SECTION–A

1. (a) Define Software. What are its components ? 5

   (b) How Spiral model handles the risk management during software development ? Explain. 10

2. Define the term Metrics. Explain the method of computing Function-Point Quality Metric in detail using the following example :

   Consider a project with the following functional units :

   * Number of user inputs = 24
   * Number of user outputs = 12
   * Number of user enquiries = 6
   * Number of user files = 10
   * Number of external interfaces = 2

Measurement parameter	Weighting factor		
	Simple	Average	Complex
Number of user inputs	3	4	6
Number of user outputs	4	5	7
Number of user enquiries	3	4	6
Number of files	7	10	15
Number of external interfaces	5	7	10

Assuming all complexity adjustment factors and weighing factors as average. Calculate Delivered Function Points for the Project. 15

SECTION–B

3. How Effort Estimation, Rayleigh Curve and Quality Assurance Plan helps during planning of a software project ? 15

4. (a) Explain different types of coupling using suitable example. 7

   (b) Explain the concept of Top-Down and Bottom-Up approaches of system design with suitable example. 8

SECTION–C

5. (a) What are different coding styles used in System Design ? Explain with suitable examples. 10

   (b) Illustrate the significance of Internal Documentation in coding. 5

6. (a) What do you understand by Test Cases and Test Criteria ? Discuss with example. 7

   (b) Explain the concept of White-Box Testing in detail. How it is different from Black-Box Testing ? 8

SECTION–D

7. Define the term system maintenance. What are its various types ? Illustrate the concept of corrective and preventive maintenance using suitable example. 15

8. How Reverse Engineering helps in System Maintenance ? Explain using example. 15