	500g
25	Ferric nitrate	500g
26	Ferrous chloride	500g
27	Ferrous nitrate	500g
28	Ferrous sulphate	500g
29	Ferrous sulphide	1 kg
30	Filter paper (9.0cm)	12 pkts.
31	Glucose	500g
32	Iodine	100ml X 2
33	Hydrochloric acid (conc)	500ml x 4
34	Hydrogen peroxide (30%)	500ml X 2
35	Lead acetate	500g
36	Lead carbonate	500g
37	Lead chloride	500g
38	Lead dioxide	500g
39	Lead monoxide (litharge)	500g
40	Lead nitrate	500g
41	Lead oxide (red lead)	500g
42	Lead sulphate	500g
43	Litmus paper red	10 pkts.
44	Litmus paper blue	10 pkts.
45	Magnesium metal ribbon	25g
46	Magnesium carbonate	500g
47	Magnesium chloride	500g
48	Magnesium nitrate	500g
49	Magnesium sulphate	500g
50	Manganese chloride	500g
51	Manganese dioxide	500g
52	Manganese sulphate	500g
53	Mercury	250g
54	Mercuric chloride	500g
55	Mercuric oxide red purified	500g
56	Methyl orange	500ml
57	Methylene blue	500ml
58	Nitric acid (conc.)	500ml x 4

Sl.No	Item	Qty.
59	Nickle sulphate	500g
60	Phenolphthalein	500ml
61	Platinum loop/nichrome	10 pkt
62	Potash alum	500g
63	Potassium dichromate	500g
64	Potassium dichromate paper	4 pkts.
65	Potassium chloride	500g
66	Potassium ferricyanide	500g
67	Potassium ferrocyanide	500g
68	Potassium hydroxide	500g
69	Potassium iodide	500g
70	Potassium iodide paper	4 pkts.
71	Potassium nitrate	500g
72	Potassium sulphate	500g
73	Potassium permaganate	500g
74	Silver nitrate	250g
75	Sodium acetate	500g
76	Sodium bicarbonate	500g
77	Sodium carbonate	500g
78	Sodium chloride/common salt	500g
79	Sodium hydroxide pellets	500g
80	Sodium nitrate	500g
81	Sodium sulphate	500g
82	Sodium thiosulphate	500ml
83	Spirit LP	10 litres
84	Starch	500g
85	Sulphuric acid	500ml x 4
86	Universal indicator	500ml
87	Zinc carbonate	500g
88	Zinc chloride	500g
89	Zinc granules	500g
90	Zinc nitrate	500g
91	Zinc sulphate	500g
92	Zinc sulphide	500g
93	Zinc sulphite	500g
94	Xylene	500ml
SUBJECT: PHYSICS		
1	Iron filings	500gm
2	Mercury	500gm x 2
3	Spirit (in PPJerkin)*	5 litres
4	Sulphuric acid (dil.)	500ml x 2

**If no gas connection, 10 litres. Otherwise, 5 litres.*

**SCIENCE LABORATORY EQUIPMENT, GLASSWARE & CHEMICAL STANDARD
MIDDLE SECONDARY SCHOOL GLASSWARE**

<i>SUBJECT: BIOLOGY</i>		
Sl.No	Item	Qty.
1	Beakers -	
	• 400ml	15 nos.
	• 500ml	15 nos.
	• 100 ml	15 Nos.
	• 250 ml	15 Nos.
2	Bell jar (with opening at the top and side tube)	4 Nos.
3	Capillary tubes (assorted)	3 pkts
4	Evaporating dish (80x45)	10 nos.
5	Funnel (50 mm)	15 nos.
6	Glass rod	30 nos.
7	Ganong's Potometer	10 Nos.
8	Measuring cylinder -	
	• 100ml	10 nos.
	• 500ml	10 nos.
9	Microscope slide	100 nos.
10	Microscope slide cover	100 nos.
11	Reagent bottles with stoppers	
	• 250ml	10 nos.
	• 500ml	10 nos.
12	Specimen jar with covers (220x195x80)	24Nos.
13	Test tubes- 32x100mm	300 nos.
	Test tube 25x200 mm	200 nos.
	Test tube 25x100 mm	200 Nos
14	Single Distillation plant 1.5 Ltr per hour. All Glass, with built in heater Horizontal type (including installation & training)	1 Set
15	Visking tubing	10 Nos.
<i>SUBJECT: CHEMISTRY</i>		
1	Beakers	
	• 250ml	40 nos.
	• 500ml	40 nos.
2	Burette (50ml)- Straight Bore Stopcock, Accuracy as per Class A of I.S. 1997: 1982, with work certificate	10 nos.
3	Conical flask:	
	• 500 ml	24 nos.
	• 250ml	24 nos.
4	Delivery tube (assorted, glass)	20 nos.
5	Dessicator (medium)	2 nos.
6	Distillation flask, with side arm (vensil, 100ml)	5 nos.
7	Drying tower	2 nos.
8	Evaporating dish (80x45)	15 nos.
9	Flat bottom flask:	
	• 500ml	10 nos.
	• 250ml	10 nos.

Sl.No	Item	Qty.
10	Funnel (50mm)	24 nos.
	Funnel (100mm)	15 nos.
11	Gas jar (with cover, small)	10 nos.
12	Glass tube (8mm)	4 kgs
13	Glass trough (15x30cm)	2 nos.
14	Glass rod (6mm)	2 kg
15	Kipps apparatus (500ml)	1 set
16	Liebig condenser (100ml)	5 nos.
17	Measuring cylinder	
	• 100ml	10 nos.
	• 500ml	10 nos.
	• 1000ml	10 nos.
18	Pipette - 25ml	6 nos.
19	Reagent bottles with stopper	
	• 250ml	20 nos.
	• 500ml	20 nos.
20	Round bottom flask: 250ml	20 Nos.
	• 500ml	20 nos.
21	Separating funnel (250ml)	4 nos.
22	Test tube (hard glass)	
	25x100mm	300nos.
	32x200 mm	300 nos.
23	Thistle funnel (small)*	30 nos.
24	U tube (small, glass)	15 nos.
25	Volumetric flask - 500 ml Class A with work certificate)	10 Nos.
26	Volumetric flask - 250 ml Class A with work certificate	10 nos.
27	Watch glass (100mm diameter)	30 nos.
28	Water bottle 500 ml	20 nos.
29	Weighing bottle (15ml, 25x60)	5 nos.
30	Wolf bottle (500ml)	5 nos.
31	Bottle Aspirator with interchangeable stopper & stop cock 2000 ml	3 nos.
SUBJECT: PHYSICS		
1	Beaker	
	• 200ml	15 nos.
	• 250ml	15nos.
	• 500ml	15 nos.
2	Capillary tubes (assorted size)	2 pkts
3	Glass rod (6mm)	1 kg.
4	Glass slab (600x400)	12 nos.
5	Glass tube (8mm)	1 kg
6	Measuring cylinder	
	• 25ml	10 nos.
	• 100ml	15 nos.
	• 200ml	15 nos.
	• 1000ml	10 nos.
7	Specific gravity bottle	12 nos.

**SCIENCE LABORATORY EQUIPMENT, GLASSWARE & CHEMICAL STANDARD
MIDDLE SECONDARY SCHOOL EQUIPMENTS**

SUBJECT: BIOLOGY		
Sl.No	Equipment	Qty.
1	Air pump (aspirator)	2 sets
2	Aquarium (pastic)	2
3	Binocular microscope (10x, 40x, 100x)	8 Nos.
4	Clamp Stand Complete, Set 7" x 5" x 24". Provided with nicely painted with plastic feet for stability having leveling screw, chrome plated rod, die pressed clamp & aluminium cast and boss head.	10 nos.
5	Cork (5 -16 size, wooden)	5 Doz.
6	Cork sheet	6 nos.
7	Cotton absorbent	6 pkts.
8	Dropper (assorted)	20 nos.
9	Dissecting sets	20 nos.
10	Dissecting trays	20 nos.
11	Forcep	
	• blunt end	40 nos.
	• pointed end	40 nos.
13	Hand lens (bifocal)	24 nos.
15	Incubator	1 nos.
16	Microscope (compound - Olympus, 10x & 15x -eye pc, objt. To total magification 10x - 675x in cabinet with lock & key, lens diaphragm, dust cover and duster)	8 Nos.
17	Micro Microscope MMO2 Portable, very light weight of 350gms, built in light source powered by 9V battery operated, magnification: 50x & 225x (using 5x eye piece), 100x & 450x (using 10x eye piece) and 150x & 675x (using 15x eye piece), clarity level extremely good.	10 Nos.
18	Mounting needle	5 pkts.
19	Motar and pestle (porcelain,4")	8 nos.
20	Plant herbarium press (wooden)	2 nos.
21	Plasticine	5pkts
22	pH meter	2 Nos.
23	Retort Stand with clamp and boss head, complete with	20 Nos.
24	Rubber tubing	2 coils
25	Soil testing kit	2 Nos.
26	Spatula (metal)	10 Nos.
27	Spirit lamps (brass)	12 nos.
28	Stop clocks (metal body without 0 error)	8 Nos.
29	Test tube brush (small)	40 nos.
30	Test tube holder (brass)	40 nos.
31	Test tube racks (wooden)	40 nos.
32	Thermometer (lab,-10 C-110 C with LC 0.5 C)	12 nos.
33	Tongs	20 nos.
34	Tripod stand, superior/heavy 8" Ht., Iron black colour painted.	20nos.

Sl.No	Equipment	Qty.
35	Thermoflask 1 lit.	6 Nos.
36	Water bath	2 No.
37	Wire gauge, with asbestos centre 6" x 6"	20 nos.
38	Permanent slides-	
	• amoeba	2 Nos.
	• dicot leaf	1 no.
	• dicot root	1 no.
	• dicot stem	1 no.
	• euglena	1 no.
	• human bone cell	1 no.
	• human blood cell	1 no.
	• human muscle cell	1 no.
	• human nerve cell	1 no.
	• monocot leaf	1 no.
	• monocot root	1 no.
	• monocot stem	1 no.
	• paramecium	1 no.
	• plasmodium	1 no.
39	Preserved specimen -	
	• coral	1no.
	• crab	1no
	• flatworm	1no.
	• flying fish	1no.
	• frog	1no.
	• garden lizard	1no.
	• gold fish	1no.
	• hookworm	1no.
	• horse tail	1no.
	• hydra	1no.
	• hydrilla	1no.
	• leech	1no.
	• marchantia	1no.
	• millipede	1no.
	• obelia	1no.
	• octopus	1no.
	• pearl oyster	1no.
	• pinworm	1no.
	• planeria	1no.
	• salamander	1no.
	• sea anemone	1no.
	• sea cucumber	1no.
	• sea horse	1no.
	• sea lily	1no.
	• sea urchin	1no.
	• sea weed	1no.
	• scorpion	1no.
	• snail	1no.

