**IT231 – Final Exam  
March 15, 2010**

**Part A: Multiple Choice and Short Answer Questions.** Choose the correct answer for each question. Give an optional reason for each answer. 5 points each. Do only 12 out of 13 questions.

1. What notation is usually used for the name of the controller class name in the first line of the controller file.?  
   a. All caps with dashes between words b. Courier Font  
   c. Upper case with underscores d. Upper camel casing
2. Which of these is ***NOT*** a reason that your Rails web project might not work?  
   a. You didn’t save your source code in JEdit after fixing your last error.  
   b. You didn’t shutdown and restart the rails server after fixing your last error.  
   c. You forgot to include a POST route for the target action of a form submit.  
   d. You omitted the @ prefix for the variable name of a variable that you use on a view   
    page.
3. What does REST mean?  
   a. Rails Entity Semantics Table b. Remainder from integer division.  
   c. Representational State Transfer. d. Ruby Embedded System Trace
4. Which of these choices is ***NOT*** an example of DRY? Pick the best choice.  
   a. Creating an uninitialized model object.   
   b. Putting code in application.html.erb.  
   c. Using a helper function that is called more than once.  
   d. Using a layout page that applies to multiple pages.
5. If the model name is Student, where are validations placed?  
   a. **app/controllers/student\_controller.rb** b. **config/routes.rb**   
   c. **app/views/student/index.html.erb**  d. **app/models/student.rb**
6. Which line of code deletes all the lines in the Students database table?  
   a. **Student.delete\_all**  b. **Students.delete\_all**b. **Student.remove\_all** d. **Students.remove\_all**
7. What does this controller line do, assuming that the model name is **Entry**?  
   **@a = Entry.new(params[:entry])**a. Creates an array containing all Entry objects in the database table.b. Creates an object that represents the first row in the database table.c. Creates an object that represents a new row in the database table, using values from   
    the controls on the submitted form.  
   d. Creates an uninitialized object that represents a new row in the database table that   
    will be filled in later with values from the controls on a form.
8. What does this Ruby code do?  
   **a = ['Illinois', 'Iowa', 'Indiana ', 'Michigan']  
   options = (0..3).collect do |i|  
    [a[i], i+1]  
   end**a. Create a one-dimensional array, with the states at the beginning and the numbers 1   
    to 4 at the end.b. Create a two-dimensional array: the first column is the range from 0 to 3; the second   
    column is the states.  
   c. Create a two-dimensional array: the first column is the states; the second column is   
    the range from 0 to 3.  
   d. Create a two-dimensional array: the first column is the states; the second column is   
    the range from 1 to 4.
9. What is the output of this Ruby code? The String method upcase converts that string to upper case.  
   **a = ['apple', 'orange', 'pear']**

**a.each do |item|  
 print item.upcase, '\n'  
end**a. **APPLE** b. **APPLEORANGEPEAR** c. **APPLE\nORANGE\nPEAR\n  
 ORANGE  
 PEAR** d. **APPLE, \nORANGE, \nPEAR, \n**

1. Convert this base-64 value to ASCII characters: **RHJ5**

a. Dry b. ERB c. RoR d. Uml

1. Convert this CSS style to one that uses hex color codes:  
   **body { background-color: silver; color: teal; }**

a. **body { background-color: #808080; color: #808000; }**b. **body { background-color: #808080; color: #008080; }**  
c. **body { background-color: #C0C0C0; color: #008080; }**

d. **body { background-color: #008080; color: #C0C0C0; }**

1. Which method call returns an object that represents the current date and time?  
   a. **Time.current** b. **Time.current\_time**   
   c. **Time.now** d. **Time.present\_time**
2. What is a digest?  
   a. A list of the Rails routes for a project. b. A one-way encoding of text.  
   c. A report of all files created by a scaffold. d. The Rails documentation of built in   
    helper methods.

**Part B. Convert Code.** Convert the following from code using FormTagHelper methods to code that uses FormHelper methods.  
   
 **<p><%= form\_tag 'display' do %>**

**<%= select\_tag :prefix, options\_for\_select(**

**['Dr.', 'Mr.','Ms.']) %><br />**

**Name: <%= text\_field\_tag :name, ' ' %><br />**

**Analyst <%= radio\_button\_tag :position, 'Analyst', true %>**

**Supervisor <%= radio\_button\_tag :position,   
 'Supervisor', false %>**

**Vice President <%= radio\_button\_tag :position,   
 'Vice President', false %>**

**<%= submit\_tag 'Submit' %>**

**<% end %> </p>**  
  
**Part C. Short Essay.** Create Rails items according to these specifications. Submit this project in a zip file on the COL website. Do only 1 out of 2 questions.

1. Explain the purpose and uses of the models, the views, and the controllers of a Rails project. Also explain the relationships between them
2. Give an example of two models that have a one-to-many relationship between them.   
   Explain how to create a project that has two models with a one-to-many relationship between them. You don’t need to give source code examples; just provide a high level description of what you would need to do.

**Part D: Find Errors.** Mark the errors directly on the test sheet; do not recopy. The following ERB code should display a table containing the name, animal type, age, and photo from a database defined by this model:  
  
**rails g model Pet name:string animal\_type:string   
 age:integer image\_file:string**Correct the errors:

**<% @a = Pet.all %>**

**<table>  
<tr>  
 <th>Pet Name</th> <th>Animal Type<th>   
  
 <th>Age</th> <th>Image</th>**

**<% @a.each |pet| %>**

**<table>  
<tr>  
 <td><%= pet.name </td>  
 <td><%= pet.pet\_type %></td>  
 <td><% pet.age %></td>  
 <td><%= image\_tag "/images" + pet.image  
 size: -> "50x50' %></td>  
</tr>**

**</table>**

**<% end %>**