COSC 3P98 Assignment 3 mark breakdown

Q1: Particle Fountain

Basic fountain: [tot = 35]
- models for ground, particles, optional obstacles [4]
- Engine
  - basic gravity, motion [10]
  - ground bouncing [4]
  - die eventually after falls off edge [4]
  - speed toggle S [3]
  - manual or stream generation F [3]
  - random spin toggle [3]
  - friction on ground toggle [3]
  - reset [1]

5 options from this list: [tot 5 x 5 = 25]
- particle trails
- explode
- spray toggle
- sparks when collisions
- lighting (normals, lights,...)
- collide with obstacles (other ground objects)
- textures
- viewer’s eye is a particle
- particles have different colours, shapes, ...
- square hole in ground in which particles fall through
- inter-particle collision
- sound FX
- groovy effect (anything reasonable!)

Bonus options: [5 marks per extra item in above list (max 5 items = max 25 bonus)]

Subtotal: 60  (up to max 85 with bonus)

(See general list on p. 3)
Q2: Swarm of insects

Basic flocking [tot 35]
- rectangular box world [2]
- insect model (almost anything!) [2]
- basic flocking engine
  (destination, breathing space, social rule, prime directive) [15]
- leader insect (random destination) [4]
- speed toggle S [4]
- multiple insect generation [4]
- insect collision avoidance [3]
- reset [1]

5 options from this list [tot 5 x 5 = 25]
- colour states for insects
- smooth turning
- normals and lighting
- more flocking rules (mating? predator/prey?)
- textures
- viewer eye is a fish
- speed acceleration/deceleration
- trails
- dying fish effect
- sound FX
- groovy effect (anything reasonable!)

Bonus options: [5 marks per extra item in above list (max 5 items = max 25 bonus)]

Subtotal: 60  (up to max 85 with bonus)

(See general list on p. 3)
General requirements [12]

- scene framed well in window [1]
- rotation of scene on x, y, z, mouse [1]
- glPerspective [1]
- glLookat [1]
- toggle point, wireframe, solid objects [2]
- toggle flat and smooth (Gouraud) [1] (note: might not be visible depending on models)
- backface culling [2]
- double buffer for animation [2]
- print out commands on DOS window, OR use GLUT menus [1]

Style: [8]
- adequate comments [2]
- modular code [2]
- good use of data structures, global structures [2]
- discretionary [2]

General: 20 total

SUMMARY:

Application: _______ (tot 60)

General: + _______ (tot 20)

Bonuses: + _______ (max 25)

TOTAL = _______ (base = 80, max = 105)