

SURVEY OF INDIA

HANDBOOK OF TOPOGRAPHY



CHAPTER II
(CORRECTED DRAFT COPY)

CONSTITUTION AND DUTIES
OF A GEOSPATIAL DATA
CENTRE (GDC)

SECTION I – GENERAL

1. **Constitution of a GDC-** The constitution of a **GDC:- Geospatial Data Centre** depends on the nature of survey on which it is engaged **and**, the chief factors being:

- (i) the quality and density of planimetric and/ or height control required,
- (ii) the scale and type of survey,
- (iii) Communications in the area.

The normal strength of a wing **in a GDC** engaged on departmental/extra-departmental surveys consists of an Officer-in-Charge, one Deputy Superintending Surveyor under instruction or in-charge of a camp , two to three Group 'B' Officers as Camp Officers, 5 Group 'C' Division I Officers, of whom some may be employed as Assistant Camp Officers and others on providing control or employed on plane-abling as and when required.

A separate Wing of the GDC will mainly deal with also includes one photogrammetric & remote sensing work i.e. the work engaged on air surveys on photogrammetric systems, which will be dealt separately in Topo. Hand Book Chapter XII-Photogrammetric Survey (Air Survey). The composition of Geodetic, Tidal, Satellite Survey and geophysical, forest, etc., wings is different.

2. **Conditions of Service –**

- (a) **Group 'A' & Group 'B' Officers-**Recruitment rules and other conditions of service of Group 'A' and 'B' Officers will be found in the late Ministry of Scientific Research and Cultural Affairs Notification No. 16-9/61-3 of 16-1-1962 or as amended form time to time published in the Gazette of India.
- (b) **Group 'C' & Group 'D' Services** -The following Circular Orders contain the conditions of service:-
 - C.O. 436 (Adm.)- Group 'C' , Division I.
 - C.O. 435 (Adm.) } Group 'C', Division II (Technical).
 - C.O. 439 (Adm.) }
 - C.O. 437 (Adm.)- Group 'C' Ministerial.
 - C.O. 438 (Adm.)-Group 'D'

3. **List of reference books required in a wing Office-**

A. Survey of India Publications-

1. Circular Order 435 (Adm.)
2. Circular Order 436 (Adm.)
3. Circular Order 437 (Adm.)
4. Circular Order 438 (Adm.)
5. Circular Order 439(Adm.) - Qualifications and trade tests of Group 'C' Technical personnel.
6. Handbook of General Instructions.
7. Accounts Pamphlet- chapters I,II & III.
8. Handbook of Topography- Chapters I to XII and Triangulation & Leveling Pamphlets, Auxiliary Tables, etc.
9. List of Officers (Green List)
10. List of Group 'C' Establishment, Division II (Blue List).
11. General Reports and their Supplements.

B. **Central Government Publications-**

12. Posts & Telegraphs Compilation of the Fundamental and Supplementary Rules, Vols. I and II and other compilations of F.R. & S.R.
13. Compilation of Civil Service Regulations, Vols. I &II
14. Compilation of General Financial Rules (Revised and Enlarged, 2005)
15. Compilation of Treasury Rules, Vols. I & II.

16. Compilation of Medical Attendance Rules and orders.
17. General Provident Fund (Central Services) Rules.
18. Central Civil Services (Conduct) Rules, 1964.
19. Account Code, Vols. I & IV.
20. Rules for the supply and use of stationary stores.
21. List of Treasuries and Sub-Treasuries in India,
22. Rules to regulate the grant of advances to Central Government Servants for building, etc., of houses.
23. Central Civil Services (Classification Control & Appeal) Rules, 1965.
24. Delegation of Financial Powers Rules, 1978.
25. The Constitution of India.
26. The Manual of Office Procedure.
27. Post Office Insurance Fund Rules.
28. The Manual of Audit Instructions
29. Central Civil Services (Temporary Service) Rules, 1965
30. Notes of Financial Procedures.
31. "The where is it" (Survey of India Publication).
32. Pin Code Directory.
33. Dictionary; Hindi-English; English-Hindi.
34. FR & SR (by Ch. Lakhi Singh)
35. History of Indian Railways Latest Edition.
36. Alphabetical List of Railways Stations names (Latest Edition)
37. Central Civil Services (Pension) Rules, 1972.
38. Central Civil Services (Leave) Rules, 1972.
39. Handbook of Accounting Instruction under Departmentalised Accounting System.
40. Handbook of Medical Examination.
41. Vigilance Manual Part I, II and III

The above list, however, is not exhaustive.

4. Channel of correspondence- Unless specifically allowed otherwise or save under conditions of emergency all official correspondence should be addressed, normally, to the immediate superior authority, i.e. from individual workers to the Camp/Section Officer, Camp/Section Officer to the Officer-in-Charge of the Wing (Executive Officer), Executive Officer to the Director (Administrative Officer) the Administrative Officer to the Addl. **Surveyor General, then in turn to Surveyor General.** In special circumstances or in cases of appeals where it is intended to represent any matter to the higher authority, it should invariably be done through the channel explained above. Sending advance copies of communications, even though marked "Through Proper Channel", direct to the higher authorities may be permitted only when all efforts at lower level are exhausted.

Except under conditions specified below, Executive Officers are prohibited from corresponding officially with a Director other than the one under whose administrative control they are or with the Officers-in-Charge of wings and offices and their subordinates under a different administrative control except through their own Director, Executive Officers, may, however, forward direct to D. Survey (Air), as the case may be, for production of drawing blue prints, and may, in emergency, indent direct on D. M.A.D. for maps and D.G. & R.B. for data, etc.

On purely routine matters, such as forwarding transfer documents, acknowledgements of correspondence, etc., or in case of emergency on any subject, they may communicate direct, officially with Executive Officers of other GDCs, but in all such cases they must inform their own Director of the action taken or endorse copies of correspondence to him.

Gazetted officers may correspond direct, at their own expense, on matters relating to their G.P. Fund and pay-slips with Income Tax Officer on the matters of income tax and with Sales Tax Officer for professional tax but such correspondence in respect of all officers, or on all other matters relating to leave, accounts, allowances, pension, etc., will be conducted through the Executive and Administrative Officers. Executive Officers may correspond direct with RP & AO/CP & AO or officers from whom their funds are drawn.

Executive Officers may also correspond direct with district and local officials in connection with their work but they are forbidden to communicate direct with Ministries and other departments of the Government of India or with State Governments without previous reference to their Administrative Officers. In exceptional circumstances where direct correspondence become unavoidably necessary, owing to the previous reference from any of the above authorities or other equally emergent cause, copies of such correspondence must, invariably be forwarded without

delay to the Administrative Officer. Copies of letters written to or received from the Ministries of the Government of India must be forwarded to the Surveyor General also.

5. Duties of an Officer-in-Charge.—The Executive Officer-in-Charge of a Survey wing is entirely responsible for:

- (i) The organisation and discipline of the wing.
- (ii) The custody, maintenance and accurate accounting of government stores under his charge.
- (iii) The economical expenditure of funds placed at his disposal and the accurate and punctual accounting for such expenditure,
- (iv) The proper training of all his officers and men in their duties and in the method of survey best suited to the work.
- (v) The preparation of true reports on the qualifications of all his officers and staff.
- (vi) Ensuring accuracy of the survey carried out by his officers and staff ; this covers **GPS, Survey**, Theodolite traverse, leveling, plane-tabling, air survey, digitisation etc., and other survey operations.
- (vii) The proper digitization of the surveyed fair maps/field records drawn in the wing.
- (viii) The punctual submission of returns, in accordance with the prescribed list and required by higher formations.
- (ix) The welfare of the personnel of the wing.

The Officer-in-Charge of a wing should depute a responsible officer for immediate charge of a section of the work, but should keep himself abreast with all developments, and personally examine and test the work at all stages.

Particular efforts should be made to keep up to the mark all personnel who are qualified for independent exploration surveys, i.e., those who possess a sound knowledge of **GPS Survey**, plane-tabling and photo verification, etc., on small scales of survey, or who are considered likely to become good explorers after due instructions, and every opportunity should be taken to improve their knowledge on all subjects connected with surveying of difficult areas both in the field and during recess.

During the field season he should spend the greater part of his time visiting his men at work. He should endeavor to inspect the work of every man at least once during the field season, and should impress a high standard of accuracy on all his officers and other personnel by personal demonstration on the ground.

He should see that all his officers have sound knowledge of departmental rules, and keep their handbooks up-to-date.

During recess he should inspect his computing and mapping sections at frequent intervals, and he should make a rigorous scrutiny at definite stages.

If the Officer-in-Charge is perfunctory in his examination of field work and mapping, the standard of accuracy is certain to deteriorate and he will neither get a true idea of the work of his supervising officers, nor be in a proper position to recommend the promotion of his Group 'C' personnel from personal knowledge of their qualifications.

- 5. Duties of Camp Officers.**—A Camp Officer is responsible for the work entrusted to him. **An Officer** should not normally be placed in charge of camps until **he has done independent field works** at least for one and two field seasons respectively. Except for the short time he has to attend to the examination of bills and returns submitted by his men, before dispatching them to the Officer-in-Charge, and to the distribution of their pay, a Camp Officer should be consequently moving about and visiting the plane-tablers/verifiers, checking their work, helping them out of difficulties, and training the junior members of his camp. He should be a man of tact and resource, punctual in the submission of accounts and returns, and methodical in all matters connected with management of his camp.

As far as possible a Group 'B' Officer should be employed as a Camp Officer.

7. Trade tests and regradation/promotion of Group 'C' Division II Technical personnel.-

Normally, appointments are made as Group 'C' - Topographical Trainees Type 'B' for training as any of the following as :-

- (i) Plane-tabler

Trainees normally remain under training for two years. On completion of the stipulated course of training, a trainee may be classified for the purpose of fixing his trade and grade. The initial classification of T.Ts.T. 'B' may be held quarterly.

For grade promotion as may be recommended by Officer-in-Charge of wings, the Chairman of Trade Testing Board will be the Director. The Board will arrange for the Candidate to undergo the Trade Tests prescribed in the appendix to C.O. 439 (Adm.).

Personnel already classified will have to complete the minimum period in a particular grade before they can be promoted to the next higher grade provided their work and conduct, so far as they affect their professional work, have been satisfactory over the past one year.

Grade IV	--	--	4 years
Grade III	--	--	3 years
Grade II	--	--	2 years

They will be allowed to take trade tests for the next higher grade in the fourth, third and second year of grades IV, III and II respectively or in subsequent year/years.

Detailed instructions are contained in Circular No. 435 (Adm.) and 439 (Adm.)

8. Powers of the Director, of a GDC:-

The powers that can be exercised by the Director, GDC as Head of Offices or Disbursing Officers may be seen in the G.F. Rules (Revised and Enlarged, 2005). These have not been shown here. In addition, the following administrative and financial powers can also be exercised by him.

- (i) Appointment- He can appoint Group 'D' staff as Local Mazdor in the contingent establishment during on contract basis the field season against Group 'D' posts sanctioned.
- (ii) Increments – He can grant all periodical increments to Group 'B', 'C' and 'D' Staff working under him except those which involved the crossing of efficiency bar, will be referred to D.P.C.

He can grant increment crossing the efficiency bar in respect of Group 'D' staff only. He can also allow extra-ordinary leave to be conduct for increment in the case of Group 'C' and Group 'D' staff on ground of their own illness supported by proper medical certificates [and issue of the certificates required under the proviso to F.R. 26(b) (ii) in case of temporary personnel.]

- (iii) He can sanction advance for providing immediate relief to the families of non-gazetted government servants of his wings who die, while in service, to the limit of 3 month's pay of the deceased, or Rs. 1000/- whichever is less, in accordance with the order of Ministry of Finance (Dept. of Expenditure) O.M. Mo. F. 10 (3)-EV (A)/65 dt. 10-11-65 and Rules 262-264 of G.F.R. (Revised and Enlarged 2005).
- (iv) He can sanction advances up to Rs. 5000/- on the eve of an important festival, to non-gazetted Govt. servants drawing grade pay less than or equal to Rs. 4800.
- (v) He can sanction advances of pay and traveling allowance to the government servants of his wing who, while on duty or on leave, are required to proceed on transfer, in accordance with Rule 222 of G.F.R. (Revised and Enlarged, 2005)
- (vi) He can sanction an advance in lieu of leave salary to a government servant of his wing who proceeds on leave for a period not less than one month/30 days, in accordance with Rule 259 of G.F.R. (Revised and Enlarged, 2005).

- (vii) He can sanction advance increments/lump sum award to non-Hindi region employees on passing Pragma/Hindi Typing Examination as per Govt. orders.
- (viii) Departmental Leave- He can Sanction D.L. during recess to government employees of his wing under S.R. 278(d) and para 17 (i) (b) of C.O. 438. **Now – a – days, however there is no D.L. provision for the Group 'D' employees in the department.**
- (ix) (a) Leave (other than D.L.)- He can sanction all leave due to Group 'D' personnel except special disability leave under F.R. 83.
- (b) He can grant leave to Group 'C' **and Group 'B' and 'A'** personnel in accordance with the power delegated to him by the Director under Sl. 55-A of App. 13 of P. & T Compilation of F. & S. Rules, Vol. II.
- (x) Pension- He can **recommend for** the pension of Group 'D' government employees in his own office under Art. 913 (c) of C.S.R.
- (xi) Interruption in the service of an officer- He can commute periods of absence without leave into extraordinary leave without allowances in the case of Group 'D' government employees under F.R. 85 (b)/Revised Leave Rules 1933.
- (xii) Grant of leave to the government employee who is unlikely to be fit to return a duty- He can exercise the power of granting leave to or invaliding from service to Group 'D' employees in the manner indicated in S.R. 233 and Art. 455of C.S.R.
- (xiii) Calculation of pension & death-cum-retirement gratuity- He can sanction pension/death-cum-retirement gratuity of a Group 'D' employee whose pay has been reduced during the last 3 years of his service, otherwise than as a penalty, calculated upon the average of his pay during the last 3 years of his service under Art. 482 of C.S.R.
- (xiv) Verification of service- He can admit service of Group 'D' government employees verified in accordance with Art. 915 of C.S.R.
- (xv) Payment of pension- He can sanction the pension of a Group 'D' government employee from the date on which he ceases to be borne on the establishment, if the date is earlier than the date of application in accordance with Art. 930 of C.S.R.
- (xvi) Lapses of forfeitures of pension- He can authorize payment of arrears to Group 'D' pensioners which remains undrawn for more than one year, if the pension in arrears is to be paid for the first time or the amount of arrears exceeds Rs. 1000, under Art. 957 of CSR.
- (xvii) Deceased pensioners- He can authorise payment of claim for arrears of pension exceeding Rs. 100 in respect of deceased Group 'D' pensioners to the heirs of the deceased pensioners presented more than one year after the death of the pensioners under Art. 959 of C.S.R.
- (xviii) Punishment-
 - (a) Disciplinary authority in respect of Group **'C' and 'D'** employees as laid down Rule 11 of C.C.S. (C.C. & A.), **of Major Punishment.** Rules 1965 as amended.
 - (b) Disciplinary authority in respect of Group **'B'** staff for minor punishment under the C.C.S. (C.C. & A) Rules, 1965 as amended.
- (xix) He may also incur expenditure on all office equipment including typewriters, inter-room equipment, calculators, electronic stencil, cutters, dicta-phones, tape recorders, photo copiers, copying machine, franking machines, addressographers, filling and indexing system, etc. excluding computers of all kinds subject, etc., excluding computers of all kinds subject to the observance of general conditions laid down in this regard up to the following limits:-

Recurring: - Rs. 1000/- p.m.
Non-recurring:- Rs. 10000/- p.a.

- (xx) Full power to pay commission on any scheduled Bank for issue of Bank Drafts when commission is charged.
- (xxi) To sanction expenditure up to Rs. 2000/- per annum per vehicle regarding maintenance and upkeep of vehicles.
- (xxii) Full powers to sanction an advance for G.P. Fund for which no special reasons are required to be assigned and can order recovery of the same in monthly installments.
- (xxiii) He can order recovery of an advance from G.P. Fund in equal monthly installments not less than 12 but not exceed 24 provided the advance is sanctioned by, under rule 13 (i) of the G.P.F. (C.S.) Rules.
- (xxiv) He can order recovery of amounts drawn as advance from G.P. Fund or withhold or withdraw payment towards Insurance Policies and Family Pension Funds, if not properly utilized, under rule 29 of the G.P.F. (C.S.) Rules.
- (xxv) He can sanction expenditure up to Rs. 100 in each case on photographs of government employees required for passports and visa or identity cards in connection with travel on government duty vide Ministry of N.R. & S.R. letter No. D-4334-S/53, dated 06-11-53.
- (xxvi) Full power to make advances, as necessary when proceeding to field and during the full season sufficient amount to cover traveling expenses not including D.A. to all Group 'B', 'C' and staff 'D' staff under him.
- (xxvii) He can grant T.A. advance to a government employee proceeding on tour, of an amount sufficient to cover his personal traveling expenses for a period not exceeding 30 days as well as his expenses on contingent charges arising out of tour, under Rule 231 of G.F.R. (Revised and Enlarged, 1963).
- (xxviii) (a) Full power on account of repairs to bicycles subject to usual conditions under general/special orders issued from time to time.
(c) To sanction expenditure up to Rs. 5000/- per annum for purchase of bicycles.
- (xxix) In case of field units, full power regarding purchase of Petrol, Oil and Lubricants for M.T.
- (xxx) He can authorize any gazetted officer serving under him to sign bills or orders for him under Rule 142 of C.T.R. Vol. I.
- (xxxi) He can make advances to all government employees when necessary, when proceeding to the field and during the field season, of all the amounts sufficient to cover traveling expenses.
- (xxxii) He may also grant advances to all the government employees under him up to 30 days daily allowances when proceeding to the field, vide Rule 5, App. IV to the Handbook of General Instructions, 7th Edition. 1966.
- (xxxiii) Full powers to make advances for permanent contingent advance to the officer serving under him of such amounts as he considers necessary for the contingent advance.
- (xxxiv) Full powers in respect of freight charges on conveyance of stores, tents, records etc. (when stores are booked by rail on credit notes) otherwise Rs. 200/- in each case.
- (xxxv) (a) To sanction expenditure up to Rs. 5000/- for local purchase of technical stationary not included in the vocabulary list of the C.C.P. & S. or not supplied by him though included in the vocabulary list.
(b) To sanction expenditure up to Rs. 4000/- per annum for local purchase of office stationary (items included in the vocabulary list of C.C.P. & S.)
- (xxxvi) He may draw advances on simple receipts to cover the payment to Group 'C' Division II and Group 'D' personnel who are proceeding on departmental leave or who are being discharged, of the pay that will then be due to them. The advances will be adjusted by deductions from the next regular salary bills vide para 4 of

the Appendix IV to the Handbook of General Instructions, 7th Edition, 1966.

