

General Instructions

- 1) Please keep the answers short and precise. For example, if there is a question in the form of “mention three points”, you have to mention the points only, no elaboration is required.
- 2) If you are asked to draw a diagram, try to keep the diagram as neat as you can, and do label everything accordingly.
- 3) Please follow the instructions well. If you are asked to mention something, keep in mind that you have to mention that explicitly in writing. For example, in the class test, while many of you just marked the critical path in the diagram, and were awarded marks, it will probably not happen during the finals.
- 4) Try to answer the descriptive questions using points.
- 5) Finally, the question types:
 - a) Drawing diagrams/sketching graphs etc. will probably be the most frequent question type (Hint: clean diagram, clear labeling)
 - b) Mention 3 /4 points, Name 4/5 things, these types of questions will also be quite frequent (Hint: No elaboration)
 - c) Mathematical problems using the equations/procedures in class will be pretty common (Hint: mention the steps clearly, it will come in handy if you get the answer wrong!)
 - d) Definitions (Hint: no example needed if not explicitly mentioned)
 - e) Short note: quite infrequent (Hint: definition, properties, advantages, disadvantages, the whole nine yards)

What to study:

Now comes the sad part. So, what to study? Even though the slides should suffice, if any of you choose to look at some books, that is also a good idea. Whichever you choose, studying the parts mentioned below is crucial. If I skipped something in this list, but did teach that in class, feel free to include it if you wish (but you don't have to).

Risk Management:

- 1) Definitions/Short notes/Coming up with strategies: Proactive Risk Management, Reactive Risk Management, Project Risk, Technical Risk, Business Risk (also the subcategories)
- 2) Steps for Risk Management
- 3) Diagram: The Risk Management Paradigm (can also pose as a mention the points sort of question)

- 4) Formula for calculating Risk Exposure, and practice relevant problems

Prescriptive Process Models

- 1) Types of Process flow
- 2) Identifying a Task Set for small/medium/large scale software
- 3) Diagrams/Properties/Comparison/Advantages/Disadvantages: All Prescriptive Process Models shown in class
- 4) UP Phases and Work products
- 5) Short notes on Personal Software Process, and Team Software Process

Process: A Generic View

- 1) Framework activities and Umbrella activities: Definitions and listing
- 2) PSP: Recommended framework activities

Project Management: Part 1

- 1) 4 P's of project management
- 2) Factors to consider while selecting a s/w team
- 3) Organizational Paradigms
- 4) Project Management Concerns
- 5) Why projects fail

Project Management: Part 2

- 1) Definitions: Critical path, slack
- 2) Types of schedule dependencies with examples
- 3) Resource leveling: definition
- 4) Drawing a network diagram using a given table, finding ES and FS, and mentioning the critical path (in writing and in the diagram)

Project Management: Part 3

- 1) Definitions and Problems related to-Planned value, Actual cost, earned value, SPI, CPI, EAC, BAC, SV, CV
- 2) Scope Creep: Definition and Causes

Agile Development

- 1) Agility and the Cost of Change + Graph of development cost vs development schedule progress
- 2) 12 Agile Principles
- 3) Extreme Programming: Short note and diagram
- 4) The XP Debate
- 5) ASD: Short note and diagram
- 6) Scrum: Distinguishing features

Software Cost Estimation

- 1) Defect Removal Efficiency: Definition and Mathematical Problem
- 2) LOC Approach: Mathematical Problem
- 3) FP Approach: Mathematical Problem
- 4) Empirical Estimation Models: General Form, all 7 models (including the Software Equation) [Mathematical Problems] (Hint: memorize the value of the parameters such as special skills factor, productivity parameter etc. for different situations)
- 5) Computing Expected Cost from graph