GURU NANAK INSTITUTE OF TECHNOLOGY
An Autonomous Institute under MAKAUT
2021
SOFTWARE ENGINEERING
CS603

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)	All the modules of the system are integrated and tested as complete system in the case of (a) Bottom up testing (b) Top-down testing (c) Sandwich testing (d) Big-Bang testing	1	CO4
(ii)	Low Coupling and high cohesion are called (a) Normal design (b) worst design (c) Average design (d) Good design	1	CO2
(iii)	In function point analysis, the number of complexity adjustment factors is (a) 10. (b) 12. (c) 15 (d) 14	1	CO3
(iv)	The best type of cohesion is (a) Coincidental (b) Logical (c) Sequential (d) Functional	1	CO4
(v)	The worst type of coupling is (a) Data coupling. (b) Control coupling. (c) Stamp coupling (d) content coupling	1	CO2
(vi)	IEEE 830-1993 is a IEEE recommended standard for (a) Software requirement specification. (b) Software design. (c) Testing. (d) Both (a) and (b)	1	CO1

(vii)	Which of the following statements is true (a) Abstract data types are the same as classes (b) Abstract data types do not allow inheritance (c) Classes cannot inherit from the same base class (d) Object have state and behavior	1	CO4
(viii)	Coupling and cohesion can be represented using a (a) cause-effect graph (b) dependence matrix (c) Structure chart (d) SRS	1	CO2
(ix)	The feature of the object oriented paradigm which helps code reuse is (a) Object (b) Class (c) Iinheritance (d) Aaggregation.	1	CO4
(x)	An object encapsulates (a) Data (b) Behavior (c) State (d) Both Data and behavior	1	CO4
(xi)	The most important feature of spiral model is (a) Requirement analysis (b) Risk management (c) Quality management (d) Configuration management	1	CO1
(xii)	Changes made to an information system to add the desired but not necessarily the required features is called (a) Preventative maintenance. (b) Adaptive maintenance. (c) Corrective maintenance. (d) Perfective maintenance.	1	CO5

GROUP – B
(Short Answer Type Questions)

(Answer any *three* of the following) **3 x 5 = 15**

		Marks	**CO No.**
2.	Identify the lifecycle models would you prefer for developing the following applications? Justify your answer. 1) gaming application 2) a text editor	5	CO1, CO2
3.(a)	What is the use of DFD in software development?	2	CO3
(b)	Differentiate between logical DFD and Physical DFD.	3	CO3

4. a)	Differentiate between unit testing and integration testing.	2	CO4
(b)	Why integration testing is required?	3	CO4
5.	Distinguish between software verification and software validation.	5	CO4
6.(a)	Explain cohesion and coupling.	2	CO4
(b)	Mention Different types of coupling.	3	CO4

GROUP – C
(Long Answer Type Questions)
Answer any ***three*** from the following **3 × 15 = 45**

		Marks	**CO No.**
7. a)	What is the use of SDLC in software engineering?	2	CO1
b)	Explain different phases of SDLC.	5	CO1
c)	Why spiral model is called as WINWIN-Spiral model? Explain the steps in detail followed in this model.	8	CO1
8. a)	Define SRS. Explain the characteristics of a good SRS document.	8	CO2
(b)	Distinguish between functional and nonfunctional requirements.	3	CO2
(c)	Explain project planning activities with net diagram.	4	CO3
9. a)	What is the use of LOC and FP in software project estimation?	5	CO3
(b)	Differentiate between COCOMO and COCOMO2.	5	CO3
(c)	Assume that the size of an embedded type software product has been estimated to be 32,000 lines of source code. Assume that the average salary of a software developer is Rs. 15,000 per month. Determine the effort required to develop the software product, the nominal development time, and the cost to develop the product.	5	CO3
10. a)	Explain different types of reliability metrics.	5	CO4
b)	Explain key process areas of CMM.	5	CO5
c)	Describe the various steps of the reuse-oriented model.	5	CO5
11.	Write short notes on any three of the following:	3X5=15	CO4
a)	PERT and CPM	5	CO3
b)	Software quality assurance (SQA)	5	CO5
c)	Use Case Diagram	5	CO4
d)	Black Box Testing	5	CO4
e)	CFG.	5	