Appendix - 1
Questionnaire for the Executives

Dear Sir/Madam,

This questionnaire is to analyze the role of Total Quality Management (TQM) in the ISO 9000 certified manufacturing organizations in Kerala. Your valuable views and opinion is highly important for the same. Any information collected will only be used for academic purpose. I assure you that all the information will be kept confidential.

Thank you
Mathew Joseph, Lecturer, MBA Dept., SB College, Changanasserry.

Please note; You are requested to answer by writing your views and /or placing tick marks

1. Name ______________________________________________________
2. Designation _________________________________________________
3. Total experience in this company _____________________________
4. Did you find some changes in your organisation after ISO 9000 certification?
   Yes ☐ No ☐
5. If yes, What are the changes that you found after the ISO9000 certification?
   ☐ More employee participation
   ☐ More team work
Appendix 1

1. Improved supplier teaming
2. Better unity-of-purpose
3. Increased top-management commitment
4. Improved customer focus
5. Improved benchmarking
6. Improved employee education and training
7. Increased use of Statistical Process Control Tools
8. Improved use of Information usage about quality
9. Improved Value Analysis
10. More employee participation

6. Do you think that your organisation is committed to quality improvement practices?
   Yes ☐  No ☐

7. If yes, which way your organisation is committed to quality?
   ☐ By setting objectives for quality improvement
   ☐ Senior officers demonstrates the importance of quality
   ☐ By making long-term plans for quality
   ☐ Continuously improving products/processes

8. In your organisation quality improvement is the responsibility of:
   ☐ Senior officers
   ☐ Middle level managers
   ☐ Supervisors
   ☐ Workers
   ☐ Everyone in the organization
9 What is the change in profitability after ISO 9000 certification in your organisation?
- [ ] Significant increase in profitability
- [ ] Marginal increase in profitability
- [ ] No change in profitability
- [ ] Marginal decrease in profitability
- [ ] Significant decrease in profitability

10 Please rank the following based on the relative importance given by your organisation:

<table>
<thead>
<tr>
<th>Factors</th>
<th>Please Rank (rank from 1 to 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of products</td>
<td></td>
</tr>
<tr>
<td>Cost of production</td>
<td></td>
</tr>
<tr>
<td>Meeting schedule</td>
<td></td>
</tr>
<tr>
<td>Quality of process</td>
<td></td>
</tr>
</tbody>
</table>

11 What is your role in maintaining Quality management in your organisation?
- [ ] Implementing Quality management throughout the organisation
- [ ] Persuading employees the value of having quality
- [ ] Always maintaining the quality
- [ ] Updating the certification
- [ ] Others

12 Do you discuss quality related issues in the executives meetings?
- [ ] Yes
- [ ] No
13 If yes, what are the issues that you discuss in executives meetings about quality?
- Cost of non-conformance to quality
- Failure cost analysis
- Root-cause Prevention
- Performance appraisal

14 Do you practice the ‘internal customer’ concept in your organisation?
- Yes
- No
- Don’t know

15 If yes, what is the meaning given to the internal customer concept by your organisation?
- All the departments have a customer
- Selling is not always required
- Identifying and satisfying the customer is important
- Everyone within the organisation has a customer
- Others

16 What are the functions of R&D Department of your organisation?
- To develop new products
- To do value analysis
- To test the products
- To continually searching for product/process improvements
- Not applicable
<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>In your organisation new product design is developed by?</td>
<td>- A team from different departments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Its R&amp;D department’s duty</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- A team of employees from different departments plus the suppliers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Appoint consultants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Not applicable</td>
</tr>
<tr>
<td>18</td>
<td>In your organization, on what extent you upgrade the technology?</td>
<td>- On scheduled period on a continuous basis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- As value analysis demands</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Based on the expected investments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- If the existing technology is outdated</td>
</tr>
<tr>
<td>19</td>
<td>Does your organisation provide continuous training for employees in quality related matters?</td>
<td>Yes ☐ No ☐ Can’t comment ☐</td>
</tr>
<tr>
<td>20</td>
<td>If yes, What are the topics covered in the quality-training curriculum?</td>
<td>- Quality awareness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Process management and defect prevention</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Quality measurement and statistical methods</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Group dynamics and team building</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Others</td>
</tr>
<tr>
<td>21</td>
<td>What is the attitude of labour unions towards the quality initiatives and training?</td>
<td>Positive ☐ Neutral ☐ Negative ☐ Not applicable ☐</td>
</tr>
</tbody>
</table>
22 The type of employee training followed in your organisation; 
   On-the-job ☐ Off-the-job ☐ Both ☐

