

NATIONAL UNIVERSITY OF COMPUTER AND EMERGING SCIENCES (FAST), LAHORE CAMPUS
MIDTERM EXAM

Software Engineering Technologies (CS527) – Fall 2018

Total Marks: 30

Total

Time: 100 mins

Instructions: This is a closed book, *NO* aid exam. No reference material of *ANY* kind is allowed in the exam room. No Mobile/smart phones on your desk or around you.

Short Questions Part - Answer **ANY 4** questions in this part. Be brief and to the point. All questions carry equal marks. (Marks: 6)

1. Define and differentiate between 'software process' and 'process step'.
2. What is more important – process or product? Provide arguments for your answer.
3. Discuss why many systems continue to fall below user expectations, despite the established practice of software requirements engineering.
4. At what stage of the lifecycle Sprint (Scrum) Goal is crafted? List and briefly explain what factors are important and how these factors are helpful in determining the Sprint Goal.
5. Answer the following
 - a. Explain what is meant by 'complex adaptive problems' in scrum context.
 - b. Identify and discuss significance of 3 important characteristics of a Kanban Card.

Subjective Part - Answer **ALL** questions in this part. All questions carry equal marks.
(Marks: 24)

6. Discuss what is meant by 'Ordered Process Steps'. List and explain **ANY 4** of its underlying process steps.
7. Analyze the 'Waterfall' development methodology comparing with 'Incremental Model' on the basis of Industrial evaluation/practices.
8. User Interface for most smart phones in the market are not designed for elderly people to use. Now, you are asked to design (keeping in view the theory and practices of Human Computer Interaction Design) one for elderly users who are over 70 to be able to use easily.

Identify **top 4** HCI design principles you believe are most important for designing the smart phone UI - targeted for elderly people. Discuss why you believe they are important for the design? In light of the arguments (for top 4 HCI principles) earlier, propose a design for the UI.

9. You are the CIO of a software development company. Your Team A (~8 resources) is engaged in product development following 'Kanban' methodology. The development is troubled and facing multiple issues. This means that the product delivery could face delays of up to 4-5 months from now, which would have financial consequences for your company.

Its time you step in and analyze the situation. You spoke to a few members of the development team to get an insight into issues, but you have received conflicting information. So you have decided to roll up your sleeves and get involved with the team on daily basis through active participation in the product development (from a management perspective) so to identify issues first, before proposing resolution(s).

- Discuss **atleast 3** Kanban artifacts you will use to analyze the situation – so to identify the issues. Explain how these artifacts will be helpful.

- Based on the techniques/artifacts you employ for analysis (above), what kind of information you will be looking for and why? This information will be critical as you need to make decisions for improvement and bringing the product delivery on track.