Q.4   Discuss about Instrumentation drawing of a power plant in detail.

Q.5   Discuss classification of PCB & specify their advantages and disadvantages.

Q.6   Draw the sketches of phneumatic process controllers and explain them.

Q.7   Draw schematic diagram of single acting cylinder, double acting cylinder and shuttle valve.

4th Sem. / I.C.

Subject : Instrumentation Drawing

Time : 3 Hrs.   M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts.   (15x2=30)

Q.1   a)   Draw symbol of variable resistance.

b)   Draw symbol of LED.

c)   Draw symbol of valve.

d)   Draw Block diagram for process.

e)   Draw symbol of actuator.

f)   Write full form of PCB.

g)   What is wiring diagram?

h)   Installation.

i)   Write full form of MCB.

j)   P.I stands for _____.

k)   Draw symbol of phneumatic relay.

l)   Draw symbol of Triac.

m) Colour coding of lines.

n)   Transducer.

o)   Symbol of step up transformer.

p)   Symbol of relay.

q)   Sol - sol valve stands for _____.

r)   Flow chart.

SECTION-B

Note: Short answer type questions. Attempt any ten parts   10x4=40

Q.2 i)   Write short note on schematic symbols.

ii) How electronics symbols are useful to us?

iii) Draw various line symbols.

iv) Differentiate between wiring diagram and blow up diagram.

v)   Describe points of check list for good installation procedure.

vi) Draw flow chart of power plant.

vii) Differentiate between single sided and double sided P.C.B.

viii) Draw sketches of different types of control valves.

ix) Draw schematic diagram for SOL - SOL valve and phneumatic relay.

x)   Discuss PCB layout designing.

xi) Explain Instrument identification.

xii) Draw schematic diagram of various hydraulic components.

xiii) Draw any five electronic symbols.

xiv) Draw sketches of different control valves.

xv) Discuss line symbols.

SECTION-C

Note: Long answer type questions. Attempt any three questions.   3x10=30

Q.3 Discuss in detail about schematic symbols with different examples.