

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 140855

Roll No.

--	--	--	--	--	--	--	--	--	--

B.Tech.

**(SEM. VIII) THEORY EXAMINATION 2013-14
SIX SIGMA METHODS AND APPLICATIONS**

Time : 3 Hours

Total Marks : 100

Note :- (i) All questions are compulsory.

(ii) Be precise in your answers.

1. Attempt any **four** parts of the following : **(5×4=20)**
 - (a) What is your perception about quality ? Explain in detail.
 - (b) How do you visualize quality in the service sector ?
 - (c) Comment on the role of statistics in quality control and improvement.
 - (d) Describe the success which Six Sigma has brought to some organizations.
 - (e) Differentiate between Normal and Binomial distribution.
 - (f) Differentiate between TQM and Six Sigma.
2. Attempt any **four** parts of the following : **(5×4=20)**
 - (a) Elaborate the basic concepts of Six Sigma.
 - (b) Who are " Black Belt" ? Explain their role in a Six Sigma Organisation.
 - (c) What do you understand by DPMO and DPU ?

- (d) Explain the role of Six Sigma in an organisation providing Service.
- (e) Who are Green Belts ? What is their role in a Six Sigma Organization ?
- (f) What are the functions of Leadership council in a Six Sigma Organisation ?
3. Attempt any **two** parts of the following : (10×2=20)
- (a) Describe what is DFSS. Comment on DFSS as an approach to design. DFSS versus DMAIC Discuss.
- (b) Discuss the methodologies of Six Sigma. Also elaborate the advantages and disadvantages associated with each.
- (c) Elaborate the general guide lines for project selection in Six Sigma. What are the elements of a good Six Sigma project.
4. Attempt any **two** parts of the following : (10×2=20)
- (a) Describe the concept and principles of " Measurement Systems Analysis ". What are the factors effecting measurement systems ?
- (b) What is statistical hypothesis testing ? Explain. Describe the entire testing process in detail. List the uses and importance of stastical hypothesis testing.
- (c) Introduce what is Project Charter ? Define the role of Project Charter. Elaborate elements of Project Charter. What are the benefits of Project Charter ?

5. Attempt any **two** parts of the following : (10×2=20)
- (a) Discuss use of Six Sigma as a tool for substance of a project. Elaborate a few Communication strategies for Six Sigma initiatives.
- (b) List and introduce different software packages used for Six Sigma. Describe different features of Minitab in detail.
- (c) Elaborate organizational culture and quality practices in Six Sigma . Give a brief review of reinforcement and control procedures.