- (xxxvii) To sanction recurring expenditure upto Rs. 1000/- p.m. in each case.
- (xxxviii) To sanction non-recurring expenditure upto Rs. 5000/- in each case.
- (xxxix) To sanction non-recurring expenditure of unusual nature upto Rs. 1000/-
- (xxxx) Full powers for arrangements of transporting of instruments and field equipment.
- (xxxxi) To sanction demurrage and wharf age (carriage of stores/records) upto Rs. 500/- in each case.
- (xxxixii) Full powers for hire of conveyance, subject to monetary limits prescribed in M/F (Dept. of Exp.) Ordinance of Eve No. dated 11-11-60.
- (xxxixiii) Power of Rs. 2500/- per annum in each case (non-recurring) for miscellaneous charges.
- (xxxixiv) To sanction expenditure upto Rs. 2000/- per annum per item for hire of office furniture, electric fans, heaters, coolers, etc.
- (xxxixiv) To sanction expenditure upto Rs. 15000/- per annum per office for purchase and repair of furniture.
- (xxxixvi) To sanction expenditure upto Rs. 10000/- per annum on the repairs of tents, camp equipment and other accessories.
- (xxxixvii) To sanction expenditure upto Rs. 2000/- in each case on the purchase/repair of machines, instruments, photographic material/Reproduction stores.
- (xxxixviii) Full powers regarding water, electric and gas charges.
- (xxxixix) Full powers as per scale laid down for liveries, clothing, etc., including tailoring charges and washing charges in recess.
- (L) Full power for office expenses (e.g. soap, towels, pots. Glass, tumblers, Phenyle, D.D.T. Powder, rat traps, matches, candles, kerosene oil, cotton waste, naphthaline. Etc.
- (Li) Full power as per rules laid down on post and telegraph charges.
- (Lii) To sanction full expenditure for purchase of books and publications.
- (Liii) To sanction upto Rs. 500/- per annum with a limit of Rs. 50/- at the time of local purchase of rubber stamp.
- (Liv) Engagement of part time sweeper in the field on Contract basis.
- (Lvi) Grant of earned leave to all Groups staff.
- (Lvii) Full powers to grant earned leave to Group 'D' staff.
- (Lviii) Full powers to cancel/debit balance of leave account of a Govt. servant including those proceeded on D.L. under S.R 283.
- (Lix) To sanction full per year on local purchase of stores covered by rate and running contract.
- (Lx) Full powers to grant advance for natural calamities.
- (Lxii) Full powers to sanction additional amount of G.P. Fund under the deposit linked Insurance Scheme as per Ministry of Finance (Deptt. of Expenditure), Notification No. 13 (10/EB/76 G.P. Fund dated 5-9-77).
- (Lxiii) To sanction full expenditure to get the printing/binding jobs executed through private agencies.

(Lxiv) Powers to write off in each case for irrecoverable losses of stores or public money (including loss of stamps).

9. Accuracy and fidelity of field work.- It cannot be too strongly impressed on all members of department that every consideration should give way to the one great and paramount object of turning out good work, which may be thoroughly relied on by the public, and which will be found, on examination in the field, to be as accurate as it appears to be on paper. The public service requires the maximum amount of work of the best description ; it excepts quantity as well as quality ; but quality without quantity is of very questionable value ; the out-turn should, therefore, on no account be permitted to exceed what can be accomplished with an appropriate degree of fidelity. The surveyor should resist all temptation to gain fictitious credit by departing from the strict line of duty. It may be difficult for him to refrain from injudicious haste, when he knows that some of his brother surveyors are working with greater rapidity than himself and are likely to gain more credit than himself because they happen to have a greater show of work; his duties appertain to his own work only, and if he is careful to make it as good as possible, it will always be credit to him, and to the Department.

10. Penalty for inaccurate work.- Officers and Plane tablers, etc., who, after having been sufficiently trained, submit field work that requires to be revised, render themselves liable to pay the cost of such revision.

11. Penalty for falsification of records.- Any person who submits documents, maps or plans, for record, containing intentional errors, is liable to prosecution under sections 167 and 218 of Penal Code.

12. Budget estimates and control over expenditure.- Detailed instructions in regard to the preparation of Budget Estimates, Revised and Final Estimates and Re appropriation of sanctioned grants from one Head to another will be found in Section I. Chapters III of the Accounts Pamphlet. Chapter 5 of G.F.R. (Revised and Enlarged, 1963) also refers . When preparing the estimates, the **Director, GDC** must foresee his requirements of funds including liabilities, if any, carried over from the previous year, to avoid having to ask for supplementary grants. He should also ensure that he does not overestimate his requirements, to avoid having to surrender funds from the sanctioned grants. All variations between the sanctioned grant and actual expenditure have to be explained to the satisfaction of the government, who take serious notice of cases where satisfactory explanation cannot be offered. The **Director, GDC** must, therefore, himself scrutinize the details of the budget and keep a close and constant watch over the progress of expenditure with a view for not exceeding his sanctioned grant and surrendering anticipated savings, if any, as soon as possible.

It is the personal responsibility of the **Director, GDC** to ensure that no expenditure is incurred without proper sanction and specific budget provision. Should funds be necessary to meet inevitable expenditure on an item not provided for in the budget, or should funds in excess of the budget allotment be found to be required for any item, he should see if in the expenditure could be met by valid reappropriation, and if not, he must arrange for the funds in consultation with his Director before incurring the liability. It is against financial propriety to spend money in an ill-conceived manner simply to avoid lapse of budget grant. Bills should be sent to the controlling officers in an even flow and proposals for all expenditure not within the competence should be made in time to enable sanctions to be issued and acted upon by the middle of March at the latest.

13. Drawal of Pay, Contingent & Medical bills and advances- responsibility of the officers-in-Charge for correct drawal and disbursement.- The **Director, GDC** is fully responsible not only for the correct drawal but also for disbursement of the amounts drawn by him to correct persons. This is one of his major duties as an **Administrative Officer** and he must pay sufficient attention to this. It is obviously neither possible nor necessary for him to check the minutest details of each and every bill, but he must exercise such checks as necessary to satisfy himself that his office staffs carry out their duties honestly and efficiently. Detailed instructions for preparation of all kinds of bills, and the procedure for disbursement will be found in the Accounts Pamphlets, Chapter III.

In Passing the T.A. bills the following should be kept in view vide Government of India, Ministry of Finance (Department of Expenditure) O.M. No. 19030/2/97-E-IV of 17-04-1998 (For old rates) and Government of India, Ministry of Finance (Department of Expenditure) O.M. No. 19030/3/2008-E-IV of 23-09-2008 (For new rates) as amended from time to time and various instructions issued thereon.

(i) Officers and staff on tour are eligible for full daily allowance/ food bill.

Daily allowance/ food bill for a fraction of day occurring during absence from Headquarters (other than local journey) will be calculated as under:-

- (a) For absence not exceeding 6 hours - Nil.
- (b) For absence exceeding 6 hours - 70 % of the normal rates.
but not exceeding 12 hours
- (c) For absence exceeding 12 hours - Full daily allowance.

In case of local journeys at Headquarter, daily allowance will be admissible at half the rates mentioned above only at the ordinary localities rates.

(ii) Limit for grant of daily allowance/ food bill for days of halts—The admissibility of daily allowance at a place outside headquarters of government servants for a continuous halt up to 30 days or more during tour/temporary transfer/training shall be as follows:-

- | | |
|---|-------------------------------------|
| (a) For first 30 days | .. Full daily allowances/food bill |
| (b) Beyond 30 days and up to 180 days | .. Half daily allowances/ food bill |
| (c) Beyond 180 days | .. Nil |

(iii) Reimbursement of Reservation Charges- Reservation charges levied by Railways in respect of all Classes of rail accommodation are reimbursable treating them charges as part of the fare.

(iv) If a Govt. Servant is transferred from one office to another, his pending T.A. and Medical bills fair and office copies duly verified should be sent to **New Officer** for encashment along with transfer documents.

14. Cash Book- The bonded Cashier of **the** Office will maintain a statement of cash received and disbursed, in a Cash Book on form T. R. 4. All Govt. money transactions in the **GDC** are to be recorded in the Cash Book. Officer-in-Charge/D.D.O. of the wing/Office will be responsible for proper and correct accounting of the Govt. Cash and will attest entries made by the Cashier in the Cash Book, daily. The contingent Bill Register entries will also be checked by him for all the entries and initialed.

The entry made in the bill register will also be checked against the bill for correctness of amount, bill No. etc. and with dated initial.

The amount received from the bank must be checked against the bills as entered in the Bill Register, with the entries on the receipt side in the book, and initiated with date. Cheques/R.T. Rs./Drafts received from Bank/other offices should also be entered separately on the receipt side in red ink in the relevant column of the Cash Book below the total of cash transactions in terms of Rules 79(i) (a) of C.T.R. Vol. I. The entries on the expenditure side must be checked against the payee's receipt and receipts will be initialed with date. The cheques/drafts will also be entered in red on right side of Cash Book when sent for encashment. When money is sent by money order or by hand to persons away from the headquarters, this check should be exercised when the Acquittance Rolls /or receipted Money Order Coupon is received back from the payees.

An Acquittance Roll Register/Cash Memo/Cash Receipt Register and another Money Order Register should be maintained in the unit. The Acquittance Rolls etc., will be serially numbered and the entries will be attested by the **D.D.O** with date while countersigning the Acquittance Rolls/Cash Memos and M.O. receipts when these are received back duly receipted by the payees.

The **D.D.O** should ensure that the entries in the Cash Book are made daily and the balance agrees with the actual cash in hand. The totals are required to be checked regularly and initialed and dated. At the end of each month a statement of the monthly accounts, showing assets and liabilities, will be prepared. The cash in hand should be counted and a certificate to this effect will be entered in the book under the dated signature of the **D.D.O**, indicating the actual amount counted and found in the Cash Box. In the statement full details of the un disbursed amount and in a separate statement the details of the permanent contingent advance held by him and/or distributed to his staff should be shown including a statement of contingent advances outstanding against each office/officer as on that date. For detailed instructions in regard to preparation of accounts, see Accounts Pamphlet, Chapter III.

The **Director, GDC** of a wing can, when circumstances warrant it, delegate the above duties to any Group 'A' or 'B' Officer under him in accordance with the provisions of Note 1 to Rule 77 of C.T.R. Vol. I. This delegation should, however, not be resorted as a normal practice.

All officers including O.C. Wing, C.O., D.O., etc., taking contingent advance are required to maintain a Cash Book on form O. 5 (Acc.) which should be properly handed over at the close of field/when the full contingent advance is

refunded and to obtain a proper receipt for this. The Cash Books on form O. 5 (Acc.) are required to be retained in safe custody as these are auditable.

No other officer other than the cashier of the is authorised to receive any Govt. money and no receipt other than the Govt. cash receipt is valid in token of such deposits.

15. Permanent contingent advances- At the commencement of field and recess seasons, the **Director, GDC** should apply **through Addl. S.G.** for the Surveyor General's sanction for contingent expenses during the aforementioned periods. The advances may be drawn on Simple Receipt form accompanied by a copy of the Surveyor General's sanction. The same procedure should be followed if further advances are required during the field season.

The amounts of contingent advance held by an Officer-in-Charge should be the minimum required for carrying out his duties efficiently, and any portion of the advance not required should be immediately refunded into the treasury under intimation to his Director and the C.P. & A.O./R.P. & A.O. as the case may be. The advance for the field season should be refunded into the treasury within a month of the return to recess, but before recess contingent advance is drawn whichever is earlier, and the advance for the recess should be refunded at the end of the recess but before field contingent advance is drawn. Contingent advances must not be utilized for making advances of pay, T.A. other than Group 'D' etc., to personnel. Part payment may, however, be given to continent khalasis out of the permanent contingent advance; in this connection para 15 of Accounts Pamphlet, Chapter I should be referred to.

16. Service Books & Leave Account- maintenance and verification of –

(a) *Service Book*-Service Books must be maintained for all Group 'A', 'B', 'C', & 'D' permanent including contingent Group 'D'. All promotions, increments, interruptions in service, leave, etc., should, be entered in the Service Book as soon as they occur, and attested by the **Competent Authority**..

The Officer-in-Charge **or D.D.O** has to submit a certificate to his Director annually by 31st May, that the Service Books of all the persons are up-to-date. He must, therefore, have a system to ensure that all entries in the Service Books are made as soon as any change occurs. One good method is to insist that the relevant Service Book is put up to him along with the fair sanctions for increment, leave, order of transfer, punishments, etc., so that the orders and the entries in the Service Book are signed simultaneously.

(xxxix) *Leave Account*-Leave account of the persons governed by the leave rules in F.R. should be maintained on form No. A.T.C. 2. Instructions for filling up this form are contained on the reverse of the specimen Form in F. & S.R. Volume II. Leave account of the persons governed by the revised leave Rules should be maintained on Form No. A.T.C. 2-A. Verification of leave accounts by audit should be taken up sufficiently in advance of the date of superannuation.

17. Indent, Receipt, Issue and Accounting of stores staff-procedure for: - On a date specified by **the Director, the A.S.O,** should submit to his Director a complete list of the serviceable stores held by him, his total requirements during the next field seasons and the resultant deficiencies and surpluses. The Director will then take suitable action to transfer stores to or from his wing and arrange procurement for such items as cannot be supplied to him from elsewhere. On receipt, the stores will be taken on charge in the Stock Ledger. The **A.S.O** should initial the entry in the Stock ledger at the same time as he signs the vouchers in acknowledgement of the stores, to ensure that all stores received in his wing are taken on charge. Similarly, all stores transferred outside should be struck off charge under the initialed entries of the Officer-in-Charge/**ASO** or a gazetted officer nominated by **Director**. Separate registers are to be maintained for classified and unclassified books and publications.

Stores issued to or returned by sections or personnel within the **GDC** should be shown in the distribution register, all issues being supported either by the initials of the persons receiving the stores or receipts signed by the Camp or Section Officers for a consolidated list of stores. Such transactions will not be shown in the Stock Ledger.

Stores should not be issued on loan. They should be transferred even if required for a short period.

All stationery is normally obtained on indent from the Deputy Controller of Stationery.

(See Rules for the Supply and Use of Stationery Store).

18. Local purchase of Stationery and stores.- When minor items of stores or stationery are required to be purchased locally to meet urgent requirements, this must be done in the most economical manner, i.e., by calling tenders or asking for quotations from the dealers. Sanction of the competent authority should be obtained prior to such purchase.

19. Physical verification of stores. – All stores on charge must be physically checked by a responsible officer, not connected with stores, once every year and also at the time of transfer of deficiencies and surpluses should be immediately reported to the Director for regularization. It is advisable for the **ASO or an Officer nominated by Director** to exercise surprise random checks of a few items of stores at a time. This will ensure that the stores are not removed by any unauthorized persons in between the annual physical verification of stores. The provisions of Rule 116 of G.F.R. should be strictly adhered to.

A cost account of the stores is to be prepared in the prescribed proforma. For this purpose a register is to be maintained indicating the details of calculations. The proforma Stores Account should be got audited by the test audit wings annually and the report submitted to the Director with the certificate of audit. In this connection instructions issued under S.G's No. R-109-C/1132-G dated 30-4-81 may also please be referred to.

20. Care and maintenance of stores including motor vehicles.- All government property should be stored in a masonry building wherever practicable and all precautions taken against damage or loss by white ants, rats, dampness, fire, theft, etc.. Stores should be arranged methodically and neatly for easy access and check. They should be aired periodically especially during the monsoon. When a suitable masonry building is not available and tents or mud house have to be used for storage, extra precautions against damage by rats, white ants and dampness must be taken.

Motor vehicles, when attached to a wing, form **an** important and valuable part of it stores. The Officer-in-Charge should pay particular attention to their upkeep and maintenance. Vehicles must not be taken to places where there is risk of their being damaged, e.g., across deep streams or marsh. Vehicles must not be overloaded and their speed should be regulated according to the nature of the ground and the load carried. Fuel, oil, water and tyre pressure must be checked day before a vehicle is put on the road. Minor defects must be attended to at once; otherwise these lead to major repairs later on.

Each vehicle has its Log Book in which all major repairs, replacement of parts, dates on which oil is changed, etc., should be recorded. A Car Diary showing details of journeys performed and the petrol supplied each time must also be regularly maintained to ensure that the vehicle is not used for unauthorized purposes and there is no pilferage of petrol, etc. All the entries should be signed by the officer to whom the vehicle is supplied. When not in use, the vehicle must be parked away from fire-places and under cover or shade.

Detailed instructions for routine check-up and maintenance are laid down in appendix I. The Officer-in-Charge should see that these are followed by the Drivers.

At the close of the field season, vehicles should normally be taken to the headquarters for check-up and major repairs, if any under directorate arrangements.

Personal Computers, Laptops, Tablet PCs etc are being costly machines, their upkeep and maintenance should also be paid due attention by the Officer-in-Charge **of the wings of the GDC..** Comprehensive instructions on the subject are given in the "Rules for the supply and use of stationary stores" paras 68 to 83.

To avoid pilferage and loss of spare parts, the personnel Computers, Laptops, Tablet PCs etc should be issued to individual operators who should be made responsible for their proper use, care and completeness of parts. The servicing and maintenance of the machines is carried out by the local agents of the manufacturer concerned with whom the Government of India, authorised for these purpose. Sometimes the field headquarters of the wings happen to be placed in remote areas where there are no local agents. In such cases the Officer-in-Charge **of the** should see that the Laptops, Tablet PCs etc are thoroughly repaired and overhauled before proceeding to the field and immediately on return form it.

For expenditure on repairs to Personnel Computer, Laptop, Tablet PC etc see para 8 (xix). Cases of major repairs or replacement of worn out parts involving expenditure in excess of the above limits should be referred to the administrative Officer for expenditure sanction. For condemnable machines, reports on prescribed form should be obtained from the local agents and forwarded to the Administrative Officers for further action.

21. Carriage of survey instruments.-It should be specially noted and impressed on all members of the wing that survey instruments, such as theodolites, levels, plane-tables, etc., should, except in very exceptional circumstances, always be carried by the khalasis and not on carts, or mules or other animals. Should it be unavoidable to carry theodolites or other delicate instruments in carts, a layer of branches placed under the boxes will be found to be an excellent substitute for springs to prevent injury from jolting.

22. Safeguarding cash and stores.-Stores and public property should not be kept in a closed tent, with a single sentry outside; such an arrangement is unsafe, and unfair to the man on guard. The most secure method of guarding property is to collect it in an open spot, so that the sentry can have a clear view on all sides. The articles should be raised above the influence of damp ground, and of white ants, by means of wooden trestles, stones, or bricks and protected from the weather. Delicate instruments liable to injury from exposure can be guarded securely if placed in a *J shouldari* or open pal. When the strength of the guard is insufficient for furnishing a double night *sentry*, the khalasis of the establishment must take their turn on such duty.

For all government property, when left at "khamals" or godowns, proper arrangements should be made for its safe custody. Every precaution should be taken against damage to, or loss of, government property by thefts, fire in tents or godowns, and in transit by boat or rail.

The government money entrusted to an officer should be kept in the safest possible place and every precaution should be taken to prevent its loss. The drawal of money from the treasury and its transmission to camps and sections should be done strictly according to the instructions laid down in App. IV to the Handbook of General Instructions 7th Edition, 1966. At Headquarters and until its disbursement, cash should be kept in a cash chest provided with double locks, the key of one lock remaining with the E & A.O. of the GDC and that of the other with the **Cashier**. The cash chest should remain in the custody of the Jemadar and be guarded with necessary guard as laid down in the Handbook of General Instructions, 7th Edition, 1966. As an added safeguard, the box should be chained to a wall or a tent pole. Similarly, a Camp Officer should keep the government cash in a strong box chained to a fixed object in his sleeping tent. The individual field workers, who generally do not have much government money, should keep the government money in their care preferably on their person. Pay and T.A. received every month from the **Head Quarters** or Camp Headquarters should be disbursed to the persons concerned at the earliest opportunity. Detailed precautions for the safeguarding of government money are given in the accounts Pamphlet and the Handbook of General Instructions 7th Edition, 1966.

Sub para (i)- To safeguard the cash in the field, the Camp Officer is allowed to open a bank account in the Convenient scheduled bank.

