

Roll No.

Total No. of Pages : 02

Total No. of Questions : 16

B.Tech. (Ind. Engg. Spl. in TQM) (Sem.-7)

**SIX SIGMA**

Subject Code : IEM-701

M.Code : 71695

Time : 3 Hrs.

Max. Marks : 40

**INSTRUCTIONS TO CANDIDATES :**

1. Attempt All EIGHT questions from SECTION-A carrying TWO marks each.
2. Attempt any SIX questions out of EIGHT from SECTION-B carrying FOUR marks each.

**SECTION-A**

Answer briefly :

1. Define Six Sigma. What do you see as the evolution of Six Sigma?
2. What are the define phase deliverables?
3. What is tollgate review? Who should attend tollgate meetings?
4. Differentiate between null hypothesis & alternative hypothesis.
5. How do organizations measure and provide statistical evidence of an improvement?
6. How do organizations assess the adequacy of risk mitigation plans?
7. What is the difference between DMAIC and DMADV in Six Sigma?
8. Write short note on integrating Six Sigma with Lean philosophy.

**SECTION-B**

9. What is DMAIC methodology and why is it important to Six Sigma?
10. Why do we need SIPOC in process improvement? Explain 7 steps to create SIPOC diagram in Six Sigma.
11. Describe the elements of a process map used for evaluating the current state of a system.
12. Discuss the FMEA method for analysis of root causes of defects giving a suitable example.
13. What is design of experiments (DOE)? What are the steps involved in structured design of an experiment?
14. How do organizations institutionalize change into quality system?
15. What is DFSS? What are the five phases of a DFSS project? Explain them briefly.
16. Describe best practices in Six Sigma. How six sigma initiatives can be sustained in an organization?

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