Total No. of Questions : 10]

SEAT No. :

P3925

[Total No. of Pages : 3

[4859]-1011
B.E.
TQM &MIS IN CIVIL ENGINEERING (Elective - II)
(2012 Pattern)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Ans Q1or Q2, Q3or Q4, Q5or Q6, Q7or Q8, Q9or Q10.***
2) ***Figures to the right indicate full marks.***

Q1) a) With examples, explain any 2 definitions of quality and highlight the need for obtaining quality in a construction project. **[5]**

b) As a project manager, explain any 5 important measures which you recommend so as to improve the quality of materials used in the construction project. **[5]**

OR

Q2) a) Explain with examples how the entry of the multinational construction companies (MNC'S) in the Indian Construction Business Market has impacted i) Quality of project in terms of the materials systems & processes to be used, and ii) Customer requirements. **[5]**

b) As a quality manager, explain any 5 important major causes of absence of quality on construction projects which you have observed. **[5]**

Q3) a) Explain "Rework" and "Scrap" with proper examples and suggest how you can avoid them. **[2+2+1=5]**

b) Highlight obstacles in implementation of TQM in the Indian construction sector. **[5]**

OR

Q4) a) Discuss how six sigma is an important tool in benchmarking, measuring and improving quality of concreting activity. **[5]**

b) Discuss importance of deming's PDCA cycle with proper examples. **[5]**

P.T.O.

Q5) a) Elaborate with examples the difference between:

i) Quality and Quality plan

ii) Quality control and Quality Assurance

iii) TQC and TQM

iv) Conformity and NCR

v) Kaizen and continual improvement. **[10]**

b) Explain with examples the eight, ISO 9001 Quality Management System Standards used by construction organisations. **[8]**

OR

Q6) a) Explain in brief any 5 important documents which are a part of the contractor's quality manual, used by an ISO 9001 certified firm. **[10]**

b) What is a concrete pour card? How is it used? Which are the parameters which are necessarily mentioned in the pour card and checked, before permitting the concrete pour? Explain. **[2+2+4=8]**

Q7) a) Differntiate between strategic planning, Management control and operational control with suitable exampels and elaborate on how these differences need to be incorporated in framing the MIS, in order to have an effectiveness in the company's long term as well as short term management. **[8]**

b) Explain in detail the "costing of poor quality" approach which you would adopt so as to convince the top management that "quality improvements are certainly needed, in case of the following defects:

i) In majority of floor slabs and beams, the structural steel reinforcement is significantly enposed and corroded. **[4]**

ii) Toilet slabs waterproofing is improper. **[4]**

OR

Q8) a) With respect to the Concreting activity, Set the benchmarks for the following requirements,

i) Acceptance/rejection criteria for compressive strength and tensile strenght of Mix M45. **[2]**

ii) Water tightness of formwork used in self compacting concrete. **[2]**

iii) Dimensional accuracies for length, breadth, heights of beams/ columns concrete. **[2]**

iv) Minimum weight per unit length and minimum actual cross-sectional dia/ area for any particular reinforcement bar. **[2]**

b) What is SCM? How is it used in TQM? What are its advantages? Explain with proper examples from a construction work. **[2+2+4=8]**

Q9) a) Explain in brief the contents of any 4 modules used in the ERP of a construction organisation. **[8]**

b) Explain the role of a smart phone in the documentation as well as the control of resources used and activities/works enecuted, for quality reporting and enhancement, with proper examples. **[8]**

OR

Q10 Discuss advantages and limitations of

a) ERP systems/ softwares used in construction **[4]**

b) PRRT software used for Rework **[4]**

c) GIS use in MIS of a construction organisation **[4]**

d) GPS use in Materials and project tracking as well as control. **[4]**