



RM-7785

B. E. IV (Sem. VIII) (IC) Examination

May / June – 2010

Project Planning Estimation & Quality Systems

Time : 3 Hours]

[Total Marks : 100

Instruction :

(1)

नीचे दशावलि निशानीवाणी विगतो उत्तरवडी पर अवश्य दपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="B. E. 4 (Sem. 8) (IC)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="Project Planning Estimation & Quality Systems"/>	<input type="text"/>
Subject Code No. : <input type="text" value="7"/> <input type="text" value="7"/> <input type="text" value="8"/> <input type="text" value="5"/>	<input type="text"/>
Section No. (1, 2,.....) : <input type="text" value="1&2"/>	
Student's Signature	

- (2) Answers to each section must be written in separate answer books.
- (3) Figures to the **right** indicate maximum marks.
- (4) Draw neat figure wherever required.

SECTION - I

Q-1 Answer the short questions.

- i. List out the major events that the instrument project schedule may contain. (2)
 - ii. Brief about instrument identification system. (2)
 - iii. List out important consideration for location of taps for analytical instruments. (2)
 - iv. How ignition or explosion may take place in case of liquid, gas and dust? (3)
 - v. Brief about Instrument Index sheet. (3)
- Q-2(a) Brief about methods of sealing, construction material for instruments, packaged equipment systems & mounting methods. (8)
- (b) Give comparison between Pneumatic instruments & Electronic instruments. (8)

OR

- (a) Give classification of hazardous area according to NEC standard. Brief about the recommended methods used for instrumentation systems. (8)
- (b) List out the factors required to be taken care at the time of instrument design. Give some design guide lines for 'Pressure measurement'. (8)
- (c) Give design guideline for 'Level Measurement'. (6)

Q-3(a) Brief about project procedure. Also discuss issues related with project schedule in context of instrumentation engineer. (8)

(b) Give some useful planning hints that should be followed during the job execution. (8)

OR

Q-3(a) Why Instrument specification sheets are designed? Explain Instrument specification sheet in detail with suitable example. (8)

(b) Why work co-ordination with other groups or people is required by project instrument engineer to execute project? How process, equipment, structural & civil, and electrical people can help to project instrument engineer? (8)

SECTION II

Q-4 Answer the short questions.

i. Distinguish ISO 9000 & IS- 10012 standards. (2)

ii. Which computation methods are used for determining the earliest expected time TE and latest expected time TL? (2)

iii. Define following terms related with Network planning technique : i) Network diagram / Arrow diagram ii) critical path (2)

iv. Calculate level transmitter range for bubbler application as per the detail given below: (3)

Vessel: sump Dimensions: 8'-0" (8 feet) ,
Measuring device: bubble pipe with end 6" above the bottom
Maximum level: 7 feet 6 inch
Liquid: water Temperature: 98°C

v. Explain the terms: (3)

- i) Optimistic time (a)
- ii) Pessimistic time (b)
- iii) Most likely time (m)

Q-5 (a) Discuss check list of good installation practices (8)

(b) Why loop checking is carried out before start up of plant? Explain typical check out procedure for 'control valve'. (8)

OR

(a) Brief about the problems faced during the 'start up' of plant (8)

(b) Explain typical check out procedure for 'Filled system' temperature transmitter. (8)

(c) What is IS -10012? How traceability to international standard is achieved for any measuring instrument? State the importance of Q.W.I. & History card. (6)

Q-6 (a) A vertical cylindrical tank contains two liquids with specific gravities of 0.82 and 0.70. The maximum level difference between two liquid that is required to be measured is 5 feet. It is decided to use D.P. transmitter along-with two bubbler pipes should be used to measure liquid interface. Sketch a neat figure and calculate the D.P. transmitter range and span and also comment about zero suppression and zero elevation requirement. (6)

(b) Discuss the sources of error in measurement system. How their effect is minimized? (6)

(c) Explain 'Activity Float Analysis'. (4)

OR

Q-6(a) Describe, with the help of a diagram, the procedure to arrive at the critical path in a PERT network. (6)

(b) State the 'Fulkerson's Rule' of event labeling. Explain it with an example. (4)

(c) For the given network below, find the probability of critical path being completed in (6)

(i) 25 days

(ii) 17 days?

(Probability for $Z=2.06$ is 0.9803)

