Total No. of Questions : 6]   [Total No. of Printed Pages : 7

(1048)

B.C.A. (CBCS) RUSA VIth Semester Examination

4041

SOFTWARE ENGINEERING
Paper : BCA0605

Time : 3 Hours]   [Maximum Marks : 70

Note :– Attempt *five* questions in all. Section–A, Q. No. 1 is compulsory. Section–B, answer any *four* questions, selecting *one* question from each Unit.

Section–A

1. Attempt all *ten* the objective type questions (MCQ) :

    (i)   Spiral Model was developed by :

        (a)   Bev Littlewood

        (b)   Berry Bohem

        (c)   Roger Pressman

        (d)   Victor Bisili

(ii) Which model is popular for students small projects ?

    (a) Waterfall Model

    (b) Spiral Model

    (c) Quick and Fix Model

    (d) Prototyping Model

(iii) Which is not a software life-cycle model ?

    (a) Spiral Model

    (b) Waterfall Model

    (c) Prototyping Model

    (d) Capability Maturity Model

(iv) Project risk factor is considered in :

    (a) Spiral Model

    (b) Waterfall Model

    (c) Prototyping Model

    (d) Iterative Enhancement Model

(v)   SDLC stands for :

    (a)   Software design life-cycle

    (b)   Software development life-cycle

    (c)   System design life-cycle

    (d)   System development life-cycle

(vi)   SRS stands for :

    (a)   Software requirement specification

    (b)   Software requirement solution

    (c)   System requirement specification

    (d)   None of the above

(vii)   Waterfall model is not suitable for :

    (a)   Small Projects

    (b)   Complex Projects

    (c)   Accommodating change

    (d)   None of the above

(viii) In object oriented design of software, objects have :

(a) Attributes and names only

(b) Operations and names only

(c) Attributes, name and operations

(d) None of the above

(ix) Function oriented metrics were first proposed by :

(a) John
(b) Gaffney

(c) Albrecht
(d) Basili

(x) In functional decomposition, the data flow diagram :

(a) is ignored

(b) is partitioned according to the closeness of the datagram and storage items

(c) is partitioned according to the logical closeness of the actigram

(d) Both (a) and (c)

(e) None of the above   1×10=10

2. Attempt the following questions in **(25–50)** words. Each question consists of 4 marks.

   (a) What is a process framework ? Name the framework activities applicable to all software projects.

   (b) Mention *three* software myths.

   (c) What is software architecture ? What is its importance ?

   (d) Briefly describe the quality function deployment technique.

   (e) Explain the process of formal technical reviews.

   $5 \times 4 = 20$

Section–B

(Unit–I)

10

3. (a) Define software engineering. Explain costs of software engineering for each of the process activities.

   (b) Explain different phases of system engineering.

Or

   (a) Compare waterfall model and spiral model with its advantages and disadvantages.

(b) Explain unified process and discuss unified process work products.

(Unit–II)

10

4. (a) Discuss requirement analysis phase in detail. What is the output of this phase ?

(b) What characteristics of software make it different from other Engineering products ?

Or

(a) What do you mean by Feasibility Study ? Explain different types of feasibility studies.

(b) What is the difference between analysis and design ? Can one begin to design without analysis ?

(Unit–III)

10

5. (a) What is UML ? Discuss the use case diagrams with a suitable example.

(b) Discuss the difference between Object Oriented and Function Oriented design.

C–673

Or

(a) Discuss a testing strategy for Object-Oriented architectures.

(b) Define structured programming. Discuss the advantages of structured programming.

(Unit–IV) 10

6. (a) Distinguish between software verification and software validation.

(b) Differentiate between refinement and refactoring.

Or

Write notes on the following :

(a) Consistency checkers

(b) Programming principles and guidelines