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QUALITY MANUAL

PHARMA DEVILS

(Oral Solid Dosage & Injectable Facility)

APPROVALS:

Approval of this quality manual indicates agreement with the strategies and principles as outlined and commitment to support the quality activities of the Solid Oral Dosage, Ointments, Oral Liquid, liquid Injectable & Dry Injectable Facility at …….

Following signatures signify review and approval of this manual.

PREPARED BY:

Functional Areas	Name	Signature	Date
Quality Assurance			

REVIEWED BY:

Functional Areas	Name	Signature	Date
Engineering			
Production			
Quality Control			
Quality Assurance			

APPROVED BY:

Functional Areas	Name	Signature	Date
DGM Quality Assurance			

AUTHORIZED BY:

Functional Areas	Name	Signature	Date
General Manager (QA/QC/DRA)			

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1.0 INTRODUCTION

…… is a professionally engaged Pharmaceutical company, manufacturing various dosage forms and has emerged as a reputed pharmaceutical formulation manufacturer .The company enjoys a rich manufacturing experience of over ….. years. This Quality Manual is related to manufacturing facility of ……Plot No. ……., …….Km away from the railway Station & …..Km away from airport. The site manufactures Tablets, Capsules, , Ointments, Oral Liquid, Liquid Injectable, Dry Syrup & Dry Injectable in General & Cephalosporin category. The formulations manufactured are generic and patent and proprietary medicine and for HUMAN USE ONLY.

2.0 OBJECTIVE

The objective of the quality manuals to summarize the philosophy, intentions and approach for quality management system in accordance with current good manufacturing practices (cGMP)/current good laboratory practices (cGLP) & to ensure the compliance of Quality systems and procedures so that the finished drug products at site meets all the required specifications ensuring the Identity, Strength, Safety, Purity & Quality of the products.

3.0 SCOPE

The scope of this document is for the quality management system at M/s. ……..

Corporate Office:

Factory address:

Name of Contact Person:

E-mail:

Fax No.:

24 Hours Contact Phone No.:

4.0 QUALITY MANAGEMENT SYSTEM

4.1 Quality Policy

"QUALITY IS A RELENTLESS COMMITMENT

AT ……..

AND MANAGEMENT IS ALWAYS DESIROUS

TO PROVIDE THE CUSTOMER'S

DESIRED QUALITY MEDICINES AT COMPETITIVE

COST AND MAINTAIN LEADERSHIP IN HEALTH

CARE THROUGH CONTINUAL

IMPROVEMENT AND INNOVATIVE TECHNOLOGY"

4.2 The company is having Quality Control and Quality Assurance department. Quality control department is independent department and responsible for analysis of starting materials, Blend, intermediate (bulk) and finished product. Quality Control department is responsible to release or reject the materials after analysis.

4.3 The Head QA is responsible for the Management of quality assurance departments.

4.4 The quality assurance department activities shall be mainly with reference to the implementation and day to day monitoring of the activities/systems described in the later part of this manual.

4.5 The activities of the quality control department shall be mainly analysis and release of the various materials such as raw material, packaging material, intermediate product, final bulk product, finished product, water, stability, Sterility, validation/Cleaning samples and any other analysis as per the systems described in the later part of this manual.

4.6 Both the department team shall contain adequate number of team members to perform the above activities.

4.7 Head Quality shall be overseeing the activities of both the departments.

4.8 The company is having well equipped quality control laboratory having most modern instruments such as high performance liquid chromatography (HPLC), gas chromatography, ultra violet/visible spectrophotometer, automatic dissolution test apparatus, etc.

4.9 Quality Assurance monitors both manufacturing and testing facilities. Quality assurance ensures the product quality through different checks/strict monitoring of each and every stage of manufacturing process. Quality assurance provides assurance that the product manufactured is as per cGMP and as per regulatory requirement. Quality assurance carries out quality audit to check implementation of quality assurance system. It is well understood that all departments and personnel involved with the product development, manufacture and distribution of the drug have equal responsibility in assuring its quality.

4.10 Major elements of quality assurance policy: The various elements covered under the policy are:

4.10.1 Compliance with cGMP and GLP requirements.

4.10.2 Compliance with the statuary requirements covered under the Drugs and Cosmetic Act and rules made there under and any other applicable regulations.

4.10.3 All the products that are manufactured by the company shall be validated to demonstrate that they meet the quality standards including safety, efficacy, identity, strength and all other characteristics which they claim to possess.

4.10.4 Manufacturing equipment's & processes to be validated to demonstrate compliance with the cGMP standards.

4.10.5 'Release for sale' to take place only after the product and process validation and ascertaining compliance with the approved specification of product of current version.

4.10.6 Compliance/Implementation of standard operating procedures

4.10.7 Any deviation to be recorded and formally reviewed for taking appropriate actions based on assessed level of seriousness arising out of such non-conformance.

4.10.8 Batch records and documentation system to be maintained to trace history, to carry out trend analysis and to establish 'root cause' when any problem arises.

4.10.9 Control on all changes related to facility, equipment, system, material, process and evaluation of impact of the changes on product quality.

4.10.10Updating of QA systems and implementations of them in company.

5.0 ORGANISATION AND PERSONNEL:

ORGANIZATION: Company believes that "Quality is derived from people and people are the asset and strength of company. Human resource planning is done to assure that right kind of people will be available in right number and doing right things, which will result in production of quality products."

5.1 Organization chart showing the reporting relationships for the Plant is attached as an **Annexure I**. Responsibility of each department is attached as an **Annexure II**.

5.2 **PERSONNEL**

- Induction Training to each and every person after joining the company to introduce him all sections/departments and to explain functions of each section in brief.
- On Job training shall given to personnel.
- Each person engaged in the testing, inspection, production, processing, packing, holding of various components (including packing materials) and a drug product shall have adequate education, training and experience, or any combination thereof, to enable the person to perform the assigned functions. This training will be given through written procedure viz.-Standard Operating Procedure. This training is related to specific aspects of an individual's role. It is important that during workplace related training the relevant aspects of GMP are reinforced and explained.
- Training in cGMP shall be conducted on a continuous basis and with sufficient frequency to assure that employees remain familiar with cGMP requirements applicable to them.

6.0 DOCUMENTATION

6.1 PRODUCT MASTER FILE:

Product Master File shall be prepared and maintained for every product manufactured at company. Product Master File shall contain the followings.

- Master Formula.

6.1.1 Batch Manufacturing and packing details/instructions.

- Raw Material Specification.
- Packing Material Specification.
- Finished Product Specification.
- Stability Study Details/Stability Data.
- **Master Formula:** Master Formula along with all manufacturing and packaging details of product shall be made part of product master file of respective product.

