Pokhara University

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| Level: Bachelor | Semester: Spring | Year : 2012 |
| Programme: BE | | Full Marks: 100 |
| Course: Object Oriented Design and Modelling Through UML | | 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. Differentiate between state transition diagram and activity diagram, component diagram and deployment diagram with appropriate examples. 2. Describe the importance of Unified Process in OOAD. List out and describe briefly all the phases of Unified Process. | 8  7 |
|  | 1. Define Use Cases. How Use Cases benefits the software development process explain with an example. 2. Describe the importance of Contract in OOAD. Explain contract in detail for at least one system operation for any kind of example of your own. | 7  8 |
|  | 1. What are the activities performed during the domain modeling process? How can potential domain elements for a particular scenario be identified? 2. ‘Well designed interaction diagram are valuable in object oriented analysis and designed’, Justify your answer. Describe the mutually exclusive condition of UML Collaboration diagram. | 8  7 |
|  | 1. Show with an example how can conditional messages be portrayed in a Collaboration diagram and a Sequence diagram. 2. What is the difference between knowing and doing responsibilities? How does making use of Design Patterns help in correctly assigning responsibilities to objects? | 7  8 |
|  | 1. How cohesion and coupling affect good design, explain with a suitable example? 2. Map the following design to code in any programming language that supports Object Oriented Paradigm   has 2  **Actuators**  int state;  moveForward ()  moveBackward ()  **Robot**  pickItem()  dropItem()  **Sensor**  int state;  sensePath( )  has | 7  8 |
|  | 1. Explain how code can be generated from collaboration diagram and design class diagram. Explain with a suitable example. 2. What do you mean by fault, error and failure? How are exceptions addressed by UML? | 8  7 |
|  | Write short notes on: (Any two)   1. Code reuse 2. Real Use Cases. 3. Requirements Capture. | 2×5 |