Q.6 Explain Case study of sugar plant controller in detail.

Q.7 Write short note of any two:

i) OP-Amps.

ii) Applications of Analog Data Acquisition.

iii) Multiplexers and Demultiplexers.

No. of Printed Pages : 4
Roll No. .....

031561

6th Sem. / I&C / E&I

Subject : C.A.I. (Computer Aided Instrumentation)

Time : 3 Hrs. M.M. : 100

SECTION-A

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

Q.1 a) Control System.

b) Instrumentation amplifier.

c) Lab View.

d) ISA Bus.

e) Power Plant.

f) Event Triggering.

g) ADC.

h) RS232.

i) Multiplexer.

j) Graphical programming.

k) Counter.

l) Digital Input-Output.

m) Transducer.

n) Data acquisition.

o) Parallel Port.

p) Interfacing.

q) Controller.

r) Installation.

SECTION-B

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

Q.2 i) How data acquisition card is used in Industrial Measurement?

ii) Discuss PC based Instrumentation.

iii) Explain how USB port can be used as input port.

iv) Discuss main features of Opto Input / Output card.

v) How sensors and transducers are configured using Softwares?

vi) Discuss importance of signal conditioning in Computer based measurements.

vii) Explain different simulation packages in brief.

viii) How serial port is interfaced with Computer/ Devices?

ix) Explain GPIB in brief.

x) Draw block diagram of Analog Data Acquisition Card.

xi) Explain the concept of Instrumentation amplifiers.

xii) Write advantages of Computer based Instrumentation.

xiii) Draw block diagram of Digital to Analog converter.

xiv) How Parallel Port works as an Output Port?

xv) How Computer based instrumentation is used in process control Applications?

SECTION-C

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

Q.3 What is Graphical Programming? Explain the concept of Lab View package in detail.

Q.4 How real time interfacing is carried out using different I/O Buses?

Q.5 Explain in detail PCL-225 digital I/O Card.