- Batch Manufacturing and Packing details: Batch Manufacturing Record (BMR): BMR for every batch of every product shall be prepared and shall be filled while performing the respective activity (On-Line documentation). Compilation of various documents generated as a part of batch manufacturing and testing in one single docket for each product batch is carried out and maintained by QA department. These records are preserved for Seven years.
- Batch Manufacturing Record shall contain the following.
- Batch Details (Product name, B. Size, B. No. Mfg. Date, Exp. Date, Reference).
- Date of commencement of manufacturing and date of completion.
- Bill of Materials.
- Dispensing Sheets/Records of all raw materials (API and Excipient) along with analytical reference number used in formulation.
- Line clearance record.
- Equipment cleaning record.
- Manufacturing process instructions/details with all precautions (Formulation Order).
- Batch process record indicating date, time, process/activity details and duration of respective process/activity (like duration of mixing, during of filling & during sterilization.)
- Records of volume filled,
- Records of leak test, disintegration time, Friability.
- Records of visual inspection to check the presence of deformed/de-shaped bottles/vials/ampoules, black/white/foreign particles and fibers.
- In-process control checks records.
- Request for analysis.
- In process analysis report.
- Number of containers filled and quantity rejected.
- Theoretical yield and actual yield and % yield there of Batch reconciliation.
- Signature with date of the competent technical staff responsible for manufacture.
- Counter signature of QA for having verified the documents.
- Equipment cleaning label.

6.1.2 Batch Packing Record shall contain the following.

- Batch details (Product name, B. Size, B. No., Mfg. Date, Exp. Date, Reference).
- Bill of Materials.
- Dispensing sheets/Records of packing materials.

- Equipment cleaning record.
- Line clearance record.
- Packing instructions with all precautions.
- Packaging record.
- In-process control checks records.
- Specimen of labels, cartons, Printed foil etc. with batch coding information like batch number, Mfg. Date, Exp. date, as applicable and Inserts if used in the finished packing.
- Details of sample withdrawn- control sample, stability sample etc.
- Batch reconciliation.
- % Yield.
- Signature with date of the competent technical staff responsible for manufacturing and packing.
- Finished goods certificate of analysis with head of QC Signature (Competent technical staff).
- Counter signature of head of QA for having verified the documents for having released the product for sale and distribution, the quantity released and date of release.
- Finished goods transfer record to warehouse.
- Batch release slip.
- On completion of batch manufacturing and testing, the authorized person from the QA department checks the batch manufacturing , batch packing record and QC testing report of the product batch to verify that product batch is manufactured as per cGMP requirements and contains quality attributes as per regulatory requirements & shall 'Release the product for sale'.

6.1.3 **Raw materials specification:**

Quality control department prepares raw material specification where besides regulatory (Pharmacoepial) compliance, such factor as particle size and such other physico-chemical properties which may have relationship with product process, and product quality requirements.

6.1.4 **Packing material specification:**

For each material component specify PMS (Packing material specification) code number and make reference to this code in the packing specification. Prepare detailed specification, giving 'limits' based on 'achievable' standard as agreed upon vendor agreement. Indicate approved vendors name.

6.1.5 **Finished product specification:**

The specification specifies limits stringent than the regulatory limits, and is normally based on the results of stability studies and known limitations of test method, if any. Reference to standard test procedure/MOA (Method of Analysis) to be followed is indicated made against each test parameter.

6.1.6 **Stability study data:**

Quality control department and quality assurance department are responsible to conduct the stability study. Product shall subject to stability study as per ICH/WHO guidelines and as per regulatory requirements. First three production batches packed in 'market packs' shall subject to stability study. Stability study shall perform as per ICH guidelines/WHO guidelines.

6.2 POLICY ON BATCH RECORDS

6.2.1 Batch records are basically documents that ensure manufacture of batch if a Product in accordance with prescribed specifications and provide a means for ensuring that the product batch is manufactured under controlled and orderly manner, and all critical operations, operating parameters and in process quality control checks are carried out and appropriate records of observation made are recorded in the specifically designed forms. Final acceptance or rejection is made by quality assurance on verification of the data based on given checklists and finished product analysis report (COA) duly signed by an appropriate Officer/analyst and approved by competent technical QC person.

6.2.2 Sequence of operations and checklists may vary for different products, but essentially this remains as.

6.2.2.1 Record of batch numbers.

6.2.2.2 Quantities of all raw materials and packing materials drawn and actually used, with full accountability.

6.2.2.3 Actual sequence of operations and results of inspections made as a part of in-process control.

6.2.2.4 Record of environmental control.

6.2.2.5 Records of line clearance, equipment cleaning and testing for traces of previous product.

6.2.2.6 Record of in process samples drawn, QC test results and authorization to start/continue production.

6.2.2.7 Record of actual date and time of START and FINISH of each operation step.

6.2.2.8 Record of deviation and their disposition.

6.2.2.9 Tags of all raw material weighing, specimens/proof of labels, cartons, inserts bearing batch coding details as actually printed on the line and/or as carried out by external agency.

6.2.2.10 Signature of production and QA personnel making entries, counter signed by supervisory personnel.

6.2.2.11 Yield verification and final approval for transfer of the batch to finished goods store.

6.2.2.12 Signature of competent technical staff of manufacturing operations and cross signature of quality assurance to give assurance that batch of respective product is being manufacture and pack as per cGMP requirements.

6.2.2.13 QA Head's approval giving release of the batch 'for sale'. All batch records shall be maintained by QA department and shall be preserved for 7 years from the date of manufacturing of respective batch.

6.3 POLICY ON SPECIFICATION

6.3.1 Specification is finalized based on the results of Trial batches and standardization of process.

6.3.2 Specification broadly cover,

- Raw material specification.
- Packing Material Specification
- In-Process Specification
- Finished Product Specification
- Finished Product Stability Specification.

Besides, Process Specifications are prepared under the Master Formula and are documented.

6.3.3 All specification are prepared and checked by Quality Control Department and approved by Quality Assurance Head. Distinct specification number is assigned to each specification giving effective date and indication review date.

6.3.4 Any change or an amendment when becomes necessary must be evaluated by a technical persons, such change shall documented, request for change must be made by concerned personnel, supported by reason(s), supporting data and justification for required evaluation of the proposed change.

6.3.5 No planned deviation from the standard (approved) specifications (including process - Manufacturing Instructions) without written approval from QA Head. Such deviations when made must be recorded and Batch records shall indicate its reference. No deviation with respect to pharmacopoeial test is allowed.

6.3.6 When any major deviations or nonconformance is observed, such material/product lot or part of it shall be rejected on the basis of evaluation of quality impact.
When minor deviations is observed such material shall be segregated/held pending additional testing which may help in taking decision for appropriate disposition of the material/product.

Each major or minor deviation shall be recorded. Non Conformance Report shall be initiated and disposition action taken is recorded.

6.3.7 If any material or a product requires more than one-quality standards, it must have different specification with specification number.

7.0 QUALITY CONTROL DEPARTMENT AND SYSTEM IMPLEMENTATION.

The various activities of the Quality Control Department are as described below:

Preparation and Standardization of Reagents, Buffers, Solutions, Indicators and Volumetric Solutions Handling of Reference Standards and Working Standards

Handling of Laboratory Instruments. Handling of laboratory chemicals.

Handling of Materials – Raw Materials, Packaging Materials, Intermediate Product, Final Bulk Product, Stability Samples, Water –Sampling, Analysis and release.

Control Samples Handling (Raw Materials) – Sampling, Receipt, Storage, Review, Retrieval and Destruction.

Laboratory Instrument Calibration Programme. Handling of the Microbiology Department.

Certificate of Analyst Validation.

The activities shall be assigned/shared among the individuals of the Quality Control Department.

7.1 Handling of Laboratory Chemicals.

7.1.1 The laboratory chemicals shall be procured from the approved source (domestic / international –like Loba Chem., Fischer Scientific, SD Fine Chemicals, Qualigens) and shall be of the Guaranteed Reagent/Laboratory Reagent/Analytical Reagent Grade or as specified in standard test procedures (STP).

