

BHARTIYA VIDYA MANDIR (BVM) COLLEGE OF MGMT. EDUCATION

QUESTION BANK

BCA- IV SEM (JU)

401 – Numerical Methods

Note : All questions carry 2.5 marks.

Q.1 Solve the following equation Using with Gauss elimination Method

$$4x+y+3z=11$$

$$3x+4y+2z=11$$

$$2x+3y+z=7$$

Q.2 Solve the following equation Using with Gauss Jordan Method

$$x+2y+z=8$$

$$2x+3y+4z=20$$

$$4x+3y+2z=16$$

Q.3 What do you mean by the pivoting ?

Q.4 Solve the following equation Using with Jacobi iterations Method

$$2x+y+z=5$$

$$3x+5y+2z=15$$

$$2x+y+4z=8$$

Q.5 Solve the following equation Using with Gauss Seidel iteration Method

$$27x+6y-z=85$$

$$6x+15y+2z=72$$

$$x+y+54z=110$$

Q.6 Explain the following are

(a) Forward Differences

(b) Backward Differences

(c) Lagrange's Interpolation formula.

Q.7 The population of a town in the decennial census was as given below. Estimate the population for the year 1995

Year :x	1891	1901	1911	1921	1931
Population : y (in thousands)	46	66	81	93	101

- Q8. Generate a difference table the values of y are consecutive terms of a series of which the number 21.6 is the 6th term. Find the first and tenth terms of the series

x	3	4	5	6	7	8	9
y	2.7	6.4	12.5	21.6	34.3	51.2	72.9

- Q.9 Explain the Central and Averaging Operators and their relationships.
- Q.10 What do you mean by the Simultaneous linear equations? Explain with example.