Total No. of Questions: 6 *Total No. of Printed Pages:3*

Enrollment No.....

Faculty of Science / Engineering
End Sem Examination May-2024
CA3CO13 / BC3EC07 Software Engineering

Programme: BCA / BCA-MCA (Integrated) Branch/Specialisation: Computer Application

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Q.1 i. Who is the father of software engineering? **1**

(a) Margaret Hamilton
(b) WattsS. Humphrey
(c) Alan Turing
(d) Boris Beizer

ii. The spiral model was originally proposed by- **1**

(a) IBM (b) Barry Boehm
(c) Royce (d) Pressman

iii. Amongst which of the following is/are the type of agile methodologies- **1**

(a) Scrum (b) FDD (c) DSDM (d) All of these

iv. Which of the following is included in SRS? **1**

(a) Cost (b) Design constraints
(c) Staffing (d) Delivery schedule

v. Decomposition of a bubble is also known as: **1**

(a) Classification (b) Factoring
(c) Aggregation (d) Generalization

vi. Which tool is used for structured analysis? **1**

(a) UML (b) DFD
(c) Warrior-Orr diagram (d) HIPO diagram

vii. Which term are combined interaction diagram? **1**

(a) Sequence diagram + collaboration diagram
(b) Activity diagram + state chart diagram
(c) Deployment diagram + collaboration diagram
(d) None of these

viii. Which one of the following views expresses the requirements of a system? **1**

(a) Use Case (b) Design

(c) Process (d) Implementation

ix. Which one of the following statements is not an objective of software verification? **1**

(a) Ensuring that product development steps are carried out correctly

(b) Ensuring that the correct product has been developed

(c) Achieving phase containment of errors

(d) Ensuring that the outputs produced at a stage conform to the outputs of the previous phase

x. Why is it important to test boundary values while testing a function? **1**

(a) It reduces test costs as boundary values are easily computed by hand

(b) Debugging is easier when testing boundary values

(c) The correct execution of a function on all boundary values proves that a function is correct

(d) In practice, programming the boundary conditions are error prone

Q.2	i.	Distinguish between software products and services.	**2**
	ii.	Explain the concept of software crisis.	**3**
	iii.	Give an example of a software development project for which the iterative waterfall model is not suitable. Briefly justify your answer.	**5**
OR	iv.	What is the difference between RAD and spiral model.?	**5**
Q.3	i.	What is Agile manifesto? Explain.	**2**
	ii.	What are the responsibilities of the scrum master in scrum software development?	**4**
	iii.	Explain the software requirement analysis and specification. Discuss various methods for requirement gathering.	**4**
OR	iv.	What is the difference between Agile extreme programming and scrum?	**4**

Q.4	i.	Define context level DFD.	**2**
	ii.	What do you understand by the modularity in software development? Why is it needed?	**3**
	iii.	What is coupling? Explain the different types of coupling with suitable example.	**5**
OR	iv	Compare the relative advantages of the object-oriented and function oriented approaches to software design. What do you understand by the term top-down decomposition in the context of function-oriented design?	**5**
Q.5	i.	What are UML models?	**2**
	ii.	Explain use case diagram with a suitable example.	**2**
	iii.	What is the difference between a sequence diagram and a collaboration diagram? In what context would you use each?	**6**
OR	iv.	Define Domain Modelling. Also explain boundary objects, entity objects, and controller objects.	**6**
Q.6		Attempt any two:	
	i.	What do you understand by positive and negative test cases? Give one example of each.	**5**
	ii.	What do you understand by system testing? What are the different kinds of system testing that are usually performed on large software products?	**5**
	iii.	What are the types of black box and white box testing? Differentiate between black box and white box techniques.	**5**

******

Marking Scheme

Software Engineering - CA3CO13 - Software Engineering - BC3EC07

Q.1	i)	B	**1**
	ii)	B	**1**
	iii)	D	**1**
	iv)	B	**1**
	v)	B	**1**
	vi)	B	**1**
	vii)	A	**1**
	viii)	A	**1**
	ix)	B	**1**
	x)	C	**1**
Q.2	i.	2 marks	2
	ii.	3 marks	3
	iii.	3 marks + 2 marks	5
OR	iv.	1 marks for each difference	5
Q.3	i.	2 marks	2
	ii.	1 mark for each responsibility	4
OR	iii.	2 marks + 2 marks	4
		1 mark for each difference	4
Q.4	i.	2 marks	2
	ii.	1 marks + 2 marks	3
OR	iii.	2 marks + 3 marks	5
	iv.	3 marks + 2 marks	5
Q.5	i.	1 mark + 1 marks	2
	ii.	2 marks	2
OR	iii.	4 marks + 2 marks	6
	iv.	2 marks + 4 marks	6
Q.6		Attempt any two:	
	i.	3 marks + 2 marks	5
	ii.	1 mark+ 4 marks	5
	iii.	2 marks + 3 marks	5

******