Sub para (ii)- Temporary electric connections may be taken at Camp Headquarters for security and work at night.

Sub para (iii)- At **Head Quarters** the cash transactions are the responsibility of the bonded cashier.

23. Losses of stores or government money.-All losses of government stores, money and revenue, etc., due to theft, fraud or negligence have to be reported to higher authorities as indicated below:-

- (a) All losses of any kind are to be reported by the Officer-in-Charge to his Director.
- (b) Directors will report losses to the Surveyor General of India as below:-
 - (b) Losses of stores exceeding Rs. 100 (losses not exceeding Rs. 100 may be disposed of by Directors).
 - (ii) All cases of losses which disclose defects in rules or procedure and would require orders of higher authorities.
 - (iii) All losses in revenue (whether above or below Rs. 100).
- (c) The Surveyor General of India will submit reports to the Government of India in the following cases:-
 - (i) Losses of stores money exceeding **the amount**. where defects in rules and procedure are not involved.
 - (ii) Losses of revenue exceeding the amount up to which he is competent to write off the loss.
 - (iii) Cases of losses which disclose defect in rule or procedure, the amendment of which would require the orders of higher authorities.

Where necessary, a further and complete report may be sent later, after enquiry, showing the nature and extent of loss, the circumstances under which the loss took place, responsibility and the prospects and recommendations for effecting recovery.

The administrative Officer will not only take action for writing off the loss and for informing higher authorities, but will also issue orders regarding recovery of the loss on further investigation in the matter. In serious cases, the officer on the spot, if he has any doubt, should initiate an investigation forthwith without waiting for the Administrative Officer's orders. This investigation should, where possible, take the form of a Court of Enquiry. Failing personnel to form a court, the depositions of Group 'D' personnel or others on the spot should be taken by the senior officer present.

Any loss the value of which exceeds the amount must be reported to the Administrative Officer. In all cases of theft or suspected arson, the local police should be informed at once, and asked to investigate. The police report should be submitted to the Administrative Officer in due course.

Losses not exceeding Rs. 25/- may be disposed of by Competent Authority.

24. Repairs to instruments, equipments, tents and motor vehicles: - Timely arrangements must be made for the repair of all stores before their issue to the field hands. Procedure to be adopted for repair to the various types of stores is outlined below :-

Instruments.- Every field hand at the close of the field season should submit a report to his Camp Officer on the working of the precision and non-precision instruments, e.g. GPS ,Total Station , Digital levels, theodolites, barometers, range-finders, Tablet PC, GPR etc., and similar costly instruments used by him. The Camp Officer will submit a consolidated report to the Officer-in-Charge of the wing who is responsible for further consolidation of these reports, with the help of an "examining officer" if necessary, on form O.65 and its submission in triplicate to his administrative Officer by the due date. The precision and non-precision instruments will be shown separately on separate forms. The administrative Officer will record his orders on these reports and forward two copies to the Surveyor General.

Precision instruments should on no account be repaired locally except when the repairs are of a very minor nature.

For Purchase and repairs of furniture, the power exercised by , the Director is Rs. 1,00,000 per annum, the Addl. Surveyor General Rs. 2,00,000 per annum and the Surveyor General Full power.(amendment made from time to time)

Equipment and tents- Repairs to these should generally be carried out at the field khamal just before or after the field season, under the orders of the Executive Officer. The repairs may be carried out either by contract or by "daily labour", whichever is more economical.

For these repairs, only Directors exercise the power of full, whereas the Executive Officers exercise the power of Rs. 10,000 per annum.

Motor vehicles: - Repairs to motor vehicles are carried out under the orders of the Administrative Officer. In case of emergency the execution officer may order such repair provided the expenditure involved does not exceed Rs. 2000 per annum per vehicle. If this amount is found insufficient, the Director will be approached for further funds. Mostly vehicles are repaired in Departmental Workshops (where this facility is available) but the expenditure incurred on purchase of new parts or as any special work, which is got done in the market, will have to be met by the wing/Directorate owning the vehicle. Sequence of actions to be taken in the event of vehicle accident should be as below to avoid wrong processing:-

- (i) Address of owner and Insurance Company of other vehicle.
- (ii) Police report.
- (iii) Sketch of accident.
- (iv) First aid, etc., and further actions for claim, etc.

25. Unserviceable or surplus stores-disposal of – Store Officer of the GDC should periodically approach the Director to convene a Condemnation Board, consisting of a president and not less than two members, to examine and report on the stores which are considered to be surplus, unserviceable or beyond economical repairs. The report of the Board will be submitted in triplicate if the cost is up to Rs. 25,000, on form O. 70, two copies of which will be forwarded by the Executive Officer to the Director. The Director will record his orders on each copy and return one to the Executive Officer for further action. The report will be prepared in quadruplicate, if the cost is between Rs. 25,001 and Rs. 100,000, three copies of which will be forwarded by the Executive Officer to the Director, who will forward 2 copies to the Addl. Surveyor General who will record his orders on each copy and return one copy to the Director who will amend his copy and return the original copy to the Executive Officer for further action.

Similarly, this report will be prepared in quintuplicate, if the cost is above Rs. 100,001 as this will need to be sanctioned by the Surveyor General of India.

According to the Director's or Surveyor General's orders, the surplus stores will be **taken in the Stock Ledger of the GDC**. If other **Offices** cannot make use of them, the surplus together with unserviceable stores, if the cost is less than Rs. 25,000, will be disposed off by public auctioneer. Whereas Director is empowered, both to declare stores as surplus or unserviceable and to order their disposal, up to a value of Rs. 25,000, the Addl. Surveyor General is empowered up to a value of Rs. 100,000. The proceeds of the sale, less the auctioneer's commission should be deposited in the Treasury immediately on receipt.

Detailed orders about the disposal of unserviceable stores are given in the Handbook of General Instructions, 7th Edition, 1966.

26. Registers of original records- Registers of the receipts and dispatch of all maps, field sections, computations, air photographs, etc., should be kept up in every wing and office. Separate registers will be maintained for classified and unclassified records.

A separate register of all reserved forest surveys executed by the wing is to be maintained, showing the year and scale of survey, date of submission of plane-table sections, method of publication (normal or special), whether 1: 15,000 scale boundary plots were prepared and, if so, the date of their dispatch to the Director.

27. Security instructions for classified publications, records, maps and air photographs.- It is the responsibility and the direct concern of every officer and employee to safeguard and ensure the security of all classified information and papers to which he has access in the course of his official duties or which comes into his possession in any other way. It is his duty to bring immediately to the notice of higher authority any breach of security regulations in general and, in particular, any disclosure to any unauthorized person. While it is incumbent on every individual to study and follow the various Government, departmental and other Office Orders on the subject, the following procedure will be strictly followed:-

- (i) All the classified records, maps and air photographs should on receipt and dispatch be checked in the presence of a Gazetted/Section Officer and necessary entries made in the stock register and initialed by him.
- (ii) They should be kept in locked almirahs or boxes and taken out only when actually required for work and should always be accounted for.
- (iii) The various stock registers should be maintained up-to-date for all issue and receipts by the individuals/Section Officers.
- (iv) A 100% physical check of the above will be made once year and a report submitted by the Officer-in-Charge to the Director with Explanations/Comments, if any, in case of any shortages or excesses. The Director will then scrutinise and submit this report **to the** his recommendation with Surveyor General for final disposal.

28. Maintenance of maps and charts.-**Record Section of GDC** should keep **at least** one copy of the latest edition of all maps and triangulation, traverse, and leveling charts or pamphlets, which pertain to the areas in which **the GDC is** working or for the mapping of which they are responsible. These should be carefully arranged in shelves, drawers, or folios, suitably labeled. The maps should include copies of all Extra- departmental maps which might be of value for topographical purposes. One copy of all superseded editions of departmental maps **of the** area should also be kept, as references to old editions are sometimes necessary, e.g. in the case of boundary disputes, or to trace physiographical changes.

Sheets should be placed in drawers with the headings outward so that the numbers can be readily seen on pulling out the drawer, and the sheets returned daily to their proper places in the almirah after use. They should be correctly colored, and kept for reference and office copy corrections when required, and not for ordinary office use. Officer-in-Charge should consider it a duty to make themselves thoroughly conversant with the history and quality of each one of these sheets, noting all information on these points in ink on the back of the sheets. They will thus be enabled to report, at any moment to their Directors, as to the needs of the area allotted to their wings in the matter of topographical maps, and to point out where new surveys are required and over which areas a revision or supplementary survey will suffice. To aid them in prepare index maps, and also keep up a register giving, as far as possible, all the requisite information. It is also desirable that they should acquire a general knowledge of the history and quality of all revenue surveys that have been conducted in the State, whether by State or local agency, so as to be able to judge whether the material thus available can be made use of. They should take every opportunity when in the field or in transit, of roughly examining the work in any of the sheets previously surveyed through which they pass, so as to get as correct an idea as possible of future requirements, and whenever possible should, under the

orders of the Director, survey and record on the maps any new roads, canals, railways, etc., that may have been made since publication, so that should a new edition or reprint of any sheet be required, the new work may be shown on it.

If any changes or corrections are found necessary to a map that has been already fair mapped, a trace showing the necessary corrections in their proper colors, should be submitted to the Director. If the map has not yet been published, the Director will take steps to have the corrections carried out before publication, otherwise they will be noted on the office copy of the sheet or amendment of the next edition.

All map catalogues in use will be kept up-to-date from the regular list issued by the Director, Map Publication.

The field sections will also maintain Krab Files in which all surveys, aerial photography, triangulation, traverse, rectangulation, etc., carried out in their respective areas will be shown in accordance with the instruction contained in T.H.B. Chapter I, (Recently revised)

29. Inspection report.- The Officers-in-Charge and Camp Officer must record their inspection notes after examining the work of camps and individuals in the field. Not only these will be recorded on the P.T. sections or note-books of the individuals but brief summaries of the same will also be kept in the inspecting officer's personal note-book for future reference at the time of yearly reports.

On Completion of the inspection of a wing, etc., by the Administrative Officer or the Addl. Surveyor General/ Surveyor General, the Officer-in-Charge will prepare a summary of the points discussed and the decisions arrived at, and submit to the Administrative Officer. The latter, after scrutiny and approval, will send one copy of it to the Surveyor General.

The same principal may conveniently be applied to the inspection of camps, etc., by the Officer-in-Charge. Officer-in-Charge should submit his inspection notes to the Administrative Officer.

30. General Report and other return-General Report and other reports should be made out in accordance with paras 255 to 269 of the Handbook of General Instructions, Seventh Edition, 1966 and other orders issued from time to time. The Officer-in-Charge of the wing should endeavor to make the General Report useful for reference by wings which may work in the same area in the future; he should also include in the report brief notes on any marked physiographical changes that may come under observation (see Appendix IV).

31. Prevention of oppression- Officers in the field must do all in their power to prevent oppression of the villagers by any members of the establishment or by their servants; they will report at once to the Officer-in-Charge any circumstances of this nature coming to their notice. If kindly treated and considerately dealt with, the inhabitants will be found willing and ready to afford assistance whenever necessary, and it should be borne in mind that the work will progress more smoothly when good relations have been established with inhabitants.

Survey of India personnel have no authority to requisition supplies, transport, or labour, against the will of the people; if such assistance is not given freely on offer of payment, the assistance of the local civil authorities must be obtained; in many cases the necessary labour and transport will have to be arranged for by the Officer-in-Charge of the wing and imported from other districts.

Members of a wing are granted certain concessions in the matter of tents and traveling allowances and are, therefore, prohibited from demanding accommodation in houses.

It is the duty of every office to pay for all supplies received by him at the rates laid down by the authorities, and to see that his subordinates and servants do the same.

It is desirable, in order to avoid any chance of unpleasantness, that all members of a wing, before moving camp, should obtain an acknowledgement, from the headman of the village from where they have obtained their supplies that all demands/payments etc., have been settled in full.

The survey personnel should always keep aloof from the local politics of the villages where they work or camp in and should in no case try to settle their internal disputes.

32. Presents and gratuities prohibited- Surveyor or other employees who can be proved to have received, on any pretence whatsoever, any present or gratuity from the inhabitants or authorities of the district in which they may be employed, or from their subordinates, are liable to be punished under the Central Civil Service (Classification, Control and Appeal) Rules, 1965. They are also liable to be made over to the civil power for trial.

Further rules on this subject are laid down in para 13 of the Central Civil Services (Conduct) Rules, 1964.

33. Cost rates-upkeep and maintenance of registers for- Every wing will maintain a Cost Rate register on form O. 87 (Tech) keeping one page for each project or departmental work, in which the whole expenditure of the wing is distributed according to the number of personnel employed on it.

For this purpose individual Section and Camp Officers will compile data on the requisite proforma (see Appendix XII) and complete all columns for each type of job under a project such as triangulation, traverse, original surveys, revision surveys, etc., and submit it to the Officer-in-Charge of wing at the end of every month. The Ministerial Section will work out and complete data for pay, etc., on this proforma and after posting the wing overheads which are worked out in the manner described in sub-para 3 below abstract these and post them in the register cited in the preceding sub-para every month.

The wing overhead and general overhead charges are worked out in the manner indicated below:

Wing overhead charges- These are to cover items of expenditure in the wing which cannot be allocated to departmental or extra-departmental work, e.g., pay of Officer-in-Charge, Clerks, Group 'D' Staff employed at headquarters, hire of buildings, electric charges, postage, etc. Where a wing is entirely engaged on extra-departmental work for any one indenter it is not necessary to determine these overhead charges as the indenter pays the entire expenditure of the wing. When a wing is engaged partly on departmental and partly on extra-departmental surveys (or on extra-departmental work for more than one indenter), these overhead charges have to be divided in the ratio of departmental and extra-departmental work done by the wing. The total of wing overhead charges divided by the total estimated expenditure of a wing less the expenditure on account of wing overhead charges and T.A. and contingent of all personnel and conveyance of stores to and from the field, multiplied by 100 gives the percentage for wing overhead charges which should be added to the estimate of actual expenditure of any extra-departmental work.

As an example, suppose the annual expenditure of a wing and T.A. and contingent of all personnel and conveyance of stores to and from the field is Rs. 2,50,000 of which Rs. 50,000 constitutes items of expenditure which comprise wing overhead charges and of the balance Rs. 50,000 is on account of departmental surveys and Rs. 1,50,000 on account of extra-departmental surveys, the wing overhead charge will be $\frac{50,000}{2,00,000} \times 100$, i.e., 25%. The estimated expenditure of Rs. 1,50,000 on extra-departmental work should, therefore, be increased by 25% of this amounts to cover the wing overhead charges, T.A., contingent expenses of all personnel and conveyance of store to and from the field will not be included in wing overhead charges.

General overhead charges- These are to cover:

(i) Cost of Higher supervision and administration outside the wing	..@ 32%
(ii) Use of instruments and equipment	..@ 6%
(iii) Leave charges	.. @ 12%
(iv) Pension charges	.. @10%
Total . . . . .	.60%

These general overhead charges will be added to the estimate of any paid-for survey plus wing overhead charges subject to the following:-

- (a) Where an entire wing is engaged on extra-departmental work, the indenter pays for the personnel even whilst they are on leave and hence leave charges 12% should be omitted.

Note: - When a wing is engaged partly on departmental and partly on extra-departmental work, the leave salary of the personnel should be excluded from the expenditure of the wing, i.e., it will neither be included in the wing overhead charges nor allocated to departmental or extra-departmental work. The normal leave charges of 12% should be levied.

- (b) Pension charges of 10% will not be included in the case of Service Departments of the Central Government. They will be included in the case of the Commercial Departments such as Railways and Posts and Telegraphs. For the list of Commercial Departments see annexure at the end of Chapter 4 of Accounts Code, Vol. I.
- (c) No overheads (wing or general) will be added to reproduction costs since these are included in the rates.

- (d) Where an estimate includes work not done by Survey of India, e.g., air photography, no overhead charges (wing or general) will be added to such items of expenditure. If the air photographs are printed at the Air Headquarters (C.P.R.S.), New Delhi or M/s. Air Survey Company of India (P) Ltd., Calcutta, against orders placed by Survey of India (by S.G.O.) for supplying to the extra departmental indentors, agency fee at the rate of 5% of the cost of prints subject to the maximum of Rs. 250 will be added to the cost. No agency fee will be charged if the printing is done at Survey of India printing offices, In addition to the agency fee, the royalty surcharge, where applicable as per existing rules in force, is also to be added to the cost recovery.
- (e) Where an estimate includes purchase of materials or stores , e.g. irrigation mark-stones which are to remain the property of the indentor, no overhead (wing or general) will be added but an agency fee at the rate of 3% on the cost of stores will be added.

An example of calculation of estimate for a paid-for survey work is given below:-

A.	Cost of field work and drawing	--	Rs. 5,000
B.	Payment made for air photography	--	Rs. 1,000
C.	Cost of Reproduction	--	Rs. 500
D.	Cost of mark-stones not included in A	--	Rs. 6000
E.	Wing overhead charges say 25% of A Which includes expenditure incurred On T.A., contingent expenses of stores to and from the field	--	Rs. 1,250
F	T.A and contingent expensed of all personnel and Conveyance of stores to and from the field)	--	Ra. 1,000
G	General overhead charges of 60% of A plus E and F	--	Rs. 2, 175
H	Agency Fee on D at 3%	--	Rs. 18
			<hr/>
			Rs. 11, 543
	Say		Rs. 11,550

SECTION II -PREPARATION OF FIELD

34. Programmes- The first, and one of the most important preliminaries to a survey, is the preparation of the programme. On this depends the strength of the wing, and the question of transfers of officers and subordinates, which, in the interest of the work, as well as for the convenience of those concerned, it is essential to arrange as soon as possible.

The area allotted to a wing for a period of year is usually laid down in advance by the Director, but it is the duty of an Officer-in-Charge to draw up each year a detailed programme of the work process to carry out in the following field season and succeeding one.

It is, therefore, important to work out the out-turn that may be expected. From all available officers and subordinates and balance these against the area of the programme.

In doing this he should endeavour to lay out the work of his wing in such a manner that, within the limits of the area allotted to it, he shall as far as possible meet the requirements of the Local Government of the State in which he is working and those of the Conservator of Forests, or of any other authorities, which have been officially communicated to him. He should bear in mind the importance of keeping the work of his wing concentrated so as to facilitate supervision, of completing the survey of whole of 1:50,000 scale surveys allotted to it 1:25,000 sheet area at the earliest date. The programme, thus carefully thought out, must be submitted, not later than the 15th of May of each year, to the GDC, who will include it in the programme of the Directorate, which is required to be submitted to the Surveyor General through Addl. Surveyor General not later than the 15th June, see Appendix II of T.H.B. Chapter I. The Surveyor General then draws up the general programme for the Department for the sanction of the Government of India.

Triangulation and traverse should be carried out so as to cover at least the area for plane-tableing or air survey for the next field season and half that for the following season. It may be desirable to carry out triangulation still further in advance, especially if enables a junction to be effected with another series of triangulation.

No extra-departmental paid-for work can be undertaken without the prior approval of the Surveyor General which should be obtained sufficiently in advance so that commencement of the work may not be delayed. While applying for approval, full details of the job should be furnished, i.e., location and extent of the area, scale of survey and contour interval, estimate of cost and the load involved in terms of wing-years and whether the wing can undertake it without detriment to other work already allotted to it. After receipt of the approval and before starting the work, certificate of availability of funds should be obtained from the indenter duly signed by the competent authority.

