



GOVERNMENT OF KERALA

**DEPARTMENTAL MANUAL
OF
CHEMICAL EXAMINER'S LABORATORY
DEPARTMENT**

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Government of Kerala

2015

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Preface

The Department Manual of Chemical Examiner's Laboratory Department, Government of Kerala, is printed and published with the approval of Government of Kerala vide letter No.38501/E4/2014/Home dated 30/01/2015.

Sd/-

Dr. N.Jayasree

Chief Chemical Examiner to Government

30/05/2015

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I INTRODUCTION

The Chemical Examiner's Laboratory caters to the needs of the judiciary in the prosecution of crimes. The Chemical Examiner's Laboratory was established in 1890 in the Erstwhile Princely State of Travancore exclusively for the detection of crimes. The Chief Chemical Examiner to Government is the Head of the Department and Scientific Expert under section 293 of Criminal Procedure Code. The Chemical Examiner's Laboratory is now functioning under the direct control of Government in the Home Department. The technical work of the laboratory is of confidential in nature and the Officers /Analysts are expected to maintain secrecy at every stage of analysis and are not expected to disclose the details of analysis to others. The officers are expected to maintain high degree of intellectual honesty and integrity.

Three laboratories are functioning under this Department. The Headquarters laboratory has jurisdiction over five Southern Districts namely Thiruvananthapuram, Kollam , Pathanamthitta, Kottayam and Alappuzha. The Regional Chemical Examiner's Laboratory, Ernakulam has jurisdiction over Central four Districts namely Ernakulam, Idduki, Thrissur and Palakkad. The five Northern Districts namely Malappuram, Kozhikode, Kannur, Wayanad and Kasaragod come under the jurisdiction of Regional Chemical Examiner's Laboratory, Kozhikode.

Exhibits pertaining to offences punishable under IPC, NDPS Act-85, Abkari Act, EC Act, M & TP Act, MV Act, Explosives Act, etc. are examined in various divisions of the laboratory and certificates of chemical analysis are issued. Chemical Examination of material objects involved in various crime cases like murder, human and Animal Poisoning, Narcotics, Explosives, Economic offences and Abkari offences etc. are examined respectively in Toxicology, Narcotics, General Chemistry (Miscellaneous) and Excise divisions. Chemical and Serological examinations of material objects involved in murder cases and sexual offences are undertaken in the Serology division. The reports of Chemical Examiners are admissible as evidence in the Court under section 293 of Cr.P.C. So it is very important to define various steps and procedures followed in the department in connection with handling of exhibits/samples, issuance of certificates of chemical analysis and keeping of records etc. With the view to achieve the above goal the 'Manual of Chemical Examiner's Laboratory Department' is prepared. This manual is expected to be followed in the laboratory by all technical and non-technical personnel.

Division of work among various divisions of the Laboratory

The material objects/samples received in the laboratory shall be transferred to various divisions of the laboratory considering the nature of examination requested and sections under which the cases are registered.

Excise Division

The following samples/material objects collected in accordance with the provisions of Kerala Abkari Act and Medicinal and Toilet Preparation Act are to be examined/analysed in the Excise Division.

1. Liquor samples collected from the licensed liquor shops.
2. Material objects involved in Abkari offences.
3. Ayurvedic and Homoeo Medicines for estimation of alcohol content.
4. Samples received from distillery and blending units under paying cases.
5. Any sample received for estimation of alcohol content.

General Chemistry (Miscellaneous) Division

The following samples/material objects involved in cases registered under Essential Commodities Act, Explosives Substance Act, Indian Penal Code etc. are to be examined in the General Chemistry (Miscellaneous) Division.

1. Explosives and product of explosion.
2. Petroleum products like Petrol, Diesel, Kerosene, Engine Oil, Furnace Oil etc.
3. Gold and Spurious gold.
4. Cement and Concrete
5. Water samples
6. Edible Oils
7. Any material specifically marked to this division.

Narcotics Division

All material objects involved in NDPS Act-1985 shall be examined in the Narcotics Division.

Serology Division

The material objects involved in murder and rape cases are mainly examined in this division. The following examinations shall be conducted on the samples/material objects in this division.

1. Examination for the presence of blood stains, origin and grouping.
2. Examination for the presence of saliva.
3. Examination for the presence of semen and spermatozoa.
4. Soil comparison
5. Hair/Fibre comparison

Toxicology Division

Autopsy specimens involved in Human Poisoning Cases, Animal Poisoning Cases and blood and urine samples involved in drunkenness cases are examined in the Toxicology division. The following samples or material objects shall be examined in the Toxicology Division.

1. Viscera, Stomach wash, blood and other body fluids involved in Human Poisoning cases.
2. Viscera involved in animal poisoning cases.
3. Blood and Urine samples involved in drunkenness cases.
4. Material objects involved in poisoning cases.
5. Any sample/material objects requiring examination for the presence of poisons/drugs.

II DISCIPLINE

1. The discipline of the laboratory must be maintained by all members of the staff.
2. Any information regarding the material objects received in the laboratory and report of analysis shall not be disclosed to anybody else other than the authority competent to disclose such information.
3. All officers, analysts and helping staff shall be present in the division to which they are attached during the working hours.

