SSN COLLEGE OF ENGINEERING, KALAVAKKAM – 603 110
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
B.E. Computer Science and Engineering
CS6403 Software Engineering

Date: 02.02.2018, 8.00-9.30 AM **UNIT TEST – 1** **Max. Marks: 50**
Academic Year: 2017-2018 EVEN **Batch: 2016-2020**
Semester: 4 **Faculty: Dr. R. Kanchana and Dr. A. Chamundeswari**

Qn.No	Part – A (5 * 2 = 10)	Marks	(KL,COn)
1	Define software crisis.	2	K1,CO1
2	Analyse the impact of discovering errors in the later phases of SDLC.	2	K2,CO1
3	Distinguish between CPM and PERT techniques for project scheduling.	2	K2,CO1
4	Mention the need for task network.	2	K2,CO5
5	Describe the differences between "*known risks*" and "*predictable risks*".	2	K2,CO5
	Part – B Answer all questions (13+13)		
6	a) What are the shortcomings of a present software development process?	3	K2,CO1
	b) State the objectives of software engineering. How can the present software development process be improved by using software engineering principles?	1+2	K2,CO1
	c) List any FIVE life cycle models. Tabulate their advantages and disadvantages. Map each of them to a respective process model.	1+5+1	K2,CO1
	OR		
7	a) Suggest the most appropriate generic software process model that might be used as a basis for managing the development of thefollowing systems. Give reasons for your answer. • A system to control anti-lock braking in a car • A virtual reality system to support software maintenance • A university accounting system that replaces an existing system • An interactive travel planning system that helps users plan journeys with the lowest environmental impact	8	K4,CO1
	b) Assume that you are a software engineering consultant and have been called in by the vice-president for finance of a corporation that manufactures tires and sells them via its large chain of retail outlets. She wants your organization to build a product that will monitor the company's stock, starting with the purchasing of the raw materials and keeping track of the tires as they are manufactured, distributed to the individual stores, and sold to customers. i. Identify a suitable life cycle model for this product development. ii. What criteria would you use in selecting a life-cycle model for the project? iii. List the risks involved in developing the software. How would you attempt to mitigate each risk?	2+2+1	K4,CO1
8	a) List the differences between *process metrics and project metrics*.	3	K3,CO5
	b) Suppose a 40 KLOC software product can be purchased for 5lakh. Assuming that in-house programmers' cost is 10000 per PM including overhead, would it be more cost-effective to buy the product or to build it? What additional factors should be considered in making this make/buy decision?	4+1	K3,CO5

c) It seems odd that cost and schedule estimates are developed during software project planning, before detailed software requirements analysis or design has been conducted. Why do you think this is done? Are there circumstances when it should not be done? 3+2 K4,CO5

OR

9 a) Write short notes on empirical estimation models for software projects. 8 K2,CO5

b) Write short notes on *Earned Value Analysis (EVA)* that monitors and assesses software project schedules. 5 K2,CO5

Part – C (14)

10 a) A target product has 8 simple inputs, 3 average inputs, and 11 complex inputs. There are 57 average outputs, 9 simple inquiries, 13 average master files, and 18 complex interfaces. 4 K3,CO5

i. Determine the unadjusted function points (*UFP*).

ii. If the value adjustment factor (degree of influence) is 47, determine the number of function points.

iii. Why do you think that, despite its drawbacks, lines of code (LOC or KDSI) is so widely used as a metric of product size?

Component	Level of Complexity		
	Simple	Average	Complex
External Inputs	3	4	6
External outputs	4	5	7
External Inquiries	3	4	6
Internal logical files	7	10	15
External interface files	5	7	10

Table 1: Weighing factor for Information domain values

b) Use the project data given below to prepare a time line chart and calculate the total time taken to complete the project. 2+3 K3,CO5

Task	Predecessor	Duration(in days)
A	-	2
B	A	2
C	B	1
D	A	1
E	B,D	4
F	C,E	2

c) Assume that you are the project manager for a major software company and you have been asked to lead a team that is developing "next generation" word-processing software. Create a **risk table** for the project. 5 K3,CO5

************B E S T O F L U C K************

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Reviewed by HoD, CSE