Sl.No	Equipment	Qty.
	• star fish	1no.
	• sting ray	1no.
	• sycone	1no.
	• tapeworm	1no.
	• toad	1no.
	• tortoise	1no.
40	Charts-	
	*Human systems:	
	• circulatory	1no.
	• digestive	1no.
	• endocrine	1no.
	• excretory	1no.
	• muscular	1no.
	• nervous	1no.
	• reproductive	1no.
	• respiratory	1no.
	skin	1 no.
	• skeletal	1no.
	• fertilization	1no.
	*Anatomy of leaf and fruits	1no.
	*Animal cell	1no.
	*Different seeds	1no.
	*Digestive systems of:	
	• cockroach	1no.
	• earthworm	1no.
	• frog	1no.
	• rabbit	1no.
	*Plant cell	1no.
	*Germination of seeds	1 no
	*Fruits	1 no
	*Stem, root and leaf modification	1 each
	*Life cycle of plants	
	*Mitosis & Meosis	1 each
	*Respiratory systems of:	
	• cockroach	1no.
	• frog	1no.
	• rabbit	1no.
41	Models-	
	• Mitosis & Meosis	1 each
	• brain	1no.
	• ear	1no.
	• eye	1no.
	• skull	1no.
	• Fish (internal organs)	1no.
42	Sealing wax	1 pkt
43	Skeleton	1no.
44	OHP (4-50W, 2200 lumin)	1 No

Sl.No	Equipment	Qty.
45	Fire extinguisher (8 litre, dry powder)	1 No
SUBJECT: CHEMISTRY		
1	Atomic model (Stick & ball model)	2 nos.
2	Bee hive shelf	8 Nos.
3	Blow pipe (small, brass NP)	12 nos.
4	Burette brush	5 nos.
5	Chemical Balance in Double Door, Brass Beam, S.S. Pan	5 nos.
6	Clay triangle	50 Nos.
7	Clamp Stand Complete, Set 7" x 5" x 24". Provided with nicely painted with plastic feet for stability having leveling screw, chrome plated rod, die pressed clamp & aluminium cast and boss head.	15 nos.
8	Cork (assorted)	
	• rubber	4 doz.
	• wooden	4 doz.
9	Cork borer NP set of 6	2 set
10	Copper wire DCC	10m
11	Crucible with lid (medium)	25 Nos.
12	Deflagrating Spoon, with disc & G.I. Wire	12 nos.
13	Digital balance	1 nos.
14	Dropper (2ml, glass)	20 nos.
15	Electrode: Carbon	4 Nos
	Zinc	4 Nos
	Copper	4 Nos
	Platinum	4 Nos
16	File (Triangular) 6"	6 nos.
17	Gloves (hand)	2 dz
18	Hoffman's voltmeter	2 nos.
19	LPG Gas plant complete set with 40 Bunsen burner made of seamless pipe (Tata) including installation, assembling, and testing at site excluding LPG Gas. The site will be identified/intimated in the supply order	1 set
20	Lactometer	5 nos.
21	Bar Magnet- 4", Alinco, with keepers (11 x 5 mm) Made of cobalt steel, in pairs, half red and half blue (for N & S) spray painted, very strong with keepers	4 nos.
22	Manual Centrifuge, Hand Operated for 4 -Tubes	1 set
23	Mortar and pestle (porcelain, 4")	8 nos.
24	Periodic Table Chart, PCV Laminated- Modern	2 no.
	Periodic Table Chart, PCV Laminated- Mendelef	2 no.
25	Porous pot (porcelain)	1 no.
26	Retort Stand with clamp and boss head, complete with retort ring.	2 nos.
27	Rubber tubes (8mmx3mm)	2 rolls
28	Sieve - Plastic	1 No
	Steel	1 No
29	Spatula (small) SS 4"	15 nos.
30	Spirit lamp (brass, medium)	20 nos.

Sl.No	Equipment	Qty.
31	Test tube brush (small)	20 nos.
32	Test tube rack (wooden, 12 holes)	40 nos.
33	Tongs (brass, NP, 20cm)	20 nos.
34	Tripod stand, superior/heavy 8" Ht., Iron black colour painted.	15 nos.
35	Water bottle 500ml	20 nos.
36	Wire gauge, with asbestos centre 6" x 6"	10 nos.
37	Fire extinguisher (8 litre, dry powder)	1 No
SUBJECT: PHYSICS		
1	Acid battery hydrometer	2 nos.
2	Adaptor (0-12 V)	3 no.
3	Air Thermometer Constant Volume . With 3 way stop cock for filling the dry air and zero index fused in to the top of the mercury tube, fitted on wooden polished stand supporting the brass pot in which the bulb is immersed with leveling tube.	1 no.
4	Air Thermometer Constant Pressure With 3 way stop cock for admitting or removing air & U tube of which one limb is 25ml. Graduated for measuring the expansion of air. The base is of woodne with mercury tray and removable shelf for supporting the brass pot with leveling tube.	1 no.
5	Ammeter 0 - 3A	2 doz.
6	Aneroid barometer	1 no.
7	Archemide's Balance in Glass Case	2 nos.
8	Battery charger	1 no.
9	Bar Magnet- 2", Alinco, with keepers (11 x 5 mm) Made of cobalt steel, in pairs, half red and half blue (for N & S) spray painted, very strong with keepers	12 nos.
10	Beam balance with a set of weights	2 nos.
11	Bimetallic strip	3 nos.
12	Block & tackle pulley	
	• 4 pulley	6 nos.
	• 6 pulley	6 nos.
14	Boyle's law apparatus	1 set
15	Brass terminal	2 pkts.
16	Bulb (2.5v)	12 nos.
17	Bulb holder (torch bulb holder)	2 doz.
19	Clamp Stand Complete, Set 7" x 5" x 24". Provided with nicely painted with plastic feet for stability having leveling screw, chrome plated rod, die pressed clamp & aluminium cast and boss head.	10 sets
20	Charles law apparatus	1 no.
21	Clinical thermometer	4 Nos.
22	Colour filters (RGB)	3 each
23	Compass needle with stand	6 nos.
24	Concave lens	
	• auxillary	1 doz.
	• 10-12cm	1 doz.

Sl.No	Equipment	Qty.
25	Concave lens (double, 10-20cm)	12 nos.
	Convex lens (double, 10-12cm)	2 doz.
26	Copper Calorimeter with stirrer 3" x 4"	8 nos.
27	Copper Voltmeter with jar. It demonastrates the principle of electroplating. It consists of three copper plates suspended from a moulded Bakelite cover either in a glass jar or plastic jar. The wto outer plates called "LOSS PLATES" are connected to one binding post on top and the inner "GAIN PLATE" is connected to the other binding post. All plates are firmly held in position when clamped and are easily inserted or removed, Chemicals are not included.	1 nos.
28	Crocodile clips	50 nos.
29	Danicell Cell Complete, Jointless. This cell is steady & reliable and may be used as open or close circuit works. It consists of zinc rod immersed in a very dilute solution of sulphuric acid in an empty porus pot which in turn is immersed in copper sulphate solution. This cell consisits of copper suphate solution. This cell consists of copper pot of approximate size 5 1/2" x 3 1/2" Chemicals are not included. (Only copper pot for daniel cell of size 5 1/2" x 3 1/2" empty porus pot and zinc rod is provided)	1 nos.
30	Drawing Board Softwood, 12" x 18", Superior Quality, Softwood	15 nos.
31	Deflection Magnetometer . 1 meter long plywood board sunmica pasted fitted with meter scale complete with Deflection Box.	5 Nos.
34	Ebonite Rod 12" long	6 nos.
35	Electrodes	
	• copper	2 nos.
	• zinc	2 nos.
36	Electric Bell Démonstration Model	2 nos.
37	Electromagnet (U shaped)	6 nos.
38	Electric motor ((6v, DC)	2 nos.
39	Flannel cloth	2m
40	Flexible wire	20m
41	Fortein's Barometer in Glass Case without mercury	1 no.
42	Fur cloth	2m
43	Fuse wire -	
	• 5A	1 coil
	• 15A	1coil
44	Glass slab 6"x4"	10 nos.
45	Gold leaf electroscope	1 no.
46	Half meter rule Stainless Steel	12 nos.
47	Hand lens	10 nos.
48	Hydrometer	3 nos.
49	Head pin	5 pkts
50	Helical spring	8 nos

Sl.No	Equipment	Qty.
51	Hope's apparatus	1 no.
52	Horse Shoe Magnet with keepers, 2". Made of steel, (for N & S) spray painted, with keeper.	2 nos.
53	Hydraulic pump model	1 no.
54	Hydrometer	3 nos.
55	Inclined Plain with Roller and Pan 60 x 7 1/2 cm, Aluminium Arc. For experiments on sliding friction. Comprises inclined wood plane, 600 x 75 x 20 mm with 22 mm diameter pulley, hinged to wood base, 450 x 75 x 20 mm. Linear scale fixed to base with clamp, shaped for use as index. With one each wood blocks, 200 x 75 mm and 100 x 75 mm, steel block 100 x 75 mm. scale pan 75 mm diameter, cord and hooks.	2 nos.
56	Induction Coil. The primaries are wound with thicker copper enamelled covered wire on letherite pipe in two layers. The secondary coils are divided into two parts and are given heavy insulation, each layer is wound in the cover into hot wax, so that each layer is sealed against moisture effect. The coil are housed in a teakwood base, voltage tested condensers are fitted inside the woodne polished base. Handles to get the spark are on it the make and break points are of silver. One point is adjustable to get any cycle. On off reversing switch commutator, working on 6-12 V d.c. spark in air.	6 nos.
57	Lab Thermometer -10 to 110 degree celcius, 300 mm length	12 nos.
58	Lactometer, Superior with jar	2 nos.
69	Lead acid accumulator (2v)	1 nos.
60	Lead shots	3 pkts.
61	Lachlanche cell in poly pot. Because of it's higher e.m.f. 1.5 v and lower eternal internal resistance this cell will deliver a stronger current for short period of time than the daniel cell. It consists of either galss or plastic container 95 x 95 x 150 mm length x width x height. The rim is shaped to accomodate the cathode, a zinc rod with terminal. (A carbon anode with terminal is sealed in a porous pot containing the depolarizer). We provide filled porous pot for anode. Requires approximately 500ml ammonium chloride electrolyte with zinc rod and filled porous pot but supplied without electrolyte.	1 nos.
62	Lens: Concave: 5 cm F	6 nos.
	10 cm F	6 nos.
	15 cm F	6 nos.
	20 cm F	6 nos.
63	Lens: Convex: 5 cm F	6 nos.
	10 cm F	1 doz.
	15 cm F	24 nos.
	20 cm F	24 nos.
64	Lens holder for optical bench	8 Nos.

Sl.No	Equipment	Qty.
65	Magnetic compass (1" diameter)	6 nos.
66	Meter scale : 100cm (stainless steel)	10 nos.
67	Meter scale: 50 cm (stainless steel)	10 nos.
68	Meter Bridge 4 gap, brass parts, Sunmica Top. 4 gap, single wire, 1 meter long plywood base, Sunmica Pasted with meter scale fitted, stout brass contact, strip with brass terminals, complete with pencil jockey.	3 Nos.
69	Moving Coil Galvanometer in Bakelite Case.	15 nos.
70	Multimeter	1 No.
71	Newton Colour Disc, Superior Quality.	2 nos.
72	Nichrome wire	20m
73	Optical Bench with accessories complete. Double rod, one meter long nicely chrome plated complete with metal for uprights 2 lens holders and 2 pins holders.	8 nos.
74	Optical pin	2 doz.
75	Overflow can (overflow can)	8 nos.
76	Pascal's syringe	2 nos.
77	Parabolic Mirror (Reflector) 20cm on stand	6 nos.
78	Pendulum bobs (brass, 1/2')	10 nos.
79	Periscope	1 no.
80	Pinhole camera model	1 no.
81	Pith Ball Pendulum on base (Electroscope)	4 nos.
82	Plane mirror with support	15 nos.
83	Pliers	3 Nos.
84	Plug & key	15 nos.
85	Prism (50mm, glass, isosceles)	10 nos.
86	Ray Box, Complete	1 no.
87	Regnault's Apparatus, Regnault's Specific Heat Apparatus: It consists of a copper calorimeter placed inside a large copper vessel with felt between the two. Outside of the small vessel & inner side of the large vessel are polished to reduce loss of heat by radiation. The large vessel is surrounded by felt & placed in a wooden box which is attached to a double walled steam heater C.P. provided with sliding screen, water-cooled jacket below the steam heater to prevent radiation.	2 no.
88	Resistance box Brass terminal	1 doz.
89	Resistance wires -	
	Nichrome SWG24,26,28,30	1 coil
	ConstantansSWG24,26,28,30	1 coil
	ManganinSWG24,26,28,30	1 coil

