

Total No. of Questions : 12]

SEAT No. :

**P877**

[Total No. of Pages : 2

**[4659]-334**

**B.E. (Instrumentation and Control)  
PROJECT ENGINEERING AND MANAGEMENT  
(2008 Pattern) (Semester-I)**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates:*

- 1) *Answer 3 questions from Section-I and 3 questions 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 the co-ordination activities between electrical, mechanical and safety department with instrumentation department in a project. [8]

b) What is project management? Explain role of project manager. [8]

OR

**Q2) a)** What is organizational structure? Draw an organizational structure for any consultancy firm. [8]

b) Write a short note on the various agencies involved in instrumentation type of projects and their interaction involved in Project statement. [8]

**Q3) a)** Write the differences between PERT and CPM methods. In R & D types of project which method is preferred? [8]

b) Steps for project planning and control system. [8]

OR

**Q4) a)** Write a short note on project management software Primavera. [8]

b) What are the various project life cycle phases. Explain Divestment phase in detail. [8]

**Q5) a)** Prepare Technical specification sheet in s-20 format (any two): [10]

i) Pressure Guage.

ii) Turbine flowmeter.

iii) Oxygen analyser.

*P.T.O.*

- b) Explain what is P & I diagram. Draw the P & I diagram for boiler with: [8]
- i) Three element level control.
  - ii) Fuel air ratio control.
  - iii) Steam temperature control.

OR

- Q6)** a) What is material balance sheet? Explain with example. [9]  
b) What are the various standards used in instrumentation project. Explain in detail. [9]

### **SECTION-II**

- Q7)** a) What are the selection criteria of cables for various applications? [8]  
b) Draw installation sketch of thermowell. [8]

OR

- Q8)** a) List different types of cables and write their specifications. [8]  
b) What is loop wiring diagram? Draw a loop wiring diagram of level control loop. [8]

- Q9)** a) What is purchase order? Explain with example. [4]  
b) What is commissioning? Explain in detail. What are the various documents required during commissioning? [12]  
c) What is cable tray? [2]

OR

- Q10)** a) What is final bid package? Explain in detail. [9]  
b) What are the procurement activities involved in project? Explain step by step. [9]

- Q11)** a) Prepare inquiry, quotation, Purchase order and inspection report for a control panel (for a process three element drum level control). [12]  
b) Write a short note on breakfront control panel. [4]

OR

- Q12)** a) Prepare a FAT for a control panel (for a process three element drum level control). [8]  
b) Write a short note on consoles. [8]

