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BICS-037

DIPLOMA – VIEP – COMPUTER SCIENCE AND ENGINEERING (DCSVI)

Term-End Examination

December, 2015

BICS-037 : OPERATING SYSTEM

Time : 2 hours *Maximum Marks : 70*

Note : *Attempt **five** questions in all. Question no. 1 is **compulsory**. Each question carries equal marks.*

1. Choose the correct answer from the given four alternatives : *7×2=14*

(a) Which of the following is ***not*** a secondary storage device ?

(i) Flash Device

(ii) HDD

(iii) Optical Disk

(iv) ROM

(b) An Operating System is

(i) Interface between hardware and the user

(ii) Resource manager for the system

(iii) Both (i) and (ii)

(iv) None of the above

(c) RAID stands for

(i) Rapid Access to Internal Devices

(ii) Rapid Access to Input and Output Devices

(iii) Redundant Array of Inexpensive Disks

(iv) Redundant Access of Internal Disks

(d) The term AWK stands for

(i) Advanced Writing Kits

(ii) Available Write Knowledge

(iii) Aho, Weinberger and Kernighan

(iv) Alfred, Webber, Keith

(e) Which of the following is a disk scheduling technique ?

(i) FCFS

(ii) Round Robin

(iii) SJF

(iv) CSCAN

(f) Absence of a needed page from the memory leads to a situation called

(i) Faulty page

(ii) Missing page

(iii) Page fault

(iv) None of the above

(g) _____ is also known as a light weight process.

(i) Kernel

(ii) Thread

(iii) Paging

(iv) Swapping

2. (a) What is an Operating System ? Why is it needed in our systems ? Explain its functions in detail. 7

(b) What are Hand-held Operating Systems ? Also differentiate between Batch Multiprogramming and Multiprocessing systems, with suitable examples. 7

3. (a) What is a PCB ? With the help of a suitable diagram, explain the process state diagram along with each of its states. 7

(b) What is uniprocessor scheduling ? Differentiate between FCFS and SJF scheduling techniques using suitable examples. 7

4. Define the following terms : $4 \times 3\frac{1}{2} = 14$

(a) Kernels

(b) Threads

(c) Mutual Exclusion

(d) Micro-kernel

5. (a) Differentiate between First Fit, Best Fit and Worst Fit allocation techniques. 7

(b) What is fragmentation ? Explain each of its types, using suitable examples. 7

6. (a) Explain the concept of Input and Output Buffering in detail. 7

(b) What is secondary storage management ? Explain the concept with the help of a suitable example. 7

7. (a) Differentiate between Intruders and Malicious Software with the help of examples. 7

(b) What are trusted systems ? Explain some Protection Policies and their mechanisms. 7

8. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

(a) Real Time Operating System

(b) Round Robin Scheduling Algorithm

(c) Swapping

(d) Record Blocking

(e) Operating System Tools