Sl.No	Equipment	Qty.
90	Rheostate: Brass rod, Superior, 1 amp. 6". Comprising a layer of resistance wire wound on an insulating heat resistance tube (Porcelain) which is supported by case metal feet. A sliding contact and three 4mm socket terminals are provided, one terminals being connected to the sliding contact nad the other two to the ends of the winding, enabling the unit to be used as rheostat of potentiometer.	12 nos.
91	Scale pan	2 nos.
92	Scratched glass screen with stand	1 doz.
93	Screw driver with tester	1 set
94	Screw gauge	10 nos.
95	Single movable pulley	12 nos.
96	Single way switch	12 nos.
97	Six's maximum and minimum thermometer	2 nos.
98	Spirit lamps (brass, medium)	6 doz.
99	Slotted weights -	
	• 20g	6 nos.
	• 50g	6 nos.
100	Socket cylinder	6 nos.
101	Soft iron bar	6 nos.
102	Soldering rod	1 no.
103	Soldering wire	4 pkts.
104	Sonometer	1 No
105	Spherical mirror - concave	
	• F=10cm	10 nos.
	• F=15cm	10 nos.
	• F=20cm	10 nos.
106	Spherical mirror - convex	
	• F=10cm	10 nos.
	• F=15cm	10 nos.
	• F=20cm	10 nos.
107	Spirit level 6"	1 no.
108	Spring balances (N) steel body	
	0-100g, LC=1g	10 nos.
	0-200g, LC=2g	10 nos.
	0-500g, LC=5g	10 nos.
109	Steel bar	6 nos.
110	Stop clocks (metal body without 0 error)	15 nos.
111	Tall pins	6 pkts.
112	Tap key (single)	15 nos.
113	Telescope (reflecting)	1 nos.
114	Three core flexible wire	2m
115	Three pin plug	2 nos.
116	Three pin socket	2 nos.
117	Tripod stand, superior/heavy 8" Ht., Iron black colour painted.	10 nos.
118	Tuning fork Ragg's type set of 8	2 sets

Sl.No	Equipment	Qty.
119	Twine thread	1 boll
120	Two way switch	12 nos.
121	Vernier Calliper, Wheel Type C.P. Steel chrome plated, one side graduated in inches & other side in cms., with adjusting wheel & depth gauge, individually packed in cardbox box.	15 nos.
122	Voltmeter (LC=0.2)	
	• 0-3v	2 doz.
	• 0-6v	1 doz.
	• 0-12v	6 nos.
123	Wet & dry bulb thermometer	1 nos.
124	Anemometer	1no.
125	Fire extinguisher (8 litre, dry powder)	1no.

**SCIENCE LABORATORY EQUIPMENT, GLASSWARE & CHEMICAL STANDARD LIST
HIGHER SECONDARY SCHOOL CHEMICALS**

SUBJECT: PHYSICS		
Sl. No.	Item	Qty
1	Mercury	2 kg
SUBJECT: BIOLOGY		
1	Acetocermine	150 ml
2	Agar agar	500 gm
3	Benedict's reagent	500 ml
4	Calcium hydroxide	500 gm
5	Chromic Acid	500 ml
6	Copper sulphate	500 gm
7	Cobalt Chloride Papers	10 pkts.
8	Crystal violet	125ml
9	Diatase tablets	500gm
10	Di-sodium hydrogen phosphate	500 gm
11	Ethanol	500ml
12	Eosin	150 ml X 2
13	Fast green stain	150 X 2
14	Fehling solution : A	500ml
15	Fehling solution : B	500ml
16	Filter paper No 1 100 circles	10 pkts
17	Formalin 40%	500ml x 2
18	Glacial acetic acid	500 ml
19	Glucose	500 gm X 2
20	Glycerine	500 ml X 4
21	Hydrochloric acid: conc.	500 ml
22	Hydrochloric acid: dil.	500 ml
23	Iodine solution	250 ml X 2
24	Leishman stain	500 ml
25	Leishman's stain	250ml
26	Litmus paper: red	5 Pkt.
27	Litmus paper: blue	5 Pkt.
28	Mercury	500gm x 2
29	Methylene blue	125ml x 4
30	Million's reagent	150 ml X 2
31	Nitric acid: conc.	500 ml
32	Nitric acid: dil	500 ml
33	Picric acid	500 ml
34	Potassium chloride	500 ml
35	Potassium hydrogen phosphate	500 gm
36	Potassium hydroxide	500 gm
37	Pyrogalic Acid	500ml
38	Safranine (stain)	150 ml X 4
39	Sodium bocarbonate	500 gm X 2
40	Sodium chloride	500 gm
41	Sodium hydroxide (pellets)	500 gm
42	Spirit in PP Jerkin	5 litres
43	Starch powder	500 gm
44	Sulphuric acid: conc.	500 ml
45	Sucrose	500 gm X 2
46	Sudan III	500 ml
47	Sudan IV	500 ml
48	Sulphuric acid: dil.	500 ml

Sl. No.	Item	Qty
49	Urease enzyme	1 set
SUBJECT: CHEMISTRY		
1	Ammonium chloride	500gm
2	“ carbonate	500 gm
3	“ nitrate	500 gm
4	“ sulphate	500 gm
5	“ dichromate	500 gm
6	“ hydroxide	500 ml
7	Aniline	500 ml
8	Acetic acid	500 ml
9	Acetone	500 ml
10	Ammonium acetate	500 gm
11	“ molybdate	500 gm
12	“ dihydrigen phosphate	500 gm
13	“ oxalate	500 gm
14	Alpha naphthol	500gm
15	Ammonium phosphate	500 gm
16	Beta naphthol	500 gm
17	Bromine water	500 ml
18	Borax	500 gm
19	Boric acid	500 gm
20	Benedict's reagent	500 ml
21	Benzoic acid	500 ml
22	Benzene	500 ml
23	Bleaching powder	500 ml
24	Barium chloride	500 ml
25	Barium sulphate	250 gm
26	Benzaldehyde	500 ml
27	Calcium chloride	250 gm
28	Calcium carbonate	500 gm
29	Calcium hydroxide	500 gm
30	“ nitrate	500 gm
31	Cobalt chloride	250 gm
32	Copper carbonate	250 gm
33	“ nitrate	250 gm
34	“ chloride	250 gm
35	“ sulphate (hydrated)	500 gm
36	Citric acid	500 ml
37	Carbon disulphide	500 ml
38	Calcium acetate	250 gm
39	“ sulphate	250 gm
40	Copper turnings	500gm
41	Cupric acetate	250 gm
42	Chlorine water	500 ml
43	Chloroform	500ml
44	Distilled water	10 litres
45	Dimethyl glyoxine	250 gm
46	Dinitrophenyl hydazine	250 gm
47	Diethyl ether	500 ml
48	Ethanol	500 ml
49	Ferrous sulphide	1000 gm
50	Ferric chloride	500 gm
51	Ferrous ammonium sulphate	250 gm
52	Fehling's solution: A	500 ml
53	“ B	500 ml
54	Ferric nitrate	500 gm

Sl. No.	Item	Qty
55	Ferric sulphate	500 gm
56	Filter paper No 1 100 circles	20 pkts
57	Glycerine	500 ml
58	Glucose	500 gm
59	Hydrochloric acid	5 litres
60	Hydrogen per oxide	500 ml
61	Iron filings	500gm
62	Litmus paper: blue	10 pkts
63	“ red	10 pkts
64	Litmus solution: blue	250 ml
65	“ red	250 ml
66	Phenolphthalein	250 gm
67	Iodine crystal	250 gm
68	Starch iodide paper	5 pkts
69	Lead acetate paper	5 pkts
70	Methyl orange	250 gm
71	Lead carbonate	250 gm
72	“ nitrate	250 gm
73	“ acetate	250 gm
74	“ chromate	250 gm
75	“ dioxide	250 gm
76	“ monoxide	250 gm
77	Magnesium chloride	250 gm
78	“ nitrate	250 gm
79	“ carbonate	250 gm
80	“ sulphate	250 gm
81	Magnesium ribbon	2 pkts
82	Mercury metal	250 gm
83	Mercuric oxide	250 gm
84	“ chloride	250 gm
85	“ iodide	250 gm
86	Millon's reagent	500 ml
87	Manganese dioxide	500 gm
88	Nitric acid	5 litres
89	Nessler's reagent	500 ml
90	Nickel sulphate	250 gm
91	Oxalic acid	250 ml
92	Potassium sodium tartarate	250 gm
93	“ chloride	250 gm
94	“ chromate	250 gm
95	“ dichromate	500 gm
96	“ iodide	1000 gm
97	“ nitrate	500 gm
98	“ hydroxide	500 gm
99	“ sulphate	250 gm
100	“ sulphite	250 gm
101	“ thiocyanate	250 gm
102	“ chlorate	250 gm
103	“ bicarbonate	250 gm
104	“ bromide	250 gm
105	“ permanganate	500 gm
106	“ ferricyanide	250 gm
107	“ ferrocyanide	250 gm
108	“ sulphocyanide	250 gm
109	Phenol	500gm
110	Pthalic anhydride	250 gm

Sl. No.	Item	Qty
111	Pyrogallol	200 gm
112	Resocinol	250 gm
113	Silver nitrate	250 gm
114	“ chloride	250 gm
115	Sodium metal	200 gm
116	“ carbonate	500 gm
117	“ chloride	500 gm
118	“ bicarbonate	500 gm
119	“ hydroxide	500 gm
120	“ nitrate	250 gm
121	“ sulphate	250 gm
122	“ nitrite	250 gm
123	“ thiosulphate	500 gm
124	“ silicate	250 gm
125	“ acetate	250 gm
126	“ phosphate	250 gm
127	“ cobalt nitrite	250 gm
128	“ nitroprusside	250 gm
129	“ citrate	250 gm
130	“ iodide	250 gm
131	“ bisulphite	250 gm
132	“ potassium tartarate	250 gm
133	Stannous chloride	500gm
134	Sulphuric acid	5 litres
135	Schiff's reagent	500 ml
136	Starch	500 gm
137	Tollen's reagent	500 ml
138	Urea	500gm
139	Zinc carbonate	500gm
140	“ nitrate	500gm
141	“ chloride	500gm
142	“ sulphite	500gm
143	“ sulphate	500gm
144	Zinc granules	500gm

**SCIENCE LABORATORY EQUIPMENT, GLASSWARE & CHEMICAL STANDARD LIST
HIGHER SECONDARY SCHOOL EQUIPMENTS**

SUBJECT: PHYSICS		
Sl. No.	Item	Qty
1	Air condenser	1 No
2	Ammeter (0-500mA or 0-1A)	50 Nos
3	Apparatus for measuring coefficient of linear expansion of a metal with 2 travelling microscopes at both ends)	1 No
4	Assorted weights	2 sets
5	Astronomical telescope	1 No
6	Barometer	1 No
7	Battery charger	2 Nos
8	Battery eliminator (12V, 3 A)	40 Nos
9	Beam balance	2 Nos
10	Boyle's law apparatus	5 Nos
11	Brahma's Press / Fire engine model on stand with brass fittings)	1 No
12	Bullinger's apparatus	3 Nos
13	Calcite plates (set of 3 plates)	12 Nos
14	Cathode ray tube (Thompson)	1 no
15	Centrifugal force apparatus (simple form with one ball hanger & slotted weight)	2 Nos
16	Clamp and stand	20 Nos
17	Coefficient of viscosity apparatus	1 No
18	Colour glass filters- yellow, red, green, orange, blue.	1 each
19	Concave lens - FL 10, 15, 20 cm	50 each
20	Concave mirror - FL 10, 15, 20 cm	50 each
21	Conductor cone	2 Nos
22	Conductor sphere	2 Nos
23	Connecting wire (copper) 28 SWG	500 m
24	Constant pressure air thermometer	2 Nos
25	Constant volume air thermometer	2 Nos
26	Convex lens – FL 10, 15, 20 cm	50 each
27	Convex mirror – FL 10, 15, 20 cm	50 each
28	Copper plate (6"x2")	2 Nos
29	Crocodile clips	100 Nos
30	Diffraction gratings (hilger & Watts type, 50x35mm)	2 Nos
31	Diode valve	6 nos
32	Double image prism (Wollaston – 10mm sq.)	2 Nos
33	Dulong & petit apparatus	2 Nos
34	Electrical resistant calorimeter	2 Nos
35	Expansion of liquid apparatus (Glass flask with tripod stand – complete with retort stand & capillary tube)	4 Nos
36	Faraday's butterfly (net on insulated stand)	2 Nos
37	Fergusson's Pyrometer	1 No
38	Fletcher Trolley Complete all metals with cylindrical weights. Fitted with wheels, two steel rods are held in heavy clamps, which are fitted to two vertical rods mounted on heavy feet. The steel vibrator is fitted to one of the vertical rods. Complete with cord and scale pan.	1 no
39	Fly wheel with counter. About 20 cms in dia by 44 mm wide turned and carefully balanced, mounted on a horizontal shaft held in ball bearings. The wheel is marked and pointer is fixed to the bracket. The bracket has four holes and can be fixed to the wall also, complete.	1 no
40	Fresnel's Bi-prism (40x32mm)	10 Nos
41	Galvanometer (Centre zero)	50 Nos
42	Glass slab	50 Nos
43	Heat- Calorimeter (Latent Heat of Steam Berthlot Single). steam apparatus, "Berthlot" Comparising of steam generator, copper calorimeter, single water jacket.	Latent of 10 Nos