7.1.2 The maximum period of use of an intact chemical/reagent in solid form is 3 years from the date of opening and 2 years for the liquid reagents, except following sensitive, volatile reagents like Hydrogen peroxide, Ammonia solution, KF Reagent, for this type of reagent use within 1 year from the date of opening.

7.1.3 Necessary Material Log shall be maintained. The details of any receipt and issuance of the chemicals shall be maintained in the log.

7.1.4 Procuring department shall be intimated to procure the chemicals once the replenishment level is reached in the Quality Control Laboratory store by the designated individual.

7.2 Preparation and Standardization of Reagents, Buffers, Solutions, Indicators and Volumetric Solutions.

7.2.1 All the individual reagents, buffers, solutions, indicators and volumetric solutions shall be prepared by the designated individual as per the procedure described in the General Test Procedure or as described in the Individual Monograph of the material.

7.2.2 Sensitivity shall be checked for the prepared reagents and indicators as per the procedure described in the individual STP/monograph of the material.

7.2.3 Buffers/Volumetric solutions shall standardize as per the procedure described in the Individual General Test Procedure or Monograph of the material. Limits shall be as per the procedure described in the Pharmacopoeia.

7.2.4 For volumetric solutions, observed strength shall not beyond 5% of the labeled strength and RSD shall not be beyond ± 0.2 %.

7.2.5 The designated individuals shall maintain individual preparation and standardization records.

7.2.6 The prepared document shall be reviewed and verified by the supervisor/department head The department shall have a detailed procedure (SOP) regarding the above.

7.3 Handling of Reference Standards and Working Standards

7.3.1 The Laboratory shall have a Reference Standard and Working Standard System.

7.3.2 Reference standards are those standards, which are having traceable report and procured from Approved Agency authorized by the Pharmacopoeial Committee or prepared internally for those materials where there is no monograph.

7.3.3 Availability of current lot of reference standard / chemical reference substance shall be checked by visiting website www.usp.org/dsd/refstd for USP standards and www.pharmacopoeia.gov.uk for BP standards, or with supplier. Reasonable lead time should be considered between ordering and actual receipt.

7.3.4 The department shall have list of reference standards being used in the department and shall be stored as per the conditions recommended.

7.3.5 Reference standards (Opened and unopened) are kept in separate box at a temperature between 2°C to 8°C unless and otherwise specific storage condition specified on the label.

7.3.6 Withdrawal of Reference Standard for the analysis shall be recorded in the individual logbook / sheet.

7.3.7 Authentic Working Standards are those standards, which are standardized against reference standard.

7.3.8 Authentic Working standards shall be prepared by withdrawing quantities from the approved consignment / outsourced from the approved locations. Analysis of Working Standard shall be done in to 3 sets by two analysts. The % RSD of the assay value of six sets shall not differ by more than 1%. For microbial Assay the % RSD of the assay value of six sets shall not differ by more than 5%.

7.3.9 Authentic Working Standards shall have shelf life of 1 year from date of preparation. Authentic Working Standards for antibiotics, vitamins and microbial sensitive active raw materials shall have a shelf life of six month from date of preparation.

7.3.10 Authentic Working standard which is kept at 2 to 8^{0}C required for analysis, should be kept at least one hour in dedicator with silica gel to attain ambient temperature before dispensing the required quantity for analysis.

7.3.11 Individual records of Authentic Working Standard – Master List, Individual Usage Log, and Standardization Certificate shall be maintained in the Quality Control Department.

7.3.12 Any impurity standard that is required for the regular analysis shall be maintained in similar lines with procedure as described for Reference Standard.

7.4 Handling of Laboratory Instruments.

7.4.1 Each instrument of the laboratory shall have unique identification number.

7.4.2 Each instrument depending on the reliability and performance shall have calibration requirement. The instrument shall be calibrated against the standard procedure described in the Pharmacopoeia or in any standard literature.

7.4.3 The frequency of calibration shall depend on the reliability and repeatability of the instrument.

7.4.4 The laboratory shall have an Instrument Master list, which shall have the details of the instrument, instrument number, location of the instrument and calibration frequency.

7.4.5 The instrument shall be calibrated as described in the individual SOP within the scheduled date. Any deviation shall be recorded.

7.4.6 If any out of calibration results are observed, it shall be investigated before being put into regular usage.

7.4.7 If any abnormality/breakdown is observed, it shall be attended appropriately.

7.4.8 The items shall be classified as either movable instrument/fixed instrument.

7.4.9 If the instrument is moved from the original place (fixed instrument) or any part is replaced which is affecting the performance of the instrument, it shall be validated/ qualified before being put into regular use.

7.4.10 Any new instrument shall be validated/qualified before being put into use.

7.5 Handling of Materials–Raw Materials, Packaging Materials, Blend, Intermediate Product, Finished Product, Stability Samples, Analysis and Release.

7.5.1 The department shall have detailed procedure about the receipt of material, sampling, analysis and release of materials.

7.5.2 The different kind of materials being Raw Materials, Packaging Materials, Blend, Intermediate Products, Finished Product, Water Samples, Stability samples.

7.5.3 On receipt of the material receipt advice (in case of raw materials and packaging material) or request of analysis, the details of the intimation shall be entered in the respective register.

7.5.4 As per the respective sampling procedure, the material shall be sampled and details of the sampling shall be entered in the individual procedural format. It shall be ensured by the Sampling Analyst/Executive, cleanliness of the materials, approved source, labeling details etc as per the individual sampling procedure.

7.5.5 The sample shall be analyzed as per the procedure described in the standard test procedure (STP).

7.5.6 The details of the analysis shall be entered in the individual Test Data Sheet / Book and this shall be issued by the Department Head / Supervisor.

7.5.7 On completion of the satisfactory analysis, the Test Data Sheet shall be completed and a certificate of analysis (COA) shall also be prepared.

7.5.8 These shall be reviewed and approved by the Supervisor and Department Head.

7.5.9 Respective copies of the COA shall be issued to applicable department (s) wherever applicable.

7.5.10 Any out of specification/Out of trend results, shall be immediately reported to the Supervisor/Department Head and Quality Assurance Head for investigation.

7.5.11 The details of the investigation procedure shall be described in the SOP.

7.5.12 Necessary corrective action shall be taken as per the recommendation of the Laboratory Investigation Report.

7.5.13 The department shall have detailed procedure about handling the different kind of materials – Raw Materials, Packaging Materials, Blend, Intermediate Product, Finished Product, Water Samples, Stability Samples & Validation samples.

7.5.14 It shall be ensured by the each individual of the department that Calibrated Instrument (s), Reagents/Buffer/Solution/Volumetric Solutions/Indicators, Reference Standards/Working Standards within their shelf life shall be used for the analysis.

7.5.15 Any deviation observed shall be recorded and preceded for further analysis on approval of the Deviation Form as per the deviation control procedure.

7.5.16 Any change shall be incorporated as per Change control procedure.

7.5.17 Microbiology department shall be responsible for carrying out all types of Microbiological Analysis.

7.5.18 Required media shall be prepared as per the STP/Monograph of the material and shall be used accordingly. The details of the media preparation and usage shall be entered in the Media Preparation and Usage Log.

7.5.19 The analysis shall be performed as per the Individual STP/SOP. Formats, Raw Data Sheets shall be specified in the sample STP/SOP.

7.5.20 At the end of analysis, the used media shall be destroyed by autoclaving as described in the Individual STP/SOP.

7.5.21 Mother culture shall be procured from the approved source/laboratory for the organisms being used in the analysis. Culturing and sub culturing shall be performed as per Individual SOP under aseptic conditions.

7.5.22 Necessary records shall be maintained of culturing and sub culturing as per individual SOP.

7.5.23 Any out of specification/out of trend results shall be investigated as per the investigation procedure described Individual Laboratory Investigation Procedure (handling of out of specification.)

7.5.24 All the instruments being used in the Analysis such as pH Meter, Autoclave, Laminar Air Flow Bench shall be validated/qualified before being put into regular usage.

7.5.25 Periodic calibration shall be performed as per the Individual SOP.

7.5.26 Environmental monitoring shall be performed for the Manufacturing Area (Location wise), People for the Bio-burden (Personnel Qualification).Trend charts of environmental trend and water trend shall be prepared to evaluate the conditions on a periodic basis.

7.5.27 Necessary corrective action shall be taken for any abnormal or out of specification or out of trend values as per the procedure.

7.5.28 Any deviation shall be reported and recorded as per deviation control procedure.

7.5.29 Any change shall be incorporated as per Change control procedure.

7.6 Control Samples Handling (Raw Materials)–Sampling, Receipt, Storage, Review, Retrieval and Destruction

7.6.1 Control samples are those representative samples which are kept as a reference for any future reference/investigation.

7.6.2 Control samples shall be collected for the Raw Materials.

7.6.3 The quantity of control sample shall be at least twice the quantity required for the analysis.

7.6.4 Raw Materials, control samples shall be collected at the time of sampling in a separate container as per the sampling procedure.

7.6.5 The sample shall be pooled and quantity required for the control sample shall be separated and stored in the Control Sample Room along with details of the sample on the container. The details of the control sample shall be entered in the respective register.

7.6.6 The labeling details shall include name of the sample, reference number (Material Receipt Advise/Batch Number), Mfg. Date, Exp. Date, Quantity. The details shall be explained in the individual department procedure.

7.6.7 The Control samples of Raw Materials, the control samples shall be stored for a period of 1 year after the date of expiry of the material.

7.6.8 During the storage period, the control samples can be retrieved from the control sample room for any reference/investigation against an approved Retrieval Form. Head QC/designee shall be the approving authority. The details of withdrawal/retrieval shall be entered in the Control Sample Register.

7.6.9 At the end of the storage period, the expired control samples shall be listed and destroyed on approval of the Destruction Report by the Head QC/Designee.

7.7 Laboratory Instrument Calibration Program:

7.7.1 All the instruments in the Quality Control Laboratory shall be calibrated as per the procedure.

7.7.2 Each instrument in the laboratory shall be identified with a unique identification number, which is the instrument number.

7.7.3 The laboratory shall have an instrument master list, which contains Name of the instrument, Location of the instrument & Instrument Number.

7.7.4 Calibration frequency shall be depending on the criticality of the instrument and reliability/performance of the instrument. It shall be decided in consultation with the Quality unless otherwise specified in the Pharmacopoeia/standard reference.

7.7.5 The calibration frequency shall be changed (increased/decreased) depending on the past performance of the instrument as per the change control procedure.

7.7.6 Each individual of the department shall be designated for an instrument in the laboratory and they shall be responsible for the maintenance and calibration of the instrument.

7.7.7 The designated individual shall prepare calibration record, which consists of Name of the instrument, calibration due on and name of the responsible individual.

7.7.8 The responsible individual shall organize for the calibration of the instrument before the scheduled date. Engineering department service shall be taken for calibration wherever applicable.

7.7.9 Instrument shall be calibrated as per the standard calibration procedure.

7.7.10 Calibration recordings shall be taken and compared against the standard limits.

7.7.11 If the calibration results are found satisfactory, Calibration Certificate shall be prepared and Log books of Instrument Usage, Maintenance and Calibration updated.

7.7.12 If any out of calibration results are observed, the instrument shall not be put into use without any corrective action. The instrument shall recalibrate after rectification before use and the record shall maintain as per respective instrument log book.

7.7.13 If any abnormality / breakdown is observed, it shall be immediately informed to the Quality Control Head/ Designee for necessary corrective action.

7.7.14 If any repair / rectification is performed, it shall be recorded in the maintenance log.

7.7.15 If any part which is affecting the performance of the instrument is replaced, the instrument is validated / qualified before being put in use.

7.7.16 The qualification shall also be performed to all the instruments in the laboratory – whenever newly installed, moved from one location to another (other than movable instruments).

7.7.17 Any deviation shall be reported and recorded as per the deviation control procedure.

7.7.18 Any change shall be incorporated as per the Change control procedure.

7.8 Analyst Validation

7.8.1 Any newly recruited employee (Analyst/Officer/Executive) joining the Quality Control Department, shall be trained before being part of regular analysis.

7.8.2 The Technical Details such as Qualification and Experience shall be collected as a part of the Certification Program.

7.8.3 Depending on the experience, the Analyst shall be identified for the Technique to be qualified.

7.8.4 Depending on the technique, the Analyst shall be demonstrated analysis by the Trainer (Identified by the Quality Control Head/Designee).

7.8.5 Newly recruited analyst should be trained for the various standard operating procedures of related works according to his/her job responsibility. He shall be trained to carryout qualitative analysis under the observation of senior person whose analytical skills already validated. After ascertaining analyst's confidence level he/she shall be trained for quantitative analysis under the observation of senior person.

7.8.6 After satisfactory training, analyst's analytical skill should be evaluated by giving coded samples of raw material and/or finished products, which are previously analyzed by senior chemist.

7.8.7 Standard volumetric solutions shall also be given for re-standardization to confirm the re-producibility of results.

7.8.8 Instrumental analysis efficiency of analyst is verified by comparing tests like raw materials & Finished Product analysis on High Performance Liquid Chromatography (HPLC) and Gas Chromatography (GC). For microbiological analysis analyst's skill shall be evaluated by giving coded sample with the known results for Bioassay/Sterility test/MLT/Bacterial Endotoxin Test.

7.8.9 The Analyst shall perform the Analysis as per approved Standard Test Procedures. The Analysis shall be monitored by the Trainer.

7.8.10 The results of the Analysis by the Analyst shall be compared against the Approved results.

7.8.11 Analytical results obtained by the analyst has to be compared with the expected results/previous results and if it is within the expected tolerance then analyst can be allowed to work independently. For chemical analysis deviation should not be more than 1.0%, Instrumental analysis deviation should not be more than 0.5%, for RM/Finished 1.0%, Physical parameters 0.2% and for microbiological assay deviation should not be more than 5.0 %.

If results are not within the % RSD, analyst shall be retrained and analyst shall be revalidated within 7 days from the date of evaluation of analyst validation.

7.8.12 The details of the Analyst Certification (Analyst Validation) shall be entered in the format, comments and results shall be entered in the format.

7.8.13 The Final Approval shall be taken from the Quality Control Head.

7.8.14 On satisfactory approval the Analyst shall perform the regular analysis.

8.0 QUALITY ASSURANCE SYSTEMS-Deviation Control, Change Control, Inter Department Investigation, Out of Specification Investigation, Annual Product Quality Review, Technology Transfer and Control Samples Handling.

8.1 Deviation Control System

8.1.1 Anything away from the standard/Any temporary change to be followed shall be interpreted as **"Deviations"**.

8.1.2 Any pre-planned implementation of the "Deviations" shall be identified as "Planned Deviation" and any incidental occurrences or unforeseen changes shall be identified as **"Unplanned Deviations"**.

8.1.3 The user department during such need prepares a "Deviation Report" giving the details about the

- Name of the Product/Material/Instrument
- Batch Number/Analytical Report Number
- Mfg. Date/Exp. Date
- Description of Deviation
- Likely Reason for deviation

8.1.4 The completed deviation shall be forwarded to Quality Assurance Department on approval by the respective department head.

8.1.5 Deviation Report number shall be allocated and entered in the Deviation Log of the department.

8.1.6 An investigation shall be carried out to evaluate the deviation.

8.1.7 On satisfactory investigation, it shall be forwarded to Head QA.

8.1.8 Head QA shall review the Deviation report and shall approve/reject the Deviation Report. The user department as per the procedure shall implement recommendations.

8.1.9 Head QA/Designee shall monitor implementation and close the deviation report. Trend data and report shall be included in the Individual Annual Product Quality Review.

8.2 Change Control System

8.2.1 Any permanent change to be incorporated shall be done as per the Change Control Procedure.

8.2.2 The change shall be in Document, Process, Procedure, System, Equipment, Facility, Area, Utility or Product (Formulation).

8.2.3 The Individual department shall prepare the Change Control Report and give the details about.

- Name of the Product/Material/Instrument/Document
- Current Scenario/Existing procedure
- Proposed Change
- Applicable Documents (like standard operating procedure (SOP)

/Standard Test Procedure STP/Master Formula Record (MFR) or any other document.

- ❖ Requirements of Validation-Process/Equipment/Analytical-Prospective/Concurrent
- ❖ Any other affecting system & Implementation strategy

8.2.4 Necessary review and approval shall be taken from all applicable departments (s).

8.2.5 The Quality Assurance Department shall classify the changes as Minor, Major and Critical depending on the nature of the change proposed.

8.2.6 Head QA shall review and approve the change control. QA department shall enter the details of change control in the change control log.

8.2.7 On approval of the change control, the User Department shall implement the change as per suggested by Quality Assurance Head. Quality Assurance Head shall monitor the implementation and record the details of the implementation.

8.3 Inter Department Investigation (Corrective and Preventive Action)

8.3.1 During product failures or whenever required, the Quality Assurance department shall initiate for the Inter Department Investigate.

8.3.2 The investigation team shall consist of Various Department Head (s)/Representatives. The team shall identify the Implementer who will coordinate for the Investigation and recommendations of the investigation.

8.3.3 The team shall investigate on all possible levels to identify the cause and arrive at the remedy for cause and preventive measures for the cause.

8.3.4 The coordinator shall prepare the Inter Department Investigation Report **(Corrective and Preventive Action Report)** and shall take approval from the team leader. Head QA shall review the report.

8.3.5 The corrective action shall be implemented as per the procedure.

8.3.6 Preventive measures shall be identified and implemented as per the procedure.

8.3.7 On completion of the implementation of the corrective actions and preventive actions, the report shall be closed and details shall be entered in the respective Log.

8.4 Out of Specification Investigation

8.4.1 Any out of specification (OOS)/out of trend results shall be immediately reported to the Supervisor/Quality Control Head immediately.

8.4.2 The results shall be subjected for Laboratory Investigation, which is as below

- ❖ Calculation Error
- ❖ Method Error/Procedural Error
- ❖ Instrument Error
- ❖ Sampling Error

- ❖ Analyst Error.

8.4.3 If assignable cause is identified, necessary corrective action shall be taken.

8.4.4 Re-sampling/Retesting shall be performed wherever necessary.

8.4.5 Comparing the retest results and the original results shall invalidate the OOS report/results.

8.4.6 If the product failure is confirmed, necessary recommendations shall be given (Rework /reprocessing) and preceded accordingly.

8.4.7 Details of the investigation, Re-sampling and retesting shall be included in the Laboratory Investigation Report.

8.4.8 Quality Assurance Head/Designee shall ensure the implementation of the recommendations and closure of the Laboratory Investigation Report.

8.5 Annual Product Quality Review

8.5.1 Trend Review shall be prepared by the Quality Assurance Department for all the products once a year.

The review shall include

- ❖ Name of the product
- ❖ General information of the product & batches manufactured
- ❖ Changes in vendors
- ❖ Changes in Master Formula Record and Packing Details.
- ❖ Changes in Raw Material, Packing Material, Blend, Intermediate and Finished Product Specification.
- ❖ Review of Analytical Data Trend – Finished Product
- ❖ Review of Stability Data – Long Term and Accelerated
- ❖ Review of the Manufacturing Data – Intermediate and yield data.
- ❖ Review of Quality Systems – Deviation Control, Change Control, OOS Investigation, Market Complaints, Product Recall, Rework / Reprocessing.
- ❖ Summary and Conclusion.

8.5.2 The review data shall be included in the APQR, in the form of Trend Charts and Trend Data. Necessary explanatory note shall be included at the Chart / note.

8.5.3 The recommendations shall be included as a permanent change as per change control procedure.

8.5.4 A summary of Annual product Quality review shall be prepared to include the brief details of all the Annual Product reviews prepared.

8.6 Technology Transfer

8.6.1 Quality agreement shall prepare between contract giver and contract acceptor. Any Process / Product shall be transferred against a Technology Transfer Document.

8.6.2 This shall be performed for any process/product transfer between

- M/s …… and Contract Giver.
- M/s ……and Out Side Testing Laboratory.

8.6.3 The transfer shall be performed between the Transferor and Transferee along with the Quality Assurance Department.

8.6.4 A protocol shall be prepared which shall include the stages of transfer activity and responsibility of the each applicable department.

8.6.5 Process Validation and Analytical Method Validation (especially ruggedness) shall be part of the transfer process.

8.6.6 The first three batches of the product shall be validation as per process validation system procedure.

8.6.7 Analysis shall be performed by the Representatives of the Transferor and Transferee department on two/three samples.

8.6.8 The results shall be compared and shall be within the specified limits.

8.6.9 All the applicable, Raw Material, Packaging Material, Intermediate Product and Final Product Specification shall be handed over to the Transferee and acknowledgement shall be taken in the document as per procedure.

8.6.10 On satisfactory evaluation of all the requirements, both the department/parties shall sign off for having transferred/received the process and/or product.

8.6.11 This shall complete the Technology Transfer process and any modification/change carried out after the Technology Transfer Process shall be on approval by QA Head.

8.6.12 The Quality Assurance Department shall prepare the Individual procedure for the systems described above.

8.6.13 The procedure shall include details about all the formats and approach to be followed.

9.0 VALIDATION SYSTEM: Master Validation Plan, Process Validation, Equipment Qualification, Instrument Qualification, Facility/Area Qualification, Analytical Method Validation and Cleaning Validation.

9.1 Quality Assurance Head/Designee shall prepare a Validation Team. The team members shall be from different departments – Quality Control, Production, Engineering and Quality Assurance.

