(18)

CS 3009: Software Engineering (C)

Quiz-1

Roll No: ███████

Time: 20 minutes   Max Marks: 25

Question 1:   (15 Marks)

Relate the concepts of Column 1 with concepts of Column 3. Write the most appropriate match in 'Correct Match' column. <u>Write alphabet only</u> and not the complete entry. Do not repeat the alphabet.

Note: There are extra mismatched entries in Column 3 that do not relate to any entry of column 1. Each entry in column 1 must have a match from column 3.

Entries	Correct Match	Mismatched Entries
Deliver software in timely manner	C ✓	A. Agile process
Requirements complete and frozen	E ✓	B. Unified Process
Quick plan, quick design, quick review. Lack of focus on internal quality s.a. maintainability	N ✗	C. Intent of software process
Iterative nature of prototyping, systematic aspect of waterfall, evolutionary, risk identification	J ✓	D. Inception, Reception, Collaboration, Transition
Four phases, work on almost all disciplines in each phase, use of UML, mini projects	B ✓	E. Expectation of the Waterfall model
Core product first, scope largely known	R ✗	F. XP
Product backlog, user stories, sprints	P ✓	G. Maintenance
User stories, test driven development, pair programming, CRC cards	F ✓	H. Agile manifesto
Human resource hungry, short cycle time, parallel development of modules	A ✗	I. Problem with Waterfall Model
Respond to change, focus more on working software	H̶ K ✗	J. Spiral Model
Reduced cost of change during software development	H̶ H ✗	K. Framework activities
Visualizing workflow, limiting the amount of work in progress (WIP)	L ✓	L. Kanban
A phase in software lifecycle	G ✓	M Umbrella Activities
User available for daily review of work, frequently changing requirements	A ✗	N. RAD
Long wait before a running software can be seen	I ✓	O. Incremental Model
	(9)	P. Scrum
		Q. Select agile process
		R. Prototyping Model

Question 2:   (5 Marks)

List the process model that you think will be most appropriate for the following situation. Also, list your reason(s) for choosing a particular model. If you just list the process model without mentioning the reason(s), you will not be awarded any marks.

- Your team is starting work on a new project, but all the requirements and size of the project are not clear at the moment. The internal quality of the project cannot be compromised as it may incur huge financial losses in future. The client requires quarterly releases and will be providing feedback on each release. Your team ~~is not~~ in a position to implement spiral model due to lack of training and exposure.

~~Your team is not~~
~~model:~~ _phase Development_

Reasons:

phased ① development is better as it takes in changing requirements with incremental developments or iterative developments as client wishes.

(4)

Question 3:   (5 Marks)

A team of software engineers is working on a project following scrum. At the start of each sprint, they select a few user stories to work on. Assume that each user story has 12 story points. Their selected and completed user stories in the first sprints are as follows:

Sprint 1: The team committed to complete 6 user stories. However, the team could complete 4 of the 6 user stories.

Sprint 2: The team committed 8 user stories (including the two that were not completed in sprint 1) and completed 5 of the 8 user stories.

Sprint 3: The team committed 9 user stories (including the three that were not completed in sprint 2) and completed 6 of the nine user stories.

Sprint 4: The team committed 9 user stories (including the three that were not completed in sprint 3) and completed 3 of the 9 user stories.

To do: Find project velocity to help the team provide a good estimate of work to be committed for sprint 5. Explicitly state the project velocity and explicitly then mention the number of stories and story points that the team should pick based on the calculated velocity.

$$= 6 \times 12 + 4 \times 12 + 5 \times 12 + 6 \times 12$$
$$+ 3 \times 12$$

(5)

$$= \frac{216}{4} = 54 \text{ story points}$$

$$= 4 \text{ stories}$$