Sl. No.	Item	Qty
44	High rotary vacuum pump	1 no
45	Hooke's law apparatus (spring type, vertical scale on metal stand with spring, pan & pointer)	8 Nos
46	Hypsometer Copper, Jointless bottom	4 Nos
47	Inclined Plain with Roller and Pan 60 x 7 1/2 cm, Aluminium Arc. For experiments on sliding friction. Comprises inclined wood plane, 600 x 75 x 20 mm with 22 mm diameter pulley, hinged to wood base, 450 x 75 x 20 mm. Linear scale fixed to base with clamp, shaped for use as index. With one each wood blocks, 200 x 75 mm and 100 x 75 mm, steel block 100 x 75 mm. scale pan 75 mm diameter, cord and hooks.	10 nos
48	Jockey	50 Nos
49	Key (two way)	100 Nos
50	Knife edge	25 nos
51	Latent heat of steam apparatus	4 Nos
52	Linear expansion apparatus	4 nos
53	Magnetometer Deflection . meter long plywood board sunmica pasted fitted with meter scale complete with Deflection Box.	1 5 Nos
54	Magnetometer Vibration, brass parts. Consisting of polished wood box having sliding glass door, with leveling screws. The strip holding the magnet is suspended by a silk fibre attached to a cap on the glass tube, which is fitted on the box. The swing of a magnet is observed through the slit. Complete with cardboard box.	5 Nos
55	Measuring cylinder for resonance	20 Nos
56	Melde's Experiment apparatus	8 Nos
57	Metre bridge (100 cm of wire (4 ohms per metre) mounted on a wooden board with a metre scale with terminals)	50 Nos
58	Metre scale (0 -100cm) wooden)	40 Nos
59	Models of Barker's mill	1 no
60	Multimeter	2 Nos
61	Optical Bench with accessories complete. Double rod, one meter long nicely chrome plated complete with metal for uprights 2 lens holders and 2 pins holders.	50 Nos
62	Optical lever (all metal with titling arrangement)	50 Nos
63	Optical needle	10 Nos
64	Oscilloscope	2 nos
65	Parallelogram of forces apparatus (36"x23" teak wood-complete with brackets and pulleys and 3 pins)	10 Nos
66	Pendulum bob (4" dia)	20 Nos
67	Plane mirror with stand	40 Nos
68	Polarisor (to fit over the objective collimator of the spectrometer)	8 Nos
69	Polygon of forces (36"x23" teak wood – complete with brackets with pulleys, 3 pins)	1 no
70	Potentiometer 10 wire with pencil jockey, sunmica top. Having 0 to 10 wires of swg. 24 connected in series, clamped under heavy brass strips and fitted by screws in such a manner so as to be easily replaceable to have negligible END ERRORS. Supplied with pencil jockey & lead for connection.	20 Nos
71	Prism (equilateral) 2"	50 Nos
72	Pulley - Double	10 Nos
73	Pulley - single	20 Nos
74	Quartz plates (set of 3 plates)	6 nos
75	Radiation of heat apparatus (Leslies cubes)	8 Nos
76	Refractive index of liquid (complete with plane mirror with clamping arrangement)	20Nos

Sl. No.	Item	Qty
77	Regnault's Apparatus, Regnault's Specific Heat Apparatus: It consists of a copper calorimeter placed inside a large copper vessel with felt between the two. Outside of the small vessel & inner side of the large vessel are polished to reduce loss of heat by radiation. The large vessel is surrounded by felt & placed in a wooden box which is attached to a double walled steam heater C.P. provided with sliding screen, water-cooled jacket below the steam heater to prevent radiation.	2 Nos
78	Resistance box: 0 – 1000 ohms	30 Nos
79	Resistance box: 0 – 500 ohms	30 nos
80	Resistance box: 0 – 100 ohms	30 Nos
81	Resistance box: 0 –10 ohms	50 Nos
82	Resistance wire 28SWG 4 ohms /m	500m
83	Resonance box (polished wooden fitted with knob suitable for 1-4 t.forks	4 Nos
84	Retort stand	20 Nos
85	Scale pan	20 Nos
86	Screw gauge	40 Nos
87	Searle's apparatus	5 Nos
88	Sodium flame (simple device to get sodium light instead of fusion of sodium vapour lamp)	8 Nos
89	Solder	1 set
90	Soldering paste	200gm
91	Soldering rod	2 coils
92	Sonometer, Teak Wood, Brass Fittings. Comparasing a hollow wooden box 1140 x 125 x 100 mm length x width x height with 2 metre, rules, 1 metre long divided in mm. Two wire of brass and steel attached to fixed bridge and tensioned by fine adjustment pegs, rwo movable bridges, pulleys and fixed screw to enable a third wire to be fixed for tensioning by masses. Complete with 2 bridges.	2 Nos
93	Spectrometer 6", Brass Scale, College Type in Box. Independent Telescope, Collimeter, Vernier Graduated Disc 6" Diameter S.S. Scale complete in box.	2 Nos
94	Spring pendulum	20 Nos
95	Stroke's Law Apparatus, one meter long	4 Nos
96	Surface tension apparatus	2 Nos
97	Tangent Galvanometer, Center Zero, Brass Parts. A bakelite ring or bobbin is 6 1/2" (165mm) diameter with 3 windings of 2, 50 and 500 turns. The magnetometer is supported on a brass tube fitted on an ebonite plate which is free to revolve in the base of the instruments. The magnetometer and the ring can both be rotated independently of the base which is with levelling screws.	2 Nos
98	Thermometer (0 –110)	50 Nos
99	Thripod stand	20 Nos
100	Travelling Microscope, Two motion in box, Horizontal & Vertical Scale.	8 Nos
101	Tuning forks (assorted)	20 sets
102	Twin thread	5 balls
103	Vernier callipers	40 Nos
104	Voltmeter (0-3V)	50 Nos
105	Weight boxes	5 Boxes
106	Wire gauge, with asbestos centre 6" x 6"	20 Nos
107	X-ray tube	1 no
108	Young's Modulus Apparatus, vernier type in velvet box. Consist of brass scale 100cm., long and vernier to read 1/10mm., with V slide, clamp, guides for wire sealing attachment, complete with weights in velvet case.	10 Nos
109	Zinc plate	8 Nos
110	Fire extinguisher (8 litre dry powder)	1 No
SUBJECT: BIOLOGY		
1	Brushes	50 Nos
2	Camel hair brush 0 or 1 No	50 Nos

Sl. No.	Item	Qty
3	Chemical Balance in Double Door, Brass Beam, S.S. Pan	2 nos
4	Clinical thermometer	10 Nos
5	Clinostat	2 Nos
6	Compound Microscope (Olympus, 10x & 15x -eye pc, objt. To total magification 10x - 675x in cabinet with lock & key, lens diaphragm, dust cover and duster)	40 Nos
7	Micro Microscope MMO2 Portable, very light weight of 350gms, built in light source powered by 9V battery operated, magnification: 50x & 225x (using 5x eye piece), 100x & 450x (using 10x eye piece) and 150x & 675x (using 15x eye piece), clarity level extremely good.	10 Nos
8	Cork : rubber (assorted)	2 dz.
9	Cork: wooden (assorted size)	2 dz
10	Dissecting microscope	20 Nos
11	Dissecting set	20 sets
12	Dropper: big	50 Nos
13	Droppers: small	50 Nos
14	Electrical oven with thermostat	2 Nos
15	Forceps: big (stainless steel)	50 Nos
16	Forceps: small (stainless steel)	50 Nos
17	Hand lens (6x)	50 Nos
18	Heating plates	5 Nos
19	Needles	50 Nos
20	Ordinary thermometer (C)	50 Nos
21	Razor blade	50 Nos
22	Retort stand	20 Nos
23	Scalpel	50 Nos
24	Scissors: big (stainless steel)	5 Nos
25	Scissors: small (stainless steel)	5 Nos
26	Spirit lamp	50 Nos
27	Test tube holder	50 Nos
28	Test tube stand	50 Nos
29	Tripod stand, superior/heavy 8" Ht., Iron black colour painted.	50 Nos
30	Water bath (10 litre)	2 Nos
31	Wire gauge, with asbestos centre 6" x 6"	50 Nos
	<i>Plants specimens</i>	
32	Bryophyllum	1 no
33	Algae	1 no
34	Fungi	1 no
35	Nepentes	1 no
36	Lycopodium	1 no
37	Spyrogyra	1 no
38	Selagenella	1 no
39	Bryophytes: Riccia	1 no
40	Bryophytes: Anthoceros,	1 no
41	Bryophytes:Funeria	1 no
	<i>Animal specimens</i>	
42	Amphioxes	1 no
43	Hydra	1 no
44	Obela	1 no
45	Sponge	1 no
46	Tapeworm	1 no
47	Liver fluke	1 no
48	Sea urchin	1 no
49	Sea anemone	1 no
50	Sypha	1 no
51	Coral	1 no
52	Octopus	1 no
53	Sepia	1 no

Sl. No.	Item	Qty
54	Snail	1 no
55	Pila	1 no
56	Star fish	1 no
57	Salamander	1 no
58	Centipede	1 no
59	Millipede	1 no
60	Fish	1 no
61	Crab	1 no
62	Hermit crab	1 no
63	Lizard	1 no
64	Snake	1 no
65	Prawn/lobster	1 no
66	Bat	1 no
67	Scorpion	1 no
68	Tree frog	1 no
69	Electric ray	1 no
70	Cockroach	1 no
	Charts & Models	
71	Circulatory system (Chart)	1 no
72	Blood Circulatory System (Fibre Glass Model)	1 no
73	Male Reproductive System (Chart)	1 no
74	Male Reproductive System (Fibre Glass Model)	1 no
75	Female Reproductive System (Chart)	1 no
76	Female Reproductive System (Fibre Glass Model)	1 no
77	Digestive system (Chart)	1 no
78	Digestive System (Fibre Glass Model)	1 no
79	Nervous system (Chart)	1 no
80	Nervous System (Fibre Glass Model)	1 no
81	Excretory system (Chart)	1 no
82	Excretory System (Fibre Glass Model)	1 no
83	Muscle (Chart)	1 no
84	Muscular System (Fibre Glass Model)	1 no
85	Skeleton (Chart)	1 no
86	Skeleton (Model)	1 no
87	Leaf – internal structure	1 no
88	T.S. Dicot Leaf (Chart)	1 no
89	T.S. Monocot Leaf (Chart)	1 no
90	Cell division stages:	1 no
91	Animal Meiosis (Chart)	1 no
92	Animal Mitosis (Chart)	1 no
93	Plant Meiosis (Chart)	1 no
94	Plant Mitosis (Chart)	1 no
95	D.N.A.- Showing Structure & Functions (Chart)	1 no
96	D.N.A. Set (Fibre Glass Model)	1 no
97	R.N.A.- Showing Structure & Functions (Chart)	1 no
98	R.N.A. Set (Fibre Glass Model)	1 no
99	Plant and Animal cells	1 no
100	Typical Animal Cell (ultra structure) (Chart)	1 no
101	Animal Cell (Fibre Glass Model)	1 no
102	Plant Cell (ultra structure) (Chart)	1 no
103	Plant Cell (Fibre Glass Model)	1 no
104	Human Skull with Brain (Fibre Glass Model)	1 no
105	Teeth (Fibre Glass Model)	1 no
106	Eye (Chart)	1 no
107	Eye (Fibre Glass Model)	1 no
108	Ear (Chart)	1 no
109	Ear (Model)	1 no

