1. What is Evolutionary software process model? Explain. Also show that as you move outward along the process flow path of an evolutionary model, what can you say about the software that is being developed or maintained?
2. List out the characteristics of Software. Compare and contrast Prototyping Model and Spiral Model.
3. What is software process? Explain Spiral model with diagram stating its advantages and disadvantages.
4. Explain how software prototyping help in software requirement analysis
5. What are the various software myths?
6. Explain Component Based Development with a neat diagram
7. Differentiate between measures, metrics and indicators.
8. Explain Function-Oriented Metrics, Line of Codes and COCOMO II model of software.
9. Given data for a web based social networking site developed by ABC software developers:

Number of inputs 97

Number of outputs 52

Number of inquiries 48

Number of files 30

Number of external interface 60

Assume all the complexity adjustment values are low. Compute functional point. If the productivity is 32 FP/PM and their salary structure is Rs 13000 per month on low, estimate the total cost of the software.

1. Compute the function point value for a project with the following information:

Number of inputs: 44

Number of outputs 80

Number of inquiries: 30

Number of files: 20

Number of external interfaces: 4

Assume that all complexity adjustment values are average. A review reveals that the average productivity is 40 FP/PM and the labor rate is Rs. 27440 per month. Calculate estimated project cost and estimated effort for the software.

1. A college of MIS is to be developed as which the estimated lines of code is calculated to be 58,000 and a review of historical data reveals that the average productivity is 500(LOC/PM) and the labor rate is 20000 per month. Calculate the estimated project cost and the estimated effort for the given software.
2. Compute the function point value for a project with the following information.

Number of inputs 43

Number of outputs 70

Number of inquires 30

Number of files 21

Number of external interfaces 5

Assume the complexity values are high.

1. You are required to develop a Hotel Management System in which the estimated lines of codes is calculated to be 76,000 and the review of the historical data reveals that the average productivity for this type of system is 250 LOC/PM and the labor rate is Rs. 6,200 per month. What would be the estimated project cost and the estimated effort for this software package?
2. Explain in detail the Statical quality control with suitable diagram.
3. If you don’t attack the risk, the risk will attack you. Justify this statement. Differentiate between predictable and unpredictable risk.
4. How risk can be managed. Explain with a suitable example.
5. Explain the Risk Exposure and also mentions the steps for calculating RE.
6. For example, assume that software team defines a project risk in as follows:

**Risk Identification**: Only 70 percent of the software components scheduled for reuse will, in fact, be integrated into the application. The remaining functionality will have to be custom developed.

**Risk Probability**: 80% (likely)

**Risk Impact**: 60 reusable software components were planned. If only 70 percent can be used, 18 components would have to be developed from scratch (in addition to other custom software that has been scheduled for development). Since the average component is 100 LOC and local data indicate that the software engineering cost for each LOC is $14.00. Determine the Risk Exposure.

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**Risk Identification**: Only 70 percent of the software components scheduled for reuse will, in fact, be integrated into the application. The remaining functionality will have to be custom developed.

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**Risk Exposure**. RE = ?

1. What is risk projection? Define with a suitable example.
2. What is RMMM Plan? Explain with a help of suitable example.
3. As a project manager how can you ensure to your customer that your s/w product has quality? Discuss the procedures to control the quality of the software during development.
4. How the quality of the s/w can be assured? Explain FTR as a measure to maintain the quality if a s/w project.
5. Quality and reliability are related concepts but are fundamentally different in numbers of ways. Discuss them.
6. Why SQA is needed? Discuss how SQA activities are carried out to help software quality.
7. What do you mean by software requirement elicitation? Discuss Facilitated Action Specification Technique for requirement elicitation.
8. Explain the ISO quality standard and its type.
9. What do you mean by “Constructive Cost Model” in s/w project planning?
10. What do you means by dynamic estimation model? Is “Software Equation” a dynamic estimation model? Justify.
11. What is software quality? What does quality of design and quality of conformance means?
12. What is FTR and also describe the procedure of FTR.
13. What do you understand by the term SCM? Which components of the software undergo configuration management? What is the role of s baseline and SCIs in SCM processes?
14. What is change control? Explain all the steps involved in change control.
15. “Requirement Analysis acts as a bridge between software Engineering and Software design”. Explain.
16. Compare and contrast between version control and change control.
17. A country bus company owns a numbers of buses. Each bus is allocated to a particular route, although some routes may have several buses. Each route passes through number of towns. One or more drivers are allocated to each stage of a route, which corresponds to journey through some or all of towns on a route. Some of the towns have a garage where buses are kept and each of the buses are identified by the registration number and can carry different numbers of passengers, since the vehicles vary in size and can be single or doubled decked. Each route is identified by a route number and information available on the average number of passengers carried per day for each route. Drivers have an employee number, address and sometimes a telephone number.

Identify the entities from the above problem and model it into a ER diagram.

1. Describe how Data flow model and Control flow model are used in the analysis of software system.
2. Define DFD. Design a DFD model of a system you are familiar with. Also mention the need and uses of Data Dictionary.
3. What is analysis modeling? Describe different elements of analysis modeling.
4. Explain Data Modeling and Functional Modeling.
5. Obtain a level -1 DFD and Data Dictionary diagram for any data from the given scenario.

A travel agency arrange holidays for customers. Booking are made directly by the customers. When a customer makes an approach, the reservation clerk select appropriate flight details and hotel details from the list which are regularly updated. The details are entered onto a provisional detail file. The customer must confirm this booking within 3 days by sending a deposite of 10% of the cash. On receipt of the deposits, reservation transfers the details from provisional booking file to confirms the booking. One week before the flight is due, account send an invoice to the customer for the remaining cash. Accounts notify customer service when the full payment is received and customer service then send tickets and the joining instruction to the customers.