



Q.P. Code : 730403

(3 hours)

Marks : 80

Note : 1) Q. No. 1 is compulsory

2) Attempt **any three** from the remaining question.

3) Support your answer with Flow charts, block diagram, figures wherever required.

4) Numbers in bracket to right hand side indicates the marks.

1. COMPULSORY (Any four)

- (a) List dimension of Quality 5
- (b) What is Quality Policy? Briefly explain with example 5
- (c) Explain Supply Chain with the help of Push- Pull View 5
- (d) DMAIC Cycle 5
- (e) Toyota Production System and Just in Time 5
2. (a) Complete the FMEA for Pop-Up Toaster (assume the data suitably & logically) 10
- (b) What is Acceptance Sampling Plan? With OC curve mark and explain following 10
- i) Acceptable Quality Level (AQL)
- ii) Lot Tolerance Per cent Defective (LTPD)
- iii) Acceptable Outgoing Quality Level
- iv) Producer's risk
- v) Consumer's risk
3. (a) What is cost of quality? Explain different types of cost of quality with examples. 10
- (b) What is Sporadic and chronic problems of quality? Also explain Management controllable defects & Operator controllable defects 10
4. (a) What is QFD? Where it is used? What are its structural elements? Briefly explain each element 10
- (b) What is Benchmarking? How it is applied for Business Process Re-Engineering? 10
5. **Write short note on**
- (a) KANO's Model 5
- (b) PDCA Cycle 5
- (c) Variable Chart & Attribute Chart 5
- (d) Process Capability & Capability Index 5

[TURN OVER]

6. (a) Overall System weight has to be reduced significantly as it did not pass the required test, on analysing following data was observed (see table), using Pareto Analysis Shortlist the items for analysis to reduce the weight. **10**

	Component	Weight Kg.
1	Wheel assembly	14.4
2	Motor	11.7
3	Handle	7.2
4	Base	16.2
5	Fluid	3.8
6	Cylinders	12.9
7	Pump	9
8	Valves	2.7
9	Fittings	1.4
10	Hose	1.8
11	Reservoir	0.9
12	Battery	18

- (b) What is Reliability & Durability? Explain with reliability curve (bath tub curve). Also explain Mean Time To Failure and Mean Time Between Failure **10**
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