Sl. No.	Item	Qty
110	Skin (Fibre Glass Model)	1 no
111	Kidney (Fibre Glass Model)	1 no
112	Brain (Fibre Glass Model)	1 no
113	Nerves & Neurons (Chart)	1 no
114	Fish – internal system (Chart)	1 no
115	Lymphatic system (Chart)	1 no
116	Flower – parts and arrangement (Chart)	1 no
	Charts of:	
117	Leaf – internal structure	1 no
118	Root - internal structure	1 no
119	Embryo development	1 no
120	Fertilization in plant	1 no
121	Liver TS	1 no
122	Pancreas TS	1 no
123	Stomach TS	1 no
124	Stomach TS	1 no
125	Heart: entire & LS	1 no
126	Modification of:	1 no
127	· root,	1 no
128	· stem	1 no
129	· leaf	1 no
130	Fruits	1 no
131	Seeds	1 no
	Permanent slides	
132	Cell division:	
	Mitosis (6 slides of each stage)	10 nos
	Meiosis (6 slides of each stage)	10 Nos
133	Blood smear:	4 Nos
	Frog	4 Nos
	Human beings	4 Nos
134	Cartilage (hyaline) + fibrous cartilage + elastic cartilage	2 each
135	Bone TS	4 Nos
136	Epithelial tissue	2 Nos
137	Nerve cord TS	4 Nos
138	Bacteria	5 Nos
139	TS of monocot: stem,	5 Nos
	root,	5 Nos
	leaf.	5 Nos
140	TS of Dicot: stem	2 Nos
	root,	2 Nos
	leaf	2 Nos
141	TS Nerve fibre	2 Nos
142	Xerophytes: stem	1
143	Xerophytic root	1
144	Cladode	1
145	Pine needle	1
146	Amoeba,	2
147	Paramecium,	2
148	Euglena,	2 Nos
149	Volvox,	2 nos
150	Chlamydomonus,	2 Nos
151	Pandorima.	2 Nos
152	Striated muscles	4 Nos
153	Unstriated muscles	4 Nos
154	Tendons	4 Nos
155	Ligament	4 Nos
156	Fire extinguisher (8 litre dry powder)	1 Nos

Sl. No.	Item	Qty
157	OHP (4-50W, 2200 lumen)	1 No
SUBJECT: CHEMISTRY		
1	Rubber tubing (green 8 mm x 3 mm)	2 coils
2	Bee hive shelf	10 nos
3	Blow pipe	45 nos
4	Centrifuge machine (automatic)	2 Nos
5	Chemical Balance in Double Door, Brass Beam, S.S. Pan	5 Nos
6	China dish	40 Nos
7	Chromotography paper 580x680mm	1 pkt
8	Clamp Stand Complete, Set 7" x 5" x 24". Provided with nicely painted with plastic feet for stability having leveling screw, chrome plated rod, die pressed clamp & aluminium cast and boss head.	40 Nos
9	Clay pipe triangle	5 Nos
10	Copper wire (28 SWG)	1 roll
11	Cork borer NP set of 6 brass	2 sets
12	Cork pressure	1 set
13	Cork: rubber (assorted size)	50 Nos
14	Cork: wooden (assorted size)	50 Nos
15	Crucible	5 Nos
16	Deflagrating spoon	5 Nos
17	Digital balance	2 Nos
18	Droppers	50 Nos
19	Electric oven	1 No
20	Electrode: Zinc, copper, carbon and platinum	4 pkts each
21	File (triangular 8")	5 Nos
22	First aid kit	1 nos
23	Flat bottom flask	40 Nos
24	Fume Cup Board 4' x 2' 6" x 3' Complete with exhaust, S.S. Top. Wooden chamber of hard board, with strong blower exhaust system, light arrangement and sliding door with hooks to hold vertically. To work on 220/230 volts AC, power plug with socket resistance. Over all dimensions of the Unit Exhaust Duct W x D x Ht. 4' x 2' 6" x 3' 3" dia, complete.	1 no
25	LPG Gas installation with complete set of 40 Bunsen burners with seamless pipe (Tata) connection including testing at site and 2 Nos of LPG gas cylinders. The site will be identified / intimated in the supply order.	1 no
26	Gloves long Acid & Alkali proof	45 nos
27	Hoffman's voltmeter (for electrolysis)	2 Nos
28	Lab coat 100% cotton Binny/Bombay deying full sleeve with 2 side pockets & 1 front pocket	50 Nos
29	Mortar and pestle (porcelain, 4")	4 Nos
30	Nichrome wire	45 nos
31	Periodic Table Chart: PCV Laminated - Modern & Medelef	1 each
32	pH meter (bench top)	2 Nos
33	Pinch clip	25 n
34	Pipette stand	2 Nos
35	Platinum wire	40 Nos
36	Retort Stand with clamp and boss head, complete with retort ring.	45 nos
37	Rubber tubing: 6 mm	2 coils
38	Rubber tubing: 7 mm	2 coil
39	Rubber tubing: 8 mm	2 coils
40	Safety glass	50 Nos
41	Sand bath	2 Nos
42	Spatula	40 Nos
43	Spirit lamps (brass)	45 nos
44	Stop clocks (metal body without 0 error)	10 nos
45	Test tube brushes	40 Nos
46	Test tube rack	40 Nos

Sl. No.	Item	Qty
47	Thermometer (0-110)	10 nos
48	Tongs (brass, NP, 20cm)	40 Nos
49	Tripod stand, superior/heavy 8" Ht., Iron black colour painted.	40 Nos
50	Tubing connector	20 Nos
51	Water bath (10 litre)	4 Nos
52	Wire gauge, with asbestos centre 6" x 6"	40 Nos
53	Fire extinguisher (8 litre dry powder)	1 No

**SCIENCE LABORATORY EQUIPMENT, GLASSWARE &
HIGHER SECONDARY SCHOOL CHEMICALS**

SUBJECT: BIOLOGY					
Sl. No.	Item	Qty	Rate	Cost	
1	Acetocermine	150 ml			
2	Agar agar	500 gm			
4	Calcium hydroxide	500 gm			
5	Chromic Acid	500 ml			
6	Copper sulphate	500 gm			
7	Cobalt Chloride Papers	4			
8	Crystal violet	125ml			
9	Diatase tablets	500gm			
10	Di-sodium hydrogen phosphate	500 gm			
11	Ethanol	500ml			
12	Eosin	150 ml X 1			
13	Fast green stain	150 X 2			
16	Filter paper No 1 100 circles	4			
18	Glacial acetic acid	500 ml			
19	Glucose	500 gm			
20	Glycerine	500 ml X 3			
21	Hydrochloric acid: conc.	500 ml			
22	Hydrochloric acid: dil.	500 ml			
24	Leishman stain	500 ml			
28	Mercury	500gm			
29	Methylene blue	125ml x 4			
31	Nitric acid: conc.	500 ml			
32	Nitric acid: dil	500 ml			
33	Picric acid	500 ml			
34	Potassium chloride	500 ml			
35	Potassium hydrogen phosphate	500 gm			
37	Pyrogalic Acid	500ml			
39	Sodium bocarbonate	500 gm X 2			
40	Sodium chloride	500 gm			
41	Sodium hydroxide (pellets)	500 gm			
43	Starch powder	500 gm			
44	Sulphuric acid: conc.	500 ml			
45	Sucrose	500 gm			
46	Sudan III	500 ml			
47	Sudan IV	500 ml			
48	Sulphuric acid: dil.	500 ml			
49	Urease enzyme	1 set			
SUBJECT: CHEMISTRY					
1	Ammonium nitrate	500gm			
7	Aniline	500 ml			
9	Acetone	500 ml			
10	Ammonium acetate	500 gm			
11	“ molybdate	500 gm			
12	“ dihydrigeen phosphate	500 gm			
13	“ oxalate	500 gm			
14	Alpha naphthol	500gm			
15	Ammonium phosphate	500 gm			
16	Beta naphthol	500 gm			
17	Bromine water	500 ml			
18	Borax	500 gm			
19	Boric acid	500 gm			
20	Benedict's reagent	500 ml			

21	Benzoic acid		500 ml		
22	Benzene		500 ml		
23	Bleaching powder		500 ml		
25	Barium sulphate		250 gm		
26	Benzaldehyde		500 ml		
27	Calcium chloride		250 gm		
29	Calcium hydroxide		500 gm		
31	Cobalt chloride		250 gm		
32	Copper carbonate		250 gm		
33	“ nitrate		250 gm		
34	“ chloride		250 gm		
36	Citric acid		500 ml		
37	Carbon disulphide		500 ml		
38	Calcium acetate		250 gm		
39	“ sulphate		250 gm		
40	Copper turnings		500gm		
41	Cupric acetate		250 gm		
42	Chlorine water		500 ml		
43	Chloroform		500ml		
44	Distilled water		10 litres		
45	Dimethyl glyoxine		250 gm		
46	Dinitrophenyl hydrazine		250 gm		
47	Diethyl ether		500 ml		
48	Ethanol		500 ml		
49	Ferrous sulphide		1000 gm		
50	Ferric chloride		500 gm		
51	Ferrous ammonium sulphate		250 gm		
52	Fehling's solution: A		500 ml		
53	“ B		500 ml		
54	Ferric nitrate		500 gm		
55	Ferric sulphate		500 gm		
56	Filter paper No 1 100 circles		20 pkts		
57	Glycerine		500 ml		
59	Hydrochloric acid		5 litres		
60	Hydrogen per oxide		500 ml		
61	Iron filings		500gm		
64	Litmus solution: blue		250 ml		
65	“ red		250 ml		
66	Phenolphthalein		250 gm		
67	Iodine crystal		250 gm		
68	Starch iodide paper		5 pkts		
69	Lead acetate paper		5 pkts		
70	Methyl orange		250 gm		
71	Lead carbonate		250 gm		
72	“ nitrate		250 gm		
73	“ acetate		250 gm		
74	“ chromate		250 gm		
75	“ dioxide		250 gm		
76	“ monoxide		250 gm		
77	Magnesium chloride		250 gm		
78	“ nitrate		250 gm		
79	“ carbonate		250 gm		
80	“ sulphate		250 gm		
81	Magnesium ribbon		2 pkts		
82	Mercury metal		250 gm		
83	Mercuric oxide		250 gm		