4. No outsiders shall be entertained inside the laboratory.
5. Leave application shall be submitted in advance so that the work of others in a team can be rescheduled.
6. No one shall leave the laboratory during the working hours without prior permission of division head and controlling/authorized officer and noting in the movement register.
7. Orders of the superior officers shall be strictly obeyed for the smooth functioning of the laboratory.
8. All officers and staff members should wear uniform and personal identity card while in duty.

III DUTIES AND RESPONSIBILITIES

A. Chief Chemical Examiner

1. Chief Chemical Examiner is the Scientific expert to the Government of Kerala
2. All administrative, Financial and Statutory duties as head of department shall be done by the Chief Chemical Examiner.
3. Chief Chemical Examiner being the technical head of the department has the authority to approve/modify/introduce any test or analytical procedure in the department and hence such modification shall be made with the approval of the Chief Chemical Examiner only.
4. Chief Chemical Examiner will monitor all technical and non-technical developmental activities of the department.
5. Any change in the format of certificate of chemical examination shall be made only by the Chief Chemical Examiner.

B. Joint Chemical Examiner (Regional)

1. Joint Chemical Examiner shall look into all technical and administrative matters related to the Regional Chemical Examiner's Laboratory.
2. He/She shall take initiative for the quality improvement of technical work being carried out under his/her control and modernization of the laboratory.

3. He/She will arrange classes or seminars for motivating the analysts and updating the knowledge of the analysts and analytical procedures.
4. He/She shall make correspondence with the Court or investigating officer in respect of technical matters related to various cases coming under his/her division/laboratory.
5. Evaluation of analytical works of the analysts in the regional laboratory is to be done by the Joint Chemical Examiner.
6. Joint Chemical Examiner will also issue the certificate of chemical analysis of cases supervised by him/her.

C. Joint Chemical Examiner (Headquarters)

1. Joint Chemical Examiner (Headquarters) shall look into all technical matters of the headquarters laboratory.
2. He/She will co-ordinate the analysis of material objects/samples being carried out in various divisions of the headquarters laboratory.
3. He/She will co-ordinate the receipt and return of material objects/samples.
4. He/She will verify the requisitions of all cases received in the laboratory before they are being given to the section head.
5. He/She will attend to all request and reminders received in the laboratory.
6. He/She will issue certificate of chemical analysis of cases supervised by him/her.
7. He/She will make correspondence with the Court or investigating officer in respect of technical matters related to various cases coming under her control.
8. He/She will initiate and co-ordinate the annual verification of stores, furniture, library books, analytical instruments etc.
9. He/She will ensure the proper functioning of all analytical instruments and equipments in the headquarters laboratory.

10. He/She will ensure the availability of printed forms and registers (Technical).
11. He/She will monitor the functioning of Report Generation and Laboratory Management Software, Computer & Peripherals and our website.
12. He/She will ensure the proper maintenance and keeping of records and material objects out going.
13. He/She will be the Appellate authority under RTI Act of this laboratory.
14. He/She will be the Vigilance Officer of the Department.
15. He/She will prepare the consolidated monthly report of the Headquarters Laboratory.
16. He/She will also attend to any other duty assigned by the Chief Chemical Examiner.

D. Joint Chemical Examiner (General)

1. Joint Chemical Examiner (General) will look into all developmental activities of the department.
2. He/She will assist the Chief Chemical Examiner in the technical and administrative matters.
3. He/She will be the head of the Technical Inspection Team and conducts the technical inspection in three laboratories under this department.
4. He/She will prepare the technical reports like consolidated monthly reports, annual administration reports etc.
5. He/She will standardize new analytical methods and tests in our laboratory condition subject to approval by the Chief Chemical Examiner.
6. He/She will co-ordinate the research and development activities in the department.
7. He/She will initiate and co-ordinate the monthly and quarterly meeting of technical officers.

8. He/She will do the monitoring and evaluation of technical work of analysts in the department.
9. He/She will be the Stores Officer of the Chemical Examiner's Laboratory, Thiruvananthapuram.
10. He/She will also attend to any other duty assigned by the Chief Chemical Examiner.

E. Assistant Chemical Examiner

1. Assistant Chemical Examiner will be the Division head of the laboratory.
2. Assistant Chemical Examiner will supervise the technical work of the analysts working under him/her and approve certificates of analysis.
3. Assistant Chemical Examiner may attend to actual analytical work when there are two or less analysts working under his/her control.
4. He will be the custodian of all registers and records of the concerned division.
5. All material objects and requisition in respect of the division will be kept under the control of the Asst. Chemical Examiner.
6. The concerned division head shall sign all indents for the stores.
7. The division head of each division will make sure that all reagents, glasswares, equipments etc...are available with the section for its routine functioning all the time and he/she should see that the work is not suffered due to lack of above items.
8. The Assistant Chemical Examiner shall give training to the newly recruited or posted analysts in the work of the division.
9. Assistant Chemical Examiner shall acknowledge the receipt of material objects, requisition, reminders and any correspondence marked to the section.
10. He/She will attend to all duties assigned by the Chief /Joint Chemical Examiner.

F. Junior Scientific Officer

1. Junior Scientific Officers shall attend to the analysis or examination of material objects under the supervision of reporting officer.
2. Material objects involved in sensational and complicated cases shall be analysed by the Junior Scientific Officers in addition to the analysis of normal cases.
3. All material objects and requisitions issued to the Junior Scientific Officers shall be kept under their custody until the analysis is completed.
4. They will prepare special reagents for the functioning of the section.
5. They will attend to the administrative matters of a division entrusted by the division head.
6. They will assist the division head in giving training to the new recruits and helping staff.
7. The Junior Scientific Officers shall maintain the analytical instruments and equipments of the division functional.
8. He/She will attend to all duties assigned by the division Head/ Head of the Office.