35. Information regarding the area of survey.- Before taking the field, the Officer-in-Charge of a wing, besides making himself thoroughly conversant with the details of all the previous survey operations which have taken place in the area allotted to his wing, should place himself in communication with the local officials, especially forest officers, and should ascertain the nature of the communications, the resources of the country as regards transport, supplies, and local labour and the current rates for the same, as well as the most suitable months for carrying out survey operations, with due regard to climate and health. He should obtain copies of gazetteers and other books containing information about the country and copies of government notifications of boundaries. He should also obtain maps prepared by local officials and by other departments such as *musavis*, *mujmilis*, *tahsil* maps showing village and other boundaries, canal maps showing levels, railway maps and large scale maps of cantonments and municipal towns as well as all Departmental maps of the area under survey.

Much useful information can be obtained from the narrative reports of survey wings which have previously worked in the area, and especially from the reports and experience of the triangulators and traversers who have preceded the detail survey. These reports should contain full information of the area covered, grouped under such headings as topography, communications, transport, supplies, inhabitants,

local labour. Etc. The report should also contain suggestions as to the most suitable layout of plane-table sections, where this might present difficulty, such as in hilly country. In cases when no advance framework has been carried out and triangulators' or traversers' reports are not available it may be advisable for the Officer-in-Charge to make a tour through the country to be surveyed, in the year preceding the detail survey, in order to obtain a personal knowledge of local condition. The success of the work will depend greatly on the care with which preliminary enquiries have been carried out.

Officer-in-Charge of a wing is responsible to obtain *Tahsil* wise of lists of village names, etc., also from local/districts officials for the areas under survey.

36. Data, existing maps and requisition of maps, if necessary- All data with regard to the area to be surveyed should be obtained early in the recess season.

The Triangulation and Levelling pamphlets must be consulted and, if the areas has been topographically triangulated, the synopsis and, if these are not available., the computations and charts must be obtained from, or through the Administrative officer.

If the area has been traversed instead of being surveyed by GPS method, application should be made of the Administrative Officer for the necessary informations, and for any data that may be available for revenue survey traverses.

The results of the precise leveling executed by the Geodetic & Research Branch are contained in pamphlets, each pamphlet dealing with the area of one of the sheets of the 1 : 1M map. The results of secondary leveling executed by the Geodetic & Research Branch are contained in separate secondary leveling pamphlets. Besides procuring the pamphlets, application should be made to the Director, Geodetic & Research Branch for particulars if any work that may have been done since their publication.

Copies of all available departmental and project maps of the area for survey, both those of the survey of India and other special or local maps, should be obtained, and such reductions as may be required should be arranged for in good time.

As many printed or other notification of the Reserved and Protected forests in the area of survey as are required, with copies of forest department sketch maps should be obtained from the forest officers concerned.

If the area is to be surveyed by the air survey methods information about existing photographs should also be obtained. Detailed instructions for the same are given in the next para.

37. Requisition for photographs.- Arrangements for fresh aerial photography are made by the Director, Survey (Air) on receipt of the demands from the Directors, after the demands are approved by the Surveyor General of India. Arrangements for supply of prints, enlargements mosaics, etc., of the existing photography are made by the Surveyor General's Office on receipt of the demands from the Directors. If the work of a survey wing involves use of aerial photography, the Officer-in-Charge should foresee the requirement sufficiently early and intimate them to the Director for further action. As far as possible, prints from existing photo covers, if any, should be made use of and fresh photography may be ordered only if the existing Photography is considered unsuitable. Brief information about existing photography is given in the supplement to Map Catalogue, Part I (Photo Cover) but fuller and up-to-date details can be had from the Directorate office or from the Surveyor General's Office. It should be noted that fresh photography is executed during the flying season only which is generally from October to March and supply of photographic materials starts onwards. Fresh photography demands, therefore, need be projected well in advance. Also refer to brochure on "How to Indent Aerial Photographs".

It photographs is required for any outside indenter or in connection with any extra-departmental paid-for surveys, before placing final orders for photography, prints etc., not only the estimate of cost should be got approved by the indenter but also a certificate of availability of funds should be obtained from him by the Director. The Director should forward the indent for aerial photography, together with the certificate of availability of funds where required, to the Director Survey (Air) who is responsible for the preparation of the Annual Aerial Photographic Programme, obtaining security clearance from the Ministry of Defence and issue of photographic specifications for fresh photography to all the outside

indentors. In the case of private or non-government indentor the whole or a part of the cost involved is to be recovered in advance, as required under the rules, and an agreement signed.

38. Notice to local officials.- Early notice of the approach of a survey wing must be given to local officials, the position of the headquarters of the Officer-in-Charge and the Camp Officers being intimated ; it is sometimes also advisable to supply an index map showing the distribution of surveyors. The head of each district should be asked to issue orders to all *tahsildars, mamlatdars, lambardars/patels/gram pradhans* and other minor officials, to render all assistance to the members of the survey team, and to point out boundaries when required. The request should be worked to make it clear that all supplies and labour and provisions should be ascertained and permission to use all Government, District Board and Local Board bungalows should be asked for.

The appropriate officials of the State Governments should be asked to clear forest or other boundaries to indicate whether they wish forest or minor sub-division boundaries to be surveyed and, if so, to have them cleared, where necessary.

This information should be asked for sufficiently ahead of survey to allow ample time for the boundaries to be demarcated or cleared, information being given as to the projected season, or season of survey.

39. Medical arrangements.- Arrangements for refilling medicine boxes should be made during the recess season, and indents for medicines should be submitted to the Administrative Officer alongwith 4 copies of form O.42 for S.G.'s sanction. The Administrative Officer will get the indents countersigned by the Civil Surgeon and forward them to the Medical Supplies Depot for supply of medicines.

The surgical equipments of the Office should be examined and checked during the recess season, and should be entered in the wing stock register.

Medical arrangements for survey are dealt with in detail in the Handbook of General Instructions, Seventh Edition, 1966.

Also see Appendix XI giving lists of medicines contained in the Surveying Officer's medicine chest with instructions for their use for first-aid-prevention and treatment of common diseases and accidents.

The care of the health of such a large body of men is a most important matter, and one which should receive the greatest attention. In some parts of the country where civil dispensaries are frequent, recourse should be had to them in case of illness, but in sparsely populated and out of the way districts, it will be necessary to fall back on one's own resources. A plentiful supply of fresh medicines should be provided, and each Camp Officer, and Group 'C' field hand should be supplied with a medicine chest. The pattern known as "Survey Officer's chest" is most suitable for Camp Officers and "Portable Medicine Boxes" for other field personnel. Also see Appendix XI.

All personnel of a field section should be given small-pox vaccination as well as anti-typhoid and cholera inoculation from a government hospital at the office headquarters before proceeding to field. Inoculations against other diseases may also be given, if such diseases are known to be prevalent in the field area of the GDC.

Reports on death, wounds and dangerous illness should be made in accordance with relevant paras of the Handbook of General Instructions, 7th Edition, 1966.

In the event of death of any one in the squad, send a telegram to next of kin. Inform the nearest Police and District/Tehsil/Village authorities and their clearance may be obtained before disposal of the body. As far as possible also obtain a death certificate from them as well as from doctor. As far as possible obtain instructions from next of kin and wait till next of kin or relative arrives. Finally presence of witnesses at disposal to be get recorded and signed by them.

40. Transport.- Speedy movement of field personnel and equipment from recess headquarters to field area and from place to place in the field is an important factor on which the out-turn of GDC greatly depends. The Executive Officers should, therefore, pay due and timely attention for making necessary arrangements for this purpose. For transport of GDC stores to and from the field headquarters, railways goods wagons, if required, should be applied for in advance form the railway authorities. The Officer-in-Charge should, from time to time, obtain information from their Directors as to what category of "preferential traffic" has been allotted to the Survey of India stores by the railway authorities.

For conveyance of individual workers' kit from place to place in the field area transport, e.g., motor vehicle, bullock-carts, mules, camels, porters, etc., when obtainable locally should be arranged for as required by each officer,, plane-table, etc. This is a much cheaper plan than keeping permanent transport, but there are cases when the latter plan is the only one possible ; in such cases the sanction of the Administrative Officer should be obtained and early arrangements made with the local officials, contractors (camels/mules) or the Army Service Corps. If a contractor has to be appointed for permanent transport, tenders should be called for and a contract entered into through the Director. A specimen of the contract form is given in Appendix IX at the end. A specimen of contract form for irrigation mark stone is also given in Appendix X.

For the inspection tours of Officer-in-Charge and Camp Officers in the field generally motor transport as available is allocated by the Administrative Officer. The Officers-in-Charge wings should see that his vehicles are in good order before taking field and they are properly looked after and maintained in the (see paras 20 and 24 and Appendix I also).

41. Scale of transport, camp equipment and baggage- Scale of transport admissible to various types of workers in the field for the movement of kit has been fixed by the Surveyor General as given in Appendix VIII at the end. Deviations from the scale are permissible only under special circumstances with the prior approval of the Surveyor General

**Scale of Camp equipment and Baggage prescribed
for Officers in the field is given below**

Sl. No.	Designation	SERVANTS		CAMP EQUIPMENTS AND BAGGAGE	
		Traveling with camp equipment	otherwise	Traveling with camp equipment	otherwise
1.	Surveyor General, Addl. Surveyor General, Directors, Deputy Directors, Superintending Surveyors and Officer-in-Charge	2	2	746 Kilograms	299 Kilograms
2.	Other survey officers, e.g., Deputy Superintending Surveyors, Officers Surveyors, etc. when employed as Camp Officers	1	1	560	224
3.	Other Officer Surveyors and Surveyors Div I	1	1	448	149
4.	Other Group 'C'	1	1	299	75
5.	Group 'D' (all ranks)	--	--	--	19

42. Escorts and interpreters. – When a Survey team is working on or near the frontiers or in localities inhabited by hostile tribes, where escorts are deemed necessary, early information with full details about the localities of work and the number of survey detachments scheduled to work in those areas shall be sent to the local administration so that they may make arrangements to provide adequate number of escorts.

In some parts of the country it is necessary to obtain the services of a police guard to bring the pay of the Survey team from the treasury, and to distribute it to various detached sections. Tahsil peons are also

sometimes attached to the different officers and surveyors to assist in procuring transport and supplies ; in parts of Assam etc., it is also usual to have a certain number of interpreters in the field.

Escorts, interpreters etc., should be engaged only with the prior approval of the Surveyor General /Addl. Surveyor General obtained through the Director. The rate of pay granted to them requires the sanction of Surveyor General.

Duties of escorts are normally carried out by *khalasis*/porters. When, however, armed escorts are necessary, local civil and military authorities and the Administrative Officer should be consulted.

43. General plan of operations.- After he has submitted the programme the Officer-in-Charge should unless there is a chance of any important change, decide on the general plan of operations, selecting the most convenient centers in the field area for his camp headquarters and for the headquarters, of the different camps into which the GDC is divided . It is essential that the headquarters of the GDC should be conveniently situated, as regards a treasury and post and telegraph offices. The camp headquarter should be selected so as to be in easy communication with the headquarters and with the field personnel belonging to it.

The work of the various camp should be apportioned so as to secure the maximum out-turn of work at a minimum cost. The Officer-in-Charge of the wing, in a GDC in consultation with the Camp Officers, will distribute areas to individual field workers.

The considerations affecting the allotment of areas to individual plane-tables are dealt with T.H.B. Chapter V, (Revised Edition)

External boundary of India .- Before the survey of an area which includes any portion of the external boundary of India is undertaken, the Director GDC will collect copies of existing maps showing the boundaries, and their full description from the concerned Directorate dealing with the External Boundary of India. As the information required will sometimes have to be obtained from the Ministry of External Affairs of the Government of India or the State Government, application must be submitted well in advance of requirements.

Directors must also see that full information on these points is supplied to the Officer-in-Charge of the field wings concerned.

44. Duration of field season, importance of avoiding delay in starting field work-

(i) *Duration of field season-* The most suitable time for taking the field should then be fixed, but formal permission for closing the recess need not be applied for until a month before leaving for the field. The field season should last for about six months, but the date of commencing and closing field work varies in different parts of India. In malarious districts little benefit is gained by commencing field work before the middle of November, while in Rajasthan, and in parts of Punjab and Uttar Pradesh, outdoor work becomes almost impossible after April. In Assam little in the way of triangulation or reconnaissance can be done during March and April, owing to the dense smoke haze which obscures all distant points. It should, therefore, be borne in mind that the period of a field season varies with local and climatic conditions, and does not depend on the programme of work which is merely an approximate estimate of a seasons's out turn.. If the Field Camp of a GDC completes its programme before the time fixed for the close of the field season, it should take up additional work, which, however, the essential proviso that only in very exceptional circumstances and with the sanction of the Director, should a larger area be surveyed that can be drawn during recess season.

It is seldom worthwhile keeping surveyors working late into the hot weather except to finish off a particular sheet. If it can be seen that the Camp is unlikely to be able to complete its programme early permission should be obtained to cancel one or more sheets of the programme. The field work should be so balanced against the recess work that all mapping and computations will be completed before taking the field again.

(ii) *Importance of avoiding delay in starting field work* As any delay, after a **Camp** leaves its headquarters for the field, means extra expense and reduced out-turn, it is essential that every possible precaution should be taken to avoid it. All lists of data, equipment, instruments, furniture, etc., to be issued to the different camp should be prepared, and the dates by which the different batches of *khalasis* are to reach the camp headquarters or other rendezvous must be carefully worked out and arranged for in advance before the **Camps** leaves headquarters.

45. Strength of Camps.- The most suitable **number** of field hands to be allotted to a Camp Officer will vary according nature of work, the nature of the country, and the skill and experience of the men. Inexperienced men require the greatest amount of supervision, and this should be taken into account when fixing the strength of the various camps; facility of communication is also in important factor. Under ordinary circumstances a Camp Officer should be able to exercise sufficient supervision over 8 to **10 Verifiers** working on the 1:50,000 scale plane-tableing **verification Survey**. It is not necessary, however, to have all camps of equal strength.

When large areas **are** being traversed or **levelled**, a special camp of traversers or levelers should be formed with a Camp Officer in Charge.

Such camps may be larger than usual topo survey camps.

46. Strength of Squads.- The above arrangements having been settled the number of Group 'D' personnel required should be calculated **and** the Director's sanction obtained. The following table is based on the detailed orders laid down in Circular Order No. 435 (Adm.) dated 2-4-55 and shows the number which will usually suffice. The number varies according to local circumstances taking into account the **quantum work involved** amount of chasing required, necessity for jungle clearing and allowance for sickness. Directors will issue their own orders as to scales within the members given in this table. Where more than these numbers are necessary the special sanction of the Surveyor General must be obtained.

Headquarters in the field	..	..	8 to 12
Officer-in-Charge	..	..	4 to 8
Camp Officer	..	..	5 to 8
Assistant Camp Officer	..	..	4 to 6
GPS Observer /E.D.M. Observer (Trilateration/Traversing) Plane-table	..	..	5 to 10
Photo Verifier/Blue print Verifier/Colour print Verifier			
Traverser	..	..	3 to 6
Rectanulator (exterior)	..	..	10 to 12
Rectanulator (interior)	..	..	9 to 12
Leveller (Rectangulation)	..	..	5 to 7
Tertiary Leveller	..	..	5 to 6
Reserve (where local men are not available)	..	..	5 to 6
			10 percent up to a Maximum of 20

NOTE.- The figures given above include camp orderlies where admissible. Every officer employed on field work is allowed a *camp orderly* while he is actually in the field to look after officer's tent and personal effects and for employment on such other personal services for the officer as may be required.

A field hand who is working at more than one day's march from the nearest post office may be allowed one labourer on days he submits reports, etc., to headquarters.

47. Recall of personnel from departmental leave and re-entertainment of contingent staff.-

All regular Group 'D' staff of a field wing on departmental leave will be recalled to duty at commencement of field work by *parwanas* instructing them **as** to when and where they should report for duty. No new appointments of contingent *khalasis* for field work should be made until the entire regular and all the suitable contingent *khalasis*/workers of the previous season have been absorbed. **E**fforts should be made in respect of the contingent *khalasis* **to be absorbed in the Camps for the field season besides recess period..**

48. Recruitment of contingent *khalasis*/contingent workers/mazadoors-

They are recruited to provide additional staff required to complete the squad strength for field work and are normally employed for the duration of field season in the same way as the regular Group 'D' staff but are to be discharged at the close of the field season. Contingent *Khalasis* are initially recruited through Employment Exchange but re-appointed direct during subsequent field seasons in relaxation of the normal recruitment rules. Rules regarding recruitment of such staff are laid down in C.O. 438.

a. **Selection of Group 'D' personnel required during recess, and Director's approval for strength.-** Group 'D' strength of a GDC during recess normally consists of regular personnel only and is approved by the Director and should not normally exceed the following:-

Jemadar	....	1
Officer Peons	....	2
Daftri	.....	1
Daffadars	.....	17% of regular establishment.
Officer-in-Charge of a Wing	.....	2
Each Section Officer with not less than 6 men in his section (and for larger sections in the same proportion)	.....	1 Otherwise 1 man between 2 Sections.
Field Khamal (each)	.....	2

If additional staff, e.g., guards, malis or sweepers, etc., is required, special sanction of the Director should be obtained.

b. **Clothing Scale of-** If it is deemed necessary to supply the Group 'D' personnel with blankets and warm clothing sanction should be applied for, according the scale laid down, and arrangements should be made for obtaining the articles. Orders regarding scale of issue of clothing and uniforms to Group 'D' servants are given in Appendix V at the end.

c. **Repairs to tents and equipment at field khamal.-**The Camps, which are to return to the same area of work the following year, should leave the bulk of their tents and equipment not required during the recess, in a field khamal after obtaining the approval of the Administrative Officer. Arrangement for the repair of such stores should be made at the khamal itself before the start of the next field season by sending an officer and/or Storekeeper with Group 'D' staff, in advance of the rest of the wing. See para 24 of Section I also.

d. **Preparation of Plane table sections and charts.-** Full instructions for mounting plane-tables will be found in paras 14 & 15 of Topo. Handbook Chapter V, (Revised Edition). The Officer-in-Charge of the of GDC should start preparation for the field season well in advance, and, if revision or supplementary survey is to be carried out blue-prints or color-prints, the necessary indents for the prints or the cloth-mounted sheets of drawing paper must be made. A plotting section will project, plot and rule up the necessary tabular from on these plane-table sections with the greatest advantage at the end of the recess season.

Attention is also drawn in Chapter IV, (Revised Edition), regarding the plotting of traverse points, wherein it is suggested that two men will require a full month to plot a dozen field sections of full size, unless projection and plotting is done by co-ordinatograph.

Preparation of charts for triangulators, etc., should also be put in hand in time for completion before the triangulation, etc., take the field.

53. Issue of stores records and advances, etc- The Director of GDC, should issue orders as to the responsibility for issue of stores of all kinds to officers and Group 'C' personnel. As a rule the indenter will make out detailed lists in duplicate for the stores required by him and get these approved by the Director and then give these to the storekeeper for issuing stores.

These issues will include tents and camp equipment instruments, stationary, forms, etc., and each surveyor will sign both lists, one copy remaining with Storekeeper and the other with him. When stores are returned at the close of the field season they will be checked against these lists, and deficiencies reported.

Blankets and warm clothing are best issued in bulk to Camp Officers or Surveyors ; and distributed by them to the *khalasis*, the signature/thumb impression of each man being taken in CO's book for each article issued.

Advances of cash should be made under supervision of an officer, receipts being taken at once on acquittance rolls, and entries made in cash book.

