# National College of Ireland

**Higher Diploma in Science in Computing (Mobile App) – Part-time – Year 1 – HDMOBAPP**
**Higher Diploma in Science in Computing (Software Dev) – Part-time – Year 1 - HDCSDEV**

**Semester Two Examinations – 2015/16**

**Tuesday 10th May 2016**
**6.30pm – 8.30pm**

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# Server Side Development

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Answer all 3 questions

**Duration of exam:** 2 hours
**Attachments:** none

## Question 1 (35 marks)

A. What is a Web Framework? **(15 marks)**

Explain how software development differs when using a Web Framework from the point of view of a developer in comparison with not using a Framework and developing a solution from scratch

**B.** Give the Rails command for the following tasks: **(20 marks)**

- Create a New Rails project called MusicBusters
- Start the Rails server with the Cloud9 parameters
- Generate a controller Catalog_Items with four actions: index, show, new, edit
- Create a scaffold for Discs containing a Name, Band, Year, Price and Producer

## Question 2 (30 marks)

A. Define and explain the following concepts: **(20 marks)**
- Object Oriented Programming
- Inheritance
- Encapsulation
- Class

B. Given the following code explain what it does: **(10 marks)**

```
class Person
  def set_name( aName )
     @name = aName
  end

  def get_name
     return @name
  end
end

class Book
  def initialize( aName, aDescription )
     @name = aName
     @description = aDescription
  end

  def to_s
    "The #{@name} book is #{@description}\n"
  end
end

person1 = Person.new
person1.set_name( "John Mc" )
puts person1.get_name
b1 = Book.new("Ruby", "this is a great Ruby book!!")
b2 = Book.new("Rails", "A great introduction to Rails!!")
puts b1.to_s
puts b2.to_s
puts "Inspecting 1st Book: #{b1.inspect}"
```

## Question 3 (35 marks)

A. Given the following IRB session that stores in a hash variable a list of books and its ratings, what would be the command to list all the keys in the hask variable "books" and their values? **(10 marks)**

- ➢ books [ "Gravity's Rainbow" ] = :splendid
- ➢ books [ "The Girl on the train" ] = :splendid
- ➢ books [ "Rumor has it" ] = :mediocre
- ➢ books [ "Red bones" ] = :abysmal
- ➢ books [ "A God in Ruins" ] = :splendid
- ➢ books [ "The catcher in the Rye" ] = :abismal

**B.** What would be the command to know the size fo the hash? **(5 marks)**

C. Continuing the previous example write a "block" that retrieves a scorecard of ratings and produces and output like the following **(20 marks)**
- ➢ ratings
- ➢ => { :splendid=>3, :mediocre=>1, :abismal=>2 }