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SEAT No. :

**P2354**

**[4937]-2002**

[Total No. of Pages : 2

**M.Sc.**

**COMPUTER SCIENCE**

**CS - 202 : Advanced Operating System  
(2013 Pattern) (Semester - II)**

*Time : 3 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) Answer any five questions.*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Figures to right indicate full marks.*

**Q1) a)** Differentiate named & unnamed pipe. **[4]**

b) Write a short note on context of a process. **[4]**

c) What is broken link? **[2]**

**Q2) a)** Explain with syntax and example alarm ( ) & pause ( ). **[4]**

b) Write a 'C' program to print all environmental variables. **[4]**

c) What is orphan & zombie process? **[2]**

**Q3) a)** Write a 'C' program to create a child process. Both processes shares an unnamed pipe. Parent process should write a string "Hello" in it 10 times. Child process reads this data & prints on console. **[4]**

b) Write down the contents of u-area. **[4]**

c) What is hard link? **[2]**

**P.T.O.**

- Q4)** a) Explain the structure of regular file with suitable diagram. [4]  
b) Explain context switching with respect to threads in windows O.S. [4]  
c) Explain wait ( ) with example & syntax. [2]
- Q5)** a) Write a 'C' program which demonstrates how many processes (maximum no.of processes) can be created. [4]  
b) Explain strdupa( ) and strdupna( ) with syntax & example. [4]  
c) What is Kernel Processor Control Region (KPCR)? [2]
- Q6)** a) Write a 'C' program which prints type of the file where the filename is accepted through command - line. [4]  
b) Explain waitid ( ) and waitpid( ) with syntax and example. [4]  
c) What is unreliable signal? [2]
- Q7)** a) Explain setuid( ), seteuid( ), getuid( ), geteuid( ), setreuid( ) with syntax and example. [5]  
b) Explain read( ), write( ), readv( ) and writev ( ) with syntax and example. [5]
- Q8)** a) Explain the concept of blocking the signals & retrieving pending signals. [5]  
b) What are the advantages and disadvantages of mmap ( )? [5]

