

First Semester PGDCA Examination

MODEL QUESTION PAPER

PGD1C01- Digital Fundamentals and Operating System

(With effect from 2012 Admission)

Time: 3 Hours

Total Marks: 100

Answer FIVE full questions; Each Question carries 20 marks.

Maximum: 100 Marks

1. a) Give a short note about different types of computers. What are the various components of a CPU? Explain its working. 15
b) What is auxiliary memory? 5
2. a) Explain different types of number representations in detail. 10
b) Draw and explain universal and basic gates with their truth table 10
3. a) What are minterms and maxterms? Minimize the Boolean function $F=X+X'.Y$ 10
b) Minimise the following problems using the Karnaugh maps.
i) $X = f(A,B,C) = A'B'C' + A'B + ABC' + AC$
ii) $X = f(A,B,C) = A'B + BC' + BC + AB'C'$ 10
4. a) What are the different types of operating systems? Explain various functions of an Operating System. 10
b) Explain process states with the help of a state diagram. 10
5. a) What is deadlock, and how deadlock can be corrected? 10
b) Differentiate between process and threads. 10
6. a) Explain different types of scheduling algorithms. 10
b) Explain overlays with the help of a suitable example. 10
7. a) What is segmentation?. Explain with the help of a neat diagram. 15
b) Differentiate external fragmentation and internal fragmentation. 5
8. a) Describe about file system in Linux. 8
b) Write shorts notes on
i) Logical and Physical Address space 12
ii) Memory paging
iii) Free and Open source softwares
iv) Android