Equipment- The efficiency of a **GDC** depends to a great extent on its stores, instruments and tents being complete and in good order. The equipments should be regularly overhauled and checked at the end of every field season either by the Officer-in-Charge or some responsible officer deputed by him together with the storekeeper; arrangements should be made for the repair of damaged articles; worn-out and unserviceable articles should be condemned by a condemnation board, and unnecessary articles should be returned to store. Detailed instructions will be found in **relevant** paras of the Hand book of General Instructions, 7th Edition, 1966.

All members of a **GDC** should understand that they are personally responsible for the care and safe custody of all government property entrusted to their charge.

The registers to be maintained in a **GDC** are as follows:-

(i)	Stock register of instruments, equipment, tents, furniture and books	..Form	O.59
(ii)	Distribution register of instruments, Equipment, tents, furniture and books	.. ..	O.60
(iii)	Detailed tent register	.. ..	O.69
(iv)	Register of packing material and expendable stores	.. ..	O.59
(v)	Register of heating fuel (if required)		
(vi)	Register of original records		
(vii)	Register of stationary	.. ..	S.41
(viii)	Register of type		
(ix)	Stock list of published maps (separately for restricted and unrestricted).		
(x)	File of duplicate history Cards for “Theodolites and Levels”. GPS, Total Stations.		
(xi)	Register for classified records.		
(xii)	Detailed personnel issue register of summer and winter uniforms.		
(xiii)	Air Photo stock and distribution registers.		
(xiv)	P.O.L. register.		

54. Technical Instructions to Camp Officers, Control workers, Verifiers etc., including instruction on survey of various boundaries- **The GDC should** arrange a class during the recess for backward surveyors, pupils and other beginners.

It is much better to give sound instruction in the elements of plane –tabling, the use of instruments, and drawing of conventional signs, in recess rather than in the field. All surveyors/Group ‘C’ technical personnel must be thoroughly instructed in the pamphlet ‘Instructions to Plane-tablers’.

In the same way all **Surveyors engaged in Control work** should be given necessary instructions during recess in use of instruments, and in procedure laid down in T.H.B. Chapters III and IV.

After the area and nature of work to be undertaken during the coming field season are known, the Director **of a GDC gives the** approval to the technical methods to be followed for accurate, speedy and economical execution of the work. Thereafter, he should draft out comprehensive technical instructions for the Camp Officers and individual workers, i.e., triangulators, etc., and issue them in the beginning of the field season. In these instructions important points such as standards of accuracy, survey/verification of various types of boundaries should be explicitly brought out.

Camp Officers in turn should issue clear but brief written technical instructions to the plane-tablers, traversers, levelers, etc., under them before commencement of the field work.

SECTION III –DUTIES IN THE FIELD

55. Hiring of accommodation, etc- To rent ordinary accommodation where it is entirely for the office, Surveyor general of India has full powers to sanction the expenditure. Addl. Surveyor General up to the limit of Rs. 15,000 p.m. per office. Directors upto the limit of Rs. 10,000 p.m. in each case. The Officer-in-Charge of wings may hire such accommodation with prior sanction of the Surveyor General of India or the Director accordingly.

56. Standing orders for submission of returns and account –The **Director, GDC** having issued his orders and made arrangements for the dispatch of each camp or detachment, the members of the **Camp** should proceed to their work without delay.

As a rule, each wing should have a set of standing orders with rules for submission of returns and accounts. These should be brought up to date every field season, but should be changed as little as possible.

57. Progress reports.– Progress reports and diaries will be submitted every month by individual officers and Group 'C' personnel on forms O. 47a/47b and O. 47c. These will be summarized by Camp officer and submitted with form O. 45 to the Officer-in-Charge of the wing, who makes out his wing progress report on form O. 45 and sends it with an index map showing the work of every officer and surveyor to the Director.

At the close of the field season a report on form O.79 is submitted to show the work finally completed by each Officer and surveyor.

58 Report on the condition of G.T. stations and bench-marks.– A report is required to be submitted annually on the condition of **old** G.T. stations, **GPS - stations** and pakka and primary (protected) bench-marks. These reports will be submitted on forms O. 139 (Tech.) and O. 139A (Tech.). Reports on the condition of nonpermanent trigonometrical stations and pakka theodolite traverse stations are also useful. These are made on form O. 139B (Tech.), Form O. 139C (Tech.) is used for reporting on the condition of non-protected bench-marks. All reports are forwarded to D.G. & R.B. **by** the Director.

59 Tours of the Officer-in-Charge.– The Officer-in-Charge of the wing and Camp Officers should move freely about their respective areas, as constant inspection in the field is essential in order to secure good work, sufficient output, uniformity of style. It is only by being able to compare the work of individuals that an officer can arrive at a standard of quality and quantity by which the work may be judged.

The Officer-in-Charge of a wing should be able, after completing his monthly accounts, reports, etc. to devote at least three weeks of each month, and often longer, to touring. During his tours he would have the following objects in view:-

- a) To make himself thoroughly acquainted with the area under survey so as to be able to decide on doubtful points, such as the classification of roads, etc., and the manner of showing, on the fair maps, the different types of country.
- b) To inspect as many field hands as possible, endeavouring to see each surveyor actually at work at least once during the season.
- c) **To** inspect the various camps, and to consult with Camp Officers regarding the progress of the work, the allotment of boards, etc.
- d) To work with and instruct inexperienced officers and Group 'C' Division I personnel and to satisfy himself that Camp Officers are imparting instructions in a uniform and satisfactory manner.
- e) (i) It is just as important for the officer-in-Charge to inspect his triangulators and traversers in the field as to inspect his plane-tablers. Beginners especially should be visited early in the season to make sure that they understand their work and are working on sound lines.
(ii) If the work of triangulators and traversers goes wrong, or if bad work or gaps are not discovered till the end of the field season, the whole programme of the following year may be thrown out.

60. Duties of Camp Officers– The most important duties of a Camp Officer consist in the testing and examination of the work, see T.H.B. Chapter V, (**Revised Edition**) and the instruction of the younger and less experienced member, of his camp. He should spend several days at a time with backward men, observing their methods of work, and showing them how to overcome difficulties. He should make it a rule to visit each person at least once every month. In some circumstances this will not always be possible and it is more important that a Camp Officer should make a thorough test of his

field hands' work, spending two or more days with each of them, if necessary, than that he should make frequent cursory examination. Also see para 6

His duties connected with monthly **returns** and accounts are not of a **heavy** nature, and ought not, as a general rule, to occupy him for more than four or five days in a month.

It may, at times, be a good plan for Camp Officer to reserve a small area in the neighborhood of his camp for Survey by himself. This will prevent him from growing rusty in the practice of this profession. In addition to the examination of topographical detail, a Camp Officer should pay particular attention to the verification of boundaries and to the agreement between the work of the various Surveyors. He should always include a theodolite in his camp equipment, and should be prepared when necessary to carry out such additional triangulation and traversing as may be found necessary. He should, in the course of his inspections, examine cash books, muster rolls, village list, diaries, and instruments, especially clinometers, which should be constantly tested. A Camp Officer should also satisfy himself in regard to correctness of unspent cash balance present with the individual inspected.

Each Camp Officer should keep up charts or maps for his area showing and information that would be valuable in fair mapping and might not have been emphasized by the plane-tablet. Such charts should be signed and handed over to the Officer-in-Charge of the wing at close of the field season.

61. Deaths, accidents or serious illness in the field.- All deaths, accidents, injuries and serious illness of field personnel must be reported to the higher authorities, etc., in the following manner:-

Initial report is to be submitted by the senior officer on the spot, copies being sent to the Camp Officers and Officer-in-Charge wing, if the report is submitted by a Group 'D' person, plane-tablet or Assistant Camp Officer **and to Officer-in-charge of the wing**, if submitted by a Camp Officer.

The Camp Officers and Officer-in-Charge **of the wing** will use their discretion as to whether a further report is required to amplify that already submitted by the officer in the spot.

All reports must include the full name, appointment held, date and place of death or other casualty, and-

- (i) In, the case of deaths, particulars of specific disease or injury from which death resulted. It should be stated in the case of disease, who has diagnosed the cause of death, e.g. a qualified doctor, a Camp Officer, one of the khalasis, etc.
- (ii) In the case of illness, the specific disease, who has diagnosed it and who has classified the illness as "dangerous" or "serious".
- (iii) In the case of grave injury, the specific nature of the injury and who has classed it as "grave".
- (iv) In the case of wounds, the specific nature and cause of wound, whether the wound is "dangerous", "severe" or "slight" and who has classed it.
- (v) The name, address & relationship of the next of kin when it is known to the reporting officer.
- (vi) What action is being taken to deal with the body in case of death or to obtain medical attendance in other cases.
- (vii) Necessary endorsement on the communication to indicate to whom reports have been sent.

Deaths due to accident, injury, wound, etc., should invariably be reported to police for investigation.

Detailed instructions on the subject are given in the Handbook of General Instructions, 7th edition, 1966. Also see para 39.

62. Relations with local officials and the public- Survey officer should make a point of becoming personally acquainted, not only with the district officers, but with officers of other departments such as the Public works, Irrigation, Railways and forests, and should endeavor to interest them in the work. Field workers should be instructed to establish friendly but not intimate relations with the local public. This policy is helpful in obtaining assistance and supplies (on payment) from the local people.

Identity cards should be issued to contingent` khalasis on the form (Appendix XIII). These should be withdrawn on discharge and reissued on re-call.

Also post office identity cards could be obtained for those officers, who have to collect cash and registered mail in the field.

63. Trespassing and sporting prohibitions-All members of the department indulging in sport are warned:-

- (a) Against trespassing on standing crops without the consent of the owners.
- (b) Against shooting pea-fowls, or other birds or animals which are looked upon as sacred.
- (c) Against shooting domestic animals, such as dogs and pigs.
- (d) Generally against shooting or dishing in the immediate neighborhood of villages, temples or mosques.
- (e) Protected/Reserved Forest:- Prior permission to fell trees and for jungle clearing in connection with survey operation should be obtained from the concerned District Forest officer and in advance the local officials of the Forest Department should be kept informed about the survey personnel employed in the area of work and intimation regarding the number of trees felled and the area where operation was done should be communicated to the concerned forest officer. Every efforts should be made to avoid tree cutting (by altering route) unless inescapable.

Officers-in-Charge of wings should obtain copies of local game laws and regulations for the States in which **the camps** are working, and should take precautions for their observance by all members of the establishment.

64. Statistical and other information, including collection of herbs and medicinal plants and material of geological and botanical interest .-

Members of a survey **team** have many opportunities of collecting information and statistics about the country under survey, and it is most important that they should avail themselves of such chances, especially in little known districts. The Officer-in-Charge of the wing should impress upon his officers, the great value of information of this kind when intelligently collected and systematized.

Information regarding discoveries of objects of archaeological interest should be reported to the Director, who will forward the report to the local government or administration within which the discovery is made, under intimation to the Surveyor General (see Appendix II).

Specimens of arms, ornaments, dresses, household utensils, tools, agricultural implements, musical instruments and other articles illustrative of the state of arts among the aboriginal and other jungle tribes, which may be of use to the Trustees of the National Museum, as affording materials for a comparative study of the arts as practiced by **raees** in an early stage of social development, can sometimes be collected by the members of a survey wing : proposals for the formation of such a collection should be made to the Honorary Secretary to the Trustees of the National Museum.

Information regarding mineral occurrences noticed or suspected in the course of Survey operations should be brought to the notice to the Director, Indian Bureau of Mines, New Secretariat Building, Nagpur indicating the exact location of the place where it is found and samples of such minerals may also be forwarded, if possible, to him.

65. Change of address: - It is important that all field personnel of a wing should inform their immediate superior officer of any change of address; on their monthly reports give the probable positions of their camps the ensuing month.

All officers should keep the **head quarter** supplied with correct lists of the Group 'D' personnel working under them, and of any change made in these lists.

All correspondence should be addressed officially to the Officer-in-Charge of the wing, and Group 'C' personnel should never address the clerks direct on official matters.

66. Permission to close field season:- Application for permission to close field work, together with a statement as to whether the programme will be entirely completed or not, must be made to the Director at least one month before the probable date of closure.

Reports on trainees, recommended to be discharged should also be submitted to the Director as and when Officer-in-Charge wings is convinced that they are unfit for retention as, should the later procedure be recommended, it is advisable to do so at the end of the field season.

67. Closing of field season: - Whenever the work of any Group 'C' person for the field season has been completed, examined, and edges adjusted, his equipment should be taken over and his squad paid up and discharged. He himself should then be sent at once to the permanent headquarters, or on leave, as the case may be. Each group 'D' must be asked at the time of final payment whether he has received his dues in full and any claim he puts forwarded be investigated.

68. Inspection of instruments, tents and equipment preparation of estimates for repairs :- At the close of every field season, instruments, tents and equipment should be examined and spilt up in three categories, viz., serviceable, repairable and unserviceable, preparing at the same time an estimate for repairs of repairable tents, etc. Unserviceable stores should then be disposed of in accordance with detailed instructions given in the Handbook of General Instructions, 7th Edition, 1966 and para 25 of this chapter. Arrangements should also be made for the local repairs of damaged tents and camp equipment, vide para 53 and placing of indents for fresh requirements.

At the beginning of each field season all tents, etc., should be re-examined to ensure their suitability for use for the duration of the field season.

Repairing of instruments may be done at Instruments Development and Maintenance wing, G.& R.B. Observatory and as desired by the administrative officer (Director).

69. Arrangements for field Khamal GPS- theodolites and levels to be taken to wing headquarters. – The camps which are to return to the same or adjacent area of the following year should leave the bulk of their tents and equipment in a store khamaal to avoid the labour and expenses of transporting heavy camp equipment over long distances from and to the field. Two or more responsible Group 'D' personnel should be detailed to look after the stores during the monsoon, etc. The stores left in the khamaal should be properly listed and one copy left with senior khamaal man.

The precision and valuable instruments such as GPS theodolites and levels, Total Station etc., should never be left in the khamaal but should invariably be taken to GDC H.Q. carefully packed and escorted by responsible persons.

When the headquarters of a wing do not move to the field area, the building selected for the khamaal should be in the locale of field work for the subsequent field season.

SECTION IV- PREPARATION FOR RECESS

70. Importance for starting recess work early.- A wing which is able to commence recess work directly on arrival at permanent headquarters is more likely to complete its digitization work in good time, than one which is delayed at the start owing to the preliminary digitization materials not being ready.

An officer should, whenever possible, be sent to the headquarters ahead, to project and plot the filed sheets, to get the office ready, and to give out work to the personnel as they arrive.

71. Dispatch of plane-table sections to Reproduction office.- The Officer-in-Charge should carefully watch the progress of his surveys: he should see that plane-table sections of one sheet are completed together as far as possible and when completed submit them for reproduction without any delay :

certain sheets should be completed ahead of others to enable the drawing to be started as soon as possible after the compilation of the field work.

As soon as a plane-table section is completed, the dimensions to which it is required to be enlarged, reduced or reproduced should be recorded by the camp officer on form O. 143, one copy of which should be pasted on the work on the back of the south-east corner of the plane-table section, another copy being attached to the forwarding been surveyed the dimensions should only be given for the smallest possible quadrilateral, comprising complete 5' squares of latitude and longitude, that will include to work.

Full instructions regarding preparation of drawing blue-prints from the plane-table sections will be found in section II of T.H.B. chapter VI, but the following additional notes will be useful.

The Officer-in-Charge of the wing should keep up a register of plane-table sections, arranged by sheets: and enter the date of receipt of each section at the headquarters, of dispatch to the reproducing office, of completion of pasted-up mosaic and of receipt of final drawing blue print.

A special officer should be put on duty to look after plane-table sections as they come in to the headquarters; it may be necessary to depute a good officer to the reproduction office to paste-up the enlargements of the plane-table sections into mosaics on the spot and so avoid the delay of sending them backwards and forwards in the post: this officer should remain at the reproduction office until such time as all the GDC work is completed.

72. Leave programme during recess- During the field season, all personnel should be asked whether they intend to apply for leave during the recess. While due consideration should be given to convenience of individuals, it should be borne in mind that the most convenience time, in the interest to the work, for field personnel who are required for drawing, to go on leave, is at the close of the field season, as it is during the later half of the recess that the work is heaviest. The grant of leave should not be withheld except for very urgent reasons.

73. Field – off days during recess for field personnel:- Saturdays are full working days for personnel in the field except the second Saturday of each month which is a full holiday. The personnel who had actually taken the field will, however, subject to the exigencies of work, observe the number of Gazetted holidays in which they worked in the field as field –off days during recess, ay in accordance with the orders for the field hands who are allowed to take the second Saturday and National Holidays off even in the field .

SECTION V – DUTIES DURING RECESS

74. Division of work- work of a GDC during recess should be divided into a suitable number of drawing and computing sections under experienced officers. Whenever it can be arranged, officers who have held charge of camps in the field should be given charge of the drawing sections which deal with the areas surveyed under them: similarly, plane-tablers should whenever possible digitize the sheets which they themselves have surveyed. The computing section should be placed under the charge of the senior officer employed on this class of work.

The success of the recess work depends, to a very great extent, on the methodical arrangements of the work and on the various members of the establishment being given the work in which they are most proficient.

75 Duties of Section Officers- It is the duty of the Section Officers to see that no draftsman is delayed for want of drawing material, and they must, therefore, arrange and ensure that all such material, viz., enlargements, traces of outline and contours, names for typing etc., are available in time. They should visit their draftsmen each day and see that their methods and work are satisfactory. They are responsible

for the preliminary examination of the map, much of which can be carried out *pari passu* with the execution of the work.

They should arrange to have traces prepared of edges of all fair sheets (for contour, tree and outline sheets) which adjoin work which has not already been mapped.

It is very important that Section Officers should have a thorough knowledge of Chapter VI. The Officer-in-Charge should examine his junior officers in all Topo. Handbooks during recess.

76.

- i. “*Double-banking*” .- This method has disadvantages as adequate supervision is difficult to provide.
- ii. “*Lieu leave*”. – Anyone who is required to work overtime may be granted lieu leave of absence equivalent to the aggregate amount of overtime at some future date within a month as convenient. This will be recorded, but will be accounted for separately

As guided in the Government orders endorsed under S.G.’s endst. No. R-2406/564, dated 25-1-62, in all such cases when the office staff are detailed for dealing with any telegraphic, telephonic communication or urgent work on holidays and Sundays, normally compensatory leave, should be granted. If compensatory leave cannot be given due to other urgent work and it is not obligatory by law, the overtime allowance is admissible.

(iii) Overtime payment is intended to increase out-turn of fair drawing and the proportion of fair drawing executed by really good draftsman and typers. Incidentally, it will enable men, who are suitably qualified, to increase their earning and would act as inducement to others to qualify themselves for the concession. For overtime for technical people, budget provision should also be made.

Regional Directors have authority to order **paid** overtime work to be undertaken when they consider it necessary owing to arrears of mapping work in **GDC and** ; no overtime work will be undertaken without previous sanction of the regional Director.

The general principle to be observed in sanctioning paid overtime work is that, **it** is only to be employed as last resort in an emergency to enable the offices to complete their drawing programme before the end of the recess season. Arrears of mapping in **GDC** should be avoided as far as possible by the exercise of forethought, proper organization and increased supervision to ensure that all men work at full pressure during normal office hours. The system of “double-banking”, though seldom practicable in drawing offices, **of a GDC** should always be fully exploited in fair mapping before the regional Director’s sanction is sought for the employment of over-time. Detailed rules for employment on paid overtime work are contained in App. II of the Handbook of General Instructions, 7th Edition, 1966.

