

Internal Assessment Test 2 January 2024									
Sub:	Software Engineering and Project Management				Sub Code:	21CS61	Branch:	AIML	
Date :	6/6/24	Duration:90 m	Max Marks: 50	Sem /Sec:	VI			OBE	
<u>Answer any FIVE FULL Questions</u>							Mar ks	CO	R B T
1	<p>Define software Engineering? Briefly discuss the attributes of good software?</p> <p>Ø <i>Software engineering is an engineering discipline which is concerned with all aspects of software production.</i></p> <p>Ø <i>Engineering discipline</i></p> <ul style="list-style-type: none"> · <i>Engineers make things work. They apply theories, methods and tools where these are appropriate, but they use them selectively and always try to discover solutions to problems even when there are no applicable theories and methods.</i> · <i>Engineers also recognise that they must work to organisational and financial constraints, so they look for solutions within these constraints.</i> · <i>All aspects of software production</i> <p>attribute of good software</p> <p>Maintainability:Software must evolve to meet changing needs; Dependability:Software must be trustworthy;(it has a range of characteristic,inclusing reliability,security and safety). Efficiency:Software should not make wasteful use of system resources; Acceptability/Usability:Software must accepted by the users for which it was designed.This means it must be understandable,usable and compatible with othersystems.</p>						10	C01	L2

2. Through a neat diagram, explain the incremental development process, Also mention the benefits of this when compared to waterfall model?

10

Ø Incremental software development, which is a fundamental part of agile approaches, is better than a waterfall approach for most business, e-commerce, and personal systems.

Ø Incremental development reflects the way that we solve problems.

Ø We rarely work out a complete problem solution in advance but move toward a solution in a series of steps, backtracking when we realize that we have made a mistake. By developing the software incrementally, it is cheaper and easier to make changes in the software as it is being developed.

Ø Each increment or version of the system incorporates some of the functionality that is needed by the customer.

Ø Generally, the early increments of the system include the most important or most urgently required functionality. This means that the customer can evaluate the system at a relatively early stage in the development to see if it delivers what is required. If not, then only the current increment has to be changed and, possibly, new functionality defined for later increments.

Incremental development benefits

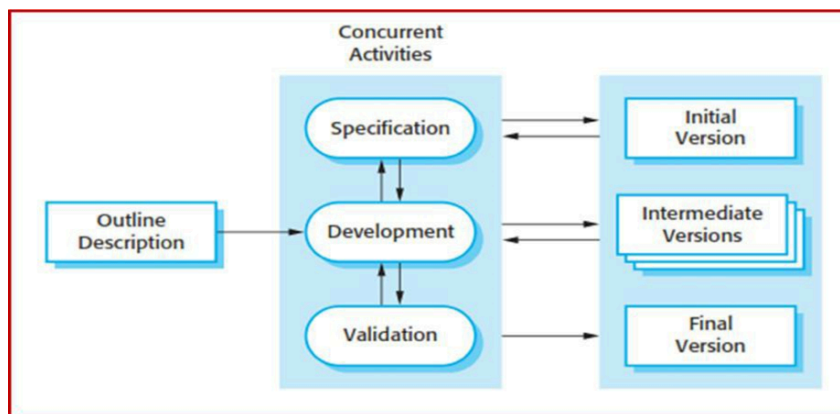
Ø The cost of accommodating changing customer requirements is reduced.

The amount of analysis and documentation that has to be redone is much less than is required with the waterfall model.

Ø 4 It is easier to get customer feedback on the development work that has been done.

Customers can comment on demonstrations of the software and see how much has been implemented.

Ø More rapid delivery and deployment of useful software to the customer is possible. Customers are able to use and gain value from the software earlier than is possible with a waterfall process.



3a	<p>List & explain the different types of Application software.</p> <ul style="list-style-type: none"> ● Stand-alone applications ● Interactive transaction-based applications ● Embedded control systems ● Batch processing systems ● Entertainment systems ● Systems for modeling and simulation ● Data collection systems ● Systems of systems <p>Ø Stand-alone applications</p> <p>These are application systems that run on a local computer, such as a PC. They include all necessary functionality and do not need to be connected to a network.</p> <p>Ø Interactive transaction-based applications</p> <p>Applications that execute on a remote computer and are accessed by users from their own PCs or terminals. These include web applications such as e-commerce applications.</p> <p>Ø Embedded control systems</p> <p>These are software control systems that control and manage hardware devices. Numerically, there are probably more embedded systems than any other type of system.</p> <p>Ø Batch processing systems</p> <p>Ø These are business systems that are designed to process data in large batches. They process large numbers of individual inputs to create corresponding outputs.</p> <p>Ø Entertainment systems</p> <p>These are systems that are primarily for personal use and which are intended to entertain the user.</p> <p>Ø Systems for modeling and simulation</p> <p>These are systems that are developed by scientists and engineers to model physical processes or situations, which include many, separate, interacting objects.</p> <p>Ø Data collection systems</p> <p>These are systems that collect data from their environment using a set of sensors and send that data to other systems for processing.</p> <p>Ø Systems of systems</p> <p>These are systems that are composed of a number of other software systems.</p>	8	C01	L2
3b.	<p>Arrival of a customer to a queuing system is considered as</p> <p>a) Entity b) Event c) Activity d) Attributes</p> <p>Ans : event</p>	1	CO1	L4

