Total No. of Questions : 12]

SEAT No. :

P723

[Total No. of Pages : 4

[4659] - 11

B.E. (Civil)

TQM AND MIS IN CIVIL ENGINEERING

(Semester - I) (2008 Pattern) (Elective - II (c))

Time : 3 Hours] *[Max. Marks : 100*

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 from Section - I and questions 7 or 8, 9 or 10, 11 or 12 from Section - II.***
2) ***Answers to the two sections should be written in separate books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.***
6) ***Assume suitable data, if necessary.***

SECTION - I

Q1) a) Explain any 3 definitions of quality with proper examples from the construction sector. **[9]**

b) Enlist any 9 reasons for poor quality of construction on a project. **[9]**

OR

Q2) a) Discuss the challenges faced on a construction project, due to globalization. **[9]**

b) Enlist any 9 measures to be adopted by a manager for improving quality of construction. **[9]**

Q3) a) Differentiate between a process based approach and a product based approach with proper examples. **[4]**

b) Differentiate between QA and QC with proper examples. **[4]**

c) Discuss importance of checklists in construction of an RCC item of footing, with examples. **[8]**

P.T.O.

OR

Q4) a) Explain with examples : **[8]**

i) Leadership from top management.

ii) Customer delight

iii) Decision making based on facts.

iv) Reciprocal supplier relationships.

b) Explain what type of documentation is necessary in order to achieve an ISO 9001 certification for a construction organisation building multistoreyed buildings. **[8]**

Q5) a) Define TQM and explain short term and long-term objectives. **[8]**

b) Determine the six sigma level for a concreting activity based on the following data : **[8]**

Sr No.	Quantity of concrete cast (m^3)	Defective work (m^3)
1	200	90
2	150	20
3	180	35
4	220	105
5	160	45
6	190	75
7	155	25
8	175	80
9	210	50
10	215	25

What steps do you suggest to improve the sigma level? Explain.

OR

Q6) a) Discuss advantages of implementing TQM principles in the construction sector with examples. **[8]**

b) What is 6 sigma? How are the sigma levels decided? Why 6 sigma is a useful tool in management? Explain. **[8]**

SECTION - II

Q7) a) Define Management Information System (MIS) and with help of a diagram, explain the 5 information system resources which any MIS handles. **[10]**

b) With any practical example, explain the 3 basic interacting components of a dynamic system. **[8]**

OR

Q8) a) Define a system. Explain various subsystems of MIS with practical examples from construction organisations. **[10]**

b) Explain the basic foundation concepts of information systems and technologies with examples. **[8]**

Q9) a) Explain how the PRRT software will help the management activity of quality assurance as a part of the project site operational control mechanism, in detail. **[10]**

b) Explain use of an MIS in the strategic planning of a contractor's organisation, executing township projects. **[6]**

OR

Q10) a) Explain how the PRRT software will help for achieving management control on rework associated with a building construction project in detail. **[10]**

b) Explain MIS structure consisting of Internet, Intranet and Extranet for managing e-business operations and e-commerce with help of a flow chart. **[6]**

Q11) a) With a diagram, explain the framework which outlines the major areas of information based support system knowledge needed by business professionals, in detail. **[10]**

b) Explain the ERP software as an MIS used by construction organisations mentioning various features of the same. **[6]**

OR

Q12) a) Discuss advantages of ERP softwares used by the construction organisations executing township building projects, by giving proper examples. **[10]**

b) Explain the type of information necessary to develop an MIS for a construction organisation constructing a bungalow, in order to increase the sales. **[6]**