B.C.A. Semester-V (Honours) Examination, 2022-23

BACHELOR OF COMPUTER APPLICATION

Course ID : 53311 **Course Code : BCA/CC-11**

Course Title : Software Engineering

Time : 3 Hours Full Marks : 80

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

GROUP-A

1. Answer **all** the questions: 1×10=10

i) Pseudo code can replace :

a) Decision tables

b) Structure charts

c) Flowcharts

d) Cause-effect graphs

e) None of the above

ii) Coding and testing are done in a :

a) AD HOC manner

b) Module manner

c) Structured chat manner

d) Program flow chat manner

e) None of the above

iii) Which of the following is not the phase in the system development life cycle?

a) Assessment

b) Maintenance

c) Development

d) Testing

e) None of the above

iv) The _____model helps in representing the system's dynamic behavior :

a) Object model

b) Context model

c) Behavior model

d) Data model

e) None of the above

v) An erroneous system state that results in an unexpected system behavior is acknowledged as

a) System failure

b) System error

c) Human error

d) System fault

e) None of the above

vi) The worst type of coupling is:

a) Data Coupling

b) Stamp Coupling

c) Control Coupling

d) Content Coupling

e) None of the abov

vii) If the objects focus on the problem domain, then we are concerned with:

a) Object Oriented Analysis

b) Object Oriented Design

c) Object Oriented Analysis & Design

d) Object Oriented Analysis & specification

e) None of the above

viii) If every requirement can be checked by a cost-effective process, then the SRS is:

a) Verifiable

b) Traceable

c) Modifiable

d) Complete

e) None of the above

ix) ER model shows the:

a) Functional view

b) Static view

c) Dynamic view

d) All of the above

e) None of the above

x) Structured charts are a product of :

a) Requirements gathering

b) Requirements analysis

c) Design

d) Coding

e) None of the above

GROUP-B

2. Answer any **ten** questions: 2×10=20

i) Can software execute properly if it is not tested? Explain.

ii) Difference between equivalence class partitioning and boundary value analysis.

iii) What is requirement management?

iv) What is coupling?

v) What is project estimation?

vi) What is software configuration management?

vii) Write down some project management tools.

viii) What is the basis of Halstead's complexities measure?

ix) What is software re-enginepring?

x) Write down the advantages and disadvantages of COCOMO model.

xi) What do you mean by softrvare reliability analysis?

xii) Define decision table.

xiii) Differentiate between logical DFD and physical DFD.

xiv) What is regression testing?

xv) What are the characteristic of software?

GROUP-C

3. Answer any **four** questions: 5×4=20

i) Enumerate the various sections of software design documentation.

ii) Explain the guidelines that are followed to make testing effective and efficient.

iii) What are the relative advantages of using either the LOC or the function point metric to measure the size of a software product?

iv) "It is easy for software engineering to develop software according to user requirements even if they are incomplete as software engineers can consider the user requirements of earlier

developed software"- Do you agree with this statement? Why or why not? Give reason in support of your answer.

v) Why it is important for a software development organization to obtain ISO 9001 certification? What are some shortcomings of the ISO certification? 2+3

vi) Write comparative discussion between program and software products.

GROUP-D

4. Answer any **three** questions: 10×3=30

i) Consider a student admission system for XYZ University, which is to be automated. For this system, create the following:

a) Make DFD for 2-3 levels

b) Draw ER diagram

ii) What is CASE tool? What functions are performed by the services that are coupled with the CASE repository? 2+8

iii) Discuss the Cohesion in the context of software design. Define object oriented analysis. 8+2

iv) Write short notes (any **two**): 5×2=10

a) Alpha and Beta testing

b) Delphi Cost Estimation technique

c) PERT chart

d) Waterfall model

v) Explain how Putnam's mode can be used to compute the change in project cost with the change in project duration. What are the main disadvantages of using the Putnam's model? How can you overcome these disadvantages? 5+3+2

vi) What is the difference between a coding standard and a coding guideline? Write down five important coding standards and a coding guideline that you would recommend. 3+7

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