84	“ chloride	250 gm		
85	“ iodide	250 gm		
86	Millon’s reagent	500 ml		
89	Nessler’s reagent	500 ml		
90	Nickel sulphate	250 gm		
91	Oxalic acid	250 ml		
92	Potassium sodium tartarate	250 gm		
94	“ chromate	250 gm		
95	“ dichromate	500 gm		
98	“ hydroxide	500 gm		
100	“ sulphite	250 gm		
101	“ thiocyanate	250 gm		
102	“ chlorate	250 gm		
103	“ bicarbonate	250 gm		
104	“ bromide	250 gm		
108	“ sulphocyanide	250 gm		
109	Phenol	500gm		
110	Pthalic anhydride	250 gm		
111	Pyrogallol	200 gm		
112	Resocinol	250 gm		
114	Silver chloride	250 gm		
115	Sodium metal	200 gm		
117	“ chloride	500 gm		
122	“ nitrite	250 gm		
124	“ silicate	250 gm		
126	“ phosphate	250 gm		
127	“ cobalt nitrite	250 gm		
128	“ nitroprusside	250 gm		
129	“ citrate	250 gm		
130	“ iodide	250 gm		
131	“ bisulphite	250 gm		
132	“ potassium tartarate	250 gm		
133	Stannous chloride	500gm		
134	Sulphuric acid	5 litres		
135	Schiff’s reagent	500 ml		
136	Starch	500 gm		
137	Tollen’s reagent	500 ml		
138	Urea	500gm		

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**SCIENCE LABORATORY EQUIPMENT, GLASSWARE & CHEMICAL
HIGHER SECONDARY SCHOOL EQUIPMENTS**

SUBJECT: PHYSICS					
Sl. No.	Item		Qty	Rate	Cost
1	Air condenser		1 No		
3	Apparatus for measuring coefficient of linear expansion of a metal with 2 travelling microscopes at both ends)		1 No		
4	Assorted weights		2 sets		
5	Astronomical telescope		1 No		
6	Barometer		1 No		
8	Battery eliminator (12V, 3 A)		40 Nos		
11	Brahma's Press / Fire engine model on stand with brass fittings)		1 No		
12	Bullinger's apparatus		3 Nos		
13	Calcite plates (set of 3 plates)		12 Nos		
14	Cathode ray tube (Thompson)		1 no		
15	Centrifugal force apparatus (simple form with one ball hanger & slotted weight)		2 Nos		
17	Coefficient of viscosity apparatus		1 No		
19	Concave lens - FL 10, 15, 20 cm		38		
20	Concave mirror - FL 10, 15, 20 cm		38		
21	Conductor cone		2 Nos		
22	Conductor sphere		2 Nos		
23	Connecting wire (copper) 28 SWG		500 m		
24	Constant pressure air thermometer		1		
25	Constant volume air thermometer		1		
26	Convex lens – FL 10, 15, 20 cm		38		
27	Convex mirror – FL 10, 15, 20 cm		38		
28	Copper plate (6"x2")		2 Nos		
29	Crocodile clips		50		
30	Diffraction gratings (hilger & Watts type, 50x35mm)		2 Nos		
31	Diode valve		6 nos		
32	Double image prism (Wollaston – 10mm sq.)		2 Nos		
33	Dulong & petit apparatus		2 Nos		
34	Electrical resistant calorimeter		2 Nos		
35	Expansion of liquid apparatus (Glass flask with tripod stand – complete with retort stand & capillary tube)		4 Nos		
36	Faraday's butterfly (net on insulated stand)		2 Nos		
37	Fergusson's Pyrometer		1 No		
38	Fletcher Trolley Complete all metals with cylindrical weights. Fitted with wheels, two steel rods are held in heavy clamps, which are fitted to two vertical rods mounted on heavy feet. The steel vibrator is fitted to one of the vertical rods. Complete with cord and scale pan.		1 no		
39	Fly wheel with counter. About 20 cms in dia by 44 mm wide turned and carefully balanced, mounted on a horizontal shaft held in ball bearings. The wheel is marked and pointer is fixed to the bracket. The bracket has four holes and can be fixed to the wall also, complete.		1 no		
40	Fresnel's Bi-prism (40x32mm)		10 Nos		
41	Galvanometer (Centre zero)		50 Nos		
42	Glass slab		40		
43	Heat- Calorimeter (Latent Heat of Steam Berthlot Single). Latent of steam apparatus, "Berthlot" Comparising of steam generator, copper calorimeter, single water jacket.		10 Nos		

44	High rotary vacuum pump		1 no		
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45	Hooke's law apparatus (spring type, vertical scale on metal stand with spring, pan & pointer)		8 Nos		
46	Hypsometer Copper, Jointless bottom		4 Nos		
47	Inclined Plain with Roller and Pan 60 x 7 1/2 cm, Aluminium Arc. For experiments on sliding friction. Comprises inclined wood plane, 600 x 75 x 20 mm with 22 mm diameter pulley, hinged to wood base, 450 x 75 x 20 mm. Linear scale fixed to base with clamp, shaped for use as index. With one each wood blocks, 200 x 75 mm and 100 x 75 mm, steel block 100 x 75 mm. scale pan 75 mm diameter, cord and hooks.		8		
48	Jockey		50 Nos		
49	Key (two way)		100 Nos		
50	Knife edge		25 nos		
51	Latent heat of steam apparatus		4 Nos		
52	Linear expansion apparatus		4 nos		
53	Magnetometer Deflection . 1 meter long plywood board sunmica pasted fitted with meter scale complete with Deflection Box.		5 Nos		
54	Magnetometer Vibration, brass parts. Consisting of polished wood box having sliding glass door, with leveling screws. The strip holding the magnet is suspended by a silk fibre attached to a cap on the glass tube, which is fitted on the box. The swing of a magnet is observed through the slit. Complete with cardboard box.		5 Nos		
55	Measuring cylinder for resonance		20 Nos		
56	Melde's Experiment apparatus		8 Nos		
57	Metre bridge (100 cm of wire (4 ohms per metre) mounted on a wooden board with a metre scale with terminals)		47		
58	Metre scale (0 -100cm) wooden)		30		
59	Models of Barker's mill		1 no		
60	Multimeter		1		
61	Optical Bench with accessories complete. Double rod, one meter long nicely chrome plated complete with metal for uprights 2 lens holders and 2 pins holders.		50 Nos		
62	Optical lever (all metal with titling arrangement)		38		
64	Oscilloscope		2 nos		
65	Parallelogram of forces apparatus (36"x23" teak wood-complete with brackets and pulleys and 3 pins)		10 Nos		
66	Pendulum bob (4" dia)		10		
67	Plane mirror with stand		25		
68	Polarisor (to fit over the objective collimator of the spectrometer)		8 Nos		
69	Polygon of forces (36"x23" teak wood – complete with brackets with pulleys, 3 pins)		1 no		
70	Potentiometer 10 wire with pencil jockey, sunmica top. Having 0 to 10 wires of swg. 24 connected in series, clamped under heavy brass strips and fitted by screws in such a manner so as to be easily replaceable to have negligible END ERRORS. Supplied with pencil jockey & lead for connection.		20 Nos		
71	Prism (equilateral) 2"		50 Nos		
72	Pulley - Double		10 Nos		
73	Pulley - single		20 Nos		
74	Quartz plates (set of 3 plates)		6 nos		
75	Radiation of heat apparatus (Leslies cubes)		8 Nos		

76	Refractive index of liquid (complete with plane mirror with clamping arrangement)		20Nos		
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78	Resistance box: 0 – 1000 ohms		18		
79	Resistance box: 0 – 500 ohms		30 nos		
80	Resistance box: 0 – 100 ohms		30 Nos		
81	Resistance box: 0 –10 ohms		50 Nos		
83	Resonance box (polished wooden fitted with knob suitable for 1-4 t.forks)		4 Nos		
84	Retort stand		20 Nos		
86	Screw gauge		30		
87	Searle's apparatus		5 Nos		
88	Sodium flame (simple device to get sodium light instead of fusion of sodium vapour lamp)		8 Nos		
92	Sonometer, Teak Wood, Brass Fittings. Comparasing a hollow wooden box 1140 x 125 x 100 mm length x width x height with 2 metre, rules, 1 metre long divided in mm. Two wire of brass and steel attached to fixed bridge and tensioned by fine adjustment pegs, rwo movable bridges, pulleys and fixed screw to enable a third wire to be fixed for tensioning by masses. Complete with 2 bridges.		2 Nos		
93	Spectrometer 6", Brass Scale, College Type in Box. Independent Telescope, Collimeter, Vernier Graduated Disc 6" Diameter S.S. Scale complete in box.		2 Nos		
94	Spring pendulum		20 Nos		
95	Stroke's Law Apparatus, one meter long		4 Nos		
96	Surface tension apparatus		2 Nos		
97	Tangent Galvanometer, Center Zero, Brass Parts. A bakelite ring or bobbin is 6 1/2" (165mm) diameter with 3 windings of 2, 50 and 500 turns. The magnetometer is supported on a brass tube fitted on an ebonite plate which is free to revolve in the base of the instruments. The magnetometer and the ring can both be rotated independently of the base which is with levelling screws.		2 Nos		
100	Travelling Microscope, Two motion in box, Horizontal & Vertical Scale.		8 Nos		
103	Vernier callipers		25		
104	Voltmeter (0-3V)		50 Nos		
105	Weight boxes		5 Boxes		
106	Wire gauge, with asbestos centre 6" x 6"		20 Nos		
107	X-ray tube		1 no		
108	Young's Modulus Apparatus, vernier type in velvet box. Consist of brass scale 100cm., long and vernier to read 1/10mm., with V slide, clamp, guides for wire sealing attachment, complete with weights in velvet case.		10 Nos		
109	Zinc plate		8 Nos		
110	Fire extinguisher (8 litre dry powder)		1 No		
SUBJECT: BIOLOGY					
1	Brushes: Camel hair brush 0 or 1 No		50 Nos		
3	Chemical Balance in Double Door, Brass Beam, S.S. Pan		2 nos		
4	Clinical thermometer		10 Nos		
5	Clinostat		2 Nos		
6	Compound Microscope (Olympus, 10x & 15x -eye pc, objt. To total magification 10x - 675x in cabinet with lock & key, lens diaphram, dust cover and duster)		32		
8	Cork : rubber (assorted)		2 dz.		
10	Dissecting microscope		20 Nos		
11	Dissecting set		20 sets		
12	Dropper: big		50 Nos		
13	Droppers: small		50 Nos		

14	Electrical oven with thermostat		2 Nos		
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15	Forceps: big (stainless steel)	50 Nos		
16	Forceps: small (stainless steel)	50 Nos		
17	Hand lens (6x)	26		
18	Heating plates	5 Nos		
20	Ordinary thermometer (C)	50 Nos		
21	Razor blade	50 Nos		
23	Scalpel	50 Nos		
24	Scissors: big (stainless steel)	5 Nos		
25	Scissors: small (stainless steel)	5 Nos		
26	Spirit lamp	38		
27	Test tube holder	10		
28	Test tube stand	10		
29	Tripod stand, superior/heavy 8" Ht., Iron black colour painted.	30		
31	Wire gauge, with asbestos centre 6" x 6"	30		
	<i>Plants specimens</i>			
32	Bryophyllum	1 no		
33	Algae	1 no		
34	Fungi	1 no		
35	Nepentes	1 no		
36	Lycopodium	1 no		
37	Spyrogyra	1 no		
38	Selagenalla	1 no		
39	Bryophytes: Riccia	1 no		
40	Bryophytes: Anthoceros,	1 no		
41	Bryophytes:Funeria	1 no		
	<i>Animal specimens</i>			
42	Amphioxes	1 no		
47	Bat	1 no		
48	Centipede	1 no		
50	Cockroach	1 no		
54	Electric ray	1 no		
55	Fish	1 no		
56	Hermit crab	1 no		
57	Liver fluke	1 no		
58	Lizard	1 no		
61	Prawn/lobster	1 no		
65	Sepia	1 no		
67	Snake	1 no		
69	Sypha	1 no		
70	Tree frog	1 no		
	<i>Charts & Models</i>			
72	Blood Circulatory System (Fibre Glass Model)	1 no		
74	Male Reproductive System (Fibre Glass Model)	1 no		
76	Female Reproductive System (Fibre Glass Model)	1 no		
78	Digestive System (Fibre Glass Model)	1 no		
80	Nervous System (Fibre Glass Model)	1 no		
82	Excretory System (Fibre Glass Model)	1 no		
84	Muscular System (Fibre Glass Model)	1 no		
87	Leaf – internal structure	1 no		
88	T.S. Dicot Leaf (Chart)	1 no		
89	T.S. Monocot Leaf (Chart)	1 no		
90	Cell division stages:	1 no		
91	Animal Meiosis (Chart)	1 no		
92	Animal Mitosis (Chart)	1 no		
93	Plant Meiosis (Chart)	1 no		
94	Plant Mitosis (Chart)	1 no		
95	D.N.A.- Showing Structure & Functions (Chart)	1 no		
96	D.N.A. Set (Fibre Glass Model)	1 no		
97	R.N.A.- Showing Structure & Functions (Chart)	1 no		
98	R.N.A. Set (Fibre Glass Model)	1 no		