3c.	<p>----- is a description of a real word object reflected with in the system. a)Domain system b) Application model C)Usecase model d) Activity mode</p> <p>Ans: Domain system</p>	1	CO1	L4
4. a	<p>with neat diagram, Explain Bohems Spiral model</p> <ul style="list-style-type: none"> •An evolutionary model which combines the best feature of the classical life cycle and the iterative nature of prototype model •Include new element : Risk element •Starts in middle and continually visits the basic tasks of communication, planning,modeling,construction and deployment. <div data-bbox="207 611 1162 1136" data-label="Diagram"> </div> <ul style="list-style-type: none"> •1.COMMUNICATION <ul style="list-style-type: none"> *Tasks required are establish effective communication between developer •2.PLANNING <ul style="list-style-type: none"> *Estimation *Scheduling *Risk analysis •MODELING <ul style="list-style-type: none"> *Analysis *Design •CONSTRUCTION <ul style="list-style-type: none"> *Code 	8	CO1	L3

	<p>*Test</p> <p>•DEPLOYMENT</p> <p>*Delivery</p> <p>*Feedback</p> <p>•Realistic approach to the development of large scale system and software</p> <p>•Software evolves as process progresses</p> <p>•Better understanding between developer and customer</p> <p>•The first circuit might result in the development of a product specification</p> <p>•Subsequent circuits develop a prototype</p> <p>•And sophisticated version of software</p>			
4.b	<p>During ----- the developer makes strategic decisions with broad consequences. a)Analysis b)System design c) Class design d) None of these.</p> <p>Ans:)System design</p>	1	CO2	L4
4c	<p>which of the following is not an non functional requirement a)Portability b)Security C) Scalability d) User Interaction.</p> <p>Ans: User Interaction</p>	1	CO2	L4
5a	<p>Explain briefly the software engineering Ethics</p> <p>Ø <i>Software engineering involves wider responsibilities than simply the application of technical skills.</i></p> <p>Ø <i>Software engineers must behave in an honest and ethically responsible way if they are to be respected as professionals.</i></p> <p>Ø <i>Ethical behaviour is more than simply upholding the law but involves following a set of principles that are morally correct.</i></p> <p>Confidentiality</p> <p>Engineers should normally respect the confidentiality of their employers or clients irrespective of whether or not a formal confidentiality agreement has been signed.</p> <p>· Competence</p> <p>Engineers should not misrepresent their level of competence. They should not knowingly accept work which is out with their competence.</p> <p>· Intellectual property rights</p>	6	CO1	L3

	<p>Engineers should be aware of local laws governing the use of intellectual property such as patents, copyright, etc. They should be careful to ensure that the intellectual property of employers and clients is protected.</p> <p>· Computer misuse</p> <p><i>n Software engineers should not use their technical skills to misuse other people's</i></p> <p>computers. Computer misuse ranges from relatively trivial (game playing on an employer's machine, say) to extremely serious (dissemination of viruses).</p>			
5b	<p>classic life cycle is referred for</p> <p>a)Spiral model b) waterfall model c) RAD model d) Incremental model.</p> <p>Ans: Waterfall model</p>	1	CO1	L3
5c	<p>The process to gather the software requirements from client, analyze and document and document is know as</p> <p>a)Software Engineering b)User Engineering process c)Requirement elicitation process</p> <p>d) Requirement Engineering process</p> <p>Ans:Requirement Engineering process</p>	1	CO1	L4
5d	<p>what is the final outcome of requirement analysis and Specification phase</p> <p>a)Data flow diagram b)SRS document c) coding of the project d)User manual</p> <p>Ans :SRS document</p>	1	CO2	L4
5e	<p>Time necessary to complete a project is referred to as -----</p> <p>a)Implementation b)life cycle c)operation cycle d) Production cycle.</p> <p>Ans : life cycle</p>	1	CO2	L4
6	<p>Illustrate Requirement Engineering process with neat block diagram</p> <ul style="list-style-type: none"> ● To create and maintain a system requirement document • The overall process includes four high level • 1. Feasibility study <ul style="list-style-type: none"> --Concerned with assessing whether the useful to the business • 2. Elicitation and analysis <ul style="list-style-type: none"> --Discov ering requirements 3. Specifications <ul style="list-style-type: none"> --Converting the requirements into a standard form 	10	CO2	L3

•4.Validation-- Checking that the requirements actually define the system that the customer wants requirements engineering sub-processes:

