SN – 434

IV Semester B.C.A. Degree Examination, November/December 2010
(O.S. Scheme)
COMPUTER SCIENCE
4 BCA – 3 : Software Engineering

Time : 3 Hours | Max. Marks : 80

***Instruction** : Answer all Sections.*

SECTION – A

Answer **any eight** questions. **(8×3=24)**

1. Mention the different software Myths. 3
2. Explain Data dictionary with example. 3
3. Explain the software engineering process. 3
4. What is Adaptive Maintenance ? 3
5. What is coupling ? Explain in brief. 3
6. Define error, fault and failure. 3
7. Give the IEEE definition of software engineering. 3
8. Explain the resources required in project planning. 3
9. Give a brief account of formal technical review. 3
10. Explain briefly the characteristics of SRS. 3

P.T.O.

SN – 434

SECTION – B

Answer **any four** questions. **(4×14=56)**

11. a) Give an account of software applications. **4**

    b) Explain in detail the spiral model with a neat diagram. **10**

12. a) Discuss size-oriented and function point metrics in detail. **6**

    b) Explain cocomo model in detail. **8**

13. a) Explain the design principles in detail. **6**

    b) What is DFD ? Explain the different symbols used in constructing DFD. **8**

14. a) Define Maintenance ? Explain the different types of maintenance. **6**

    b) What is SQA plan ? Explain the SQA plan in detail. **8**

15. a) Define Testing. Explain the concept of test plan. **6**

    b) Explain in detail white box and black box testing. **8**

16. Write short notes on the following : **14**

    (4+4+3+3)

    i) Cohesion

    ii) Characteristics of software

    iii) Automated estimation tools

    iv) Quality factors.

V Semester B.C.A. Degree Examination, October/November 2011
(Y2K8 Scheme)
COMPUTER SCIENCE
BCA 501 : Software Engineering

Time : 3 Hours Max. Marks : 90

SECTION – A

1. Answer **any ten** questions. Each question carries **two** marks. **(10×2=20)**

1) Define software engineering.

2) Define system and subsystem.

3) Define requirement specification and software specification.

4) What are the various activities of the requirements analysis process ?

5) What are the objectives of using software prototyping ?

6) What are the three main types of notations used in design document ?

7) Define coupling.

8) What are the advantages of Graphical user Interface ?

9) Define fault avoidance, fault tolerance and fault detection.

10) Define error, fault and failure.

11) Define validation and verification.

12) Define quality assurance.

P.T.O.

SECTION – B

II. Answer **any five** questions. **Each** carries **five** marks. (5×5=25)

13) What is a software process ? What are the activities involved in software process ?

14) What are functional and non-functional requirement ? Explain the types of non-functional requirements.

15) What is the need for validating the requirements ? Explain any requirement validation techniques.

16) Explain the basic design principles of problem partitioning and abstraction.

17) What are the characteristics of object oriented design ?

18) Give short notes on reliability metrics.

19) Briefly explain the different levels of testing.

20) Define Maintenance and explain the types of maintenance.

SECTION – C

III. Answer **any three** questions. **Each** question carries **fifteen** marks. (3×15=45)

21) a) Compare and contrast the three models namely waterfall, spiral and iterative enhancement models. (8+7)

b) Give a short notes on the system procurement process.

22) a) Explain in detail the requirements engineering process diagramatically. (8+7)

b) Briefly explain the prototyping process comparing the two types of prototyping.

23) a) Give a detailed note of the design process. (8+7)

b) Discuss the object oriented design process in brief.

24) a) Give a short notes on user interface design. (4+7+4)

b) What is software reuse ? What are the different aspects of software reuse ?

c) Give a short notes on exception handling.

25) a) What is a test plan and explain the contents of test plan ? (7+8)

b) Discuss the cocomo model in detail.

OS – 407

V Semester B.C.A. Degree Examination, October/November 2012
(Y2K8 Scheme)
COMPUTER SCIENCE
BCA 501 : Software Engineering

Time : 3 Hours Max. Marks : 90

***Instruction** : Answer **all** Sections.*

SECTION – A

I. Answer **any ten** questions. **Each** question carries **two** marks. **(10×2=20)**

1) Define software engineering. Write the goals of software engineering.
2) What is system integration ? Name any two types .
3) Define SRS.
4) Explain feasibility study.
5) Write the characteristics of prototype.
6) Explain the differences between generic model and reference model.
7) What is OOA, OOD, OOP ?
8) What are the characteristics of GUI/UI ?
9) What is RGM, cosmetic failure ?
10) Differentiate between failure and faults.
11) Define test case, test plan.
12) Define Risk Management.

SECTION – B

II. Answer **any five** questions. **Each** carries **five** marks. **(5×5=25)**

13) What is software product ? Explain the types with example.
14) Explain the different techniques used for requirement elicitation and analysis.
15) Explain data flow model in detail with example.

P.T.O.

16) Explain the principles of software design.

17) Explain object, object class, inheritance with an example.

18) Explain different types of software reliability metrics.

19) What is software testing ? Distinguish between white box and black box testing.

20) Write a note on :
   a) Quality assurance
   b) Quality control.

SECTION – C

III. Answer **any three** questions. **Each** question carries **fifteen** marks. **(3×15=45)**

21) a) Define SDLC. Explain the different phases of SDLC. **(8+7)**
   b) Explain the system engineering process with a neat diagram.

22) a) Describe different requirement validity checks. **(4+3+8)**
   b) Describe requirement elicitation and analysis process of requirement engineering.
   c) Differentiate between evolutionary and throw-away prototyping.

23) a) What are the qualities of a software design ? **(8+7)**
   b) Explain object oriented design concept.

24) a) Describe different styles of user system interaction. **(7+8)**
   b) What is reliability growth modelling ? Explain the two types of RGM.

25) a) Explain the contents of test plan template. **(8+7)**
   b) Explain the empirical mode for cost estimation.

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MS – 547

IV Semester B.C.A. Degree Examination, May/June 2013

(Old Scheme)

Computer Science

4 BCA 3 : SOFTWARE ENGINEERING

Time : 3 Hours Max. Marks : 80

Instruction : *Answer* ***all*** *the Sections.*

SECTION – A

Answer **any eight** questions : **(8×3=24)**

1. Write short note on software evolution.
2. Briefly explain prototyping model.
3. Explain function point metrics.
4. List out a sample checklist which is useful for any design review.
5. Explain incremental coding process.
6. Illustrate white box testing.
7. Write short note on levels of testing with a neat diagram.
8. Define modularity.
9. Explain top down programming.
10. Differentiate between alpha and beta testing.

SECTION – B

Answer **any four** questions : (4x14=56)

11. a) Explain spiral model with a neat diagram. 8

    b) Illustrate software characteristics. 6

12. a) Explain COCOMO model. 8

    b) How do you define the key project characteristics ? 6

13. a) Explain the role of SRS. 7

    b) Illustrate DFD with example. 7

14. a) What is coupling ? Explain different types of coupling. 7

    b) Illustrate verification. 7

15. a) Distinguish between unit testing and system testing. 7

    b) Explain test plan. 7

16. a) Discuss the activities conducted by SQA group. 7

    b) Explain types of maintenance. 7

V Semester B.C.A. Examination, Nov./Dec. 2014
(Y2K8 Scheme) Computer Science
BCA 501 - Software Engineering

Time : 3 Hours Max. Marks : 90/100

Instructions :

1) Section A, B, C is common to all. Section D is applicable to the student who have taken admission in 2011-12.
2) 100 marks for students of 2011-2012 and onwards 90 marks for repeaters prior to 2011-2012

SECTION- A

I. Answer any ten questions. Each question carries two marks. **(10 × 2 = 20)**

1. Define Software.
2. What do you mean by Software Requirement Definition?
3. Write short note on factors effecting feasibility study.
4. What is SDLC? Briefly explain.
5. What are the different types of system integration?
6. What are the characteristics of a prototype?
7. What is cohesion?
8. Define DFD.
9. Briefly explain about GUI.
10. Differentiate between Fault and Failure.
11. Define software reliability matrix.
12. Define risk in Software Engineering.

SECTION-B

II. Answer any five questions. Each question carries five marks. **(5 × 5 = 25)**

13. Explain iterative enhancement model of software process.
14. Explain the system design process with diagram.
15. Explain the IEEE structure of an SRS document.

16. Explain the Requirement Validation techniques.
17. Describe two types of prototyping with advantages and disadvantages.
18. What are the design principles? Explain.
19. Differentiate between white box and black box testing.
20. Explain the different types of software maintenance.

SECTION-C

III. Answer any three questions. (3 × 15 = 45)

21. Explain various steps of SDLC with a neat diagram. 15
22. Explain the requirement Engineering process. 15
23. a. Explain two types of Reliability Growth Modelling. 7
    b. Explain Reliability Matrix. 8
24. a. Explain the contents of test plan template. 9
    b. What are the levels of Testing? 6
25. a. Explain COCOMO Model. 10
    b. Write a note on Quality Assurance. 5

SECTION-D

IV. Answer any one questions. (1 × 10 = 10)

26. Explain system Engineering process with a diagram.
27. Discuss on requirement elicitation and analysis process.

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UN – 322

V Semester B.C.A. Degree Examination, Nov./Dec. 2015
(Y2K8 Scheme) (F + R)
BCA 501 : SOFTWARE ENGINEERING
(100 – 2013-14 and Onwards) (90 – Prior to 2013-14)

Time : 3 Hours | Max. Marks : 90/100

Instructions : *Section – **A**, **B**, **C** is **common** to **all**. Section – **D** is applicable to the students who have admission in **100** marks.*

SECTION – A

Answer **any ten** questions. **Each** question carries **2** marks. **(10×2=20)**

1. What is software product ? Name two types of software product.
2. What is the difference between software engineering and system engineering ?
3. What is system decommissioning ?
4. What are functional requirements ? Give one example.
5. Define cohesion and coupling.
6. What is test case ? Give one example for test case.
7. Define volatile requirement.
8. List different phases of project management.
9. What is quality assurance ? What is the purpose of quality assurance ?
10. Define reliability. Mention its types.
11. Write any two characteristics of GUI.
12. What is fault detection and recovery ?

SECTION – B

Answer **any five** questions. **Each** question carries **5** marks. **(5×5=25)**

13. Discuss the challenges of software engineer.
14. Explain system procurement process in detail.

P.T.O.

15. Explain prototyping model.
16. Describe any two styles of user system interaction.
17. What is risk identification ? Explain its techniques.
18. Write a short note on black box testing.
19. Explain different types of interface errors.
20. Explain different types of software reliability metrics.

SECTION – C

Answer **any 3** questions : **(3x15=45)**

21. Explain spiral model with neat diagram. Discuss advantages and disadvantages. **15**

22. a) Explain requirement elicitation and analysis process. **8**
    b) Discuss object oriented design process in detail. **7**

23. a) Explain IEEE structure of SRS. **10**
    b) Write SRS for library system. **5**

24. a) Explain the contents of test plan. **8**
    b) Explain different levels of testing. **7**

25. a) Explain quality control in detail. **8**
    b) Write a short note on software productivity. **7**

SECTION – D

Answer **any 1** question. **Each** question carries **ten** marks. **(1x10=10)**

26. Explain the fundamental process activities involved in SDLC with neat diagram. **10**

27. Write a short note on :
    a) Context model. **5**
    b) COCOMO model. **5**