Q.30 Explain the process of transferring code into a
      microcontroller   (CO5)
Q.31 Briefly explain reliability of an embedded system
                                                 (CO2)
Q.32 How is instruction pipelime implemented in PLC
                                                 (CO3)
Q.33 Explain briefly RTOS   (CO2)
Q.34 Write short note on cross compiler   (CO5)
Q.35 Explain the connection of 7 segment display with a
      microcontroller   (CO4)

SECTION-D

Note: Long answer type questions. Attempt any two questions out
      of three questions.   (2x10=20)
Q.36 Compare 8051 and PIC microcontroller   (CO3)
Q.37 With a neat sketch explain the block diagram of AVR
      Microcontroller   (CO3)
Q.38 Explain the steps involved in interfacing a
      microcontroller with a relay and a sensor (CO4)

Note: Course Outcome (CO) mentioned in the
question paper is for official purpose only.

6th Sem / Eltx
Subject:- Embedded Systems

Time : 3Hrs.   M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory
                                                 (10x1=10)
Q.1   The largest value that can be loaded in an 8 bit register is ?
                                                 (CO1)
      a) 1111111b   b) FFH
      c) Both of the above d) None of the above
Q.2   How many timers are available in PIC 16F874A
      microcontroller   (CO3)
      a) 1   b) 2
      c) 3   d) 4
Q.3   Full from RISC is   (CO2)
      a) Reduced instruction set compliment
      b) Reduced instruction set component
      c) Reduced instruction set computers
      d) Refined instruction set components
Q.4   Which convention is used for storing a multibyte data in AVR
                                                 (CO2)
      a) Big endian   b) little endian
      c) Small endian   d) Medium endian

Q.5   "ADD R16, R4" will store the result in   (CO3)
      a) R16   b) R3
      c) Accumulator   d) None of the above

Q.6 PIC microcontroller resets when the operating voltage falls below a predefined voltage. This is due to the feature (CO3)
a) Built in reset   b) Brown out reset
c) Blue in reset   d) None of the above

Q.7 Size of SRAM in A Tmega 16 is   (CO3)
a) 512 bytes   b) 1024 bytes
c) 2048 bytes   d) 4096 bytes

Q.8 Which timer/s possess an ability to prevent an endless loop hanging condition of PIC   (CO3)
a) Power- Up Timer (PWRT)
b) Watchdog Timer (WDT)
c) Oscillator Stat-up Timer (OST)
d) All of the above

Q.9 Solid -state relays are preferred over eletromechanical relays because   (CO3)
a) they need less voltage to be energised
b) they need zero voltage circuit
c) they need less current to be energised
d) none of the mentioned

Q.10 Which part of the software is transparent to interrupt mechanism   (CO4)
a) background   b) foreground
c) lateral ground   d) none of the above

SECTION-B

Note: Objective type questions. All questions are compulsory.
(10x1=10)

Q.11 The GPRs together with SRAM and Registers are called ___
(CO1)

Q.12 The Flag register in AVR is of 16 bit. (True/False)   (CO3)

Q.13 The other name of Assembly directives is_____   (CO1)

Q.14 The first opcode of AVR Program is stored at ____address.
(CO3)

Q.15 Define the little endian convention used in microcontrollers.
(CO2)

Q.16 Full form of RTOS is _____   (CO1)

Q.17 Full form of PIC is _____   (CO3)

Q.18 The maximum memory available on PIC16F877A is _____
(CO3)

Q.19 A microcontroller is called a computer on a chip. (True/False)
(CO1)

Q.20 The standard I/O memory space in AVR is ____bytes
(CO3)

SECTION-C

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

Q.21 List five applications of embedded system in daily life
(CO1)

Q.22 Briefly explain the use of emulator   (CO5)

Q.23 Explain the status register of AVR   (CO3)

Q.24 How is a register bank is selected in PIC microcontroller
(CO3)

Q.25 Differentiate among Von Neumann and Harvard architecture of microcontroller   (CO2)

Q.26 With a neat sketch explain the embedded system architecture
(CO1)

Q.27 Explain briefly the criterion for selecting a particular microcontroller   (CO1)

Q.28 Differentiate between macros and subroutine used in embedded system   (CO2)

Q.29 Explain the structure of program memory in PIC microcontroller   (CO3)