**Important questions of**

**Software engineering**

(based on previous year question paper analysis, **FIRST DRAFT**)

|  |  |  |  |
| --- | --- | --- | --- |
| **SI** | **Important topics (primary)** | **Marks** | **Years asked** |
| 1 | definition software Engineering | 2 | 2024 |
| 2 | ISO standards | 5 | 2023,2024 |
| 3 | Waterfall model definition, diagram, illustrations, explanation:   * Iterative model * Classical model | 8 | 2023,2024 |
| 4 | Black box testing definition, techniques:   * All 5 techniques must be explained | 8 | 2023,2024 |
| 5 | W5HH principles | 4 | 2023,2024 |
| 6 | Software Process Improvement (SPI) explanation | 4,5 | 2023,2024 |
| 7 | Project scheduling process note | 5,4 | 2023,2024 |
| 8 | Risk definition, risk management and its principles, process   * RMMM plan | 4,3,2 | 2023,2024 |
| 9 | Extreme programming definition | 2 | 2023,2024 |
| 10 | Clean room strategy, testing, design explanations | 2,5 | 2023,2024 |
| 11 | SDLC models:   * Any one of model **COMP** * Agile model and spiral model were asked previously. | 5,4 | 2023,2024 |
| 12 | Software configuration management (SCM):   * Process * Features * Basic concepts | 4 | 2023,2024 |
| 13 | Non – functional requirements (or Functional requirements) | 5 | 2023 |
| 14 | White box testing | 5 | 2023 |
| 15 | Reveres Engineering:   * Code restructuring * Data restructuring | 4 | 2024 |
| 16 | Re-engineering process | 4 | 2024 |
| 17 | Software maintenance activity | 5 | 2023 |
| 18 | Testing on Object oriented software | 5 | 2023 |
| 19 | Roles and responsibility of Project Manager | 5 | 2024 |
| 20 | Types of box structures | 5 | 2024 |
| 21 | Verification and validation, differences | 5 | 2024 |
| 22 | SRS document | 2 | 2024 |
| 23 | Gantt chart | 2 | 2024 |
| 24 | Prototyping | 2 | 2024 |
| 25 | Feasibility studies | 2 | 2023 |
| 26 | Formal specification | 2 | 2023 |
| 27 | Unit testing | 2 | 2023 |
| 28 | Forward engineering | 2 | 2023 |
| 29 | PSP and TSP | 2 | 2023 |

**Some important definitions:**

**Software Engineering:**

According to IEEE “Software engineering is the systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software; that is, the application of engineering to software. “

**Extreme programming:**

XP is an agile software development method that emphasizes teamwork, communications and rapid feedback. Its key principles are simplicity, communication, feedback, courage and respect.

**ISO**

International organization for standardization is an independent, international organization that develops and publishes standards for industries to ensure quality, safety and efficiency.

**SPI**

Software process improvement is about making continues improvements to the way software is developed, leading to better software products and more efficient development practices.

**Project scheduling**

it refers to the process of planning and organizing the tasks, activities, and resources required to complete a software development project within a specified timeframe.