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Indian Institute of Engineering Science and Technology, Shibpur

B. Tech (CST), 6th Semester, Mid-Semester Examination, February, 2024

Software Engineering (CS3203)

Full Marks: 30 ***Time: 2 Hours***

- ***Answer only three questions***
- ***No answer to extra question will be evaluated.***

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1. Choose the correct alternative. A brief explanation behind your choice is needed.

(a) Which of the following best describes software engineering?

(i) Writing code in multiple programming languages
(ii) The application of a systematic approach to software design
(iii) The study of computer hardware components
(iv) Fixing bugs in a software application

(b) Software bug is

(i) An unwanted and unintended feature
(ii) Documentation of software
(iii) Part of software design process
(iv) A repeated cycle in software development

(c) Which of the following models is NOT suitable for accommodating any change?

(i) Agile
(ii) RAD
(iii) Waterfall
(iv) Incremental

(d) What is a "use case" primarily used for?

(i) Debugging software
(ii) Designing the user interface
(iii) Representing interactions between a user and a system
(iv)Estimating project cost

(e) First level of prototype is evaluated by

(i) Code developer
(ii) Tester
(iii)User
(iv)System analysist

(5×2=10)

2. Following statement may be correct or incorrect. Comment on with proper justifications. If justifications are incorrect, then marks will not be considered.

F (a) For developing a complex software exploratory approach is better than engineering approach.

F (b) Prototype model is generalization of waterfall and Spiral model.

T (c) Software can wear out but hardware cannot.

T (d) Flowchart is a type of component design

T (e) Incorrect, incomplete and ambiguous SRS may lead to software failure

(5×2=10)

3. Write short note on

(a) Code reuse

(b) Data flow diagram

(c) Tautology and contradiction in propositional logic

(d) Decision tree and decision table

(e) Extreme prototype

(5×2=10)

4. (a) Discuss advantage, disadvantage and applicability of evolutionary model. Mention your idea of developing a software for hospital management using evolutionary model.

(b) Discuss characteristics of a good SRS. What are the types of requirements possible to develop a software?

(2×5=10)