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CS 131702

Roll No. of candidate

2017

B.Tech. 7th Semester End-Term Examination

Computer Science Engineering

SOFTWARE ENGINEERING

Full Marks – 100

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer Question No.1 and any *six* from the rest.

1. Answer the following questions (Do as directed) :

(10 × 1 = 10)

(a) From the following which quality deals with maintaining the quality of the software product?

(i) Quality assurance

(ii) Quality control

(iii) Quality efficiency

(iv) None of the above

[Turn over

(b) State if the followings are true or false.

For scheduling a project, it is necessary to

(i) Break down the project tasks into smaller, manageable form

(ii) Find out various tasks and correlate them

(iii) Estimate time frame required for each task

(iv) Divide time into work-units

    (1) True

    (2) False

(c) Software project manager is engaged with software management activities He is responsible for —————.

(i) Project planning

(ii) Monitoring the progress

(iii) Communication among stakeholders

(iv) All mentioned above

(v) None of the above

(d) Classes communicate with one another via —————————.

(i) Read sensors

(ii) Dial phones

(iii) Messages

(iv) None of the above

(e) When elements of module are grouped because the output of one element serves as input to another element and so on, it is called ————————.

(i) Functional cohesion

(ii) Communication cohesion

(iii) Sequential cohesion

(iv) Procedural cohesion

(f) CASE tools cannot be grouped together if they have similar functionality, process activities and capability of getting integrated with other tools.

(i) True

(ii) False

(g) Which of the following is not defined in a good Software Requirement Specification (SRS) document?

(i) Functional Requirement

(ii) Nonfunctional Requirement

(iii) Goals of implementation

(iv) Algorithm for software implementation

(h) Software Requirement Specification (SRS) is also known as specification of —————.

(i) White box testing

(ii) Acceptance testing

(iii) Integrated testing

(iv) Black box testing

(i) If requirements are easily understandable and defined then which model is best suited?

    (i) Spiral model

    (ii) Waterfall model

    (iii) Prototyping model

    (iv) None of the above

(j) Software process and improvement are assessed by

    (i) ISO 9000

    (ii) ISO 9001

    (iii) SPICE (ISO/IEC15504)

    (iv) Both (b) and (c)

2. (a) Mention the important features of a structured program. (4)

    (b) Identify the important techniques that software engineering uses to tackle the problem of exponential growth of problem complexity with its size. (6)

    (c) Differentiate between programs and software product. (5)

3. (a) State four factors that have contributed to the making of the present software crisis. (4)

    (b) Explain what problems would occur if no life cycle model is followed. (6)

    (c) Explain briefly the activities undertaken during feasibility study. (5)

4. (a) Differentiate between functional and non-functional requirements. (5)

    (b) What is a Structure chart? (5)

    (c) Write a note on UML. (5)

5. (a) What is software quality management? Briefly explain. (5)

    (b) Explain briefly activities undertaken during requirements analysis and specification. (5)

    (c) Mention some shortcomings of the classical waterfall model. (5)

6. (a) What is coupling? Discuss briefly any three types of coupling. (5)

    (b) What is cohesion? Discuss briefly any three types of cohesion. (5)

    (c) What are software reliability metrics? (5)

7. (a) Differentiate between high level design and detail design. (5)

    (b) What are coding standards and code review techniques? (5)

    (c) Differentiate between black box and white box testing. (5)

8. (a) What is spiral model? Explain how it is different from waterfall model. (7)

    (b) Explain the Evolutionary life cycle model of software development. (8)

9. (a) Briefly explain SEI Capability Maturity Model and Personal Software Process (PSP). (8)

(b) What is case? What are the main advantages of case tools? Give the architecture of CASE environment. (7)

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