Reg. No.



## MANIPAL INSTITUTE OF TECHNOLOGY

(A constituent unit of MAHE, Manipal)

#### **II SEMESTER M.TECH (CEM)**

#### END SEMESTER EXAMINATIONS [Apr/May 2019]

### SUBJECT: Construction Quality Management (CIE -5233)

Date of Exam: 29/04/2019 Time of Exam: 9 am to 12 pm Max. Marks: 50

#### Instructions to Candidates:

- ✤ Answer ALL the questions.
- ✤ Missing data may be assumed suitably.

1A.	Explain 'cost of quality' with the help of a neat sketch.						
1B.	Write a short note on : (i) Poka - yoke (ii) Shingo model						
2A.	In a certain type of glass bar, the fracture stress was measured twelve times. Construct a histogram and comment on the distribution shape. $\begin{array}{ c c c c c c c c c c c c c c c c c c c$	04	CO2				
2B.	Explain the structure of a TQM axiom and its interrelationships.						
2C.	Linearity has four parameters in the scatter diagrams. Explain.						
3A.	Write a short note on : (i) Deming's cycle (ii) Quality assurance						
3B	Twenty samples of $n=200$ were taken by an operator at a workstation in a production process. The number of defective items in each sample were recorded as follows.						

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	Sample	No. of	р	Sample	No. of	p			
		defectives			defectives				
	1	12	0.060	11	16	0.080			
	2	18	0.090	12	14	0.070			
	3	10	0.050	13	12	0.060			
	4	14	0.070	14	16	0.080			
	5	16	0.080	15	18	0.090			
	6	19	0.095	16	20	0.100			
	7	17	0.085	17	18	0.090			
	8	12	0.060	18	20	0.100			
	9	11	0.055	19	21	0.105			
	10	14	0.070	20	22	0.110			
	Management wants to develop a p - chart using 3 – sigma limits. Set up the p-chart								
	and plot the observations to determine if the process was out of control at any point.								
4A.	What are the elements of an effective QMS?							CO4	
	Mention any six differences between TQM & Process redesign with reference to the key parameters.						03	CO3	
4B.									
40	Europein quality function deployment with an even place showing all the start								
40.	Explain quality function deployment with an example snowing all the steps.								
5A.	What are the objectives of Six sigma? Explain in brief the DMAIC process.							CO4	
	Write a short note on :							CO3	
5P							06	&	
JD.	(i) Kanban system								
	(11) ISO 9000 series							CO5	