9.2 Validation Team shall be responsible for implementation of the Validation system.

9.3 Validation Master Plan.

9.3.1 Validation team shall prepare the Validation Master Plan.

9.3.2 The Validation Master Plan shall contain Validation Policy.

9.3.3 It shall contain an approach for carrying out the different validation.

9.3.4 It shall include list of all the validation activities to be carried out at the location.

9.3.5 Schedule with which all the validation shall be carried is included in the Validation Master Plan.

9.3.6 It shall include details about the Preparation, Review, Approval and Execution of different validation protocols.

9.3.7 Also, shall contain details about the execution of protocol, review and approval of the protocol.

9.3.8 It shall also describe about the Fixed and Movable Instruments / Equipments, Revalidation Frequency or criteria which requires revalidation.

9.3.9 The Validation Team shall take care, to ensure the implementation of the Validation System as per the schedule.

9.3.10 Any deviation/change shall be recorded and necessary approval shall be taken.

9.4 Process Validation:

9.4.1 All the Manufacturing Process shall be validated to ensure/assure that Process continuously gives the product conforming to specifications and quality attributes.

9.4.2 The validation team shall identify the Process to be validated and prepare the Validation protocol as per the procedure.

9.4.3 The contents shall be as per Validation Master Plan and shall subject to the process being validated.

9.4.4 On approval of the Validation Protocol (prepared before the initial batches), First Three consecutive Batches shall be subjected for Process Validation.

9.4.5 Validation Team, User Department Head (Production Head) and Quality Assurance Head shall monitor the batches.

9.4.6 Samples shall be taken at the stage/step (s) identified as per sampling procedure.

9.4.7 Quality Control Department shall be analyzed process validation as described in respective process validation protocol.

9.4.8 Any out of specification/trend shall be investigated and necessary corrective action shall be taken.

9.4.9 All the Analytical details (results) shall be included in the report along with COA. On satisfactory completion of the batch, representative samples shall be taken and kept for Long Term and Accelerated Stability Studies.

9.4.10 The results shall be reviewed and conclusions shall be drawn.

9.4.11 Any deviation/change shall be reported and recorded in the Process Validation and MFR (Master Formula Record) shall be changed accordingly.

9.4.12 The details about the Process Validation Procedure, Protocol Preparation and Approval, Execution and Approval of the Protocol shall be described in detail in a Quality Assurance Department SOP.

9.5 Equipment/Instrument Qualification

9.5.1 All the Equipment/Instrument shall be Validated/Qualified that it performs as per the procedure and yields results/desired function consistently conforming to Specification and quality attributes.

9.5.2 Equipment/Instrument shall be classified as Critical and Non-Critical.

9.5.3 Critical Equipment/Instrument shall be identified as those equipment/instrument which directly or indirectly influence Process or Product Quality.

9.5.4 Non-Critical equipment/instrument shall be identified as those equipment/instrument which do not have any influence on any process or product quality.

9.5.5 Priority shall be given to the Critical and Major equipment during Validation/ Qualification. Minor Equipment/Instrument shall be validated wherever necessary.

9.5.6 All the Equipment/Instrument shall be Validated/Qualified for Installation and Operation. Design Qualification shall be included in the process wherever possible and necessary.

9.5.7 Wherever necessary Performance Qualification shall be performed as per the procedure. Wherever applicable, Performance Qualification shall be part of Process Validation.

9.5.8 Individual Protocol shall be prepared by the Validation Team/User Department and the same shall approve by Head QA.

9.5.9 Design Qualification shall qualify the instrument/equipment that it is complying by design with reference to the requirements and specification given.

9.5.10 On completion of Design Qualification, FAT (Factory Acceptance Test) shall be performed by the representative, at the manufacturer's location to certify that the Equipment/Instrument is complying as per the requirements and specification.

9.5.11 This shall be performed before the shipment to the Factory and during this stage delivery instruction shall be finalized. The equipment/instrument shall be delivered at the Factory by the manufacturer.

9.5.12 On receipt, the shipment shall be opened in presence of the Engineering Department and shall certify that the Equipment/Instrument is as per the specification and

requirement and no visual damage/breakage has occurred during the transit. This shall be part of the FAT (Factory Acceptance Test).

9.5.13 Any Damage/breakage observed shall be immediately informed to the Manufacturer and necessary corrective action shall be taken. This shall be part of Installation Qualification.

9.6 Facility/Area Qualification

The Facility/Area Qualification shall be performed in the similar guidelines as explained above and shall be verified that it is in compliance with the Company and regulatory requirements (wherever applicable).

9.7 Analytical Method Validation

All the Analytical Method (s) (Non Compendial) being used at the Quality Control Laboratory shall be validated as per International Conference on Harmonization (ICH) /United State Pharmacopeia (USP) Guidelines.

9.8 Cleaning Validation

Any modification/change carried out in process which is affecting the product quality or equipment/instrument/facility/area which is affecting the performance of the equipment/instrument/facility/area shall be revalidated/prequalified.

In other cases the revalidation/requalification period shall be specified in the Validation Master Plan/Individual Department Procedure.

10.0 STABILITY STUDIES

10.1 Stability studies are carried out to give the shelf life for the new products and to validate the shelf life in case of existing product. In this study, product performance at the extreme conditions shall be evaluated and shelf life shall be extrapolated as per the guidelines.

10.2 Representative Samples shall be from the selected batches every year (number of batches – as decided).

10.3 Whenever there is any major change in manufacturing procedure, which is affecting the product quality, during process validation studies, stability samples shall be collected.

10.4 The quantity shall be sufficient for the complete stability study.

10.5 The samples shall be stored at the Long Term & Accelerated conditions and accelerated temperature conditions.

10.6 Appropriate temperature and humidity conditions shall be selected depending on the product.

10.7 The temperature and humidity of the stability chamber shall be monitored and recorded on a regular basis.

10.8 Any abnormality in temperature and humidity conditions observed shall be reported immediately and necessary corrective action shall be taken.

10.9 Samples shall be drawn at the intervals defined in current guidelines. The samples shall be drawn as per the schedule.

10.10 Quality Control Department analyze stability sample as per the relevant specifications (Standard Test Procedure).

10.11 The parameters shall be as decided during the Initial Protocol Preparation and approval stage and shall contain – Description and other quality indicating parameters.

10.12 Wherever possible degradation profile of the active ingredient shall be carried out.

10.13 Any abnormal observation in out of specification / out of trend values shall be investigated and necessary corrective action shall be carried out accordingly.

10.14 The analytical results shall be compiled in the stability protocol.

10.15 Period review of the stability study of every product shall be performed and also included in the Annual Product Quality Review.

10.16 Any confirmed stability failure shall be immediately informed to the Head QC, Head QA, GM (QA/QC/DRA) and Product Recall shall be initiated wherever necessary.

10.17 All the documents shall be prepared and maintained as per the Individual Department SOP.

10.18 Details of the pre-formulation stability study shall be in the similar guidelines / ICH Guidelines and details shall be given in the Individual Department SOP.

11.0 VENDOR QUALIFICATION PROGRAMME

11.1 All raw materials and packaging materials sources are to be find out by the purchase department.

11.2 Purchase department will a request vendor to send a pre-shipment sample along with certificate of analysis (COA) and Vendor Questionnaire.

11.3 Vendor shall submit all details to purchase department.

11.4 Quality Assurance department shall approve or reject vendor.

11.5 Quality Assurance shall prepare the Approved Vendor List and Copies shall be provided to necessary applicable departments such as Store, Purchase, and Quality Control Department. Vendor shall be included in the Approved Vendor List and circulated according.

11.6 These vendor(s) shall be periodically evaluated for compliance with reference to Regulatory and Company requirements.

11.7 The designee (Auditor) shall carry out the Audit as per checklist prepared with reference to the Regulatory/GMP Guidelines.

11.8 Observation (s) shall be provided Vendor (s) in the form of Audit Reports.

11.9 On receipt of compliance action plan, compliance audit shall be carried out.

11.10 On satisfactory evaluation, the vendor shall be included/retained in the Vendor List.

11.11 Any new addition to the approved vendor list shall be done only on satisfactory evaluation as per following procedure.

11.12 Receipt of Purchase Samples

- ❖ Receipt of Purchase Samples
- ❖ Satisfactory Analysis by Quality Control Department
- ❖ Receipt of 3 batches of samples for Trial at Production Department.
- ❖ Analysis of Trial Samples
- ❖ Stability Study of Trail Batches.

11.13 On satisfactory evaluation of the stability study of Trial Batches, initial supply shall be taken for validation and subsequent Stability Study.

11.14 Periodic vendor rating shall be performed on review of the following.

- ❖ Audit and approval of the suppliers facilities by company personnel, if required.
- ❖ Past performance of the suppliers with regard to quality and other parameters like delivery period, price, response to complaints/suggestions, etc.
- ❖ Existence of quality system certified to a recognized standard.

11.15 Vendor shall be upgraded/downgraded depending on the vendor review report.

11.16 Individual department procedure shall be prepared to include above as a detailed procedure.

12.0 TRAINING PROGRAMME

12.1 The technical or cGMP related topics shall be conducted in the form of classroom training.

12.2 The Training Manual shall be prepared to make all the employees familiar with current Good Manufacturing Practices, as per various guidelines. Trainer shall prepare the Training module on relevant topics in presentation styles and the same shall be

reviewed by training commission. Trainer shall deliver the content as per training module but not limited to Particular topics.

12.3 The intent of this training manual is to make all the personnel aware with all the attributes required by the regulatory authorities to manufacture zero defect products.

12.4 An annual training program shall be prepared in the beginning of each year. This program acts as a tool for providing various training programs which are required for the improvement of the technical skill of the personnel since trained employees are more efficient and motivated and more valuable to the company. The training committee shall be constituted for the execution of these training programs. Members of this committee shall be drawn from Production, QC, Engineering and QA. The members can be heads or anybody nominated by them. However in the light of recent advancements in the scientific literature or amendments in the regulatory requirements, this training program is subjected to revision.

12.5 Following types of training shall be imparted:
Internal training (Induction Training, On-Job Training)

External Training

12.6 The training shall be imparted by qualified, experienced, regular employees of the company. Trainees shall be evaluated on the basis of questionnaire or other acceptable means after the training session. The test papers shall be in the form of multiple choice questions that can be marked by the trainer in a short period of time and can be used to identify areas that require further explanation and discussion.

12.7 For good learning, it is important to review the questions and answers with all participants. For the successful completion of the training, trainee shall score minimum 80% of marks, if marks are less than 80%, the trainee shall undergo retraining. Complete documentation shall be done in case of training and retraining and finally submitted to QA Department.

12.8 Assessment and Evaluation of the employees shall be carried out on the basis of questionnaire prepared or by other acceptable means like: viva voice, brainstorming etc. by HOD and final report shall be submitted to QA Department. For the successful completion of the training, trainee shall score minimum 80% of marks, if marks are less than 80%, the trainee shall undergo retraining and reevaluation

13.0 HANDLING OF MARKET COMPLAINT

13.1 If any serious about the quality of the product/serious adverse events occurred for the product or during investigation, if any product failure is identified, it shall be immediately informed to Head QA.

13.2 Head QA shall monitor customer complaints jointly with Head Production/Head QC and investigate to establish causative factors and ensures corrective actions are taken.

13.3 It is understood that all written and oral complaints are registered and subsequent findings and actions taken are documented.

13.4 Complaints involving adverse drug reactions will be appropriately handled by Head QA in consultation with Managing Director/Plant Head/GM Quality. The findings are required to be reported to the Drug Licensing Authority

13.5 On receipt of complaints, Head QA shall investigate the complaints and send a reply to the complainants. If necessary Head QA shall arrange necessary analytical testing.

13.6 Complaint investigation and results of the findings to be informed to the complainants within three working days from the date of receipt of the complaint.

13.7 A summary of market complaint received in last 3 months is made by the Quality Assurances Head and is presented to all the members of the operation team and a copy is marked to the Managing Director of the company.

14.0 PRODUCT RECALL AND HANDLING OF RETURNED GOODS

14.1 Recall of batch from the market is necessitated when

i) Routine Retain Samples checks show deterioration/non-compliance with regulatory standard(s).

ii) Product complaint(s) triggers a Recall Action and/or

iii) A directive is received from Drug Regulatory Authority.

14.2 It shall be the responsibility of the Head QA to evaluate the reported findings, re-confirm on analysis carried out on Complaint Samples/Retain Samples, if so required, and notify Production and the management. The QC's results of such analysis and the recommendation(s) made there upon to Recall the concerned product batch(es).

14.3 Whereas separately the investigations are being carried out to establish cause(s) of a batch has been reported to be of 'sub-standard' quality, Managing Director's, decision will be taken to Recall (withdraw) the reported product batch from the market.

14.4 Quality Head shall confirm the necessity of the product recall with Managing Director, Plant Head & GM Quality.

14.5 Immediately intimation shall be sent to all distributed locations about the Product Recall.

14.6 Intimation shall be sent in the form of Telephone, Email, Fax, Advertising in Leading News Paper and Television ad or any other form communication. (When the complaint findings are of critical nature involving severe adverse reaction, Product mix-up, the

communication to the market shall be made through fastest possible channel of communication, and may involve TV/Newspaper etc.)

14.7 Withdrawal Action based on major findings may be done by fax, telegram, phone calls, Followed by issuing confirmatory withdrawal notice giving Batch details and reason for taking withdrawal action.

14.8 Trading partners shall be asked to send the stocks available with the stockiest/distributors/retailers to the factory. Stocks received back to be reconciled daily and to be kept in segregated rejected area fully secured for destruction.

14.9 All communications to the Drugs Regulatory shall made by Head QA. The Managing Director shall be kept informed of the action initiated and follow-up actions taken thereafter.

14.10 Individual location shall ensure withdrawal of the products from the Market and reconciliation shall be carried out periodically during the process.

14.11 All returned goods shall be stored separately in lock and key by the warehouse and intimated Quality Assurance Department.

14.12 Total quantity of the stocks withdrawn shall be communicated to the Management, and when required to do so to the Regulatory Authority. Disposal Action recommended by Head-QA shall form a part of the report. The final report shall include results of analysis, Establishment of causative factor(s) and shall be signed jointly by Head QA and Production Head.

14.13 Any return of the product from the market for any defect/product failure/regulatory advise/marketing requirement shall be handled as per "Handling of Returned Goods" procedure.

