GURU NANAK INSTITUTE OF TECHNOLOGY
An Autonomous Institute under MAKAUT
2022
SOFTWARE ENGINEERING
MCA20-301

TIME ALLOTTED: 3HR **FULL MARKS:70**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable

GROUP – A
(Multiple Choice Type Questions)

Answer any ***ten*** from the following, choosing the correct alternative of each question: **10×1=10**

			Marks	CO No
1.	(i)	Python supports the creation of anonymous functions at runtime, using a construct called _____ a) pi b) anonymous c) lambda d) none of the mentioned	1	CO1
	(ii)	Which of the following is a mechanism that allows several objects in a class hierarchy to have different methods with the same name? a) Aggregation b) Polymorphism c) Inheritance d) All of the mentioned	1	CO1
	(iii)	In case of using abstract class or function overloading, which function is supposed to be called first? a) Local function b) Function with highest priority in compiler c) Global function d) Function with lowest priority because it might have been halted since long time, because of low priority	1	CO2
	(iv)	Which diagram in UML shows a complete or partial view of the structure of a modelled system at a specific time? a) Sequence Diagram b) Collaboration Diagram c) Class Diagram d) Object Diagram	1	CO3
	(v)	Java packages and Fortran subroutine are examples of_____ a) Functions b) Modules c) Classes d) Sub procedures	1	CO2
	(vi)	Which of the following is a part of testing OO code? a) Validation tests b) Integration tests c) Class tests d) System tests	1	CO4

(vii)	The UML supports event-based modelling using _____ diagrams. a) Deployment b) Collaboration c) State chart d) All of the mentioned	1	CO2
(viii)	The construction of object-oriented software begins with the creation of a) design model b) analysis model c) code levels d) both design and analysis model	1	CO3
(ix)	The process of compartmentalizing the elements of an abstraction that constitute its structure and behaviour is called as a) Hierarchy b) Encapsulation c) Modularity d) Entity Abstraction	1	CO2
(x)	Group of functionally related objects is a) Concatenation b) Cohesion c) Coupling d) all of these	1	CO4
(xi)	Which of the following is one of the steps in the integration testing of OO software? a) cluster testing b) thread-based testing c) use-based testing d) none of the mentioned	1	CO2
(xii)	What refers to the externally observable structure of an OO program? a) Deep structure b) Surface structure c) Core structure d) All the mentioned	1	CO3

GROUP – B
(Short Answer Type Questions)
(Answer any three of the following) 3 x 5 = 15

		Marks	CO No
2.	How OOP helps in Implementation and Testing process.	5	CO3
3.	Discuss SDLC Activities with diagram.	5	CO2
4.	Why classical water fall model is considered as impractical to be used in real time projects?	5	CO4
5.	Differentiate between Black box and White box testing	5	CO5

6.		Identify the problems that an organization might face if it does not develop an SRS document	5	CO2

GROUP – C
(Long Answer Type Questions)
(Answer any three of the following) 3 x 15 = 45

			Marks	CO No
7.	a)	What are the steps involved in creating a test plan?	6	CO3
	b)	Define software metrics.	5	CO2
	c)	List different approaches for identifying classes.	4	CO2
8.	a)	Explain Agile process	10	CO4
	b)	Define Beta Testing.	5	CO3
9.	a)	Explain 'Extend' and 'Include' in use cases?	5	CO3
	b)	Draw a Use case Diagram of ATM and explain all elements.	5	CO3
	c)	Draw an Activity Diagram of Online Shopping system and explain all elements	5	CO3
10.	a)	Explain all key element of task management	5	CO4
	b)	Differentiate between Association, Aggregation and composition	5	CO2
	c)	What is interface and abstract class in UML?	3	CO3
	d)	What is Stress testing	2	CO5
11.		Write short notes on three	3X5=15	
	a)	Generalization	5	CO2
	b)	Functional Programming	5	CO2
	c)	Prototype Model	5	CO2
	d)	Grey Box Testing	5	CO2
	e)	Class Diagram	5	CO2