G. Serological Assistant

1. Serological Assistants shall attend to the technical work in the Serology division.
2. Serological Assistant shall attend to the serological work of routine nature under the personal supervision of the reporting officer.
3. All material objects and requisitions issued to the Serological Assistant shall be kept under their custody until the analysis is completed.
4. The reagents for the routine functioning of the division shall be prepared by the Serological Assistant.

5. Serological Assistant shall assist the JSO and reporting officer in technical and administrative matters.
6. He will attend to all duties assigned by the division head/head of the office.

H. Technical Assistant

1. Technical Assistant shall attend to the analytical works under the direct supervision of the reporting officer or under the guidance of a Junior Scientific Officer.
2. They will prepare reagents for the routine functioning of the laboratory.
3. All material objects and requisitions issued to the Technical Assistant shall be kept under their custody until the analysis is completed.
4. Technical Assistant shall assist the JSO and reporting officer in technical and administrative matters.
5. He will attend to all duties assigned by the division head/head of the office.

I. Glass Blower

1. Glass Blower shall prepare capillary tubes, teat pipette etc. required for the use of all technical divisions of the laboratory.
2. A buffer quantity of capillary tubes, teat pipette etc. should be kept ready all the time.
3. The Glass Blower shall attend to the work of Laboratory Assistant, whenever there is no glass blowing work.
4. He will attend to all duties assigned by the superior officers.

J. Laboratory Assistant

1. Laboratory assistants will help the analysts in doing analytical works.
2. Very standardized works like preparation of TLC plates, distillation, filtration, evaporation of filtrate, labeling of glasswares, china dish etc. as well as other unskilled works entrusted by the officers shall be done by the Laboratory Assistants.

3. Preparation of non-critical solutions like dilute acids, alkalies and other solutions shall be done by the Laboratory Assistants under the supervision of an analyst.
4. Opening packets/ bottles containing the material objects and taking required quantity of samples for analysis shall be done by the Laboratory Assistant in the presence of the analyst.
5. Arranging of material objects in the MO's room shall be done by the Laboratory Assistants under the instruction of superior officers.
6. All works related to the technical division entrusted by the analysts and other superior officers shall be done by the Laboratory Assistant.
7. Packing of remnants of material objects shall be done by Laboratory Assistants in the absence of packer.
8. He/She will attend to all duties assigned by the superior officers.

K. Junior Laboratory Assistant/Packer

1. Junior Laboratory Assistants shall help the analysts in doing their works.
2. Opening packets/bottles containing the material objects and taking required quantity of samples for analysis shall be done by the Junior Laboratory Assistant in presence of the analyst.
3. Arranging of material objects in the MO's room shall be done by the Junior Laboratory Assistants under the instruction of superior officers.
4. Packing of remnants of material objects shall be done by Packer/Junior Laboratory Assistants.
5. All works related to the technical section entrusted by the analysts and other superior officers shall be done by the Junior Laboratory Assistant.
6. He/She will attend to all duties assigned by the superior officers.

L. Bottle Cleaners

1. Bottle cleaners shall wash all glasswares and other laboratory equipments in the laboratory.
2. They will clean work benches and reagent bottles in a division.
3. They will keep the laboratory clean and tidy.
4. They will remove the waste, remnants and packing materials from the division.
5. All works related to the technical division entrusted by the analysts and other superior officers shall be done by the bottle cleaner.
6. The material objects and other articles shall be carried by the bottle cleaners from reception to various divisions and from a division to other division when asked by the supervising officers.
7. All cleaning works in the section except that is to be done by the sweepers shall be done by the Bottle cleaner.
8. He/She will attend to all duties assigned by the superior officers.

M. Lascar

1. The material objects and other articles shall be carried by the lascars from reception to various divisions and from a section to other sections.
2. They will also attend to all duties in the laboratory entrusted by superior officers.

IV RECEPTION

The work in the reception is very important and to be done with utmost care. In the reception it is to be ensured that the material objects and samples are received in tamper proof condition and in accordance with The Kerala Chemical Legal Rules. The sample reception section will be under the control of an Assistant Chemical Examiner.

The following preliminary verifications are to be done before receiving the samples:

1. Sample Forwarding Officers

- (a) Judicial Officers – Material objects involved in all types of Crime cases.
- (b) Medical Officers – Autopsy samples, specimens collected from victim and accused of sexual offences, Blood & Urine in drunkenness cases, stomach wash/aspirate in suspected poisoning cases etc.
- (c) Veterinary Doctors – Viscera of animals and related samples.
- (d) Excise Officers – Liquor samples from licensed Shops, Distillery samples, M & TP samples.
- (e) Police Officers – Liquor samples from licensed shops.
- (f) Executive and Sub-Divisional Magistrates/
Thahsildar/Taluk Supply Officer – Liquor samples, Petroleum products, Miscellaneous samples authorized by law.

2. Documents/ Things to be verified at the reception

- (a) Identity card/Passport letter of Police or Excise personnel who produce samples/material objects shall be verified to establish the identity of the officer.
- (b) The requisition shall be verified with reference to the address and signature of Forwarding Officer, Seal, Crime No. and Police Station/Excise Range/Forest Range etc. to ensure the authenticity of the requisition.
- (c) The sample seal and its inscription shall be verified to see that the seal furnished in the requisition and on packet/bottle tally.