14.14 Mock recall shall be performed at periodic intervals to ensure / validate the recall System.

14.15 Analysis shall be performed wherever necessary.

14.16 Recommendation(s) shall be given as to returned Goods can be Redressed/Repacked/ Reprocessed.

14.17 Recommendations shall be carried out by the Individual Department as per the procedure.

14.18 QA Department shall ensure the implementation of recommendations.

14.19 QA department shall prepare the detailed procedure about Product Recall and Handling of returned goods

14.20 Any deviation/change shall be reported and recorded. Necessary corrective action shall be implemented as per procedure.

15.0 APPROVAL AND CONTROL OF THIRD PARTY LABORATORIES

15.1 Any other laboratory to be used for regular testing, shall be assessed for the regulatory and GLP Compliance.

15.2 An Audit is carried out by the Designated Individuals (Indicated Head QA) for compliance with reference to regulatory and GLP compliance.

15.3 It shall be ensured that the laboratory possesses the required facility and instrumentation for the intended analysis.

15.4 On satisfactory evaluation, an agreement shall be made between the company and laboratory being recommended for use.

15.5 Samples shall be sent for analysis on regular basis as per the requirement and the performance shall be monitored.

15.6 Any out of specification or out of trend result shall be immediately informed to the Quality Assurance Head.

15.7 In outside testing laboratory if any out of specification or out of trend results observed during the analysis, it shall be investigated in consultation with the Quality Control Head/Designee and Quality Assurance Head of ……

15.8 An investigation shall be carried out and necessary corrective action shall be taken.

15.9 On regular basis (periodically), the performance shall be evaluated.

15.10 Any observation shall be intimated to the laboratory in the form of Audit Report and compliance shall be monitored.

15.11 The company shall terminate the agreement/contract on repeated violation/negligence of the company/regulatory requirements.

15.12 Any deviations/change shall be reported and recorded as per procedure. Necessary corrective action shall be taken.

16.0 POLICY ON SELF-INSPECTION (GMP AUDIT)

16.1 GMP audit of all departments is conducted on a half yearly basis or more frequently if deemed necessary to verify compliance with current Good Manufacturing Practices (cGMP) and to detect any shortcomings in the implementation of Good Manufacturing Practices and to recommend necessary corrective actions. The Auditor evaluates the existence and adequacy of company procedures and policies and follows up on required improvement plans. The Department Head/Supervisor or designee may accompany the Auditor during the inspection. GMP Auditors should be competent in Auditing Subject. Quality Assurance Head will select the Internal Quality auditors on the basis of their

competency. The team responsible for self-inspection should consist of personnel who can evaluate the implementation of GMP objectively and who are expert in their own fields and familiar with GMP. Department Head/ designee of cross functional area shall conduct GMP Audit.

16.2 GMP audit shall be recorded. Audit Discrepancy shall be prepared. Respective department shall provide action plan.

16.3 Previous audit findings shall be checked for compliance during GMP audit and audit status to be reported. QA shall verify the compliance report and shall follow up the pending points.

17.0 POLICY ON ASSIGNING EXPIRY (LIFE) PERIOD TO FINISHED GOODS

Preamble: As per the Drugs & Cosmetic Rules, 1945, Rule 96(7) (vii), all the drugs preparations shall bear on their label, the date of their expiry which shall not exceed sixty months from the date of manufacture. However where any drug and its preparation (including combination with other drugs) is specified in Schedule P of the Drugs Rues, the expiration period of such drugs shall not exceed the period that is laid down in the said schedule.

17.1 It shall be clearly understood, when assigning 'Life' expiry period to any of the Company's product, the provision made under the above said Rule 96 shall be complied with. QC & QA department shall not recommend 'Life' exceeding the period stipulated under the Schedule P and where drug preparations are not included in Schedule P the expiry date shall not exceed sixty months from the date of manufacture.

17.2 When the company decides to launch a 'new' product/drug preparation for the first time, QA department shall recommend Life Period based on the review of the Stability Data generated on the trial batches prepared by the Production department. Since the data available at this point of time are most ; likely to be based on the samples stored at various accelerated conditions of storage, QC may decide to recommend 'life' for various dosage forms, based on available data covering specified storage condition like 40°C/75% RH & 30°C/75% RH.

Extension of the period will have to be justified by supportive documents, and may cover published data or known stability data on the active bulk drug(s) used in the product preparation, route of administration, competitor's products evaluation data etc.

17.3 It shall be responsibility of QA to continue to monitor initial three production batches of the 'new' product, samples of which are kept for stability study as per ICH guideline , and submit findings with a view to review the 'life' given earlier.

17.4 For 'established' products, based on the Control Sample Review program, QA shall continue to monitor the life periods assigned to various products and submit its recommendations when any revision is called for.

18.0 POLICY ON NEW PRODUCT DEVELOPMENT AND ITS COMMERCIAL PRODUCTION.

18.1 On receiving new product launch intimation from MD/Third party/Trading Partners Production/Production department workout the input details and forward to Head-commercial and Managing Director for Product Costing.

18.2 On receiving approval from Head Commercial/Managing Director, Trial batches, experimental batch shall be under taken by Production and kept for stability study as per stability program.

18.3 Head QA obtains a necessary license from Drug Regulatory Authority. If a new product falls under the category of 'New Drugs', then clinical trials of the drug product to be arranged after getting approval from Drug Authority for carrying out the same as per the guide lines given in Drug & Cosmetic Act.

18.4 Development and design of the product primary package is under taken by QC and QA department in consultation with Production Department and Trading Partners.

18.5 Development and Design of the product primary package and Lab scale experimental work shall be undertaken by the Production, QC and QA department who shall submitting necessary License Application to the concerned authorities. Where considers necessary, application is submitted for obtaining license to manufacture Drugs for purposes of examination, test or analysis.

18.6 When Production, QC and QA Department is satisfied that a commercially viable product is development to take it up on a pilot-scale production, Bill of Material is submitted along with the material specifications to the purchase for obtaining price quotations and to submit product cost data to the managing director who, in consultation with finance and commercial divisions, shall evaluate the production contribution and plan strategy for the product launch in the market.

18.7 On deciding the M.R.P. and on obtaining clearance from Marketing, the Finance Department shall initiate other action such as approval for the product.

18.8 New Product manufacturing is planned based on following:

- Confirmation of MRP and production plan from commercial department/trading partners.
- QA conforming availability of FDA/DC (I) permission and final approved text matter for artworks.

- Production, QC and QA confirming final formulation based on the evaluation of stability studies, and availability of the master file, prepared and approved by the concerned approving authorities.
- Purchase Department, confirming availability and supply as per specifications of materials.

19.0 POLICY ON SAFETY, HEALTH & ENVIRONMENTAL PROTECTION (CONTROL)

M/S …….. is committed to provide a total safety and operational health of the employees and the working environment but safety of the general public and environment.

19.1 The company will comply all applicable Law & Regulation & endeavors to improve on such minimum legal requirements.

19.2 Company shall assume responsibility for health & safety of its employees at all times.

19.3 Periodic audits will be done to be getting a feedback for verification of all that is indented to be done to meet the objectives.

19.4 Constantly endeavor to ensure that safety standards are followed during installation, operation and maintenance of the plant, plant machineries and equipment to protect employees from risk of any injury, ill-health and prevent damage to the company's property and general environment.