Nepal college of information technology

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| Level: Bachelor | Semester – Spring | Year : 2013 | |
| Programme: BE-CE | | Full Marks : 100 | |
| Course: Simulation & Modeling | | Time : 3hrs. | |
| *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. | | |

1. a) What do you understand by system ?What are different types of system in simulation study? 10

b) What is Real time simulation? Explain with example. 5

2) a) How Monte-Carlo method is used to determine the value of pi. 7

b) How arrival patterns are generated in discrete system? Explain in detail. 7

3. a) What is differential equation? Derive differential equation for Mechanical system of automobile suspension wheel and draw analog computer for it. 10

b) What is CSSLs? Explain the structure of CSMPIII for electrical system of RLC Circuit. 5

4. a) Why analysis of output is necessary while studying system? Explain about replication of runs. 7

b) When line is busy or link is not available, call is not lost. They are stored in list and processed when available. Explain the various states involving each condition. 8

5. a) Explain output analysis method for random number generator. 10

b) How statistics are gathered in simulation programming task? 5

6) a) Write GPSS program for manufacturing shop model with one inspector . 8

b) Explain about the organization of SIMSCRIPT. 7

7) Short notes on (any two): 10

a) System simulation

b) Events in simulation

c) DSSLs

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