DUBLIN INSTITUTE OF TECHNOLOGY

DT211C BSc. (Honours) Degree in Computer Science (Infrastructure)

Year 2

WINTER EXAMINATIONS 2018/2019

OPERATING SYSTEM AND SYSTEM ADMINISTRATION [CMPU2018]

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WEDNESDAY 9TH JANUARY   2.00 P.M. – 4.00 P.M.

DURATION

2 HOURS

INSTRUCTIONS TO CANDIDATES

Answer   Questions 1 and any two others

Question 1 is worth 40 marks, all the rest are worth 30

1. (a) Describe the working of the following commands   (15 marks)

      i.   man kill

     ii.   df -h

    iii.   top

    iv.   ls -a

     v.   mkdir temp

(b) Write a simple Linux script that will perform below operations.   (9 marks)

- Create a file "student.txt"
- Delete a directory "Test"
- Search a file "readme.txt"

(c) Discuss the concept of file sharing using FTP and client server model.   (10 marks)

(d) Explain the process states. Use a diagram to illustrate your answer.   (6 marks)

2. (a) Describe the advantages of distributed system and also list their design issues.

(12 Marks)

(b) Explain the following in relation to the filesystems?   (9 marks)

      i.   File attributes

     ii.   Linux inode

    iii.   Pathnames

(c) Discuss the concept of a pipe, a message queue and shared memory?   (9 marks)

3. (a) Explain the following commands in term of Kernel Management.　　　　(12 marks)

      i.   insmod

      ii.   lsmod

      iii.   rmmod

      iv.   modinfo

(b) Explain the fork command with the help of diagram and give an example where the parent and child share data with the help of C program.　　　　(12 marks)

(c) Explain the concept of swapping, paging and segmentation in relation to memory management.　　　　(6 marks)

4. (a) Explain the following terms　　　　(12 marks)

      i.   Semaphore

      ii.   Microkernel and Exokernels

      iii.   Login Process

(b) Explain the system backup strategies in term of system administration.　　　　(8 marks)

(c) Discuss the startup and shutdown process in term of system administration.　(10 marks)