Bournemouth University

Exam Name: **Zombies in Popular Media and Mathematics – L4 – SIT**

Unit refs: **ZPMM**

INSTRUCTIONS TO CANDIDATES

See Front Page Instruction Samples document [here].
This could include information about:

If question paper needs to be handed in

Questions to answer

Allocation of marks

Where / how to answer questions (e.g. answer books / MCQ answer sheet etc)

Supplied materials

Permitted materials / equipment

Note, this list should be created without bullet points (hence the \item[])

SECTION A
Answer ALL Questions

1 Zombies in films . . . . (15)
Consider Zombies in films.

  1. a) Name some films with Zombies   [5]

  1. b) State the average number of characters eaten by a single Zombie in "'28 Days Later"'. Use the following formula: [10]

$$\bar{x} = \frac{1}{n} \cdot \sum_{i=1}^{n} x_i$$

SECTION B

Answer Only ODD numbered questions

2 Zombie Programming . . . . (20)

Consider the following code segment:

```cpp
#include <iostream>
using namespace std;

int main ()
{
  cout << "Hello World!";
  return 0;
}
```

2. a) In your own words, explain:

2. a) i) Was this code produced by a Zombie? If so, why?   [5]

2. a) ii) How would you improve on the above code?   [5]

2. b) Write a page essay on any topic you like. Appropriate use of references required.   [10]

3 Zombie Algorithms . . . . (15)

3. a) Consider the following algorithm:

Require: $n \geq 0$
Ensure: $y = x^n$
   $y \leftarrow 1$
   $X \leftarrow x$
   $N \leftarrow n$
   while $N \neq 0$ **do**
      if N is even **then**
         $X \leftarrow X \times X$
         $N \leftarrow N/2$
      else $\{N$ is odd$\}$
         $y \leftarrow y \times X$
         $N \leftarrow N - 1$
      end if
   end while

Describe in your own words the thought processes required for a Zombie to generate this algorithm. How can the promise of fresh brains serve as a motivators? [10]

3. b) Admire our institution's mighty logo:

Draw this in a manner similar to a Zombie. Coloured pens are provided. [5]

Name of Unit leader	Anne Onymous
Ext No.	60000
Name of PSO	John Doe
Ext No.	60000