23 Do you provide feedback to the employees on their performance with respect to quality? 
   Never ☐ Occasionally ☐ Sometimes ☐ Often ☐

24 What is the change in employee satisfaction level after ISO 9000 certification? 
   ☐ Significant increase in employee satisfaction level 
   ☐ Marginal increase in employee satisfaction level 
   ☐ No change in employee satisfaction level 
   ☐ Marginal decrease in employee satisfaction level 
   ☐ Significant decrease in employee satisfaction level

25 Please specify the reasons for using statistical tools or techniques in your organisation; 
   ☐ For knowing cost of quality 
   ☐ To perform root-cause corrective action 
   ☐ To analyze the process quality 
   ☐ To compare desired level of quality performance with actual 
   ☐ Not applicable

26 Please mention the reason for practicing Ergonomics in your organisation; 
   ☐ To have a suitable work place for the worker 
   ☐ Proper machine and controls to reducing mental and physical strain 
   ☐ Proper work environment 
   ☐ People task and work organisation
27. What is the basis of selecting the suppliers in your organisation?
- [ ] Quality alone
- [ ] Least Cost
- [ ] Delivery time
- [ ] Cost, quality and delivery time
- [ ] Relationship with the suppliers

28. The relationship with the suppliers:
- [ ] End with the supply of the materials
- [ ] Will be maintained till a new design has been developed
- [ ] Will be maintained for that year of supply
- [ ] Will be maintained for longer time
- [ ] No special relationship

29. How do you develop your suppliers?
- [ ] Providing technical support to suppliers
- [ ] Providing financial support to suppliers
- [ ] Providing suppliers with our political/business influence to help them
- [ ] By giving supply orders without any bidding
- [ ] Not applicable

30. In your organisation, how do the subordinates consider superiors?
- [ ] Treating superiors as a “Boss’
- [ ] Treating superiors as a “Coach”
- [ ] Treating superiors as a “Team Member”
- [ ] Treating superiors as a “Friend”
- [ ] Only working relationship
31 What is your opinion on the extent to which the superiors lead in a way that is consistent with the aims of the organisation?
- Acceptance of responsibility for quality by major departmental heads
- Specificity of quality in companies' business plan
- Team building and group dynamics training for employees
- Involving in goal setting for quality
- Not applicable

32 Do you encourage employee suggestions in your organisation?
   Yes ☐ No ☐

33 Do you have a quality circle functioning in the organisation?
   Yes ☐ No ☐

34 If ‘yes’ please specify why your organisation encourages having a Quality circle?
   - To improve the employees morale
   - For product improvement
   - Supervisors will feel that they are being watched
   - To reduce the cost
   - Others

35 Is the multi-skilled workforce level of your organisation has been changed after ISO 9000 certification, please specify?
   - Significant increase in multi skilled work force level
   - Marginal increase in multi skilled work force level
   - No change in multi skilled work force level
   - Marginal decrease in multi skilled work force level
   - Significant decrease in multi skilled work force level
36. How do the employees report any working conditions that interfere with quality?
   - Report to the supervisor immediately
   - Report to the inspection or maintenance department immediately
   - Discuss the problem in the quality circle meeting
   - Afraid to report
   - Others

37. Is the labour efficiency level of your organisation has been changed after ISO 9000 certification, please specify?
   - Significant increase in labour efficiency level
   - Marginal increase in labour efficiency level
   - No change in labour efficiency level
   - Marginal decrease in labour efficiency level
   - Significant decrease in labour efficiency level

38. Do you have programs to develop teamwork?
   - Yes
   - No

39. If yes, please specify the programs?
   - Informal gathering outside the working hours
   - Company sponsored tours
   - Formal meetings
   - Training programs
40 Is there any change in supplier lead-time after ISO 9000 certification in your organisation?
   □ Significant increase in supplier lead-time
   □ Marginal increase in supplier lead-time
   □ No change in supplier lead-time
   □ Marginal decrease in supplier lead-time
   □ Significant decrease in supplier lead-time

41 Do you obtain customer feedback?
   Yes □ No □

42 If yes, How do you use customer feedback?
   □ For knowing the customer satisfaction level
   □ As a basis for improving the product
   □ For value analysis/ value engineering
   □ As a basis for developing new product
   □ Others

43 What is the change in customer satisfaction level after ISO 9000 certification in your organisation?
   □ Significant increase in customer satisfaction level
   □ Marginal increase in customer satisfaction level
   □ No change in customer satisfaction level
   □ Marginal decrease in customer satisfaction level
   □ Significant decrease in customer satisfaction level
44. Are your functional managers aware of the customer satisfaction survey results?

- Yes
- No

45. Is there any change in customer complaints after ISO 9000 certification of your organisation?

- [ ] Significant increase in customer complaints
- [ ] Marginal increase in customer complaints
- [ ] No change in customer complaints
- [ ] Marginal decrease in customer complaints
- [ ] Significant decrease in customer complaints

46. Does the sales and marketing people in your organisation consider quality as a saleable attribute?

- Yes
- No

47. Is there any change in the market share after ISO 9000 certification of your organisation?

- [ ] Significant increase in market share
- [ ] Marginal increase in market share
- [ ] No change in market share
- [ ] Marginal decrease in market share
- [ ] Significant decrease in market share

48. Is there any change in competitive position after ISO 9000 certification of your organisation?

- [ ] Significant increase in competitive position
- [ ] Marginal increase in competitive position
- [ ] No change in competitive position
- [ ] Marginal decrease in competitive position
- [ ] Significant decrease in competitive position
49 **Do you practice benchmarking in your organisation?**

- Yes [ ]
- No [ ]

50 **If you have adopted benchmarking in your organisation, what were the benefits?**

- [ ] Could convince the people the credibility of the targets
- [ ] Helped in Performance improvement
- [ ] Served as the basis for training
- [ ] Could improve customer expectation
- [ ] Could reduce cost and cycle time

51 **With whom do you benchmark?**

- [ ] Competitors in the same industry
- [ ] Award winners
- [ ] Organisations in different industry
- [ ] Companies in the same locality
- [ ] Not applicable

52 **Please specify the method of inspection practiced in your organization**

<table>
<thead>
<tr>
<th>Method of inspection</th>
<th>Raw materials</th>
<th>WIP</th>
<th>Finished goods</th>
<th>Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% screening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sampling</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Lot by lot inspection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process inspection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
53. Will your superiors appreciate the subordinates on their performance about quality?
   Yes ☐ No ☐

54. Do you display statistical evidence of change in quality in your organisation?
   Yes ☐ No ☐

55. Do you have a cell/forum to discuss and clarify the queries of the employees regarding quality?
   Yes ☐ No ☐

56. If yes please specify:
   ☐ Training programs
   ☐ Quality Circles
   ☐ Discussion with supervisor
   ☐ Others

57. In your organization what is the basis of work standard?
   ☐ Quality
   ☐ Quantity
   ☐ Time
   ☐ Others

58. Do you perform value analysis/value engineering in your organization?
   Yes ☐ No ☐

59. If yes, which are the areas in which you perform value analysis/value engineering?
   ☐ Rework
   ☐ Packaging
   ☐ Material substitution
   ☐ Process opportunities
   ☐ Internal Transportation
   ☐ Inspection and testing
   ☐ Warrantee
60 Is there any change in cost of production after ISO 9000 certification in your organization?
- [ ] Significant increase in cost of production
- [ ] Marginal increase in cost of production
- [ ] No change in cost of production
- [ ] Marginal decrease in cost of production
- [ ] Significant decrease in cost of production

61 Do you practice Total Productive Maintenance (TPM) in your organisation?
- [ ] Yes
- [ ] No

62 If yes, Please tick the relevant factors adopted by your organisation to maintain TPM?
- [ ] Adhering to schedules for Preventive maintenance
- [ ] Extensive analysis and prediction of equipment failures
- [ ] Making operators feel ownership and responsible for their equipments
- [ ] Only complex activities assigned to maintenance department
- [ ] Others

63 Is there any change in quality of work force level after ISO 9000 certification in your organisation?
- [ ] Significant increase in quality of work force level
- [ ] Marginal increase in quality of work force level
- [ ] No change in quality of work force level
- [ ] Marginal decrease in quality of work force level
- [ ] Significant decrease in quality of work force level
64 How does your organisation make the quality improvement initiatives visible for its stakeholders?

