Pokhara University

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| Level: Bachelor | Semester: Fall | Year : 2015 |
| Programme: BE | | Full Marks: 100 |
| Course: Network Programming | | Pass Marks: 45 |
| Time : 3hrs. |

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| *Candidates are required to give their answers in their own words as far as practicable.* |
| *The figures in the margin indicate full marks.* |
| Attempt all the questions. |

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|  | 1. What is Network Programming? What is the difference between concurrent and iterative server? 2. Compare IP, UDP and TCP protocol features. | 7  8 |
|  | 1. What do you understand by system calls used with sockets? Briefly describe any two of them. 2. Write a TCP socket program to implement an Echo server/Echo client.   **OR**  Discuss the following scenario of server operations.   1. Crashing of server host 2. Crashing and rebooting of server host | 7  8 |
|  | 1. Compare Blocking I/O, Non-blocking I/O, Signal Driven I/O and Asynchronous I/O. 2. Explain the function of fnctl and ioctl | 10  5 |
|  | 1. Write a program to determine host byte order in C. 2. What is the similarity and difference between connect () and bind () function? Explain with function signature. | 8  7 |
|  | 1. Briefly describe Blocking, Non-blocking and Overlapped I/O in Winsock Programming. 2. What is a file descriptor? Explain the mechanism of passing file descriptor in Unix socket programming? | 7  8 |
|  | 1. What are the steps to create server program in Winsock Programming? Write a complete server program to illustrate. 2. Compare IPX and SPX protocol with their frame format | 10  5 |
|  | Write short notes on: (**Any two**)   1. Ping Program 2. Application of Reserve Ports 3. Socket function (in UXIX) | 2×5 |