- (d) The description about material objects/samples in the forwarding note/ requisition and labels shall be verified to ensure that there are no discrepancies.
- (e) The requisition shall be verified to see the nature of examination of the material object/sample.
- (f) The packets/bottles containing material object/sample shall be verified to ensure that they are received in tamper proof condition.
- (g) The labels on the packets/bottles for reference numbers, signature, seal, nature of sample etc. shall be checked.

3. Acceptance of samples at reception

- (a) After verification of each and every sample and requisition, a check list shall be prepared in the prescribed form by the officer in charge of the reception.
- (b) The reception assistant shall prepare the receipt using software and take prints of receipt in duplicate.
- (c) The receipt shall be signed by the officer after verifying the entries. One copy of the receipt shall be given to the concerned and obtain his/her signature in the other copy and filed.
- (d) Samples involved in the paying cases shall be received only after remittance of requisite testing fee in the office.

4. Distribution of Material Objects from the reception

- (a) The material objects received at the reception shall be distributed to the concerned division on the date of receipt itself.
- (b) Acknowledgement of receipt of material objects shall be obtained in the distribution register from the division head or authorized officer of the division.
- (c) The distribution register must contain columns for entering Sl.No., Date, Receipt No., Number of items, Name and signature of the receiver.

- (d) The officer in charge of the reception should verify the entries every day to make sure that the material objects are properly distributed.
- (e) Discrepancy, if any, in respect of any material objects shall be brought to the notice of the higher officer immediately.
- (f) If one case containing material objects requiring examination in more than one division the material object requiring examination in a particular division shall be transferred to that division directly from the reception with a photocopy of requisition with the approval of the Joint Chemical Examiner.
- (g) If one material object requiring examination in more than one division, the material object shall be transferred to the division in which more examinations are to be done. After examination of such MO's, it shall be sent to the other division through the concerned division head under acknowledgement.

V DEALING OF MATERIAL OBJECTS IN THE DIVISION

1. The material objects or samples received in a section shall be kept under the safe custody of the Asst. Chemical Examiner in charge of division.
2. A register of material objects/ Samples shall be maintained in the section to note the details of material objects/samples.
3. Material objects shall be issued to the analysts after obtaining acknowledgement in the register of material objects.
4. Annual verification of material objects shall be conducted by the division head/Joint Chemical Examiner.

VI ANALYSIS

The division head shall distribute the requisition to analysts by obtaining his dated signature in the inward register of the requisitions maintained in the division. The analysts after verification of the requisition should take the material objects/samples from the material object keeping room after putting his dated signature in the register of material object. The analyst should keep the material object/sample under lock and key until the analysis is completed. After completion of analysis and approval of certificate by the reporting officer, it should be sent for packing or destroyed, as the case may be. The packing of the material objects shall be done under the personal supervision of the analyst.

The procedures to be followed after having received samples/material object by analysts

1. Firstly verify and compare the seals on the packets or bottle containing material objects/samples with the samples seals provided on the requisition.
2. Note down the number of seals on the packet/bottle and sketch an impression of the seals on the record book.
3. Verify the Crime No., Police Station/Excise range, PR/T/TR No. nature of sample forwarded and compare it with the forwarding note/ forwarding letter. Note down the capacity of bottle, sample volume/ Quantity of sample forwarded, number of packets, details of label on the bottle or packet, nature of packing etc. in the laboratory record book.
4. If any packet has inner packets, the receipt number should be written on it and the serial no should be marked on it.
5. Before opening the packets/bottles containing material objects, make sure that there is no discrepancy, if any discrepancy is noticed, it should be brought to the notice of the division head and get it rectified by sending letters to the court/ investigating officer concerned.
6. Before starting the analysis, ask the supervising officer to confirm the articles.
7. After opening the packet or bottle measure the quantity or volume of sample and note down in the laboratory record book, if it is different from the quantity/volume mentioned in the requisition.
8. Plan the analysis of the material object/sample on the basis of nature of examination requested by the investigating officers in consultation with the supervising officer.
9. The progress of a particular analysis should not be revealed to nobody else other than supervising officer/reporting officer.
10. The Laboratory Assistant should help the analyst throughout the analysis. And he shall also help the analyst in taking sample from the MO's room, verification of the sample, distillation, extraction, reagent preparation, TLC plate preparation, marking of the TLC plate, labeling of the samples, keeping the remnants in the respective cupboards, sending MO's for packing

VII SUPERVISION

The supervising officer shall do the following while supervising analysis of material objects.

1. Ensure that the sample received was under tamper proof condition.
2. Arrange to send letters to the court/ investigating officer in case of discrepancy.
3. During verification of the record book and office copy of certificate of chemical analysis, the supervising officer should ensure that the entries are correct and tallied with the forwarding note and label on the MO's.
4. If any result is inconclusive he will ask the analyst to repeat the test and get the test performed in his personal presence.
5. The supervising officer should ensure proper analysis/examination of samples with reference to the nature of examination and factual correctness of certificate of chemical analysis.
6. After verification, the supervising officer should sign on all sides of the office copy of certificate and on the laboratory record with date and seal.
7. He should arrange to despatch the certificate immediately.