77. Completion of Sheets. – Sheets should on no account be left in the “almost ready” state, but must be pushed on to completion. Section Officers should endeavor to send in fair sheets to the Officer-in-Charge in regular succession when ready, in accordance with a programme drawn up at the beginning of recess by the Officer-in-Charge. This programme should conform to the Director’s orders with regard to the submission of sheets in batches. It will usually be found the best **plan** to push on the easier sheets first, thus leaving more time for the more difficult ones.

78. Submission of fair sheets. – Officers-in-Charge of wings should also submit each sheet, as soon as it is finished and examined to the Directorate, instead of holding it back and submitting all the sheets of his wing towards the end of recess.

79. Computations. – The computations should be bound, or temporarily bound, by degree sheets, and dealt with as described in T.H.B. Chapter III, (**Revised Edition**) before leaving for the field.

80. Reports and returns. – Officers-in-Charge of wings should submit all reports, returns and requisition punctually on the dates laid down, both in the field and during recess.

Other matters requiring attention of the Officer-in-Charge during recess are: -

- (a) Programme of coming season.
- (b) Report on last year and calculation of cost rates and out-turns.
- (c) Reports on the qualifications of his officers and surveyors and his recommendations for their promotion.
- (d) Distribution of his men for the coming field season, and the preparation of **data** and plane-table sections.
- (e) Disposal of unserviceable stores and requisition for all stores required for coming field season.
- (f) Requisition for uniforms and warm clothing for Group 'D' personnel.
- (g) Recruitment of **Local Mazdoors**.
- (h) Preparation of budget estimate for next financial year and of revised estimate for current year.

APPENDIX I – CARE AND MAINTENENCE OF MOTOR VEHICLES
(see para 20)

Warning: Undue force must never be used when tightening bolts and nuts or fitting parts.

I Routine daily maintenance and check-up before starting :-

- (i) Radiator full of water and no leaks
- (ii) Engine oil level correct with the vehicle on level ground, oil pressure gauge, when fitted, indicates correctly
- (iii) Petrol system in order, no leaks, sufficient petrol for the day or up to next petrol depot.
- (iv) Horn, lights and self-starter working correctly and dynamo charging the battery properly.
- (v) Attention to defects noted during previous run.

2. General maintenance to be completed during each week :-

- (i) *General/-*
 - (a) Check tightness of steering box on frame.
 - (b) Check drop arm steering linkage, pull and push rods and steering arms for tightness of bolts and nuts (not fitted with split pin)
 - (c) Examine road springs for tightness of holding down bolts
 - (d) Check tyre pressure (including that of spare wheels) and tyres repair kit. Also tyers for serious cuts.
- (ii)
 - (a) Start engine and listen for gas leak for exhaust pipe connections, and sparking plugs, tighten necessary. (If gaskets are defective, no amount of tightening will rectify leak. Replacement of gaskets is the solution).
 - (b) Examine the engine for oil leaks at sump, joints and drain plugs, timing cover joints, valve rocker and tapped covers, oil filter and oil pipe line. Stop leaks tighten joints, bolts and nuts.
 - (c) Examine all engine bolts and nuts for tightness (except cylinder head bolts and nuts which should be done under expert supervision.)
 - (d) Check engine noises, undue noises which cannot be accounted for, should be attended to as early as possible by experts.
- (iii) *Engine cooling system.--*
 - (a) Start engine, open radiator cap and check that water is circulating. Also check for water leaks at all joints of pipes between radiator and engine and at drain cock. Check overflow pipe for clear flow of water
 - (b) Check fan bearing, pump gland for grease/oil and fan and dynamo belts for tightness
 - (c) Clean radiator between tubes, removing dirt and dust.
- (iv) *Fuel supply system and carburetor.-*
 - (a) Clean fuel filter and replace carefully the filter gauge and the cock washer before tightening cover.
 - (b) Check tank mounting and tighten if loose.
 - (c) Check for leaks in fuel line and tank seams (once with engine stationary and then with engine running).
 - (d) Check carburetor control for correct operation and lubricate control and throttle linkage with oil can.
 - (e) Check carburetor for flooding
- (v) *Ignition system.-*
 - (a) Examine sparking plugs for broken insulators and replace defective ones. (Plugs should only be removed and cleaned with a little petrol when engine does not run smoothly)
 - (b) Examine H.T. leads for cracked insulation. Ensure that H.T. leads are not touching hot parts of the engine.
 - (c) Keep ignition system free from grease, oil and dirt, Wipe with petrol-moistured cloth.
 - (d) Check platinum points and clean if necessary without removing.

- (vi) *Steering, front and rear axels and springs.-*
 - (a) Jack up front axle, check play in wheel bearings and kingpin bushes.
 - (b) Check for cracked steering arms and track arms . Vehicle should never be used with cracked steering or track arms.
 - (c) Check oil level in steering box and lubricant all working joints on streaming gears and axels.
 - (d) Lubricate all points on springs where lubricators are fitted and also check shock absorbers for lubrication and leakages and tightness at fixtures.
- (vii) *Transmission, wheels and brakes.-*
 - (a) Check clutch-pedal for free movement, amount of free travel-adjust if necessary. Lubricate pedal shaft bearings.
 - (b) Check for loose bolts and nuts at propeller shaft, gear box and axel casings, and tighten. Lubricate at all lubricating points.
 - (c) Check up oil levels in gear box and axel casings and replenish as necessary.
 - (d) Check wheel nuts for tightness.
 - (e) Check hand brake pins and connections, ensure **all split** pins are secure.
 - (f) Jack up wheel, depress foot brake pedal and release then check that wheels are free and not binding- if binding immediate attention should be given.
Inspect hydraulic pipes and master cylinder for leaks and cracks. Maintain oil level in master cylinder. Check and maintain free play clearance of foot pedal of the hydraulic brakes (Master cylinder adjustment. Should not be altered unless absolutely necessary).
 - (g) Check tyre pressure. See if there are any tears in the tyres. Remove pebbles, etc., from treads
- (viii) *Electrical.-*
 - (a) Start engine and note ammeter reading for charging at speeding up the engine and cut-off of the current by the cutout at slow running.
 - (b) Check dynamo, self starter and electric horn mountings, tighten if loose, check dynamo/fan drive belt (s) and adjust if loose.
 - (c) Examine battery terminals for tightness and cleanliness (after removing deposit on terminals, lightly smear the terminals with Vaseline or petroleum jelly). See that in vent plugs are open and make up the electrolyte level by adding distilled water only.
 - (d) Check up all visible electrical leads for loose connections are tighten all loose connection.
- (ix) *Frame and Fittings.-*
 - (a) Check body holding down bolts and nuts, mudguards, hinge, door locks and wind screen and wiper mechanism, tighten if loose. Check fro broken or cracked body cross members and attend to repairs.
 - (b) Go over the lubrication of all points and complete if anything is left over.
- Note-*
 - (a) Defects noted during weekly inspection should be watched more often then once a week as these may develop to an abnormal and dangerous extent before the next weekly inspection.
 - (b) Missing bolts, nuts, studs and split pins should be provided without delay **as** one loose part may damage other parts and create a breakdown.

APPENDIX II – PRESERVATION OF OBJECTS OF ARCHAEOLOGICAL INTEREST

Extract form the Proceedings of the Government of India in the Home Department (Archaeological), dated Simla, the 8th June 19883. No. 1/58-71

(see para 64) RESOLUTION

In the Resolution of the 8th November, 1882, read above the Government of India, after stating

3* As regards the question of preservation in *Situ* as opposed to removal to, and exhibition in the museum, it may be observed that the great majority of the discoveries made by Archaeological Survey of India consist of the remains of buildings, massive pillars or inscribed blocks, which cannot be removed, and should for many other reasons be preserved where they stand. The case, however, different with isolated figures. Not in *situ*, especially if they are the remains of an extinct religion, such as Buddhist figures, which are not frequently mutilated by the people, unless, they happen to have adopted by the Brahmans as belonging to Hindoo cults. In regard to such isolated figures, an to others which although not mutilated, are lying neglected about the country, it appears to the Government of India that these might with propriety be removed to some safe place of deposit, such as the India Museum, where they could be seen and studied by all persons who take an interest in Indian Art. The Governor-General in Council desires to make it clear that he is entirely opposed to the removal of any objects which are still in *situ*, such as the monoliths attached to Buddhist *stupas* and Brahminical temples; but, on the other hand there seems no sufficient reason why isolated remains, such as a capital which is found lying without a shaft, or stray statues the original site of which is unknown, should not be removed to some museum in order to save them from future injury, To this class also belong the sculptures which have been found scattered about the Buddhist ruins of the ancient Gandhara, now occupied by the Yusufzai Afghans, whose custom is believed to be to mutilate such remains unless this is prevented by their prompt removal to a place of a safety.

4* In making the above remarks, the Governor General in Council has not lost sight of the fact that it may be argued that the claim of the Government to objects of archaeological value rests upon no sufficient legal or other foundation. The Government has in fact never claimed any indefeasible right of property in such objects, nor could such a right be asserted without legislation. Experience has, however, shown that the arrangements necessary for securing and object worthy of removal to a museum, or for preserving it in any other way, can in most cases be made without difficulty by Local Governments or Local Officers. This being so, it does not appear necessary it take any legal powers of compulsory acquisition.

the general principles which should in their opinion regulate the utilization and disposal of objects of archaeological interest in India, requested to be favored with the remarks of local Governments and Administrations on the subject. The replies received show that, while the general principles enunciated in paragraphs 3* and 4* of the Resolution are accepted by all Local Governments, there is some difference of opinion as to whether the place of deposit for such objects as it is not desirable to maintain *in situ* should preferentially be the central Indian Museum, or Local

Museum of the Province or District, where such exists. After giving the matter his further consideration, the Governor-General in Council think that all differences of opinion will be reasonably met by compliance with the following instructions :-

I All discoveries of objects of archaeological interest made by Government officers (whether belonging to Archeological Survey or not). Should be reported by them to the head of the Local Government or Administration within which the discovery is made. When such a report is made, it will rest with the Local Government or Administration to issue orders for the prevention of the objects discovered *in situ* or for their removal to a Provincial of Local Museum, where such exists, in accordance with the general principles set forth in the paragraphs marginally quoted above. Where there is no Local Museum, the objects should be sent to the Imperial Museum, if the Trustees, to whom information of the discovery should be conveyed by the Local Government of Administration, should so desire.

II- Local Governments and Administrations will furnish the Trustees of the Indian Museum with lists of all Museums in the Province and with descriptive catalogues of their contents, and will report to the Archeological Department all fresh discoveries dealt with under the preceding

III- The trustees will be at liberty to arrange with Local Governments and Administrations either for the transfer to the Indian Museum of any object the Trustees may require, or for acquiring it by exchange, or for obtaining casts or other impressions of it, any points as to which there is a difference of opinion being referred to the Government of India for final decision. In dealing with such applications from the Trustees, Local Governments and Administrations will not fail to attach due weight to the desirability of completing any particular archaeological series to which the Trustees of the Indian Museum may attach importance.

NOTES ON APPENDIX II

The extract printed is verbatim copy as approved by the Government of India.

The term "Governor-General in council" may now be taken for "The President of India", and "Imperial Museum", "Indian Museum", may be taken for "National Museum", wherever the terms occur in the extract.

The term "Provinces" may now be taken for "States".

APPENDIX III- COLLECTIONS ILLUSTRATING INDIGENOUS ARTS AND CUSTOMS

(See para 64)

From H.F. BLANFORD, ESQ., Honorary Secretary to the Trustees of the Indian Museum, to the Surveyor General of India-

(ENo. 585, dated Calcutta, 2nd June 1871)

The attention of the Trustees has recently been directed to the importance of devoting a section of the Indian Museum to illustrations of the state of the arts among the aboriginal and other jungle races in India and its dependencies, With this view it is desired to obtain collections of the arms, ornaments, dresses, household utensils, tools, agriculture implements, musical instruments and indeed all objects that are the products of their own manufacturing skill, and that will serve to illustrate the habits and modes of life of those indigenous races that have remained but little affected by foreign civilization. It is unnecessary to dilate upon the interest that would attach to such a collection, both as leading to a knowledge of the habits of the less known tribes in this part of His Majesty's dominions, and as affording materials for a comparative study of the arts practiced by races in an early stage of social development.

It is desired at the time to bring together a similar collection of the objects found in the ancient burial places frequently associated with stone circles which are known to exist abundantly in Central, Western and Southern India, and may yet be met with elsewhere. These, as at present known, consist chiefly of pottery, ornaments & iron weapons. The stone flakes and celts both of the chipped and polished types, and hatchets of copper and perhaps bronze, which have been found in many parts of India, since attention has been prominently directed to such objects, are also desired for the collection.

In order to carry out these objects, I am desired to solicit through you the assistance of the officers in your Department, who, being employed among, or in the neighborhood of, aboriginal tribes, or in places where ancient cairns and burial places are known to exist, may enjoy facilities for obtaining objects of the kinds enumerated. Objects of the former classes may probably be obtained by purchase for very moderate sums. It is of course not intended that any expense that may be incurred in their purchase or transmission should fall on the officers to whose food offices the Trustees may be indebted for procuring the specimens. Objects of the latter class will probably only be obtainable under conditions where labour is easily and cheaply procurable for the purpose of excavating, and although the Trustees will be willing to purchase objects thus obtained at any moderate cost, they cannot undertake the responsibility of guaranteeing beforehand the cost of exploration.

In conclusion I am desired to solicit your personal support and co-operation in making known the Trustees' objects to such officers as may be in a position to afford assistance in its practical accomplishment.

NOTES ON APPENDIX III

The text printed is verbatim copy.

The term "*His Majesty's domination*" may now be taken for "*Indian Union*" and "*Indian Museum*" as "*National Museum*", wherever the terms occur in the text

APPENDIX IV- PHYSIOGRAPHICAL CHANGES

(See para 30)

Officers in topographical wings have opportunities of obtaining evidence of physiographical changes. These may be of great interest and importance, especially if systematic. The evidence may be obtained by comparison of the latest surveys with earlier ones, by local report, or by inference from the topography. Officers-in-Charge of wings, whose area of operations is likely to include any of the features noted below, should take steps to obtain from the Director, Geodetic & Research Branch, further details of the data which it is desirable to obtain while in the field. Full reports of physiographical changes should be sent to the Director, Geodetic & Research Branch, and after investigation a brief note of the changes of more general interest should be included in the General Report.

- (i) The mode of formation of sand dunes and their movements and the behavior of wind-blown sand in general, are still imperfectly understood and matters of controversy. The recent extensive irrigation of desert regions may have important effects on sandy areas. All data about the sand forms and movement are important. Sand dunes with steep "slipping" faces are probably in movement. The general orientation and alignment of the slipping face or the absence of a slipping face should be noted. This will vary in different localities. Evidence of movement is given by the over-running of, or near approach to, fixed objects on the plain, e.g., trees, wells or tanks dug in the clay. If these permanent objects and the neighboring dunes are shown in the older surveys, it may be possible to deduce the actual forward movement of the dunes, which has occurred in the locality. Other evidence of movement is given by the burial or denudation of survey pillars on dunes, and by the exposure of roots of bushes, or emergence of dead buried trees, etc., on the windward slopes. Sand hills now entirely surrounded by cultivation, such as occur in the recently irrigated areas of the Southern Punjab, and may be gradually disappearing by wind action. It is important to record their relative heights accurately, so that change may be detected. All signs of stagnations of sandy areas, and consolidation of sand by vegetation, or of the over-running by sand of areas previously free, or the reverse, should be noted.
- (ii) The level of permanent water table, particularly in the plains, is important this should be obtained by recording the ground level as well, the depth of the water surface below this and the total depth of the well. The actual water level in the well may be liable to considerable seasonal, or even daily, variation but the level of the bottom of the well will usually give a good indication of the water level at the driest time of the year. Depths to water surface and bottom of all wells in desert areas even though dry, and 3 or 4 wells in a 5-minute square in other areas should be measured and entered on height trace. Reports of any persistent change in the water level in any area, the formation of new *jhils* or marshes or the drying up or extension of old ones, the cessation or permanent change of flow of good springs or occurrence of new springs should be noted. This may indicate approaching desiccation or water logging. The temperature of hot springs should be taken with a thermometer.
- (iii) Alluvial fans are frequently formed where rivers debouch on to plains. A small and chance deflection of the course of the river at the top of the fan may completely change the course of the river over the plain. Rivers meandering over flat plains tends to their regime has been interfered with by extensive withdrawal of the water by canals. A sudden flood may then lead to change of course. If, however, these changes of course are found to be systematically in one direction, or if the rivers in a plain are systematically deepening their beds and entrenching their meander, this should be noted. It may be evidence of slow earth movements of considerable interest.
- (iv) Very little is as yet known of the rate of the growth of the deltas of the rivers of North and South India. The effect of irrigation schemes upon deltaic growth is a subject of scientific interest.
- (v) Changes in the position of coast-lines are always worthy of record, more especially if they appear to be systematic.
- (vi) The study of the movements of the glaciers is important it is a work which a survey wing is well equipped to carry out. In Himalayan and Central Asian regions little is known at present about the secular variation due to long period climate change the periodic variation due to shorter cycles (Bruckner 35 year periods), and the seasonal variation of glacier movements. The position of the snout of the larger glaciers both longitudinal and transverse, and the depth of ice (relative surface level) should be recorded with reference to permanent marks, which may be natural features, cairns or inscribed marks, clear of possible obliteration by glacier advance. The rate of flow of the glacier should be measured. These records and measurements should be accompanied by large scale sketches and photographs and should be repeated if possible at different seasons of the year. (A pamphlet entitled *Notes of the study of the glaciers* published by the Geological Survey of India should be consulted).

APPENDIX V.- SCALES OF CLOTHING FOR GROUP 'D' PERSONNEL

(See para 50)

1. **Rule-** The rules regarding warm clothing and uniforms should be kept quite distinct.
 - (a) Warm clothing is issued in order to keep Group 'D' personnel fit and healthy for field work, and the scale of issue should vary according to the local of operations as per details given in para 4 below.
 - (b) Uniforms are required for a proportion of the Group 'D' personal of a wing or office in order that those employed on the more important duties of the wing or office may be decently dressed while on duty. Uniform may be required during field work or recess, it is paid for in full by Government and does not become the property of the Group 'D' personnel.
 - (c) Group 'D' personnel serving throughout the year in hill stations may be issued with warm clothing and blankets, under the conditions which apply to uniforms i.e., free of cost. See para 3.

2. **Sanction-** All issues of clothing under the following rules require the sanction of the Surveyor General. In applying for his sanction, the instructions laid down in the "Handbook of General Instructions", should be followed. Piecemeal applications should be avoided as far as possible.

Warm Clothing

3. **In recess-** Group 'D' personnel do not usually live in tents during recess, or nor they subjected to the hardships met with in the field; warm clothing should not, therefore, be normally required during the season ; but those required to work continuously from 31st October to 31st March in a wing or office located at hill station, may be supplied uniforms during recess season at scales laid down in the Ministry of Home Affairs O.M. No. 5/4/58-Pub. II dated 27-2-62.

4. **In the field.-**
 - (a) The Scale of warm clothing issued in the field should be dependent solely on climate conditions and the nature of the work which regular Group 'D' personnel will be required to perform. Men recruited locally as casual labourers to replace casualties or for temporary employment during the field season will not ordinarily receive warm clothing except in special circumstances, and then only with the sanction of the Surveyor General.
 - (b) Warm clothing should be issued to all the regular Group 'D' personnel of a wing on the following scale regardless of whether or not they receive uniform during recess or in the field.