100	Typical Animal Cell (ultra structure) (Chart)		1 no		
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101	Animal Cell (Fibre Glass Model)		1 no		
102	Plant Cell (ultra structure) (Chart)		1 no		
103	Plant Cell (Fibre Glass Model)		1 no		
104	Human Skull with Brain (Fibre Glass Model)		1 no		
105	Teeth (Fibre Glass Model)		1 no		
106	Eye (Chart)		1 no		
108	Ear (Chart)		1 no		
110	Skin (Fibre Glass Model)		1 no		
111	Kidney (Fibre Glass Model)		1 no		
113	Nerves & Neurons (Chart)		1 no		
114	Fish – internal system (Chart)		1 no		
115	Lymphatic system (Chart)		1 no		
116	Flower – parts and arrangement (Chart)		1 no		
117	Leaf – internal structure (chart)		1 no		
118	Root - internal structure (chart)		1 no		
119	Embryo development (chart)		1 no		
120	Fertilization in plant (chart)		1 no		
121	Liver TS (chart)		1 no		
122	Pancreas TS (chart)		1 no		
123	Stomach TS (chart)		1 no		
124	Stomach TS (chart)		1 no		
125	Heart: entire & LS (chart)		1 no		
126	Modification of: (chart)		1 no		
127	· root,		1 no		
128	· stem		1 no		
129	· leaf		1 no		
130	Fruits (chart)		1 no		
131	Seeds (chart)		1 no		
	Permanent slides				
132	Cell division:				
	Mitosis (6 slides of each stage)		10 nos		
	Meiosis (6 slides of each stage)		10 Nos		
133	Blood smear:		4 Nos		
	Frog		4 Nos		
134	Cartilage (hyaline) + fibrous cartilage + elastic cartilage		2 each		
135	Bone TS		4 Nos		
136	Epithelial tissue		2 Nos		
137	Nerve cord TS		4 Nos		
138	Bacteria		5 Nos		
142	Xerophytes: stem		1		
143	Xerophytic root		1		
144	Cladode		1		
145	Pine needle		1		
149	Volvox,		2 nos		
150	Chlamydomonas,		2 Nos		
151	Pandorima.		2 Nos		
152	Striated muscles		4 Nos		
153	Unstriated muscles		4 Nos		
154	Tendons		4 Nos		
155	Ligament		4 Nos		
156	Fire extinguisher (8 litre dry powder)		1 Nos		
157	OHP (4-50W, 2200 lumin)		1 No		
SUBJECT: CHEMISTRY					
3	Blow pipe		32		
4	Centrefuge machine (automatic)		2 Nos		
6	China dish		40 Nos		
7	Chromotography paper 580x680mm		1 pkt		
8	Clamp Stand Complete, Set 7" x 5" x 24". Provided with nicely painted with plastic feet for stability having leveling screw, chrome plated rod, die pressed clamp & aluminium cast and boss head.		40 Nos		

12	Cork pressure		1 set		
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17	Digital balance		1		
18	Droppers		30		
19	Electric oven		1 No		
20	Electrode: Zinc, copper, carbon and platinum		4 pkts each		
22	First aid kit		1 nos		
23	Flat bottom flask		40 Nos		
24	Fume Cup Board 4' x 2' 6" x 3' Complete with exhaust, S.S. Top. Wooden chamber of hard board, with strong blower exhaust system, light arrangement and sliding door with hooks to hold vertically. To work on 220/230 volts AC, power plug with socket resistance. Over all dimensions of the Unit Exhaust Duct W x D x Ht. 4' x 2' 6" x 3' 3" dia, complete.		1 no		
25	LPG Gas installation with complete set of 40 Bunsen burners with seamless pipe (Tata) connection including testing at site and 2 Nos of LPG gas cylinders. The site will be identified / intimated in the supply order.		1 no		
26	Gloves long Acid & Alkali proof		20		
28	Lab coat 100% cotton Binny/Bombay deying full sleeve with 2 side pockets & 1 front pocket		50 Nos		
29	Mortar and pestle (porcelain,4")		2		
30	Nichrome wire		45 nos		
32	pH meter (bench top)		2 Nos		
33	Pinch clip		25 n		
34	Pipette stand		2 Nos		
35	Platinum wire		40 Nos		
36	Retort Stand with clamp and boss head, complete with retort ring.		45 nos		
37	Rubber tubing: 6 mm		2 coils		
38	Rubber tubing: 7 mm		2 coil		
39	Rubber tubing: 8 mm		2 coils		
40	Safety glass		50 Nos		
41	Sand bath		2 Nos		
42	Spatula		25		
43	Spirit lamps (brass)		25		
44	Stop clocks (metal body without 0 error)		10 nos		
45	Test tube brushes		20		
47	Thermometer (0-110)		10 nos		
48	Tongs (brass, NP, 20cm)		20		
49	Tripod stand, superior/heavy 8" Ht., Iron black colour painted.		25		
50	Tubing connector		20 Nos		
51	Water bath (10 litre)		4 Nos		
52	Wire gauge, with asbestos centre 6" x 6"		30		
53	Fire extinguisher (8 litre dry powder)		1 No		

A List of Geography Laboratory Equipments, Classes XI-XII

Sl. No.	Name of Items	Unit	Rate (Nu)	Issue criteria	Remarks
1.	Plane table with tripod stand, canvass cover and brass clamping screw	No.	2750.00	HSS- 10 nos per school	As per requirement.
2.	Alidade for sighting	No.	450.00	HSS- 10 nos per school	
3.	Spirit level (Wooden)	No.	55.00	HSS- 10 nos per school	
4.	Plumbing Fork and Plumb Bob (Brass and aluminium)	No.	165.00	HSS- 10 nos per school	
5.	Trough Compass	No.	185.00	HSS- 10 nos per school	
6.	Ranging Rods	No.	205.00	HSS- 10 nos per school	
7.	Survey Umbrella	No.	1350.00	HSS- 10 nos per school	
8.	Measuring tape (Freemen's fibre glass-30m/100ft.	No.	345.00	HSS- 10 nos per school	
9.	G.I. wire arrows	No.	15.00	HSS- 10 nos per school	
10.	Tracing table for drawing projections	No.	6750.00	HSS- 5 Nos per school	
11.	Gunter's Chain	No.	595.00	HSS- 10 nos per school	
12.	Goss staff	No.	300.00	HSS- 30 nos per school	
13.	Prismatic compass	No.	1200.00	HSS- 10 nos per school	
14.	Compass	No.	415.00	HSS- 10 nos per school	
15.	Metre Scale (One metre)	No.	335.00	HSS- 50 nos per school	
16.	Set squares (Big size)	No.	55.00	HSS- 50 nos per school	
17.	Protector (Big size)	No.	35.00	HSS- 50 nos per school	
18.	Iron pegs	No.	15.00	HSS- 60 nos per school	
19.	Geometry box (big size) for teachers	No.	Not available	HSS- 1 no per school	
20.	Parallel ruler	No.	Not available	HSS- 25 nos per school	
21.	Lettering set	No.	Not available	HSS- 25 nos per school	
22.	Stencil Pencil (No 0 to 10)	No.	Not available	HSS- 25 nos per school	
23.	Drawing Instrument box	No.	Not available	HSS- 25 nos per school	
24.	Topographical maps of Bhutan (No. 78N/9, 78I/5 and 78E/10) or (78I/10, 78E/7 and 78M/8)	No.	Not available	HSS- 50 nos each (three types) per school	
25.	Drawing materials (Paper, Pencil, rubber, scale)	Set	85.00	HSS- 50 sets per school	
26.	Field Book	No.	18.00	HSS- 50 nos per school	
27.	3D Physiographic models of Earth's interior/structure/Earthquake waves/ Focus epicentre	Set	2550.00	HSS- 1 set per school	
28.	3D Physiographic models of different types of folding and faulting	Set	2550.00	HSS- 1 set per school	
29.	3D Physiographic models of stages of river and associated landforms like water fall, gorge, v-shaped valleys, plains. Ox-bow lake, delta, etc.	Set	2550.00	HSS- 1 set per school	
30.	3D Physiographic models of Aeolian process and associated landforms like Dunes, castles, lettuce, natural bridge, etc.	Set	2550.00	HSS- 1 set per school	
31.	3D Physiographic models glacial process and associated landforms like before and after glaciations cwms, corrie cirque eskers, etc.	Set	2550.00	HSS- 1 set per school	

32.	3D Physiographic models of landforms and features associated with underground water like spring, wells, water table, etc.	Set	2550.00	HSS- 1 set per school
33.	3D Physiographic models of volcano and associated landforms like cone, crater lava flow, vent, sill dike, etc.	Set	2550.00	HSS- 1 set per school
34.	Hygrometre	No.	565.00	HSS- 2 nos per school
35.	Wind vane cum Anenometre	No.	9750.00	HSS- 1 no per school
36.	Fortains'barometre	No.	6750.00	HSS- 1 no per school
37.	Rain gauge	No.	675.00	HSS- 2 nos per school
38.	Stereoscope (Schlvesion) or pocket with satellite pictures of towns, forests and rural establishments	No.	675.00	HSS- 2 nos per school
39.	Max and min thermometer	No.	565.00	HSS- 2 nos per school
40.	Stevenson screen	No.	6000.00	HSS- 1 no per school
41.	Charts of conventional signs and symbols	No.	2550.00	HSS- 1 no per school
42.	Wall map of Bhutan	No.	255.00	HSS- 1 no per school



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རྒྱལ་ཡོངས་འཆར་དྲུབ་ལས་ཁུངས།

DEPARTMENT OF NATIONAL BUDGET
MINISTRY OF FINANCE

DNB/BMD-1/G-I/Budget/2006-07/ 6466
June 29 2007

✓ The Secretary,
Ministry of Education,
Thimphu.

Subject: Adoption of new mechanism for procurement of school textbooks, stationaries and sports equipment.

Dasho,

The budget for procurement of school textbooks, stationaries and sports equipment were decentralised from Ministry of Education to Dzongkhags in 2004-2005 in compliance with the decentralisation policy of the Royal Government and to reflect the budget and expenditure in the right agencies i.e respective Education Sector of the Dzongkhags. However, the modality of supply jointly prepared by Ministry of Education and Ministry of Finance was not observed in final delivery of supplies to Dzongkhags. Education Central Store has supplied the goods in advance and later payment was not realised resulting in supplementary budget.

In order to resolve the issues, a meeting was convened with the Director, Department of School Education, MoE, Chief Administrative Officer, AFD, MoE, Chief Procurement Officer, Education Central Store, MoE and Chief Accounts Officer, Department of Public Accounts, MoF.

The members unanimously agreed to observe the procedures laid out in the earlier letter No.DBA/Budget/2004-05/3030 dated 7th October 2004, with the addition of the following new guidelines:

1. The purchase of *stationaries and sports equipment for schools* will be decentralised to Dzongkhags while MoE will assist in carrying out the tendering procedures and identifying the suppliers from where the Dzongkhags would procure the stationaries and sports equipment if they are not in a position to carryout the tendering formalities.