- By Organization wide notification
- Through slogans and posters
- Through advertisements
- By sponsoring quality related programs
- Others

65 Is there any change in delivery time after ISO 9000 certification in your organisation?

- Significant increase in delivery time
- Marginal increase in delivery time
- No change in quality of delivery time
- Marginal decrease in delivery time
- Significant decrease in delivery time
Appendix - 2

Interview Schedule

Dear Sir/Madam

This questionnaire is to study the role of Total Quality Management (TQM) in the ISO 9000 certified manufacturing organizations in Kerala. Your valuable views and opinion is highly important for the same. Any information collected will only be used for academic purpose. I assure you that all the information will be kept confidential.

Thank you
Mathew Joseph, Lecturer, MBA Dept., SB College, Changanasserry.

1 Name........................................................................................................
2 Designation...........................................................................................
3 Years of experience in this company...................................................
4 Is your company ISO 9000 certified?
   Yes ☐ No ☐
5 Do you think that your organisation is committed to quality improvement practices?
6 If yes, which way your Organization is committed to quality?
   ☐ By setting objectives for quality improvement
   ☐ Senior officers demonstrates the importance of quality
   ☐ By making long term plans for quality
   ☐ Continuously improving products/process
7 Please rank the following based on the importance given in your organization

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<td>Meeting schedule</td>
<td></td>
</tr>
<tr>
<td>Quality of process</td>
<td></td>
</tr>
</tbody>
</table>
8  Do you think that the money allocated for maintenance and improvement of quality is adequate?
   Yes ☐   No ☐

9  What is the schedule for workers meetings?
   ☐ Daily
   ☐ Weekly
   ☐ Monthly
   ☐ As necessary

10 Do you discuss quality related issues in your department meetings?
    Yes ☐   No ☐

11 If yes, What are the Quality issues that you discuss in meetings?
    ☐ Cost of non-conformance to quality
    ☐ Failure cost analysis
    ☐ Prevention of failures
    ☐ Appraisal of employees
    ☐ Others ……..

12 In your organization quality improvement is the responsibility of;
   ☐ Senior officers
   ☐ Middle level managers
   ☐ Supervisors
   ☐ Workers
   ☐ Everyone in the organisation

13 Have you received training about quality?
   Yes ☐   No ☐

14 If yes, What type of training you have in your organization?
   ☐ On-the-job training
   ☐ Off the job training
   ☐ Both

15 What are the topics in the quality training curriculum?
   ☐ Quality awareness
   ☐ Quality measurement
   ☐ Process management and defect prevention
   ☐ Statistics and statistical methods
   ☐ Others
16 What is the attitude of labour unions towards the quality initiatives and training by your organization?
   Positive ☐ Neutral ☐ Negative ☐

17 Do you receive feedback on your performance with respect to quality?
   Yes ☐ No ☐

18 If yes, have you utilized the feedback information for further improvement of your work?
   Never ☐ Occasionally ☐ Sometimes ☐ Often ☐

19 Do you document quality problems occurred during the work?
   Never ☐ Occasionally ☐ Sometimes ☐ Often ☐

20 Do you use Statistical Process Control tools or techniques in your work?
   Yes ☐ No ☐

21 If yes, for what purpose you use statistical Process Control tools or techniques in your work?
   ☐ For knowing cost of quality
   ☐ To perform root-cause corrective action
   ☐ To reward good performers
   ☐ To compare desired level of quality performance with actual
   ☐ Others.

22 Please tick the statistical tools that you use in your work
   Tools and techniques
   ☐ Flow charts
   ☐ Bar charts, pie charts,
   ☐ Control charts
   ☐ Fish-bone diagram
   ☐ Pareto diagram
   ☐ Others

23 Have you faced any problem with the quality of materials supplied to you for your work?
   Yes ☐ No ☐
24 What type of problem you faced with the materials supplied?
   - Quality
   - Quantity
   - Time delay
   - Others (specify)

25 Have you reported these problems to your supervisors?
   - Yes
   - No

26 Did the supervisor take necessary steps to correct the problem?
   - Yes
   - No

27 Did you get the same type of materials (brand) all the time for your work?
   - Yes
   - No
   - Can't comment

28 If No, a) Will the work is affected with the change in the type of materials supplied?
   - Yes
   - No

29 b) Please tick the relevant problems you face?
   - Needs more time to do the re work
   - Reduced quality of the finished product
   - Needs more materials to do the work
   - Should learn new techniques
   - Others

30 In your organisation, how do you consider your superiors?
   - Treating superiors as a “Boss”
   - Treating superiors as a “Coach”
   - Treating superiors as a “Team member”
   - Treating superiors as a “Friend”
   - Only working relationship with superiors

31 Have you ever made any suggestion relating to your work?
   - Yes
   - No

32 If yes, how did you made the suggestion?
   - Employee suggestion boxes
   - Employee suggestion cards
   - In the meetings
   - Online
   - Others (specify) ----
33 Are you a member of the quality circle functioning in the organisation?
   Yes ☐ No ☐

34 If yes, why have you joined in Quality circle?
   ☐ As a matter of pride in contributing to company’s progress
   ☐ For acquiring friends and creating good atmosphere
   ☐ For recognition and for improving social status
   ☐ Due to pressure from the superiors
   ☐ Others

35 In your organisation, do you think that different departments work for a common goal?
   Yes ☐ No ☐

36 In your organisation new product design is developed by;
   ☐ A team consists of members from different departments
   ☐ R&D department
   ☐ A team of employees from different departments plus the suppliers
   ☐ Appointing consultants
   ☐ Don’t know

37 Do you practice Total Productive Maintenance in your organisation?
   Yes ☐ No ☐

38 Please tick the relevant factors adopted by your organisation to maintain TPM;
   ☐ Schedules for Preventive maintenance must be adhered to
   ☐ Extensive analysis and prediction of equipment failures
   ☐ Making operators responsible and ownership of the equipments
   ☐ Only complex activities assigned to maintenance department
   ☐ Others

39 Do you think that you have enough authority to do the TPM in your organisation?
   Yes ☐ No ☐ Can’t comment ☐
40  Do you practice 5S methodology in your organisation?
    Yes ☐  No ☐

41  Do you have programs to develop communication/teamwork?
    Yes ☐  No ☐

42  If yes, please specify the programs;
    ☐ Informal gathering outside the work
    ☐ Company sponsored family tours
    ☐ Formal meetings
    ☐ Training programs
    ☐ Others (please specify)

43  In your organisation how do the management makes the quality
    improvement initiatives visible for its stakeholders?
    ☐ By announcing it in public
    ☐ Through slogans and posters
    ☐ Through advertisements
    ☐ Sponsoring quality related programs
    ☐ Others (specify)

44  Do you have displays showing numerical advantages of having
    improved quality in your organisation?
    Yes ☐  No ☐
Appendix - 3

List of organisations from which the primary data has been collected for this research

1. Hindustan Latex, Ltd., Thiruvanthapuram
2. Kerala Minerals and Metals Ltd., Kollam
3. Indian Rare Earths Ltd., Kollam
4. Traco Cable Company Ltd, Thiruvalla
5. Foam Matings (India) Ltd. Alappuzha
6. Cochin shipyard, Ltd., Ernakulum
7. Hindustan Organic Chemicals Ltd. Ernakulum
8. Bharath petroleum corporation, Ltd., Ernakulum
9. Fact Ltd, Aluwae
11. Safe Power Tecnologies P. Ltd. Ernakulum
12. KSE Ltd, Irinjalakuda
13. Malabar cements Ltd., Plakkad
14. KAMCO Ltd., Palakkad
15. Rubco Ltd, Kannur
16. Binani Zinc Ltd, Binanipuram
17. OEN connectors ltd, Mulamthuruthi
18. KKR group of companies, Ltd., Kaladi
19. Hindalco Industries Ltd. Ernakulam
20. Slipons India P. Ltd., Malappuram
21. Apollo Tyres Ltd. Thrissur
22. Kerala Feeds Ltd, Thrissur
23. Precot Meridian Ltd , Palakkad
24. Paragon Steels, Ltd., Palakkad
25. United Breweries Ltd, Palakkad
26. Rubfila International Ltd, Palakkad
27. Koyenco Feeds Ltd, Kozhikode
28. Baby marine exports, Kozhikode
29. Sulfex matteress Ltd, Kannur
30. Pankajakasturi Herbals India, Ltd., Thiruvanthapuram
31. English Indian Clays Ltd., Thiruvanthapuram
32. Tata tea ltd Munnar
33. Lunar Rubbers Pvt Ltd, Thodupuzha
34. MRF Ltd., Kottayam
35. Malayala Manorama, Kottayam
36. Synthite Industries Ltd, Kolencherry