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**ASSIGNMENT 1: MODULE-1**

**Que:1-What is SDLC?**

* **Its stand for SOFTWARE DEVELOPMENT LIFE CYCLE.**
* **It is essentially a series of steps, or phases that provide a model for the development and lifecycle management of an application or piece of software.**
* **It is structured process that enables the production of high-quality, low-cost software, in the Shortest Possible Production Time.**
* **The goal of SDLC is to produce superior software that meets & exceeds all customer expectations & demands.**

**Que:2- What is software testing?**

* **Testing is the process of evaluating a system or its components with the intent to find that whether it satisfies the specified requirement or not.**
* **Testing is executing a system in order to identify any gaps, errors or missing requirements in contrary to the actual desire or requirements.**
* **According to ANSI/IEEE 1059 Standard, Testing can be defined as A process of analysing a software item to detect the differences between existing and required conditions (that is defects/errors/bugs) and to evaluate the features of the software item.**
* **Software Testing is a process used to identify the correctness, completeness, and quality of developed computer software.**

**Que:3 - What is agile methodology?**

* **It is a combination of iterative & incremental model.**
* **It divides the software into small incremental builds, this build are provided in iterations, that means the big project are divided into small chunks(iterations).**
* **Each iteration is last about one to three weeks.**
* **Each iteration involves all the team members working simultaneously on areas like planning, requirements analysis, design, coding, unit testing and acceptance testing.**
* **At the end of the iteration the working product is displayed to the customer or the important stake holder and it is released in the market.**
* **After the release we check for the feedback of the deployed software.**
* **If any enhancements is needed in the project than it’s done and it’s re-released.**

**🡺 ADVANTAGE -**

* **Frequent delivery.**
* **Face to Face communication with the customer.**
* **Less time.**
* **Adaptability.**

**🡺 DIS-ADVANTAGE –**

* **Less time.**
* **Maintenance problem.**

**Que:4 - What is SRS?**

* **It stands for Software Requirement Specification.**
* **SRS is a complete description of an application which is to be developed.**
* **SRS contains use case diagram that describes all the interaction user wills have with the software application.**
* **FRS, BRS, FRD.**

**Que:5 - What is oops?**

* **OOPS is way of writing the program in organised way.**
* **Objects are like a black box where data are hidden.**

**Que:6 - Write Basic Concepts of oops.**

* **Class**
* **Object**
* **Inheritance**
* **Polymorphism**

1. **Over ridding**
2. **Over loading**

* **Encapsulation**
* **Abstraction**

**Que: 7 - What is Object?**

* **It gives the permission to access functionality of Class.**

**Que: 8 - What is Class?**

* **It is a collection of data member and member function.**

**Que:9 - What is encapsulation?**

* **The process of wrapping the data in a single unit.**
* **To secure the data from outside world.**

**Que:10 - What is inheritance?**

* **Making a class from an existing class.**
* **Deriving the attribute of some other.**
* **ADV- Redundancy, Extensibility**

**Que:11 - What is polymorphism?**

* **One name Multiple form.**

1. **Over ridding - Same name of function with same parameter but definition will be different.**
2. **Over loading - Function overloading: same function name but different parameter.**

**Que: 14 - Write SDLC phases with basic introduction -**

* **There are seven type of SDLC phases -**

1. **Requirements collection/gathering: What is the problem?** 
   * + - * **Customer Needs**
         * **Requirement from stake holder, client, customer, CEO, etc.**
         * **Improvement in current software.**
2. **Planning/Analysis: What we want?**
   * + - * **Details on computer programming languages and environments, machines, packages, application architecture, distributed architecture layering, memory size, platform, algorithms, data structure, global type definitions, interfaces, and many other engineering details are established.**
         * **Risk of the project**
         * **Cost of the project**
         * **Time for completion**
3. **Design: How can we get what we want?**
   * + - * **Design Architecture Document**
         * **Implementation Plan**
         * **Critical Priority Analysis**
         * **Performance Analysis**
         * **Test Plan**
4. **Implementation: Create what we want?**
   * + - * **In the Implementation phase, the team builds the components either from scratch or by composition.**
         * **Implementation – Code**
         * **Critical Error Removal**
5. **Testing: did we get what we want?**
   * + - * **We test the build to check for defect.**
         * **We report the defect and get it fixed.**
         * **We retest the build until it fulfils customer requirement.**
6. **Deployment:** 
   * + - * **PROJECT LIVE then it will become a product.**
7. **Maintenance:** 
   * + - * **Corrective maintenance: identifying & repairing defects**
         * **Adaptive maintenance: adapting the existing solution to the new platform**
         * **Perfective maintenance: implementing the new requirements.**

**Que:15 - Explain Phases of the waterfall model –**

* **Requirement collection/gathering**
* **Analysis/planning**
* **Design**
* **Implementation**
* **Testing**
* **Deployment**
* **Maintenance**
* **{ NOTE: All the phases of WATERFALL MODEL is same as SDLC phases. }**

**Que:16 - Write phases of spiral model –**

* **Four phases of Spiral model:**
* **Planning- determination of objectives, alternatives & constraints.**
* **Risk analysis- Analysis of alternatives and identification/resolution of risks.**
* **Engineering- development of the “next level” product.**
* **Customer resolution- assessment of the result of engineering.**

**Que:18 - Explain working methodology of agile model and also write pros and cons. –**

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**Que:12 - Draw Use case on Online book shopping.**

**Que:13 - Draw Use case on online bill payment system ( paytm ).**

**Que:19 - Draw use case on Online shopping product using COD –**

**Que:20-- Draw use case on Online shopping product using payment gateway -**