

# POKHARA UNIVERSITY

Level: Bachelor  
Semester: Spring  
Programme: BE  
Course: Object Oriented Software Engineering

Year : 2014  
Full Marks: 100  
Pass Marks: 45  
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) Why is agile process necessary? Differentiate between scrum and extreme programming. 8  
b) What is project management? State and explain the concepts (the 4 P's) of project management. 7
2. a) Why do we need to estimate the cost of software projects? Differentiate between Reverse and forward engineering with relevant example. 8  
b) Obtain DFD for the following Mess Management System. 7  
A hostel has 500 rooms and 4 messes. Currently, there are 1000 students in all in 2 seated rooms. They eat in any of the messes but can get rebate if they inform and do not eat for at least 4 consecutive days. Besides normal menu, extra items are also given to students when they ask for it. Such extras are entered in an extra book. At the end of the month a bill is prepared based on the normal daily rate and extras and given to each student. System for stores issue and control is maintained for daily use of perishables and non-perishables items and order to vendor and supplies are also maintained as well.
3. a) Why is software modeling essential. Which modeling do you prefer to use if you are allowed to choose between data modeling and class base modeling. 8  
b) Draw E-R diagram for the following situation: 7  
An accountant is a relationship between customer and bank. A customer has a name. A bank has a branch. A customer may have several accountants of different type and balances.
4. a) Discuss about scenario based modeling. Differentiate between 8

Usecase modeling and Activity Diagram. Provide examples as well.

- b) What is software quality control and software quality assurance? 7

Explain formal technical review as a measure to maintain the quality of a software project.

5. a) How would you define Verification and Validation? Discuss briefly on White Box Test versus Black Box Test. 8

- b) Why is SCM essential during Software Development? Differentiate between Integration Testing and System Testing. 7

6. a) Why do we need to improve Software Process? Discuss about the emerging trends in software engineering 8

- b) What is capability maturity model? Describe the five levels defined in the CMM. 7

7. Write short notes on: (Any two) 2×5

a) Cleanroom engineering.

b) Software Reliability

c) RAD Model