	Tropical, Min. Temp. above 80° F or 27° C, e.g., Coast districts of Madras, etc.	Warm, Min. Temp. above 65° F to 18° C but cool nights, e.g., West Bengal, etc.	Mild, Min, Temp. above 50° F to 10° but cold nights, e.g., The Deccan M.P., etc.	Cold, Min, Temp. below 40° F to 4° e.g., Punjab plains, etc.	Very cold. Min Temp. much below 32° F or 0°, e.g., Himalayas etc.
Blankets, country	.	1	1	2	3
Caps, Balaclave	1
Coats, warm	1
Jerseys	.	.	1	1	1
Mittens	1
Puttees	.	.	1*	1*	1*
Pugrees	.	.	.	1*	1
Pyjamas, warm	.	.	.	1	1
Socks, worsted	1

* Excepted when already issued a part of uniform/

Note :- Special scales may be necessary for special localities, or special conditions. Each such scale should be submitted to the Surveyor General with the reason justifying special treatment.

CLOTHING & EQUIPMENT

(*Snowy and High Hill areas*)

	Group 'A', 'B' & 'C' Personnel	Group 'D' & Contingent Khalasis	Permanent Porters
1. Sleeping Bags	1	1	..
2. Matresses Kapok	1*	1*	..
3. Boots, leather waterproof Ammunition	1 plus 10% spare	1	1
4. Boots Arctic	1	1	11
5. Waist Coat padded	1	1*	1*
6. Wind proof garments (blouses and Trousers) or Mackintosh	1	..	..
7. Gloves leather lined	1	1	..
8. Coats Poshteen/Parks	1	1	..
9. Caps Balaclave	1	1	1
10. Blankets Woollen	..	3	3
11. Jerseys Woollen	..	1	1
12. Socks Woollen	..	3 Prs.	3 Prs
13. Coats Warm	..	1	1
14. Pyjama Warm	..	1	1
15. Ice Axe	1	1	1
16. Snow/Sin Goggles	1	1	1
17. Putties Woollen	..	1	1
18. Hot water bags	1	1	..
19. Gloves Woollen	..	..	1
20. Caps water proof dual shade	1	1	1
21. Crampons	1 pair	1 Pair	1 Pair
22. Dubbin water proof special	½ lb. per month	½ lb. per month	..
23. Under pants woolen	2	2	2
24. Vests string cotton	2	2	2
25. Anti-sun burn cream	1/8 ib.	1/8 ib.	1/8 ib.
26. Knife snow	1*	1*	1*
27. Lip salve	1 tube	1 tube	1 tube
28. Snow shoes trailbreaker	3 Pairs per detachment		
29. Snow shoes trigger	4 Pairs per detachment		
30. Pressure stove	1 per 3 men excluding porters		
31. Pressure cookers	1 per 3 men excluding porters		
32. Tents Arctic	1 per officers and one for every 3 khalasis and permanent		
33. Tent 'J'	1 per detachment		
34. Ropes climbing	3 per detachment		
35. Medicines, etc.	As required		
36. Avalanche safety rod	2 per detachment		
37. Ruck Suck	1		

* When working above 15,000 ft.

NOTE.- Necessary variation may be made in the demand accordingly when exclusively employed on high hill areas and only such of the above items may be issued to workers as considered necessary.

Others Areas

Clothing may be issued as laid down in para. 4(b) above. In addition one more blanket may be issued where necessary.

- (c) There are at present, three categories of Group 'D' personnel in a field establishment, viz. :-
- (i) Regular Group 'D' personnel paid from establishment
 - (ii) Wholetime contingent *khalasis* including camp orderlies recruited for the duration of the field season
 - (iii) Wholetime contingent workers or *mazdoors* recruited for limited periods for jobs of an occasional nature.

The issue of warm clothing to the Group 'D' personnel of the above categories be regulated as under :-

- (a) Group 'D' servants under category (i) above should receive warm clothing in accordance with the scales and conditions laid down above.
- (b) Those under category (ii) above will be eligible for warm clothing from their second consecutive field season onwards in the same scale and conditions as are applicable to the regular staff.
In cases of work in very cold areas having a maximum temperature below 32 ° F or 0 ° C, warm clothing may be issued even in the first year with the approval of the Surveyor General.
- (c) Normally no warm clothing should be issued to persons under category (iii) above. For snowy and high hill surveys, issue should be made as per scale laid down.

All articles of warm clothing issued to Group 'D' personnel- whether regular or contingency paid should be withdrawn at the close of the field season or before termination of service, if this happens earlier in any case.

Supply on scales not covered by the above rules, will require prior sanction of the Surveyor General.

Uniform

5. Directorates and Field Wings during recess- The supply of uniforms to Group 'D' personnel of circles, Drawing Offices, Field Wings during recess and other static units remaining throughout the year at the headquarters is regulated in accordance with the orders contained in the Ministry of Home Affairs Office Memo No. 5/4/58-Pub-II dt. 27-2-62, as amended from time to time.

a. **Field wings.-** The scale and quality of uniforms supplied to Group 'D' personnel in the field, must depend on the locale of the work; in very exceptional case, such as survey in tribal or frontier areas, accompanied by military escorts, it may be advisable to supply uniform to all the Group 'D' personnel of a wing, and in surveys in cold areas specially thick uniform may be necessary. Normally at least one Group 'D' personnel in each independent squad should be provided with uniforms of sorts, with perhaps 2 in larger squads or those of Div. I officers, 3 to 5 in the squads of Group 'B' officers and 6 or 7 in the squads of officers-in-Charge of wings. On the above scale, about 25% of the Group 'D' personnel of a wing would normally be provided with uniforms, but in order to save expense, the Director should consider whether it might not be sufficient to supply a modified or half scale to the more junior Group 'D' personnel, consisting, say, of a khaki coat and pugree, and to increase this to full scale for the senior Group 'D' personnel by the addition of khaki pyjamas and puttees.

b. **Disposal-** Uniforms issued new for the field season should be withdrawn at the end of the first field season and reissued in the following season, preferably to the same men. To ensure this, it is desirable to mark the uniforms with the owner's name and also to confine, as far as possible, their issue to men who are likely to rejoin.

Uniforms issued new for the recess will, if possible, be worn out in the field season; if this is not possible it will be withdrawn at the end of recess season and reissued in the following recess.

If for any reason uniforms cannot be reissued as above to complete their life, they should be disposed of under the prescribed rules to the best advantage of the Government.

c. **Badges –** Badges of rank should be issued free, as required, on the following scale: -

Jemadars .. 3 Chevrons and arm lion crest and gold pugree fringes.

Daffadars .. 3 Chevrons and worsted pugree fringes.

Tindals.. 2 chevrons and worsted pugree fringes.

Mates or the senior Group 'D' staff in a squad .. 1 chevron and worsted pugree fringes.

The badges are to be worn on the right arm as military badges are worn.

APPENDIX VI – INSTRUCTIONS REGARDING DESPATCH OF RECORDS, ETC.

1. Order No. 7, Map Publication office, dated 26th April, 1910. - All drawing papers, plane-table sections, original fair drawings, blue-prints, proofs, colour guides etc. will be packed in boxes, each containing a single chonga of 15 cm or 23 cm diameter. Double chongas are not necessary, but, after packing, a strip of brown paper must be pasted along the edge of the cover to make the chonga watertight.

The dispatch of all parcels should invariably be notified to the addressees by the Map Record and Issue Officer. The usual printed Post Card in use in the Map Record and Issue Office will be sufficient for the purpose.

The number of sheets to be ordinarily packed together is given below as a general guide –

- (i) Plane –table sections.- In all cases these are to be insured and packed as follows:
From 1 to 8 sections in 15 cm chongas within boxes, by post.
From 9 to 24 sections in 23 cm chongas within boxes, by rail.
Any larger number should be packed flat in double tin-lined cases.
Plane-table sections are enlargements of the same, and fair sheets, are in future to be sent separately.
- (ii) Original fair drawings, enlargements for fair drawing and blue-prints, including “dust on” prints on drawing paper. – The fair drawings are to be insured and the prints registered, and each case packed and sent as under:
From 1 to 8 sheets in 15 cm chongas within boxes, by post.
From 9 to 25 sections in 23 cm chongas within boxes, by rail.
Any larger number to be forwarded in flat in double tin-lined cases.
- (iii) Proofs, colour guides and enlargements of plane-table sections other than on drawing paper. – in all cases these are to be sent registered and packed as follows:
From 1 to 20 sheets in 15 cm chongas within boxes, by post.
From 21 to 23 sections in 23 cm chongas within boxes, by rail.
Any larger number must be forwarded in flat in double tin-lined cases.

Sheets of blank paper should be interposed between zinc-mounted proofs and also between zinc-mounted proofs and other proofs, so that the latter may not be soiled by rubbing against the zinc.

The lids of all boxes must be screwed on, and each box and lid issued must be given a consecutive number prior to issue, unless they are already numbered.

Plane-table sections and fair sheets, when conveyed by hand, should be accompanied by not less than two men.

APPENDIX VII- SCALE OF TENTS TO BE ISSUED

- I. The tentage of a wing will be regulated by the scale given in para 4 below.
- II. The patterns of tents that have been found generally most useful are enumerated below and the purchase of other kinds of tents will not be sanctioned without special reason.

All tents should have joined poles.

	Description	Size	Special accessories
Z	Single-poled Regulation Tent	4.88m x 4.88 m	Division curtain. Veranda durries.
A	Single –poled Hill Tent	3.66 x 3.66 m	2 Kanats to enclose existing sywans. Durries for 3 enclosed sywans.
B	Round – ended Miniature Swiss Cottage Tent	3.66 x 3.66 m	Veranda and bathroom durries. Veranda chicks.
C	Round – ended Kashmir Tent	3.66 x 3.66 m	Veranda and bathroom durries
D	Round – ended Miniature Swiss Cottage Tent	3.05m x 3.05 m	Veranda and bathroom durries. Veranda chicks.
E	Field Officers' Kabul Pal, made of white drill, complete with detachable bathroom, veranda and durries	2.74m x 2.44 m	••
F	Officers' Light Field Service Tent made of white drill, complete with bathroom	2.44m x 2.44 m	••
G	General Service Tent white	2.44m x 4.27 m	••
I	Double-fly Junior Officers' Tent (1914 pattern) made of white drill	2.13m x 2.44 m	Detachable bathroom
J	Survey Pal	3.05m x 3.05 m	Jointed poles
K	Necessary Tent	1.22m x 1.22 m	

APPENDIX VII

3. An Officer-in Charge of a wing, when applying for sanction to purchase tents, should state the number, price and class of each kind and whether they are required in order to replace the old tents which have been condemned, or to increase the stock of tents I the wing.

4. *Tents for a topographical wing:*

Headquarters

- One of A, B or C .. For Officer-in-Charge, as Office.
One of D, E or F .. ditto as personal office, on tour.
One of Z .. ditto as clerk's office.
Seven of K Some of G and J .. For stores, khalāsis, & c.

Camp Officers' Camp

- One of A, B or C .. For Office.
One of D, E or F .. For personal office, on tour.
One of K Some of G and J .. For stores, khalāsis, & c.

Other Officers' Group 'A' or Group 'B'

- One of D, E or F .. For personal use.
One of K .. ditto
One of J .. For Camp Orderly

Other Officers' Group 'C' or Division I

- One of F .. For personal use.
Ordinarily, one of J .. For Camp Orderly.

Note: - One K tent may also be issued for personal use while working in and around built-up areas and towns subject to availability and at the discretion of Officer-in-Charge.

*Group 'C' Division II personnel**

- One of I or F with detachable bathroom .. For personal use.
One of J .. For Camp Orderly and personal kit

Group 'D'

- One of I or J. F may also be issued if available .. For every 4 men or less

* A Group 'C' division II person employed on triangulation or traversing may at the discretion of the Officer-in-Charge, be allowed one tent of F pattern.

APPENDIX VIII

SCALE OF TRANSPORT OF GOVERNMENT AND PRIVATE KIT BELONGING TO OFFICERS
WHILE IN THE FIELD

		BULLOCK CART		Camel	Mule	Mazdoor	REMARK
		Large	Small				
Officer-in Charge Wing and above	..	2	3	4	9	18	} When a Group 'A' or Group 'B' Officer is employed, 1 extra camel or 2 extra mules or 3 extra mazdoor will be allowed.
Camp Officer (irrespective of rank)	..	2	3	4	8	15	
Assistant Camp Officer (irrespective of rank)	..	1	2	3	6	12	
Triangulator	..	2	3	4	8	18	
H.P.* / Secondary leveling Detachment	..	3	4	6	12	24	
Traverser	..	2	3	4	8	18	
Leveler/ Rectangulator	..	1	2	3	6	15	
Plane-tablet	..	1	2	2	4	10	

* Sec S.G.O. No R-23742/769 of 17-10-56.

(The scales laid down should be regarded as normal maxima)

NOTE: - Only one of the means of transport, given in the above table is admissible at one time.

APPENDIX IX- AGREEMENT FOR HIRE OF CAMELS

An agreement made this day of between (hereinafter called the Contractor which expression shall include his legal representative) of the one part and the President of India (hereinafter called the Government) of the other part. WHEREBY the contractor agrees to supply to No..... Wing, Survey of India (hereinafter called the Field Wing which expression shall include its successors or assignees) such baggage camels as may be required inDistricts of there as commanded by the.....during the period fromto.....(hereinafter called the field season) or until this agreement shall be previously terminated under the provisions hereinafter contained for work to be carried out by the Field Wing on the terms and subject to the following conditions.

- I. The rates to be charged shall be that shown in column 2 of the schedule below and the approximate requirements are shown in column 3 of the schedule below:-

Class of camels to be supplied	Rate per camel per month	Approximate No. of camels required
Two baggage camels with one sarwan	Rs.	
Three baggage camels with one sarwan	Rs.	

- The above estimate of requirements in only approximate and may be increased or decreased as necessity demands.
- All camels shall be fully grown and capable of traveling at least 19 km per day continuously with load of two quintals. The proportion of male to female camels should not be less than 2 to 1.
- Each baggage camel will be supplied by the contractor with a good loading saddle, a pair of baggage "khajawas" and two strong loading ropes which will, during the period of service, be kept in good and serviceable condition.
- All camels with their sarwans and gear will be inspected at the commencement of the field season by the Camp Officers of the field wing, under whom they are to work. The Contractor or his Agent will be present at these inspections.

6. Fifteen to twenty days notice to supply camels at a specified time and place will be given to the Contractor at the commencement of the field season by the Officer-in-Charge, Field Wing and thereafter seven to ten days notice for any additional camels required. All such notices will be given in writing.

All camels shall be ready for work at places and on dates and times so specified and shall be made to work according to the requirements of the various officers of the Field Wing to whom they shall have been allotted by the Officer-in-Charge, Field Wing and until such date as no longer required by them. They will be paid from the date of their arrival at places specified up to the date of their discharge and will, if supplied from outside the area of work, be paid journey pay at the rate of 1 day's pay per camel for every 32 km march, to and from area of work.

When specifically desired by the Officer-in-Charge, Field Wing, baggage camels, with their sarwans, will be separated in lots of 2 or 3 with one sarwan per lot of 2 or 3 and will be attached to Surveyors as required to be used for transporting equipment, supplies, water, mark-stones, and stores of all descriptions as required for the execution of the work of the Field Wing.

The sarwans shall be responsible that camels are loaded in such a way as to cause no damage either to the articles comprising the loads or to the camels.

The Contractor shall make good to the Government all loss or damage caused to any article or supplies being carried by his camels and shall indemnify the Government against all claims and demands on account of any other damage caused by camels or sarwans.

7. Camels may be discharged at the end of any calendar month and at the end of the field season without notice. At any other time seven days notice will be given to the Contractor or to his Agent for the particular camp of the Field Wing.
8. In the event of any sarwan or camel dying or proving unsatisfactory in any way, the Officer-in-Charge, Field Wing shall have the right to demand replacement and, until such replacements are supplied, the Officer-in-Charge, Field Wing may hire his requirements at the risk and cost of the Contractor, and recover from the Contractor the full cost involved. This is without prejudice to Clause 18 below.
9. The contractor shall be entirely responsible for the food, water and maintenance in good condition of all sarwans and camels and the government shall bear no part of the cost of feeding, watering and maintenance thereof.
10. The Officer-in-Charge of the Field Wing and his subordinates will not in any way be responsible for the safe custody of camels and their gear, nor will they be responsible for any damage done to properties, trees, hedges, crops, etc., by sarwans or their camels. The Contractor shall be liable for all claims arising as a result of any such damage by sarwans or camels.
11. The Contractor will himself be present at least ten days in each month at the Headquarters of the Field Wing or will appoint an Agent to represent him there permanently. The Contractor will also appoint a suitable Agent with each Camp

Officer of the Field Wing. These Agents will tour with the Officer-in-Charge and Camp Officers of the Field Wing when required to do so.

12. The names of all Agents will be registered in the office of the Field Wing and seven days notice will be given to the Officer-in-Charge, Field Wing before any Agent is changed by the Contractor. If any such Agents are found to be unsuitable for carrying out their duties in a proper manner they will be replaced by the Contractor within seven days of receiving notice from the Officer-in-Charge, Field Wing.
13. As far as work is concerned, all Agents and camel men will be under the orders of the Field Wing Officer under whom they are for the time being, employed.
14. The Contractor will arrange to keep his Agents and camel-men continually supplied with money for incidental expenses. No advance will be made to the Contractor or his Agents and sarwans by the Officer-in-Charge of the Field Wing or by any member of the Field Wing.
15. Neither the Officer-in-Charge of the Field Wing nor any member of the Field Wing will have any financial transactions with or do any accounting for the Contractor's Agents or sarwans.
16. The hire of camels will be paid by the Officer-in-Charge of the Field Wing to the Contractor direct by Remittance Transfer Receipt on the State Bank of India or the Local Treasury, on receipt of the contractor's bill. This payment will, as a rule, be made between the 1st and 10th of the month following that to which the hire charges relate. No accounting will be done for the Contractor by the Officer-in-Charge, Field Wing or by any member of the Field Wing.
17. The Contractor shall lodge a sum of Rupees..... only as a security deposit, with the Director..... Survey of India,(hereinafter called the Director).
18. If the Contractor or his Agents offer any bribe in connection with this contract or the Contractor becomes insolvent or fails to observe or perform any condition of this contract, then, notwithstanding any previous waiver of such default or action having been taken under clause 8, the Director may, on behalf of the Government, terminate the agreement without notice and the Contractor will forfeit the security deposit to the Government and the Director may, on behalf of the Government, recover from the Contractor any damage suffered by the Government over and above that amount on account of such default including the loss incurred by any part of section of the Field Wing being unable to execute government work on account of having to make other arrangements to hire camels, sarwans or other form of conveyance.
19. This contract may be terminated by the Director, at any time without assigning reasons, by giving two months, notice.
20. The Government agrees not to obtain any camel for the purpose of this contract from any other contractor while this agreement is in force and in consideration thereof the Contractor agrees with the Government not to resile from the rates of charges for camels hereby provided for.
21. The Contractor shall be entirely responsible for the execution of this contract in all respects in accordance with the terms of the agreement and shall not assignor sublet the same or any part thereof.

22. If any dispute or difference shall arise including this contract the settlement of which is not hereinbefore provided for, the same shall be referred to the arbitration of the Surveyor General of India, or if he is unable or unwilling to act as arbitrator, to the arbitration of any person nominated by him in writing and the decision of such arbitrator shall be final and binding on the wings to this contract.