VIII LABORATORY RECORDS

There are four types of laboratory records (Toxicology, Excise, Serology and General record book for Narcotics, Miscellaneous case...). The following things are to be observed while maintaining the laboratory record book.

1. When a new record book is used by an analyst

- (a) Write the Name of the analyst, Section, Book Volume No. & Year on the cover page of laboratory record book.
- (b) The pages should be serially numbered
- (c) A certificate as shown below should be recorded by a supervisory officer in the first page of the laboratory record book.

"Certified that this book contains.....pages serially numbered from 1 to....."

2. The following details are to be recorded on the record book after proper verification of the forwarding note/letter and material objects.

- (a) At the top of the first page the number of packets or bottles received in a particular Receipt may be indicated
- (b) Letter No./TR No./T No./PR No./PM No..... with date
- (c) Receipt No. with sub No. if any
- (d) Date of receipt
- (e) Crime No./CR No./OR No..... with Name of Police Station/Excise range/Forest range.....
- (f) Number of CPO/Name of Civil Excise Officer/Messenger.
- (g) Date of Examination.
- (h) Sample forwarded by
- (i) Nature of articles forwarded
- (j) Number of articles forwarded
- (k) Number of each seals on the MO's
- (l) Impression of each seals

3. Before opening the Material Object

- (a) A brief description of every article shall be recorded on the body of the record book.
- (b) The measurements like the capacity of bottle, quantity of sample, volume of sample, colour and appearance of sample, description of label on the packet/bottle, nature of sample etc. shall be noted in the record book.
- (c) After recording the description of the samples, a certificate is to be recorded in the laboratory record that "the seal(s) on the material object(s) was/were intact and found tallied with the sample seal/seals provided".
- (d) If a sample is requested to be returned that is to be recorded on the record book with the date of packing and the amount/volume of remnants of sample to be returned.

4. Analytical data

- (a) As far as possible the details of tests conducted and weights of samples taken up for examination, calculations, reference books/IS specifications referred, details of instruments used, Instrument specifications, special reagent prepared, special methods of test selected, etc. are to be recorded for further reference in the laboratory record.
- (b) As far as possible analytical data are classified in to different headings such as
 1. General examination
 2. Physical examination
 3. Microscopic examination
 4. Chemical Examination-colour tests/crystal tests etc..
 5. Chromatographic tests. (TLC/Paper or Column Chromatography)
 6. Instrumental methods of analysis
 7. Quantitative analysis

5. Neatness/Corrections

1. Findings/observations of tests must be recorded carefully and final conclusion shall be recorded only after confirming the tests. The record book should be neat and legible. In unavoidable circumstances, if a correction is inevitable such correction shall be made by a single cross over the line or word which was mistakenly written and write the correct word or sentence and put signature of officer who made the correction. The Supervising Officer also authenticate the correction. Similarly if any insertion word(s) is made, that should be got authenticated.
2. If any repetition of test or estimation is done, the repeated set of results should be written separately with a heading "repeated".

6. Final report or Conclusion

1. Final expert opinion/findings of analysis must be written in consultation with supervising officers taking in to consideration of the nature of analysis requested by the court or investigation officer.
2. After the final report is prepared, it is signed by the analyst with date and submitted to the reporting officer.

IX THE CHEMICAL ANALYSIS REPORT

The certificate of chemical analysis report is admissible evidence under section 293 of Code of Criminal Procedure 1973.

After the record book is approved by the reporting officer, office copy of the certificate is to be prepared on the basis of findings recorded in the laboratory record book by the analyst. It is to be in precise and self speaking. The office copy of certificate shall be prepared using Report Generation Software of the department. The office copy of the certificate must contain...

- (a) Number and year of Certificate
- (b) Letter No./PM No. and date of the requisition, if it does not have any letter No., any other reference number shown in the requisition or Nil shall be mentioned in the space provided.
- (c) The address of the forwarding officer (Judge, Magistrate, Police Officers, Medical Officer, Excise Officials, etc.) shall be noted clearly.
- (d) Name or No. of CPO, Name of Civil Excise Officer/Spl. Messenger... shall be noted in the certificate.
- (e) Date of receipt of sample shall be written in words, for eg. "Tenth day of October, 2013".
- (f) The details of the material object received, number of items, numbering pattern, Crime No. Police Station/Excise range shall be shown in the body of certificate.

- (g) A brief description about each material objects shall be mentioned in the body of certificate.
- (h) A certificate shall be recorded to the effect that the seals on the packet/bottles was/were intact and found tallied with the sample seal provided.
- (i) Details of tests/analysis in brief and result of such test/analysis shall be given in the certificate.
- (j) Quantitative data shall be given wherever applicable/possible.
- (k) Report— The final conclusion of analysis/examination should be written with clarity as concluding words of report. The terms such as similar, approximately etc.. should be avoided.
- (l) Copy marked—A copy of certificate shall be marked to the Investigating Officer/other Officers considering the situation. The Officers to whom the copy of certificate is to be marked shall be noted as foot note of the last page of the certificate. The certificate of analysis from Toxicology division shall be forwarded to the Professor and Head, Department of Forensic Medicine, Medical College/Superintendent of District Hospital or Medical Officer in charge of other institutions.
- (m) If the remnants of the Material Objects are to be returned a foot note to this effect shall be given in the first page of the certificate. If any portion of the Material Objects has been cut and removed for the purpose of examination, it should be mentioned in the body of certificate.
- (n) Name and signature of analyst and reporting officer with date shall be given in the certificate.

