Software Engineering

Unit 2: Basic Software Engineering (BSE)
- Introduction to software engineering
- Software Processes: waterfall model, evolutionary model, and component based model
- Delivery models: incremental delivery, spiral delivery
- Process activities: specification, design/implementation, validation, evolution

1. What is software engineering?
2. Compare Programmer and software engineer/Programming and software engineering.
3. What is the specific feature of modern day software?
4. What is the major issue while developing large commercial programs?
5. List out the things to be ensured while developing software.
6. List out the drawbacks in software development.
7. Explain the reasons why software engineering is very important for software development.
8. "A fault detected later casts much higher as compared to early fault-detection". Why?
9. Explain the qualities of good software.
10. What is the need for software engineering?

1. Define software process.
2. Write the other names for software processes.
3. Expand SDLC.
4. What are software process activities?
5. Which is also called requirement engineering?
6. What is the other name for software evolution?
7. List the 4 process activities and explain with flowchart.

1. What are the 4 phases in software specification?
2. Expand the 4 phases of software specification in detail with figure.
3. Differentiate functional and non-functional requirements.

1. List the sub activities in software design and implementation.
2. Explain software design and implementation.

1. Differentiate verification and validation.
2. What does V & V model means?
3. What is the other name for component testing?
4. Explain software verification and validation.

1. What is software evolution/maintenance?
2. Write the 3 major reasons of software's changing needs and requirements.
3. Explain software evolution/maintenance.

1. Define software process. Explain software process activities in detail.

1. What is software process model?
2. What are the 3 process models?
3. Will any software development need more than one process model?
4. Define waterfall model. What is its other name?
5. Explain the phases in waterfall model with figure.
6. List out the situations for which the waterfall model is not suitable and suitable.
7. Write the advantages and disadvantages of waterfall model.
8. What is departmentalisation?
9. Name the model which is a variation of waterfall model.
10. Explain the V-model with illustration.

1. What is evolutionary model?
2. What is the other name for evolutionary model?
3. Explain evolutionary model with illustration.
4. Write the situations to use evolutionary model.
5. Write the advantages and disadvantages of evolutionary model.
6. Name the 2 types of evolutionary development model.
7. Differentiate exploratory programming and throwaway prototyping.

1. Define component based model.
2. List the phases of component based model.
3. Explain the phases of component based model with illustration.
4. Write the situations to use component based model.
5. Write the advantages and disadvantages of component based model.

1. What is software delivery?
2. What is process iteration?
3. Why 'delivery model' is a misnomer?
4. What is the other name for 'delivery model'?
5. What is process iteration model?
6. Name the 2 delivery models.
7. The combination of which two software process models is the incremental delivery model.
8. Explain the work phases in incremental model.
9. What are software increments? What is its other name?
10. Explain the incremental delivery model in detail with figure.
11. Write the advantages and disadvantages of incremental delivery model.

1. Why spiral model got such name?
2. Explain the phases of spiral model with figure.
3. Write the situations to use spiral model.

1. Explain the software delivery models in detail.