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(3rd Semester)

BACHELOR OF COMPUTER APPLICATION

Paper No. : CON-302

(Computer-Oriented Numerical Methods)

KEY ANSWERS FOR OBJECTIVES

1. Choose the most appropriate answer from the given options by putting a Tick (✓) mark in the brackets provided : 1×5=5
 - (a) (i) -0.4868×10^3
 - (b) (iii) 4.320106
 - (c) (iii) Indirect analytical method
 - (d) (ii) Newton three-eight rule
 - (e) (i) two-point formula

2. Fill up the blanks with appropriate word/words : 1×5=5
 - (a) binary chopping method
 - (b) linear interpolating method
 - (c) quadratic convergence
 - (d) bracketing method
 - (e) blunders

3. State whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark : 1×4=4

- (a) *True*
- (b) *True*
- (c) *False*
- (d) *False*

4. Answer the following in brief : 2×3=6

(a) Consider the polynomial in integer coefficients

$$p = p_0 + p_1x + p_2x^2 + \dots + p_nx^n$$

∴ the maximum absolute value of the coefficients

$$M(P) = \max\{|P_K| | 0 \leq K \leq n\}$$

(b) The method of constructing a function and estimating values at non-tabular points is called interpolation and the functions are known as interpolating polynomials.

(c) Systems where small changes in the coefficient result in large deviations in the solutions are said to be ill-conditioned.

Ill-conditioned are very sensitive to round-off errors. We can decide the condition of a system either graphically or mathematically.

Graphically, if two lines appear to be almost parallel, then we say that system is ill-conditioned.
