Q.34 Explain the different timer modes available in 8051.

Q.35 Explain Timer on-delay instruction with an example.

Section D

Note: Long answer Questions. Attempt any two Questions out of three Questions. (2x10=20)

Q.36 Which are the different programming languages in PLC? Explain in brief.

Q.37 What are the different addressing modes available in 8051? Explain them with example.

Q.38 Explain the function of different special function of resistors used in interrupt system in detail.

Roll No.....

Elect. Eltx., Mecatronics, GE, Power Station Engg.
Subject : PLCs & Microcontrollers/Mic. Cont & PLCs

Time : 3 Hrs. **M.M. : 100**

SECTION-A

Note : Multiple choice questions. All questions are compulsory. (10x1=10)

Q.1 Ladder logic has been developed to mimic _____ logic.

a) Drives b) Instruction
c) Relay d) Register

Q.2 Which of the following are the applications area of PLC.

a) Chemical Batching b) Petrochemical
c) Power Generation d) All of mentioned

Q.3 Basic instruction of PLC

a) Bit instruction b) Timer instruction
c) Counter instruction d) All of above

Q.4 Which of the following is not a part of power supply of PLC

a) Rectifier b) Regulator
c) RAM d) Transformer

Q.5 XIO instruction is

a) Examine if output b) Examine if open
c) Examine if out d) None

Q.6 8051 timer can operate in _____ no. of modes.

a) Four b) five

c) Six d) Seven

Q.7 Which of the following are building blocks of PLC

a) CPU b) Power Supply

c) I/O d) All of above

Q.8 Before PLC which equipment's were used in automation industry

a) Electromagnetic relay b) Solid state relay

c) Switchs d) None

Q.9 Full form of DIV instruction

a) Divide b) Divisible

c) Divider d) Divine

Q.10 Toff is

a) Timer on delay b) Timer off delay

c) Both d) None

Section-B

Note: Objective types Questions. All Questions are compulsory. (10x1=10)

Q.11 Expand ALE is microcontroller.

Q.12 Expand UART.

Q.13 What is pipelining.

Q.14 Define maskable interrupt.

Q.15 Expand PLC.

Q.16 _____ instruction copies from one list to another in plc.

Q.17 Expand RTC.

Q.18 Write any two Boolean instruction used in PLC ladder programming.

Q.19 Define assembler.

Q.20 Define sequencer.

Section-C

Note: Short answer type Questions. Attempt any twelve Questions out of fifteen Questions. (12x5=60)

Q.21 What are the limitation of relays.

Q.22 List the building block of plc and write their functions.

Q.23 Write and explain any five different comparison instruction.

Q.24 Explain the operation of PLC.

Q.25 What is self holding relay. Explain it with ladder diagram.

Q.26 Explain any three math instruction of PLC.

Q.27 What do you mean by counters. Explain different types of counters in PLC.

Q.28 Draw a pin diagram of a 8051 microcontroller.

Q.29 Write down the concept of PLC.

Q.30 Explain the memory organization of 8051.

Q.31 How a micro-controller differ from microprocessor?

Q.32 List different special function registers of 8051.

Q.33 What do you mean by maskable and non-maskable interrupts?