

Final Term Examination – Spring 2005
Time Allowed: 150 Minutes

Please read the following instructions carefully before attempting any of the questions:

1. Attempt all questions. Marks are written adjacent to each question.
2. Do not ask any questions about the contents of this examination from anyone.
 - a. If you think that there is something wrong with any of the questions, attempt it to the best of your understanding.
 - b. If you believe that some essential piece of information is missing, make an appropriate assumption and use it to solve the problem.
 - c. Write all steps, missing steps may lead to deduction of marks.
3. Exam is Closed Book. No handouts or extra material is allowed in exam hall other than rough sheet which will be provided by the examiner.

****WARNING: Please note that Virtual University takes serious note of unfair means. Anyone found involved in cheating will get an `F` grade in this course.**

Total Marks: 100

Total Questions: 07

Question No. 1

Marks : 15

Given a 16-bit parallel output port attached with the FALCON-A CPU as shown in the figure below. The port is mapped onto address DEh of the FALCON-A's I/O space.

Write a note on complications related to pipelining.

Question No. 6

Marks : 15

Convert the following decimal numbers to IEEE single precision floating- point numbers. Report the results as hexadecimal values. You need not extend the calculations of the significant value beyond its most significant 8 bit.

+0.875

Question No. 7

Marks : 10

A magnetic disk has an average seek time of 8 ms. The transfer rate is 50 MB/sec. The disk rotates at 10,000 rpm and the controller overhead is 0.3 msec. Find the average time to read or write 1024 bytes.