As the stamp duty on this agreement is payable by the Government, no stamp duty need be paid.

In witness whereof the wings have hereunto set their hands the day and year first above mentioned.

Signed by the said Contractor.

In the presence of:

1st Witness

2nd Witness

Signed by the said Director,..... Survey of India

For and on behalf of the

President of India.

In the presence of:.....

1st Witness

2nd Witness

APPENDIX X – AGREEMENT FOR PURCHASE AND DELIVERY OF MARK-STONES

An agreement made this day of between (hereinafter called the Contractor which expression shall include his legal representatives), of the one part and the President of India (hereinafter called the Government) of the other part, WHEREBY the Contractor agrees to supply such boundary mark-stones as shall be required by the Officer-in- Charge No..... Wing, Survey of India (hereinafter called the Field Wing which expression shall include his successors or assignees) in the area For field season..... up to or until this agreement is previously terminated under the provision hereinafter contained, on the terms and conditions hereinafter mentioned.

1. The stones shall be of two sizes..... and, approximate weights kilograms and kilograms respectively. They shall be square in section with sides properly rectangular and worked to reasonably accurate and true surfaces. All faces to within..... cm of one end shall be evenly dressed to form rectangles. The remaining cm may be left rough but shall nowhere be of less section than is specified for the fully dressed portion, nor much above it. The material used shall be hard and durable and the quality of stone and type of dressing shall not be inferior to the above specifications.

2. The rates to be charged for such mark-stones shall be as follows: -

(a) Delivered at depots which are also railway station and placed outside railway limits: -

	Rate per stone		Rate per stone
(i)	Size .....cm.....	(ii)	Size .....cm.....
(b)	Delivered at depots up to 19 km distance from the closest railway station.		
(i)	Size .....cm.....	(ii)	Size .....cm.....
(c)	Delivered at depots between 19 km and 29 km distant from the closest railway station.		
(i)	Size .....cm.....	(ii)	Size .....cm.....
(d)	For every additional 10 km distance beyond 29 km from the closest railway station.		
(i)	Size .....cm.....	(ii)	Size .....cm.....

3. The approximate number of stones required is estimated to be of size and of size.....

This number may be increased or decreased by the placed at various depots about 16 km apart scattered over the area of survey work and properly stacked in lots of 50 each. A list of these depots, together with the names of the nearest railway stations and the approximate number of stones required at each depot, shall be supplied to the Contractor. Delivery at the deposits shall be free and the Contractor will be responsible for demurrage and other charges and must make his own arrangements for the conveyance of stones both by rail or road.

4. The supply of stones shall commence within one month of the acceptance of the tender and the total deposit of stones at depots shall not be less than..... per month, each month thereafter, as may be ordered.

5. At depots, which are railway stations, stones shall be placed by the Contractor, in consultation with the Railway Station Master, at a spot suitable for removal by Survey of India officials. This spot must be outside railway limits. The stones will then be handed over by the Contractor to the Zaildar or Lambardar of the adjoining village.

At depots, which are not railway stations, stones shall be placed by the Contractor, in consultation with the Zaildar or Lambardar, at a spot suitable for removal by Survey of India personnel and then handed over to the Zaildar and Lambardar. The Zaildars and Lambardars of villages will be instructed by the Officer-in-Charge of the Field Wing, to render to the Contractor receipts for stones taken over by them. The Contractor should obtain such receipts.

Provided always that such receipts shall only be evidence of quantity supplied and such stones shall further be subject to rejection as provided for in clause 6, if not according to specification.

Stones shall not be stored on roads or on private land or on land belonging to Public Works or other Government Departments.

6. When the supply of stones at a depot is complete, the stones will be inspected by a Survey of India official accompanied by the Contractor or his Agent. After inspection a receipt for the number of stones at that particular depot will be given by the official to the Contractor or his Agent and this receipt must accompany the Contractor's bill. Broken stones and stones of incorrect dimensions will not be included in the receipt nor will they be paid for. The Contractor is responsible for informing the Officer-in-Charge of the Field Wing, when the stones at a depot are ready for inspection.

7. When called upon to do so, the Contractor or one of his Agents shall report to the Survey of India officer detailed to check stones within four days of receiving intimation.

The Contractor is also responsible for keeping appointments made by his or his Agents with an inspecting Survey of India officer.

8. Neither the Officer-in-Charge of the Field Wing nor any member of the Field Wing shall be responsible for any stones for which receipts have not been given as stated in para 6 above.
9. No money advances shall be made to the Contractor or to his Agents by the Officer-in-Charge, Field Wing or by any member of the Field Wing Staff.
10. Payment for stones shall be made by the Officer-in-Charge, the Field Wing to the Contractor by Remittance Transfer Receipt on Bank or Treasury or as suiting Contractor as early as possible and within one month after the submission by the Contractor, or bills accompanied by the receipts mentioned in para 6 above.
11. The Contractor shall deposit with the Director..... Survey of India (hereinafter called the Director) security deposit of Rs..... only and in event of failure of the contract the deposit shall stand forfeited to the government with out prejudice to any other remedy to the Government.
12. If stones are not delivered according to this contract the government may, instead of terminating the contract, buy stones at the risk and expense of the Contractor; or the Government may terminate the contract under clause 13.
13. If the Contractor or his Agent offers any bribe in connection with this contract or the Contractor becomes insolvent or fails to observe or perform any condition of this contract, then, not with standing any previous waiver of such default or action being taken under clause 12 thereof, the Director may, on behalf of the Government, terminate the contract without notice and forfeit the security deposit and recover any damages suffered by the Government over and above the amount of such deposit including any loss to the Government incurred on account of the Field Wing being delayed and obstructed in its work.
14. The Government agrees to take all their requirement of mark-stones as aforesaid from the Contractor while this contract is in force and inconsideration thereof the Contractor undertakes not to resile from the rates at which he had undertaken to supply them.

15. The Contractor shall be entirely responsible for the execution of this contract in all respects in accordance with the terms of the agreement, and shall not assign or sublet or any part thereof.
16. If any dispute or difference shall arise including this contract the settlement of which is not here in before provided for, the same shall be referred to the arbitration of the Surveyor General of India, or if he is unable or unwilling to act as arbitrator, to the arbitration of any person nominated by him in writing, and the decision of such arbitrator shall be final and binding on the wings to this contract.

As the stamp duty on this agreement is payable by this Government, no stamp duty need be paid.

In witness whereof the wings have hereunto set their hands the day and year fist above mentioned.

Signed by the said Contractor.....

In the presence of:

1st Witness

2nd Witness

Signed by the said Director,.....

Survey of India,

For and on behalf of the

President of India.....

In the presence of:

1st Witness

2nd Witness

APPENDIX XI

- i. LIST OF CONTENTS OF THE SURVEY OFFICER'S MEDICINE BOX AND INSTRUCTIONS FOR THEIR USE.
- ii. LIST OF CONTENTS OF THE SURVEYOR'S MEDICINE BOX AND INSTRUCTIONS FOR THEIR USE.
- iii. SPECIAL MEDICINES.

A. LIST OF CONTENTS FOR THE SURVEY OFFICER'S MEDICINE BOX

Serial No.	V.M.S. No.	Nomenclature	Quantity
1	01335	Liq. Chlorosol	250 ml.
2.	P01166	Ointment Furacin	25 G
3.	01310	Pot. Permanganate	10 G
4.	01208	Tab. Acid Acetyl Salicylic (300 mg)	100 tabs.
5.	01055	Tab. Chloroquine Phosphate	50 tabs
6.	01357	Oint. Iodine Non-staining with Methyl Salicylate, Bott. Of 50 g (Iodex)	1 bottle
7.	01324	Ointment Antazoline Cream 2% tube of 20 g	2 tube
8.	01476	Tab. Halazone 4 mg	100 tabs
9.	*	Tab. Vicks Lozenges	50 tabs.
10.	*	Tab. Sodamint	100 tabs
11.	05212	Scissors, Straight, both points blunt, 12.5 cm	1 No.
12.	07009	Bandage Loosewove uncompressed 6cm X 4 meters	12 Nos.
13.	07010	Bandage loosewove uncompressed 2.5 cm x 4 meters	12 Nos.
14.	07021	Gauze surgical loosewove unmedicated 60 cm wide packet of 3 meters	2 pkts.
15.	07024	Pin safety 2 sizes 4 cm and 3.3 cm assorted	4 sets
16.	07026	Plaster Adhesive Zinc Oxide 7.5 cm X 5 meters	2 rolls
17.	07028	Plaster Belladonna perforated sheet size 12.5 cm X 19 cm	2 sheets
18.	07029	Wool Cotton Absorbent pkt. Of 500 g..	1 packet
19.	09041	Thermometer clinical (30 seconds) in centigrade scale 35° C to 42° C	1 No.
20	*	Splint Arm Wood plan, set of 8 (can be prepared by workshop)	1 set
21.	*	Odomos (insect and mosquito repellent) or other liquid mosquito and insect repellent	2 tubes.
22.	01210	Tablet Analgin	20 tabs
23.	01212	Tablet A.P.C	30 tabs.
24.	P01100	Tablet Apedin	30 tabs
25.	P01050	Tablet Entero-vioform	50 tabs
26.	01417	Tablet Ascorbic Acid (Vit. 'C') 500 mg	50 tabs
27.	01434	Tablet Polyvitamin	100 tabs
28.	01445	Tablet Vitamin 'V' Complex	100 tabs
29.	P01055	Tablet Pursennid	20 tabs
30.	01120	Tablet Vegetable Laxative	20 tabs
31.	P01149	Decadron (Eye/Ear solution/M.S.D.) bottle of 2.5 ml	1 bottle
32.	P01147	Albucid Eye drops 20% bottle of 14 ml	1 bottle
33.	P01155	Chloromycetin 5% (ear drops) bottle of 5 ml	1 bottle
34.	P01061	Caladryl Lotion, bottle of 171 ml	1 bottle
35.	P01158	Soventol Expectorant, bottle of 500 ml	1 bottle
36.	P01167	Hirudoid Ointment 40 gm tube	1 tube
37.	*	Cosavil Tablet	20 tab.
38.	=	Gum paint	10 ml

* & = See note at the bottom.

INSTRUCTIONS FOR USE WITH SURVEY OFFICER'S MEDICINE CHEST

(Dose given are for adults)

1. **Dettol / Lizol**
A good antiseptic for washing wounds and ulcers-apply after dilution with hot or cold water over wounds.
2. **Ointment Furacin.**
It is antiseptic. Apply on wounds, burns, scalds and bandage. Wager should not be allowed to touch the wounds.
3. **Potassium Permanganate.**
It is used for disinfection of water to be used for the mouth wash or wound dressing.
4. **Tablet Acetyl Salicylic Acid (Aspirin/ Vicks Action 500/ Saridon)**
Use for headache and fever. Use one tablet two or three times a day with warm water. (Not to be taken on an empty stomach).
5. **Tablet Chloroquine Phosphate**
Use for Malarial Fever. Use two tablets three times a day after meals for first 2 days, then 1 tablet 3 times a day for next 2 days for curative treatment and 2 tablets once a week for preventive treatment.
6. **Ointment Iodine.**
Non-staining with Methyl Salicylate. Use for relief of muscular pain. Apply on the muscles.
7. **Ointment Antazoline Cream 2%**
Apply for insect bites and allergic swellings.
8. **Tablet Halazone/Water Sterilizing.**
For water sterilizing. One tablet per ½ litre water bottle.
9. **Vicks Lozenges.**
It is used for throat irritation. To be sucked.
10. **Tablet Sodamint.**
Used for acidity and indigestion. Two tablets as required may be sucked.
11. **Scissors.**
For dressing.
- (a) **Bandage Loosewove Uncompressed 6 cm X 4 metres.**
For dressing of wounds and ulcers.
13. **Bandage Loosewove Uncompressed 2.5 cm X 4 metres.**
For dressing of wounds and cuts.
14. **Gauze Surgical.**
For first dressing of wounds.
15. **Pins, Safety.**
To apply to keep bandage, etc., in position.
16. **Plaster Adhesive.**
(a) For fixing the dressing.
(b) For strapping sprained joints.
17. **Plaster Belladonna.**
For application over boils and muscular pains.
18. **Wool Cotton.**
Use for dressing purpose.
19. **Thermometer.**
To measure temperature of fever.
20. **Splints.**
For support of injured limbs.
21. **Odomos.**
To apply on the body (exposed parts) to save from mosquito bites/insect bites.
22. **Tablet Analgin.**
Use for headache, body pain, toothache and fever. One tablet 2 or 3 times a day with warm water or tea or milk. (Not to be taken on an empty stomach).

23. **Tablet A.P.C.**
As for tablet Acetyl Salicylic Acid. (Not to be taken on an empty stomach).
24. **Tablet Adepin.**
Used for headache, toothache, earache, etc. Use one tablet 3 times a day with warm water or milk or tea. (Not to be taken on an empty stomach).
25. **Tablet Entero-Vioform.**
Used for dysentery. One or two tablets three times a day for 5 days.
26. **Tablet Ascorbic Acid (Vitamin 'C') 500 mg.**
Used for mouth infection, cough and cold. Use 1 tablet twice daily after meals.
27. **Tablet Polyvitamin.**
Used for general weakness. Use 1 tablet twice daily after meals.
28. **Tablet Vitamin 'A to Z'.**
Used for exhaustion resulting from dysentery and muscular weakness. Use 1 tablet twice daily after meals.
29. **Tablet Pursennid.**
Used as a mild laxative. Use 2 tablets at bet time.
30. **Tablet Vegetable laxative.**
As above.
31. **Decadron (Eye/Ear solution).**
Use for inflammation or redness of eye. Discharge or pain in the ear. One or two drops in the eye or ear.
32. **Albucid Eye Drops 20%**
Used for inflammation or redness of eye. One or two drops in the eye.
33. **Chloromycetin 5% (Ear Drops).**
One or two drops for ear trouble for instillation.
34. **Caladryl Lotion.**
For local application over insect bites, weeping dermatitis.
35. **Soventol Expectorant.**
For cough. One teaspoonful 2 or 3 times a day.
36. **Hirudoid Ointment.**
Used for muscular pain, internal blood clots and chilblain
37. **Tablet Cosavil.**
Used for cough and cold. Use 1 tablet twice a daily
38. **Gum paint.**
For gum inflammation. Local application over gums.

TREATMENT OF SNAKE-BITE

It is advisable that first-aid measures by persons without some medicate training be confirmed to immobilization of the affected part in a position below heart. The site of the wound should be thoroughly cleaned with water. The patient to be removed to the nearest hospital immediately in the immobilized position.

APPENDIX XI

**B.LIST OF CONTENTS FOR THE SURVEYOR'S
MEDICINE BOX**

Serial No.	V.M.S. No.	Nomenclature	Quantity
1.	01335	Liq. Chlorosol	250 ml.
2.	P01166	Ointment Furacin	25 G
3.	01310	Pot. Permanganate	10 G
4.	01208	Tab. Acid Acetyl Salicylic (300 mg)	100 tabs.
5.	01055	Tab. Chloroquine Phosphate	50 tabs
6.	01357	Oint. Iodine Non-staining with Methyl Salicylate, Bott. Of 50 g (Iodex)	1 bottle
7.	01324	Ointment Antazoline Cream 2% tube of 20 g	2 tube
8.	01476	Tab. Halazone 4 mg	100 tabs
9.	*	Tab. Vicks Lozenges	50 tabs.
10.	*	Tab. Sodamint	100 tabs
11.	05212	Scissors, Straight, both points blunt, 12.5 cm	1 No.
12.	07009	Bandage Loosewove uncompressed 6cm X 4 meters	12 Nos.
13.	07010	Bandage loosewove uncompressed 2.5 cm x 4 meters	12 Nos.
14.	07021	Gauze surgical loosewove unmedicated 60 cm wide packet of 3 meters	2 pkts.
15.	07024	Pin safety 2 sizes 4 cm and 3.3 cm assorted	4 sets
16.	07026	Plaster Adhesive Zinc Oxide 7.5 cm X 5 meters	2 rolls
17.	07028	Plaster Belladonna perforated sheet size 12.5 cm X 19 cm	2 sheets
18.	07029	Wool Cotton Absorbent pkt. Of 500 g..	1 packet
19.	09041	Thermometer clinical (30 seconds) in centigrade scale 35° C to 42° C	1 No.
20.	*	Splint Arm Wood plan, set of 8 (can be prepared by workshop)	1 set
21.	*	Odomos (insect and mosquito repellent) or other liquid mosquito and insect repellent	2 tubes.

APPENDIX XI

INSTRUCTIONS FOR USE WITH SURVEYOR'S MEDICINE BOX

(Doses given are for adults)

- * 1. Liq. Chlorosol
- * 2. Ointment Furacin.
- * 3. Potassium Permanganate.
- * 4. Tablet Acetyl Salicylic Acid (Asprin)
- * 5. Tablet Choroquine Phosphate
- * 6. Ointment Iodine.
- * 7. Ointment Antazoline Cream 2%
- * 8. Tablet Halazone/Water sterilizing
- * 9. Vicks Lozenges.
- * 10. Tablet Sodamint.
- * 11. Scissors.
- * 12. Bandage Loosewove Uncompressed 6 cm x 4 meters.
- * 13. Bandage Surgical uncompressed 2.5 cm x 4 meters.
- * 14. Gauze Surgical.
- * 15. Pins Safety.
- * 16. Plaster Adhesive Zinc Oxide.
- * 17. Plaster Belladonna perforated.
- * 18. Wool Cotton.
- * 19. Thermometer.
- * 20. Splints.
- * 21. Odomos.

* See page 86 to 88 for instructions for use.

C. SOME SPECIAL MEDICINES RECOMMENDED FOR HIGH HILLS ONLY

Sl. No.	V.M.S. No.	Nomenclature	Quantity
1.	*	White vaseline	500 gm.
2.	01272	Nikathamide Solution (Coramine)	1 bottle (100 ml)
3.	*	Oxygen Cylinder	1 No.
4.	*	Lemon Squash Tab.	100 tabs.
5.	*	Lemon, Dried pickles	1 bottle
6.	*	Sunglasses.	1 pair

APPENDIX XI

INDICTIONS AND USAGES

1. White Vaseline.

To apply as a protective cream for sunburn. To apply over face and exposed skin in snow bound areas only.

2. Nikathamide Solution (Coramine).

For over exhaustion. fainting feeling in high altitude.

3. Lemon Squash Tablets.

After as nutrient drink climbing up or down.

4. Lemon Dried Pickles.

Prevents dry mouth during climbing.

Notes:-

- (i) Taking of Alcohol in high hills is strongly contraindicated. However, 10ml of Rum or Brandy may be given to the night guard personnel in snow bound area to keep the chill away. This should left to the discretion of the Camp Officer or O.C. Wing.
- (ii) Against Chilblain Frost bite :
Curative : Application of Hirudoid Ointment over the affected part.
- (iii) Mountain climbing above 3,000 meters may cause palpitation or exhausting feeling in some.
Prevention: To take very short steps and halt every 5 minutes. Lemon Squash will act as a nourishing drink.
- (iv) Snow gloss (reflected sunrays form snow) may cause sunburn of exposed skin or affect eyes.
Prevention: Vaseline smear over the exposed skin to prevent sunburn. Use of dark sunglasses prevents eye troubles.

Items marked * may be procured locally at the discretion of the O.C. Wing

Items marked = to be prepared by the dispensary or may be procured locally at the discretion of the O.C. Wing.