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**DEPARTMENT OF NATIONAL BUDGET
MINISTRY OF FINANCE**

2. The Education Central Store will procure *only textbooks for schools* and will be supplied to Dzongkhag as per existing mechanism. *The Revolving Fund shall be utilised only for the purpose of procurement of Textbooks.*
3. The budget provisions for both the textbooks, stationaries and sports equipment will be maintained in respective Dzongkhags in two budget heads under separate activity. The bifurcation of budget will take place from 2007-2008FY.
4. The budget release for *stationaries and sport equipment* shall be based on the requisition submitted by respective Dzongkhags as and when required. The budget allocated for *school textbooks* shall be released to the Dzongkhags but the release letter will be hand carried by the representatives of Education Central Store. The money so released should be treated as advance to Central Store and adjusted when supply is made and bills raised to Dzongkhag Education Offices.
5. The bills should be verified by DEOs, while Education Central Store will ensure the supplies to schools as practised now.

It would be appreciated if Dasho could kindly issue directives to the Education Central Stores and Dzongkhags to start implementing as per above laid guidelines.

Yours sincerely,


(Lham Nidup)
Director

Cc:

1. The Hon'ble Finance Secretary, MoF, Thimphu.
2. The Auditor General, Royal Audit Authority, Thimphu.
3. The Director, Department of School Education, MoE, Thimphu.
4. The Chief Administrative Officer, AFD, MoE, Thimphu.
5. The Chief Procurement Officer, Education Central Store, Phuntsholing.

1 Curriculum related issues

- 1.1 The existing policy for teaching of Dzongkha by the general teachers from classes PP-III be continued.
- 1.2 Towards improving the teaching of Dzongkha at these levels:
- i) Colleges of Education to enhance the content and revise the curriculum stressing a greater Dzongkha competency in those teachers who specialize in teaching elementary classes.
 - ii) Schools to study competent teachers and encourage them to teach classes PP to III.
 - iii) As there are not enough Dzongkha teachers, general teachers with necessary competency in Dzongkha be appointed in Community Primary Schools.
 - iv) Certificate course in the teaching of primary Dzongkha be introduced.
 - v) Schools to initiate Dzongkha professional development program at the school and cluster levels;
 - vi) HRD/Dzongkhags to work out appropriate procedures for deployment of primary and secondary teachers.
- 1.3 CAPSD Board to consider increasing period allocation for History, Geography and Economics from classes 7 to 10. Alternatively, consider reducing contents of these subjects.
- 1.4 CAPSD Board to re-consider the introduction of EVS workbook in Dzongkha for classes I-III.
- 1.5 Schools to enhance the offering of IT as an optional subject from classes IX to XII.
- 1.6 Draft ICT guidelines developed by CAPSD be revisited to explore the possibility of extending IT literacy programme to children in classes IV-VIII.
- 1.7 Computer literacy program at both the Colleges of Education be further strengthened.
- 1.8 In-service ICT literacy program be provided for teachers.
- 1.9 Due to the shortage of trained health and physical education instructors in schools, Dzongkhags to make use of the available trained teachers in providing and training other teachers on health and physical education within their clusters.

- 1.10 More physical education instructors to be appointed in the schools.
- 1.11 CAPSD Board to consider increasing the period allocation for health and physical education (HPE).
- 1.12 Colleges of Education to consider offering HPE as an elective to non-science students.
- 1.13 Some modules on HPE be introduced in B.Ed. Primary.
- 1.14 Major curriculum reforms be communicated officially to the Dzongkhags and schools, in addition to CAPSD Newsletter and EPGI.
- 1.15 Any book to be sold to schools be approved by CAPSD Board.
- 1.16 In the light of major curriculum reforms, schools to modify the progress report register in line with the progress report card as an interim measure.
- 1.17 All schools be supplied with copies of national newspapers.
- 1.18 Strengthen Monitoring and Support Services to ensure regular and effective services.
- 1.19 DEOs to identify focal persons/school monitors (senior teachers/master teachers) who need training, and such trainings to be organized by DEO/EMSSD.
- 1.20 DSE to translate Monitoring tools into Dzongkha and circulate to the schools for the benefit of the focal persons (Senior or Master Teachers) with Dzongkha background.
- 1.21 Cluster schools with longer distances be regrouped to have fewer schools in the clusters with a minimum of 2 schools.
- 1.22 Network of professional support mechanisms be strengthened by DEOs in the Dzongkhags and clusters in line with the 9th AEC resolution.
- 1.23 Schools to work out innovative ways of building English speaking culture.
- 1.24 Drama, poetry, debate and other literary and cultural activities be encouraged in all schools.

2 School Constructions

- 2.1 Schools in colder regions be allowed to use non-wood heating system.
- 2.2 SPBD to include provision for insulation and heating systems in their designs and drawings especially for schools in colder places.
- 2.3 SPBD to consult with the Dzongkhag Administration and schools prior to the development of designs and drawings.
- 2.4 SPBD to design schools suitable to different climatic conditions.
- 2.5 MoE to support teachers' quarter construction in remote schools where private accommodation is not available.
- 2.6 Any adhoc changes suggested by the visiting officials from Education Head Quarter be supported by technical sanctions from SPBD and necessary budget be made available for such changes.
- 2.7 Double storied designs to be developed for community primary schools with limited space.
- 2.8 SPBD to develop phase wise schematic master plans for all schools.

3 Youth related issues

- 3.1 MoE to carry out an impact analysis in establishing scouting as an NGO. To this extent, financial support be continued from the government at least in the initial stage in order to ensure the sustainability of the programme.
- 3.2 School Health Programme be strengthened.
- 3.3 Nurses be placed in schools where their services are needed the most. DYS to work out criteria for placing nurses after a thorough study.
- 3.4 Training for school health coordinators be continued to ensure that each of the schools are staffed by a trained health coordinator.
- 3.5 The budget for constructing sanitation facilities in community primary schools be proposed and provided as a package.
- 3.6 Supplies to schools and budget for constructing toilets and water supply be provided based on the total enrolment.

- 3.7 DYS and CAPSD to discuss and consider allocation of periods and other related matters on Health and Physical Education.
- 3.8 Based on the various guidelines provided by DYS, schools to prioritize their school health activities and programmes as per their need.
- 3.9 Counseling program be strengthened by appointing counselors with basic counseling training in each of the schools.
- 3.10 School Based Parenting Education and Awareness program be expanded, consolidated and institutionalized in each school.
- 3.11 Youth centres with relevant facilities be established in the Dzongkhags with sizeable urban youth population.
- 3.12 DYS to develop and circulate to schools general guidelines on games and sports to facilitate mass participation of students, and to ensure continuity of the program.
- 3.13 Schools to work out their own strategies to enable mass participation in games and sports. The head teachers' conference to work out strategies at the cluster level.
- 3.14 Appropriate sports facilities be developed for all levels of schools.

4 Human Resource related Issues

- 4.1 Home posting be allowed to encourage teachers to work in remote schools.
- 4.2 Possibility of recruiting qualified temporary teachers including class XII graduates be explored.
- 4.3 Deployment of teacher graduates to schools be fully decentralized to the Dzongkhags.
- 4.4 Temporary teachers (especially fresh graduates) to serve a minimum of one year in a school and adhere strictly to school rules.
- 4.5 Teachers should be capable of teaching at least two subjects at the secondary levels.
- 4.6 A District Education Officer and a senior principal be included in the recruitment team of expatriate teachers on rotational basis.
- 4.7 Scarcity allowance be considered for Physics and Maths teachers regardless of nationality and for other teachers.

- 4.8 Teacher requisition be routed through the Dzongkhags.
- 4.9 All fresh teacher graduates to serve in remote schools for at least three years.
- 4.10 Those teachers who cannot take up remote postings due to medical and family reasons be encouraged to join private schools.
- 4.11 Teachers posted in very remote schools be transferred out to a more comfortable place after a minimum of three years or otherwise, their difficulty allowance be increased significantly.
- 4.12 MoE to issue a letter of authority to the Dzongkhags for re-deployment of existing teachers within the Dzongkhag.
- 4.13 DEOs and Principals be held accountable for retaining excess teachers and wasting human resources.
- 4.14 Office Assistants be recruited in all schools, irrespective of the level, to relieve teachers from other duties.
- 4.15 ADEOs be posted in Dzongkhags depending on the number of schools and remoteness of the location.
- 4.16 In addition to the professional studies programmes that the Teacher Education Colleges offer, avenues for enhancing academic qualifications in colleges of RUB be explored.
- 4.17 Priority in training and higher studies be given to teachers who have served in remote schools
- 4.18 Teachers involved in multigrade teaching be allowed to enroll in Multigrade modules in DE Programme on priority basis.
- 4.19 Both the past and present locations to be considered amongst the criteria for selection for trainings and further studies.
- 4.20 The Chief EMO be included as one of the members of the Human Resource Committee for trainings and further studies.
- 4.21 While making selection for long term studies that require future commitment, the ability of individuals to honour that commitment after the course be considered such as work place and position of spouse, health of the individuals etc.
- 4.22 Teachers from special schools (NIDs) be given equal opportunity.
- 4.23 MoE to explore the possibility of appointing separate wardens and matrons for all boarding schools and provide relevant trainings.

- 4.24 All computer Lab assistants be properly trained on computer maintenance.
- 4.25 MoE to check on the uniformity of house rent for teachers working as wardens/matrons.
- 4.26 Specialized trainings and courses that teachers have taken be reflected in their relieving orders with copies endorsed to the concerned departments.

5 Education Staff Welfare Scheme

- 5.1 Semso amount of Nu. 10,000.00 be given for the demise of a child, irrespective of the age.
- 5.2 The Management Committee of ESWS to study and wherever possible take decisions on the following:
 - 5.2.1 Semso amount for the demise of the legal spouse of a member be increased from Nu. 15,000.00 to Nu. 20,000.00.
 - 5.2.2 Semso amount for the demise of the parents of a member be increased from Nu. 10,000.00 to Nu. 15,000.00.
 - 5.2.3 Semso amount for the demise of a member be increased from Nu. 20,000.00 to Nu. 30,000.00.
 - 5.2.4 A full time Manager for ESWS be appointed.
 - 5.2.5 Sanction of ESWS loans be expedited.

Note: The Management Committee to report on the actions taken to the 11th AEC

6 Non Formal Education and related issues

- 6.1 Recruitment of NFE instructors be decentralized to the Dzongkhags from 2007. Minimum qualification for such instructors be class XII.
- 6.2 Refresher courses for the new NFE Instructors be conducted by the Dzongkhags with support from DAHE.
- 6.3 NFE centers be established in the schools as far as possible.

- 6.4 Considering the popular demand for English from the NFE learners, an impact analysis to include English in the NFE curriculum beyond post literacy level be conducted by DAHE and the findings be reported to the Steering Committee and then to the 11th AEC.

7 School Supplies

- 7.1 Supply of stationery, sports goods, science equipment and library books be decentralized to all the Dzongkhags by 2008-09 financial year. To this end, MoE to carry out during the year 2007 an impact analysis as well as draw up clear cut procedures for final adoption during the 11th AEC.

8 General Issues

- 8.1 MoE to bring out Annual Education Calendar incorporating important national and Ministry events.
- 8.2 Students reporting date be brought forward from February 20 to February 15 every year after 2007 to enable the schools to celebrate the 5th King's Birth Anniversary on February 21.
- 8.3 DSE to make a thorough study on the consolidation of schools and boarding facilities before implementing the plan.
- 8.4 MoE to conduct an impact analysis of decentralizing selected higher secondary schools in urban areas.
- 8.5 DEOs/ADEOs to give priority to the problems in remote schools.
- 8.6 Coordination between the Departments/Divisions in the MoE be improved.