1. Write down the condition for convergence in fixed point iteration method.

2. Write down the condition for convergence in Gauss-Jacobi method.

3. Write down the iterative formula for Newton-Raphson method.

4. Define probability in axiomatic approach.

5. State total law of probability.

6. Prove that probability of an impossible event is zero.

7. Find the probability of drawing a queen and a king from a pack of cards in two consecutive draws, the cards drawn are not being replaced.

8. What is the chance of getting two sixes in two rollings of a single die?

9. Find the interval in which a positive root lies for the following equation

$$x^3 = 2x + 5$$

10. Write down the iterative formula for Gauss-Jacobi method.

11. Write down the condition for convergence in Regula Falsi method.

12. Write down the condition for convergence in Gauss-Seidel method.

13. Write down the iterative formula for False position method.

14. Define probability.

15. State Baye's theorem.

16. Prove that $P(\bar{A}) = 1 - P(A)$.

17. Define mutually exclusive events.

18. A bag contains 3 red and 4 white balls. Two balls are drawn without replacement. What is the probability that both the balls are red?

19. What are steps to be performed to find the solution to a simultaneous equation with three unknowns using Gauss-Jordon method?

20. Write down the iterative formula for Gauss-Seidel method.

21. The members of a consulting firm rent cars from rental agencies A,B and C as 60%,30% and 10% respectively. If 9%, 20% and 6% of cars from A, B and C agencies need turn and if a rental car delivered to the firm does not need turn up, what is the probability that it came from B agency.

22. If A and B are independent events, prove that (i) $\bar{B}$ and A are independent
ii) $\bar{A}$ nd $\bar{B}$ are independent.

23. Find a positive root of the following equations by Newton's method correct to 5 decimal places $x^3 = 6x - 4$

24. Solve the following system by Gauss-Elimination method:
$10x + y + z = 12, 24x + 10y + z = 13, x + y + 5z = 7$

25. Solve the following system by triangularization method:

$$x + 5y + z = 14, 2x + y + 3z = 13, 3x + y + 4z = 17$$

26. The first bag contains 3 white balls, 2 red balls and 4 black balls. Second bag contains 2 white, 3 red and 5 black balls and third bag contains 3 white, 4 red and 2 black balls. One ball is chosen at random and from it 3 balls are drawn. Out of three balls two balls are white and one red. What are the probabilities that they taken from first bag, second bag, third bag?
27. Find a positive root of the following equations by Regula Falsi method
$3x - \cos x = 1$
28. Solve the following system by Gauss-Seidel method:
$10x - 5y - 2z = 3, 4x - 10y + 3z = -3, x + 6y + 10z = -3$
29. Solve the following system by triangularization method:
$x + y + z = 1, 4x + 3y - z = 6, 3x + 5y + 3z = 4$