X DIARY

1. All analysts and reporting officers shall maintain a diary as per the guidelines given below.
2. All analysts shall maintain a diary in the form given under the Appendix II.

3. Any case pending examination in a month shall be carried forward to the next month and that shall be noted as pending in the current month before the new cases received in the current month are entered in the diary.
4. All requisitions given to the analysts in a month shall be first entered in the diary
5. The diary shall be maintained in such a way that all requisitions in hand of an analyst shall be reflected in the details of current month.
6. The Diary shall be submitted to the Reporting Officer/Section Head along with the monthly report.
7. The reason for pending examination of a case shall be noted against each case in the diary.
8. The diary must be maintained up to date and made available for verification of superior officers as and when required.
9. All reporting officers shall maintain a diary or register for noting the approved certificates send to the fair copy section.
10. The officer, who verifies the diary, shall put his/her signature with date in it.

XI PRIORITY TO CASES

1. Priority shall be given to all cases for which reminders are received from the Court, Investigating Officer, Medical Officer etc.
2. Priority shall be given, when specific request is made in the requisition.
3. Priority shall be given to sensational cases on the orders of the Head of Office.
4. The Head of the Office shall give priority to cases involving samples suspected to contain highly unstable poisons/ingredients.
5. Priority shall also be given to cases having damaged or leaking bottles or packets.

XII RETURN OF REMNANTS OF MATERIAL OBJECTS

1. The remnants of material objects to be returned shall be got packed immediately after the approval of certificate of chemical analysis by the Reporting Officer.
2. All sections shall maintain separate packing register.
3. Each item shall be packed, sealed and labeled separately and all such items pertaining to one case (Crime) shall be packed in a bundle and labeled.
4. The label of material objects should contain Nature of item, Receipt No., Crime No., Name of Police station/Excise Range, Item No., PR/T/Item No. of the Court etc.
5. The label of the bundle must contain the Receipt No., Crime No., Name of Police Station/Excise Range, PR/T/Item No. of the Court and Number of items in the bundle.
6. The material objects shall be packed by the packer in presence of the analyst and details of the case shall be entered in the packing register.
7. The packing register must contain columns for entering (1) Sl.No., (2) Receipt No., (3) Crime No. and Police Station/Excise Range, (4) Number of Items, (5) Address to whom the material objects are to be returned, (6) Date of packing (7) Signatures of packer & Analysts. (8) No. & Date of letter received from the Court (9) Acknowledgement of receipt of MOs.
8. The packed material objects shall be kept under the lock & key by the Division Head, if there is no separate Officer in charge of material objects (Outgoing).
9. If the material objects are given to the Officer in charge of material objects (Outgoing), acknowledgement from him/her shall be obtained in column No. 9 of the register.

XIII RECORD KEEPING

All records like office copies of Certificates, Completed laboratory records, Inward Registers, Distribution Registers, Receipt Books, Packing Registers, Certificate Numbering Registers and all other relevant registers shall be transferred to the record room immediately after completion of registers under acknowledgement. The officer in charge of the record shall arrange the records suitably in the record room. He will follow the following procedure while holding the charge of officer in charge of records.

1. He will keep the office copies of certificates of chemical analysis, record books, registers and packed remnants of material objects and other records under his safe custody.
2. He will maintain an inward register for certificates, record books, registers, material objects etc. separately.
3. He will maintain issue registers for certificates and other records and registers.
4. The certificates or other records and registers shall be given to requesting officers only after entering the details in the issue register and obtaining acknowledgement of receiver on the register.
5. When the certificates or registers are returned to record room, signature with date of officer who returns the same shall be obtained in the register.
6. Office copy of certificates and Records books related cases closed by the court need be retained only up a maximum of 10 years. In sensational/ controversial cases, the time limit will be 15 years or as advised by State Police Chief.

XIV TECHNICAL INSPECTION TEAM

1. The Technical Inspection Team shall be consisting of one Joint Chemical Examiner and two senior Assistant Chemical Examiners.

2. A technical team shall inspect all three laboratories under this department at least once in a year.
3. The TIT shall verify main inward register maintained in the reception, distribution register of requisition and samples, laboratory records, office copy of certificates, location register, issue register, packing register, certificate numbering register, logbooks maintained in the instrumentation wing; stock register of chemicals, glasswares and instruments and other registers related to the technical work of the department as to whether they are maintained in accordance with the guidelines mentioned in the manual.
4. The TIT shall verify as to whether the various analytical procedures being followed in the laboratories are in accordance with good laboratory practices.
5. The TIT can do and ask any analyst to do any test in presence of TIT, if found necessary.
6. The TIT shall inspect each division of a laboratory as to whether all reagents being used in the laboratory are of good quality.
7. The TIT should inspect the keeping of material objects before and after examination.
8. The TIT shall submit the report of inspection to the Chief Chemical Examiner with their remarks within two weeks of inspection.

XV COURT DUTY

1. All officers should attend the Court on receipt of Summons or warrant or other communication demanding personal appearance from court.
2. Summons issued by name shall be received by the officer to whom the summons is issued.

3. Summons issued by name to those officers who are transferred/retired shall be received by head of the office / an authorized officer and it shall be communicated to the concerned officer
4. If no name is mentioned in the summons, that summons shall be received by the head of the office / an authorized officer.
5. All summons shall be got entered in a summons register.
6. The summons register shall be maintained by CA to Chief Chemical Examiner or Joint Chemical Examiner.
7. Non-attendance of Court duty must be noted in the summons register.
8. Request for postponement of case, if made, must be noted in the summons register.
9. A receipt shall be given to the concerned section, when office copy of certificate, laboratory record book or any other documents taken for attending court.
10. The office copy of certificate, laboratory record or any other documents shall be returned to the concerned section immediately after court duty and obtain acknowledgement of receipt of the same in the section.
11. A copy of the duty certificate shall be produced to the Head of office immediately after attending duty, so that it can be attached with the office copy of the certificate.
12. The officers who are summoned to the Court should go through the records and roughly prepare a technical note about the case for properly presenting the case in the court.

XVI TECHNICAL WORK REPORT

1. All analysts and reporting officers shall submit the report of their technical work carried out in a month in the prescribed forms. (Appendix-I)

2. All analysts should achieve the monthly norms fixed by the department from time to time.
3. The monthly report should contain the number of case and articles examined number of cases and articles in which abnormal results or results worthy of mentioning.
4. The monthly report shall be submitted to the concerned division head on first working day of every month.
5. The division head shall submit the consolidated monthly report in respect of a division to the Joint chemical examiner not later than third working day of subsequent month.
6. The consolidated monthly report in respect of regional laboratories and head quarters laboratory shall reach the office of the Chief Chemical Examiner on or before 10th of every month.
7. If there is any case of unusual nature or interest , it should be reported to the Chief Chemical Examiner for inclusion in the Annual Administration Report.
8. Consolidated monthly, quarterly and half yearly reports shall be sent to the Government in the form appended as Appendix III, IV, V.

XVII TRAINING AND CERTIFICATION OF ANALYSTS

1. Each technical officer in the cadre of Technical Assistant and above appointed or posted in a section shall be placed under training for a specified period for acquiring general working experience in analysis of samples pertaining to that section.

2. The following minimum periods are prescribed for training in various sections.

Toxicology	-	3 months
Serology	-	3 months
Excise	-	2 months
Miscellaneous	-	2 months
Narcotics	-	2 months

3. The training shall be imparted by the division head or any senior officer(s).
4. The trainees shall be assessed at the end of training by an appropriate manner - i.e. by an oral test/interview/practical test. The trainee who secures minimum 50% marks in the test will be declared as completed the training successfully.
5. The analyst who passes through the test/interview shall be certified by the Chief Chemical Examiner to the effect that he/she is competent to undertake analysis in respect of samples/material objects pertaining to that division.

XVIII MAINTAINING OF ANALYTICAL INSTRUMENTS

1. All analytical instruments shall be maintained always in operational condition.
2. Annual Maintenance Contract for all analytical instruments shall be kept alive.
3. Log book for all instruments shall be maintained.
4. Periodical calibration of analytical instruments shall be done.
5. Calibration date and values shall be exhibited.
6. Standard Analytical Protocol shall be followed.
7. The officer in charge of instrument shall take initiative for achieving above requirements/ objective.

8. The officer in charge of the instrument is responsible for proper functioning of the instrument.
9. Any problem noticed in the instrument shall be reported to higher officers immediately and necessary follow up action for rectifying the defects shall be done by the officer in charge of the instrument.

XIX VERIFICATION OF RECORDS

All registers pertaining to the Technical matters shall be maintained properly and periodically verified as described below.

1. The distribution registers of material objects and requisitions maintained in reception shall be verified daily to see that all samples and requisitions are properly distributed to the concerned division head or officer by the officer in charge of reception.
2. Annual verification of all inward registers shall be carried out year basis for finding out long pending cases and taking appropriate action for releasing reports of such cases by respective division head.

XX REPORT GENERATION AND LABORATORY MANAGEMENT SOFTWARE

1. The receipts of material objects and samples shall be prepared using the Report Generation and Laboratory management software in duplicate.
2. Duplicate copies of receipts shall be filed in bundles of 100 receipts.
3. Each analyst and reporting officer is provided with a user name and password for login to the software. The password shall not be disclosed to anybody else.
4. Office copy of certificate of chemical examination shall be prepared by using the software.

5. Fair copies of certificates shall be got printed at the fair copy section/Technical division only after approval of the same by the reporting officer.
6. Fair copies of certificates shall bear office seal and signature of reporting officer.
7. True copies of the certificates shall be taken only with the approval of administrator or authorized officer.
8. Certificate of chemical examination shall be printed in the special paper bearing Government emblem and name of department.
9. Office copy of certificate of chemical examination shall be attached with the requisition.
10. Monthly report of analysts shall be system generated one.
11. Grading of on monthly report is to be done by the supervising officer.
12. Consolidated monthly reports and Annual Technical Reports are also system generated ones.
13. True copy of certificate of chemical analysis shall be taken by the reporting officer or higher officers only.

XXI TRANSFER AND POSTING OF OFFICERS

1. As far as possible, the technical persons will be allowed to work in a division for minimum three years continuously for acquiring experience in the work being conducted in the division.
2. Transfer of a technical officer before completing three years in a division need be resorted only if there is convincing reason.
3. Three years may not be insisted in the cases of transferring of unskilled helping staff working in a division.

XXII IMPORTANT GOVERNMENT ORDERS

1. Sanction for the establishment of Chemical Examiners Laboratory as an independent department under the administrative control of Home Department separated from Public Health Laboratory GO(MS)188/Home dated 13-6-1969.
2. Sanction for the establishment of Regional Chemical Examiners Laboratories at Kozhikode and Ernakulam-G.O. (Rt.) 562/79/Home dated 14-3-1979. (Kozhikode laboratory started functioning in 1986 and Ernakulam laboratory started functioning in 1989)
3. Kasargod,Wayanad,Kozhikode,Kannur and Malappuram Districts brought under the jurisdiction of RCEL Kozhikode-G.O.(MS) 186/86/Home dated 21-8-1986.
4. Ernakulam,Idukki,Thrissur and Palakkad Districts brought under the jurisdiction of RCEL Ernakulam.-G.O.(MS)117/89/Home dated 22-9-1989.
5. Sanction for starting separate serology and Miscellaneous divisions at RCEL Ernakulam-G.O.(MS)21/91/Home dated 4-2-1991 .
6. Sanction for starting Narcotics division at RCEL Ernakulam G. O. (MS) 8/98/Home dated 5-1-1998.
7. Kerala Chemicolegal Examination Rules-GO(MS)624/Home 18-8-1959.

APPENDIX-I

Monthly Report Form

CHEMICAL EXAMINERS' LABORATORY DEPARTMENT

INDIVIDUAL MONTHLY REPORT

(Performance will be reflected in the confidential report of the officer)

Month:

Division :

Name of the Laboratory :

Name of Reporting Officer/ Analyst :

Designation :

Number of days on leave or other duty :

1. Analytical work

<i>Sl. No.</i>	<i>Nature of case</i>	<i>No. of cases</i>	<i>No. of articles</i>
	Total		
	Average work per day during the month		

2. Other technical work, if any

Date :

Signature

3. Grading of performance by immediate supervising officer

Sl. No.	Item of performance	Grade A	Grade B	Grade C	Grade D
1	Quality of work	Excellent	Good	Satisfactory	Poor
2	Quantity of work	100% > norms	= norms	~ / = 80% of norms	< 80% of norms
3	Promptness & interest	Exemplary	Good	Satisfactory	Indifferent
4	Record writing	Very neat	Neat	Satisfactory	Bad
5	Co-operation	Very co-operative	Always co-operative	Co-operative	Non-co-operative
6	Discipline	Very punctual	Punctual	Usually punctual	Not punctual
7	Leadership	Exemplary	Good	Satisfactory	Poor

Date :

Name and Signature of supervising officer.

Remarks of the Joint Chemical Examiner:

Remarks of the Chief Chemical Examiner:

4. Details of cases examined during the month

S#	Rt. No.	items	S#	Rt. No.	items
1			31		
2			32		
3			33		
4			34		
5			35		
6			36		
7			37		
8			38		
9			39		
10			40		
11			41		
12			42		
13			43		
14			44		
15			45		
16			46		
17			47		
18			48		
19			49		
20			50		
21			51		
22			52		
23			53		
24			54		
25			55		
26			56		
27			57		
28			58		
29			59		
30			60		

<i>S#</i>	<i>Rt. No.</i>	<i>items</i>	<i>S#</i>	<i>Rt. No.</i>	<i>items</i>
61			91		
62			92		
63			93		
64			94		
65			95		
66			96		
67			97		
68			98		
69			99		
70			100		
71			101		
72			102		
73			103		
74			104		
75			105		
76			106		
77			107		
78			108		
79			109		
80			110		
81			111		
82			112		
83			113		
84			114		
85			115		
86			116		
87			117		
88			118		
89			119		
90			120		

5. District wise statement of cases

Sl. No.	Districts										
	Nature of cases	C	A	C	A	C	A	C	A	C	A

6. Cases of interest

Signature of Analyst.

APPENDIX-V

HALF YEARLY REPORT

Crime Head	Number of cases pending on		Number of cases received during half year.....		Number of cases examined during half year		Number of cases pending at the end ofhalf year	
	Cases	Articles	Cases	Articles	Cases	Articles	Cases	Article



GOVERNMENT OF KERALA

No:38501/E4/2014/Home

Home (E) Department,
Thiruvananthapuram,
Dated: 30.01.2015

From

427/15/CE
10/02/15

The Additional Chief Secretary to Government

To

The Chief Chemical Examiner,
Chemical Examiner's Laboratory Department,
Thiruvananthapuram

JYCE Madam,
(General)
To
Shri. R. Jayaram
Kumar

Sub:- Home Department - Chemical Examiner's Laboratory Department -
Departmental Manual- Draft approved - Reg:-
Ref:- Your Letter No. E1-1658/07/CE dated 23.04.2014 and 20.09.2014.

I am to invite your attention to the reference cited and to inform you that the draft Departmental Manual of Chemical Examiner's Laboratory Department furnished vide letter dated 20.09.2014 is approved in Government with permission to print and publish the same at the earliest.

JN
10/2/15

I am also to request you to furnish separate proposal to change designation of 'Bottle Cleaner' and 'Lascar' existing in the Chemical Examiner's Laboratory Department to 'Cleaner' and 'Attender' respectively since both these designations are included in the Special Rules for Last Grade Servants.

[Signature]

10/2/15

Yours faithfully,
Geetha Lekshmi.M.B
Under Secretary,

for Additional Chief Secretary to Government.

Approved for issue

B
11/2/15

[Signature]
Section Officer.