



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2010/2011
FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(COMPUTER SCIENCE)
SCS 421: SOFTWARE DEVELOPMENT II

DATE: Wednesday 24th November, 2010

TIME: 11.00 a.m. – 1.00 p.m.

Instructions

Answer Question 1 and any other two questions.

Question 1 (30 marks)

- (a.) Give the formal definition of the term software. (4 marks)
- (b.) Briefly explain each of the following terms as used in software development:
- (i.) Software process
 - (ii.) Software process capability
 - (iii.) Software process performance
 - (iv.) Software process maturity
- (5 marks)
- (c.) (i.) What does the acronym API stand for?
(ii.) Give four APIs you know. (5 marks)
- (d.) Why do you think it is impossible to change the distribution infrastructure a component is based on after its development has started? (5 marks)
- (e.) Why are practices in Agile development? (3 marks)
- (f.) Briefly explain the four core values of XP as an Agile method. (8 marks)

Question 2 (20 marks)

- (a.) (i.) Define the term software component.
(ii.) In your own view what is the motivation towards software component development approach? (4 marks)
- (b.) With the aid of a diagram briefly explain the elements of a componentware architecture. (10 marks)
- (c.) What are the steps we follow in building componentware? (6 marks)

Question 3 (20 marks)

- (a.) (i.) State the Agile manifesto?
(ii.) Why is Agile development preferred as a software development method?
(iii.) Outline four methods that use Agile philosophy. (11 marks)
- (b.) Define the following terms as used in software development:
(i.) method
(ii.) Agile method (3 marks)
- (c.) Give six principles of Agile development. (6 marks)

Question 4 (20 marks)

- (a.) (i.) What is an iteration?
(ii.) How do iterations help us in software development? (6 marks)
- (b.) Outline the benefits of Iterative development. (6 marks)
- (c.) Briefly explain why we say Iterative planning is risk and client driven. (4 marks)
- (d.) What is time – boxing in relation to iterations? (4 marks)

Question 5 (20 marks)

- (a.) (i.) What is an API in software development?
(ii.) Briefly describe the inherent characteristics of an API as an abstraction. (9 marks)
- (b.) (i.) Briefly explain the concept of an API in the context of web development.
(ii.) Outline the benefits of APIs in the Web community and applications. (8 marks)
- (c.) What are the options of releasing APIs? (3 marks)
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